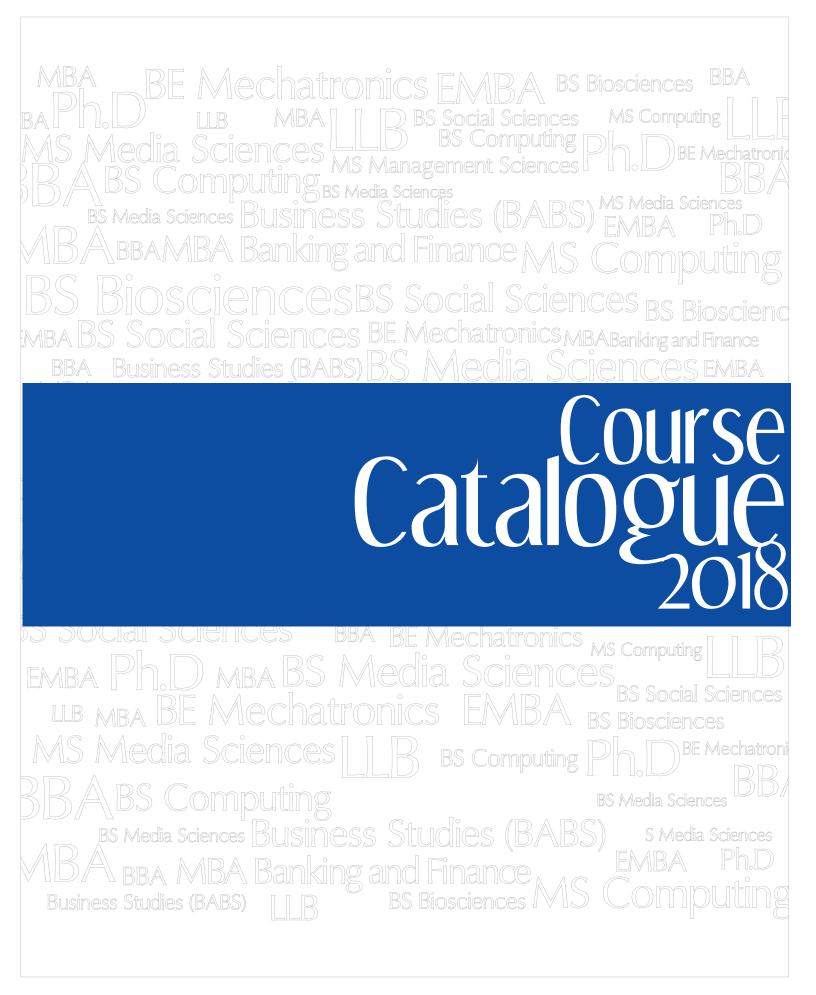
Course Catalogue 2018



We Just Don't Work Hard We Work Smart



The Vision

SZABIST aims to be a globally recognized institute for excellence in education, research, development, and distinction in service.

The Mission

SZABIST is committed to produce highly qualified professionals to:

- Meet national and global contemporary needs;
- · Conduct cutting edge research and development;
- Provide hi-tech scientific and technological expertise;
- · Meet current and future socio-economic challenges;
- Meet global citizenship responsibility.

Table of Contents

| Chapt | er # Chapter Title | Page # |
|----------------|---|------------|
| | Vision and Mission | i |
| | About SZABIST Message by the Chancellor | iv |
| | Message by the President | v vi |
| | Message by the Vice President Academics | vii |
| | Message by the Vice President Administration & Finance | viii |
| | Preface | ix |
| | Acronyms Schematic Illustration | x xi |
| 1.0 | Department of Management Sciences | |
| 1.1 | Bachelor | 2 |
| 1.1.1 1.1.2 | Bachelor of Business Administration (BBA) Bachelor of Arts in Business Studies (BABS) | 2 17 |
| 1.1.3 | Bachelor of Science in Accounting & Finance (BS A&F) | 33 |
| 1.1.4 | Bachelor of Science in Entrepreneurship (BS-Entrepreneurship) | 50 |
| 1.2 | Masters and PhD | 65 |
| 1.2.1 | Master of Business Administration (MBA) | 65 |
| 1.2.2 1.2.3 | Master of Business Administration Banking & Finance (MBA B&F) Master in Project Management (MPM) | 77 81 |
| 1.2.3 | Executive Master of Business Administration (EMBA) | 86 |
| 1.2.5 | Master of Science in Project Management (MSPM) | 93 |
| 1.2.6 | Master of Science in Management Sciences (MSMS) | 96 |
| 1.2.7 | Doctor of Philosophy in Management Sciences (PhD MS) | 100 |
| 2.0 | | |
| 2.1 2.1.1 | Bachelor of Science Bachelor of Science in Computer Science (BSCS) | 104 104 |
| 2.2 | Master of Science and PhD | 104 |
| 2.2.1 | Master of Science in Computer Science (MSCS) | 117 |
| 2.2.2 | Doctor of Philosophy in Computing (PhD Computing) | 120 |
| 3. O | Department of Social Sciences | |
| 3.1 | Bachelor of Science | 124 |
| 3.1.1 3.2 | Bachelor of Science in Social Sciences (BSSS) Master of Science and PhD | 124 136 |
| 3.2.1 | Master of Science (International Relations, Economics, Psychology and Sociology | |
| 3.2.2 | Doctor of Philosophy in Social Sciences (PhD SS) | 139 |
| 4.0 | Department of Media Sciences | |
| 4.1 | Bachelor of Science | 142 |
| 4.1.1 4.2 | Bachelor of Media Science (BMS) Masters | 142 155 |
| 4.2 4.2.1 | Master of Advertising (MoA) | 155 |
| 4.2.2 | Master of Science in Media Studies (MS Media Studies) | 158 |
| 5.0 | Department of Mechatronics Engineeri | ng |
| 5.1 | Bachelor of Engineering | 162 |
| | Bachelor of Engineering in Mechatronics Engineering (BEME) | 162 |
| 5.1.1 5.2 | Masters | 177 |

Cata

Table of Contents

Chapter # Chapter Title

| Chapter # Chapter Title | Page # |
|---|--|
| (- Department of Disseince | |
| 6.0 Department of Bioscience | |
| 6.1 Bachelor of Science 6.1.1 Bachelor of Science in Biosciences (BS-Biosciences) 6.1.2 Bachelor of Science in Biotechnology (BS-BTC) 6.2 Masters 6.2.1 Master of Science in Biosciences (MS-Biosciences) 6.2.2 Master of Public Health (MSPH) 6.2.3 Doctor of Philosophy in Biosciences (Ph.D-BIO) | 182 182 199 216 216 219 228 |
| 7.0 Department of Education | |
| 7.1 Bachelor of Science 7.1.1 Bachelors of Education (B.Ed.) Secondary 7.2 Masters 7.2.1 Masters of Arts in Education 7.2.2 Master of Science in Educational Leadership and Management (MS ELM) 7.2.3 Doctor of Philosophy in Educational Leadership and Management (PhD ELM) | 232 232 239 239 246 249 |
| 8.0 International Programs | |
| 8.1 Bachelor of Arts in Business Studies (BA Hons)8.2 LLB (University of London) | 252 261 |
| 9.0 Appendix A-Optional Courses | |
| 9.1 Management Sciences | 268 |
| 10.0 Appendix B-Electives | |
| 10.1 Management Sciences 10.2 Computer Science 10.3 Social Sciences 10.4 Media Sciences 10.5 Mechatronic Engineering 10.6 Biosciences 10.7 Education 10.8 LLB | 268 280 283 288 290 292 294 294 |
| 11.0 Appendix C-Major Requirements | |
| 11.1 Social Sciences 11.2 Media Sciences | 297 299 |
| 12.0 Appendix D-Supporting Courses | |
| 12.1 Computer Sciences | 300 |
| 13.0 Appendix E-Guidelines for Thesis | |

13.1

Media Sciences

About SZABIST

Shaheed Mohtarma Benazir Bhutto, the first woman Prime Minister of a Muslim country and twice elected Prime Minister of Pakistan founded SZABIST in 1989 to realize the vision of her father, former elected prime minister of Pakistan, Shaheed Zulfikar Ali Bhutto. In his speech at the inauguration ceremony of the Karachi Nuclear Power Plant in 1972, he stated:

"We will give science and technology requirements the highest priority and our attention. To implement any program of scientific and technological development, the country needs to train scientific manpower. In this, the schools, colleges and universities have to play their role. I desire that vast number of people of Pakistan should acquire technological skills. I want first-class science in Pakistan because nothing less is acceptable. And I wish Pakistan to be increasingly self-reliant in all aspects of technology".

It was in pursuit of this dream that SZABIST was established.

In its first academic year, 1995, SZABIST commenced studies by offering only two degrees i.e. MS in Software Engineering and Master of Business Administration with only 96 students. Since then, SZABIST has made tremendous progress and now offers programs in the disciplines of Management Sciences, Computer Science, Social Sciences, Media Sciences, Law, Mechatronics Engineering, Biosciences, Public Health and Education.

SZABIST has five full-fledged university campuses; Karachi, Islamabad, Larkana, Hyderabad and Dubai, which makes it the only degree granting institution in Pakistan with an international presence.

Pursuit of research is an integral part any educational institutions' life. In this regard, SZABIST pioneered Pakistan's first online research journal, Journal of Independent Studies and Research (JISR) in 2003. In 2009, SZABIST re-dedicated itself to its mission of research and development in science and technology with a number of new initiatives. These are focused on realizing the country's research potential, and developing long-term self-sufficiency in critical areas of energy, biomedicine, and technology.

Reflecting its dedication to excellence, SZABIST continues to grow and prosper as a top ranked institution of higher education. This is a singular achievement for an institution, which relies solely on its own resources, and it certainly augurs well for its future.

₹ Catalo

Message by the Chancellor



I am pleased to welcome you all to Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST), a multidisciplinary institution ranked amongst the top universities of Pakistan because of its graduates employability, proficient faculty, competent staff and quality tertiary education.

Over the last 23 years, the institute has gained recognition nationally and internationally due to the holistic and market-relevant programs supplementing the academic, social, professional, and creative needs of its students. Further, in line with our commitment to provide contemporary tertiary level education the courses offered at

SZABIST are regularly updated according to the market requirement and are fully compatible with the guidelines of the Higher Education Commission (HEC) of Pakistan.

The Course Catalogue 2018 has been designed for enhancing students understanding of the offered courses as it contains detailed and standardized description of courses in Management Sciences, Computer Science, Social Sciences, Media Sciences, Mechatronics, Biosciences, Public Health, Education and Law programs. The document will help students in understanding the respective degree completion requirements; it also represents a range of elective courses. In addition, the Course Catalogue will assist Program Managers in guiding students to successfully complete their respective degree degree requirements.

I wish the students the very best for their academic life at SZABIST and urge them to follow the SZABIST motto, "Discover Yourself" to become the leaders of tomorrow.

Dr. Azra Fazal Pechuho Chancellor, SZABIST

Message by the President



Welcome to SZABIST! I congratulate you on being selected at SZABIST, a highly rated Business and Technological institute with a tradition of producing high quality corporate leaders.

At SZABIST, the Board of Trustees, Management, Faculty and Staff are committed to impart professionally enriching, market-related, and socially beneficial skills through affordable high quality tertiary education. We believe your education is vital, not just for your future, but for the future of our community and economy.

In order to assist you for successful and timely completion of studies a comprehensive Course

Catalogue 2018 with streamlined academic curricula has been produced. The document consists of standardized course descriptions of each course along with details of all programs offered in each discipline. This standardization would enhance, strengthen and consolidate the standard of education across all SZABIST campuses and bring it at par with national and international universities.

This Catalogue is one more indicator of SZABIST's growth into a mature institution, as it now offers thirty-eight diversified disciplines in Management Sciences, Computing, Social Sciences, Media Sciences, Mechatronics Engineering, Biosciences, Education and its International Programs including LLB (University of London, UK) and BA (Hons.) in Business Studies which has a continuing collaboration with universities in UK.

I thank the staff members of Institutional Research Department, in particular Ms. Faryal Shahabuddin and Ms. Mawash Imran for collaborating with the Program Managers to prepare this Catalogue and the Marketing Department, especially Mr. Syed Bashir Ahmad, for his work in the design of the Catalogue.

I wish you a productive, intellectually stimulating, and socially responsible journey at SZABIST.

Best of luck!

Ms. Shahnaz Wazir Ali President, SZABIST

Message by the Vice President (Academics)



Congratulations on becoming a part of SZABIST family! The institution relishes a high reputation thorough the courtesy of its professional environment and dedication for imparting quality education. The institution has crossed 21 plus years of its existence. Its exponential growth speaks itself of its popularity. It is fully recognized by all the national regulatory bodies, such as HEC, PEC, NCEAC, NBEAC, NACTE, CIEC (Sindh). In addition, SZABIST is a member of several international associations, such as International Association of Universities (IAU) Paris, Association of Commonwealth Universities (ACU) London, Association of Advance Collegiate School of Business (AACSB) Singapore, Asia University Federation Seoul, Asia-Pacific Quality Network (APQN) China, Association of Quality Assurance Agencies of the Islamic World (AQAAIW) Malaysia,

Tallories Network Massachusetts, etc.

The institution prepares students in diversified areas of learning, such as Management Sciences, Computer Science, Media Sciences, Bio-Sciences, Social Sciences, Mechatronic Engineering, Law and Education. Through the meticulous program and course learning outcomes students' develop critical and creative thinking, and acquire problem-solving skills. We understand, "University without Research" is tantamount to "Body without Soul." That is why we give high priority to research seminars and encourage our students to write research articles at every stage.

Counseling and providing guidance to youngsters holds great significance, therefore, SZABIST provides its students a point of reference at every step during their course of studies and beyond. Some of the most important guiding steps are: Program Managers, Prospectus, Students Handbook, Course Catalogue, Executive Development Centre (EDC), External Relation and Financial Assistance (ERFA) and the like.

The Course Catalogue 2018 is prepared and shared to increase students' awareness on SZABIST's offering. The catalogue is a continuous point of reference for students as it consists of detailed and standardized descriptions of core courses being offered at SZABIST along with the range of elective courses and degree completion requirements. Further, EDC looks after the job placements and builds linkages with alumni. That's why our alumni are our face value.

Our strength is our ERP, developed by our own software house. We fully make use of modern IT tools in teaching and managing our academics and ensure quality education through ongoing and systematic assessments throughout the semesters. Our QEC has been awarded 94% score by QAA/HEC.

Finally, we believe in building personalities, not merely producing degree-holders. This we ensure through conducting seminars and guest lectures frequently by eminent personalities, through our students' societies, which are responsible to arrange co-curricular and extra-curricular activities round the year.

Please go through the Course Catalogue 2018 to understand all the required offerings of your respective program. I assure you that you will be groomed and nurtured for meeting your future career challenges after completion of your academic degree program.

Professor Dr. M. Altaf Mukati Vice President (Academics) SZABIST

Message by the Vice President Administration & Finance



Welcome to SZABIST and congratulations on being selected at one of the top ranked higher education institutes of Pakistan.

The Course Catalogue 2018 is a compendium of the courses being offered at SZABIST. I am confident that it will serve as a useful resource to broaden your knowledge and develop deeper understanding of the courses taught by our renowned faculty.

At SZABIST, we provide you the skils, ethical values

and facilities to make you highly valued professionals.

Focus on your goals and study hard to reach where you want to be.

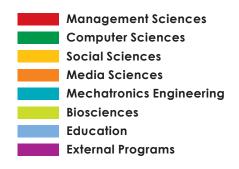
Best wishes for a successful year!

Ms. Nasreen Haque Vice President (Administration & Finance) SZABIST

Preface

The Course Catalogue provides a platform for the students of SZABIST to avail in advance information relevant to their respective program course requirements.

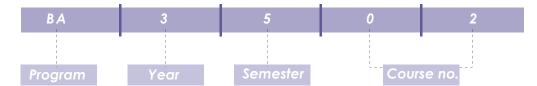
This Catalogue covers the core and/or compulsory courses for all the programs, offered in the following seven faculties:



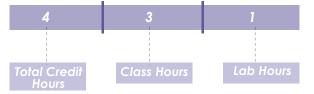
It provides information on the course credits, prerequisites (if any), course descriptions, and finally the equivalent courses. The students should consult the catalogue before registering for courses on ZabDesk.

Regardless of the academic program, this Catalogue will serve as a guidebook for students throughout their educational term at SZABIST. With the course descriptions, course titles and prerequisites mentioned, the student would easily be able to plan their semesters beforehand.

The courses in each program have been identified by their respective course codes. Therefore, the following course code illustration would assist the students in identifying the courses for a particular semester.



In addition, the composition of the Course Credit Hours is as follows:



Please note that in case of Law Program and a few courses in other programs, identification of courses for a particular semester by their codes may not apply.

Acronyms

| BA | Business Administration |
|------------------------------|--|
| BABS | Bachelor of Arts in Business Administration |
| BBA | Bachelor of Business Administration |
| BBS | Bachelor of Business Studies (BBS) |
| B&F | Banking & Finance |
| BMS | Bachelor of Media Science |
| BS A&F | Bachelor of Science in Accoutnting & Finance |
| BS (Bioscience) | Bachelor of Science in Biosciences |
| BSCS | Bachelor of Science in Computer Science |
| BS (Entrepreneurship) | Bachelor of Science in Entrepreneurship |
| BSSS | Bachelor of Science in Social Sciences |
| EMBA | Executive Master of Business Administration |
| HEC | Higher Education Commission of Pakistan |
| IR | Institutional Research |
| ΙΤ | Information Technology |
| MA EDU | Master of Arts in Education |
| МВА | Master of Business Administration |
| ME | Mechatronics Engineering |
| МРН | Master of Public Health |
| МРМ | Master in Project Management |
| MS | Master of Science |
| MS (Bioscience) | Master of Science in Biosciences |
| MSCS | Master of Science in Computer Science |
| MSELM | Master of Science in Educational Leadership and Management |
| MS (Media Studies) | Master of Science in Media Studies |
| MSMS | Master of Science in Management Sciences |
| MSPM | Master of Science in Project Management |
| MSSS | Master of Science in Social Science |
| PhD | Doctor of Philosophy |
| SE | Software Engineering |
| SS | Social Science |
| | |

× Catalogue

Schematic Illustration Given below is an explanation of the various elements of the course catalogue. This is the duration of a particular course, divided into lecture This is the title for the course. plus lab hours. Course Name Analysis of Financial **Credit Hours** 3 (3,0) Statements **Course Code** BA5132 Prerequisite(s) BA5401 This is the A code has been assigned to each of the respective course for identification. course that a This course includes detailed analysis of Financial Statements of **Course Description** student is required to Manufacturing and Services Sector. Additional topics include pass before cash flow statement, and statement of owner's equity; taking this accounting principles; financial analysis and reporting process. course. Further, the course includes ratio analysis, trend analysis, and horizontal and vertical analysis, operating and financial leverage and their impact on a firm's performance, efficient market hypothesis, the capital asset pricing model (CAPM), inventory This contains management process, FIFO/LIFO methods of costing calculate the topics that depreciation by applying different methods, and bond and stock would be covered in valuation techniques. the course. Equivalent Course(s) BA449, BA549 These courses are considered similar, and earn equal credit hours to the given course and can be taken by the student, with approval from the respective Program Manager.

3E Mechatronics FMBA Aedia Scier SCIENCESBS Social Sciences BS Biosci Business Studies (BABS) BS Media edia S BS Media Sciences MBA BS Media Scier E Mecl epartment of **Nagemer N**S nces ness Studie

1.1 Bachelor

Bachelor of Business Administration (BBA)

Students enrolled in the Bachelor of Business Administration (BBA) program are required to complete 46 courses with a 6 credit hour Research Project within six (6) years. The break-up of 46 courses (144 credit hours) is as follows:

- 40 Compulsory Courses (120 Credit Hours)
- 2 Optional Courses¹ (6 Credit Hours)
- 4 Electives² Courses (12 Credit Hours)
- 1 Research Project (6 Credit Hours)

| Course Code | Course Title | Page # | | | |
|--------------------|--|-------------|--|--|--|
| | First Year | | | | |
| | Fall Semester | | | | |
| BA 1101 | Introduction to Accounting | 4 | | | |
| BA 1106 | Islamiat and Pakistan Studies/Humanities | 4 | | | |
| BA 1108 | IT in Business | 4 | | | |
| BA 1109 | Personal Management and Communication | 4 | | | |
| BA 1204 BA 1206 | Maths for Business Oral Communication and Presentation Skills | 4 5 5 | | | |
| DA 1200 | Oral Commonication and Presentation skills | 5 | | | |
| | Spring Semester | - | | | |
| BA 1102 | Microeconomics | 5 | | | |
| BA 1105 BA 1201 | English Writing Skills Financial Accounting | 6 | | | |
| BA 1201 BA 1203 | Management Principles | 6 | | | |
| BA 2307 | Sociology | 6 | | | |
| BA 2312 | Human Behavior | 7 | | | |
| | Second Year | | | | |
| | | | | | |
| D. 4. 1.000 | Fall Semester | - | | | |
| BA 1202 BA 1211 | Macroeconomics Logic and Critical Thinking | 7 7 | | | |
| BA 2301 | Introduction to Business Finance | 7 | | | |
| BA 2303 | Marketing Principles | 8 | | | |
| BA 2403 | Business Ethics | 8 | | | |
| BA 2408 | Cost Accounting | 8 | | | |
| | Spring Semester | | | | |
| BA 2311 | Business Statistics | 8 | | | |
| BA 2401 | Money and Banking | 9 | | | |
| BA 2402 BA 2406 | Retail Management Business and Electronic Communication | 9 9 | | | |
| BA 2406 BA 3504 | Organizational Behavior | 10 | | | |
| BA 3507 | Consumer Behavior | 10 | | | |
| | | | | | |

List of Optional Courses is given in Annexure A.
 List of Electives is given in Annexure B.

2

| Course Code | e Course Title | Page # |
|-------------|------------------------------------|---------|
| | | |
| | Third Year | |
| | Fall Semester | |
| BA 3501 | Financial Markets and Institutions | 10 |
| BA 3508 | Media Management | 11 |
| BA 3605 | Statistical Inference | 11 |
| BA 4706 | Development Economics | 11 |
| BA 4801 | Law and Taxation | 12 |
| BA xxxx | Optional-I (as offered by Campus) | 268 |
| | Spring Semester | |
| BA 3601 | Financial Management | 12 |
| BA 3602 | Marketing Management | 12 |
| BA 3607 | Operations Management | 13 |
| BA 3603 | Business Research Methods | 13 |
| BA 4804 | Human Resource Management | 13 |
| BA xxxx | Optional-II (as offered by Campus) | 268 |
| | Fourth Year | |
| | Fall Semester | |
| BA 3505 | Quantitative Skills | 14 |
| BA 4704 | Management Information Systems | 14 |
| BA 4705 | Services Marketing | 14 |
| BA 4814 | Project Management | 15 |
| BA 4xxx | Elective-I | 269-270 |
| BA 4xxx | Elective-II | 269-270 |
| | Spring Semester | |
| BA 3502 | Entrepreneurship | 15 |
| BA 3609 | Pakistan Economy | 15 |
| BA 4807 | Research Project ³ | 16 |
| BA 4xxx | Elective-III | 269-270 |
| BA 4xxx | Elective-IV | 269-270 |

All courses may not be offered every year. Alternate courses may be substituted as and when required.

03- Research Project (BA 4807) may be substituted with BA 47XX Research Project-1 (3 Credit Hours) and BA 48XX Research Project-2 (3 Credit Hours) to be offered over two semesters as per the requirement of the campus.

The description of 40 compulsory courses and the Research Project, as required for the BBA degree, is given below:

| Course Name | Introduction to Accounting | Credit Hours 3 (3,0) |
|---|--|--|
| Course Code | BA 1101 | Prerequisite(s) None |
| | | |
| Course Description | This course covers the purpose and nature business enterprises, accounting information u accounting principles, accounting equation accounting cycle, ledgers and entries, acc inventory and depreciation. | sers, generally accepted n, accounting process, |
| Equivalent Course(s) | AF 1104, EN 1103 | |
| | | |
| Course Name | Islamiat and Pakistan Studies/Humanities | Credit Hours 3 (3,0) |
| Course Code | BA 1106 | Prerequisite(s) None |
| | | |
| Course Description | This course provides an introduction to the reference to pre- and post-independence era: different governments in nation's social, ec development over years. The second part of the and the present-day Muslim world. | s, and the contribution of conomic and legislative |
| Equivalent Course(s) | CSC 1105, MD 2402, SS 1109, BIO 1212, EN 1105 | |
| | | |
| | | |
| Course Name | IT in Business | Credit Hours 3 (3,0) |
| Course Code | | |
| | BA 1108 Prerequisite(s) None | |
| | BA 1108 | Prerequisife(s) None |
| Course Description | This course deals with the introduction to understanding the computer system, compu system, application software, programming la basics, data communication, networking basic computer security and controls, MS Word, M Power Point, MS Project and Databases. | information technology, ter hardware, operating anguages, files and data sics, computer graphics, |
| Course Description | This course deals with the introduction to understanding the computer system, compu system, application software, programming lo basics, data communication, networking bas computer security and controls, MS Word, <i>N</i> Power Point, MS Project and Databases. | information technology, ter hardware, operating anguages, files and data sics, computer graphics, |
| | This course deals with the introduction to understanding the computer system, compu system, application software, programming lo basics, data communication, networking bas computer security and controls, MS Word, N | information technology, ter hardware, operating anguages, files and data sics, computer graphics, |
| Course Description | This course deals with the introduction to understanding the computer system, compu system, application software, programming lo basics, data communication, networking bas computer security and controls, MS Word, <i>N</i> Power Point, MS Project and Databases. | information technology, ter hardware, operating anguages, files and data sics, computer graphics, |
| Course Description | This course deals with the introduction to understanding the computer system, compu system, application software, programming lo basics, data communication, networking bas computer security and controls, MS Word, <i>N</i> Power Point, MS Project and Databases. BA 1103,CSC 1104, BIO 1104, AF 1102, EN 1102 | information technology, ter hardware, operating anguages, files and data sics, computer graphics, AS Excel, MS Access, MS |
| Course Description Equivalent Course(s) Course Name | This course deals with the introduction to understanding the computer system, compu system, application software, programming lo basics, data communication, networking bas computer security and controls, MS Word, M Power Point, MS Project and Databases. BA 1103,CSC 1104, BIO 1104, AF 1102, EN 1102 Personal Management and Communication | information technology, ter hardware, operating anguages, files and data sics, computer graphics, AS Excel, MS Access, MS Credit Hours 3 (3,0) |
| Course Description | This course deals with the introduction to understanding the computer system, compu system, application software, programming lo basics, data communication, networking bas computer security and controls, MS Word, <i>N</i> Power Point, MS Project and Databases. BA 1103,CSC 1104, BIO 1104, AF 1102, EN 1102 | information technology, ter hardware, operating anguages, files and data sics, computer graphics, AS Excel, MS Access, MS |
| Course Description Equivalent Course(s) Course Name | This course deals with the introduction to understanding the computer system, compu- system, application software, programming lo basics, data communication, networking bas computer security and controls, MS Word, M Power Point, MS Project and Databases. BA 1103,CSC 1104, BIO 1104, AF 1102, EN 1102 Personal Management and Communication BA 1109 This course teaches students to discover thems changes to achieve greater effectiveness at w interpersonal relationship. Students learn the | information technology, ter hardware, operating anguages, files and data sics, computer graphics, AS Excel, MS Access, MS Credit Hours 3 (3,0) Prerequisite(s) None selves and make positive vork, and in personal and combination of factors yle, self-esteem, time thers that impact their ethods, and techniques v with others, using time |

-Catalogue

4

| Course Name | Maths for Business | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BA 1204 | Prerequisite(s) None |
| Course Description | The aim of this course is to prepare a managerial problem through mather covered in four parts, first part is base and its solutions provide preliminary equations, graphical interpretation of and solutions, introduction to matrix rule & inverse method to solve system part develops the concept of linear of application, and linear programm | ematical concepts. This course is ed on systems of linear equations concept, construction of linear data, systems of linear equations algebra, determinants, Cramer's n of linear equations. The second and nonlinear functions, and their |
| | mathematics for finance, which cover rate computations and present and fu part of the course provides different order differentiation, optimization of integration, and applications of integra | rs simple, and compound interest uture annuity calculations. The last tiation of basic functions, higher functions, definite and indefinite |
| Equivalent Course(s) | BIO 1107, AF 1102, EN 1101 | |
| Course Name | Oral Communication and Presentation | n Skills Credit Hours 3 (3,0) |
| Course Code | BA 1206 | Prerequisite(s) None |
| Course Description | In this course student' learns the princ has the opportunity to practice and e this highly participative course. The cou and non-verbal communication chard body-language expressions. Stude participative exercises with focus on techniques, that aim to make them co speech communication. | experience these principles during urse explores in detail, both verbal acteristics, and the importance of ents are challenged through active listening and observation |
| Equivalent Course(s) | CSC 2101, ME 1101, AF 1203, EN 1106, S | SS 1116 |
| Course Name | Microeconomics | Credit Hours 3 (3,0) |
| a a 1 | BA 1102 | Prerequisite(s) None |
| Course Code | Microeconomics studies how the individual parts of the economy, the households and the firms, make decisions to allocate limited resources. This course is based on a comprehensive study of the market structures, product markets and resource markets. It also deals with application of demand and supply, cost analysis and factors of production. | |

Equivalent Course(s) SS 1105, AF 2405, EN 1205

Catalopue -

| • ··· | | |
|----------------------------|--|--|
| Course Name | English Writing Skills | Credit Hours 3 (3,0) |
| Course Code | BA 1105 | Prerequisite(s) BA 1206 |
| Course Description | The course covers comprehending developing arguments, and commun concisely. It also focuses on grammar, fo | icating ideas clearly and |
| | speech, sentence and paragraph comprehension, writing styles, presentat skills, formal and informal presentations, role-playing. | ions, verbal communication |
| Equivalent Course(s) | CSC 1102, MD 1122, SS 2316, BIO 1111, AF 1 | 1103 |
| Course Name | Financial Accounting | Credit Hours 3 (3,0) |
| Course Code | BA 1201 | Prerequisite(s) BA 1101 |
| Course Description | This course includes accounting for mer balance sheet, simple and multiple in accounting system, accounts receivable, cost of goods sold, liabilities, corporatio | come statement, design of notes receivable, inventories, |
| | statements. Also, MS Excel is used and nec introduced. | 8 |
| Fauivalent Course(s) | introduced. | 8 |
| Equivalent Course(s) | introduced. AF 1201 | 8 |
| Course Name | introduced. AF 1201 Management Principles | credit Hours 3 (3,0) |
| | introduced. AF 1201 | essary accounting software is |
| Course Name Course Code | introduced. AF 1201 Management Principles BA 1203 | Credit Hours 3 (3,0) Prerequisite(s) None |
| Course Name | introduced. AF 1201 Management Principles | Credit Hours 3 (3,0) Prerequisite(s) None ts of management, evolution ght, management function, organizing, staffing, leading, |
| Course Name Course Code | introduced. AF 1201 Management Principles BA 1203 This course introduces the basic concept and emergence of management thoug planning concepts, decision-making, o | Credit Hours 3 (3,0) Prerequisite(s) None ts of management, evolution ght, management function, organizing, staffing, leading, |

| Course Name | Sociology | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | BA 2307 | Prerequisite(s) None |
| | | |
| Course Description | The course focuses on three central the inequality, and social harmony versus co theoretical texts with case studies to unde institutions that can trigger, foster, sustain, three processes. The course covers the thinkers and the influence of sociology citizenship, culture, gender, society, and ec | nflict. It combines selective rstand the mechanisms and or undermine each of the work of major sociological y on modernization, race, |
| Equivalent Course(s) | BA 2307, SS 2307, AF 2304, EN 1203 | |

6

| Course Name | Human Behavior | Credit Hours 3 (3,0) | |
|--|--|--|---|
| Course Code | BA 2312 | Prerequisite(s) None | |
| Course Description | This course covers the basics of behavior with applications in real life of personal growth and understandir | situations. In addition, the aspects | |
| Equivalent Course(s) | SS 2306, AF 2303, EN1104 | | |
| | | | |
| Course Name | Macroeconomics | Credit Hours 3 (3,0) | |
| Course Code | BA 1202 | Prerequisite(s) BA 1102 | - |
| Course Description | This course introduces key economic an economy, measurement of gross aggregate demand, consumption investment function, government in fiscal policies, impact of government inflation and unemployment, aggreg of payments and trade, public finance | domestic product, components of function and Keynesian multiplier, tervention through monetary and intervention on economic activity, gate supply and demand, balance | |
| quivalent Course(s) | CC 1005 AF 2505 EN 0202 | | |
| | SS 1205, AF 3505, EN 2303 | | |
| Course Name | Logic and Critical Thinking | Credit Hours 3 (3,0) | |
| Course Name Course Code | | Credit Hours 3 (3,0) Prerequisite(s) BA 1105 | |
| Course Code | Logic and Critical Thinking | Prerequisite(s) BA 1105 of logic, deduction and induction, otive words, kinds of disputes and es, classical (Aristotelian) logic, s and testing, uniform translation, ' Methods of scientific investigation. | |
| | Logic and Critical Thinking BA 1211 The course covers scope and laws of inferences, forms of discourse, emo disagreements, rules and fallacie standard-form categorical syllogism dilemma and enthymemes, and Mills | Prerequisite(s) BA 1105 of logic, deduction and induction, otive words, kinds of disputes and es, classical (Aristotelian) logic, s and testing, uniform translation, ' Methods of scientific investigation. | |
| Course Code | Logic and Critical Thinking BA 1211 The course covers scope and laws of inferences, forms of discourse, emo disagreements, rules and fallacie standard-form categorical syllogism dilemma and enthymemes, and Mills Critical thinking skills and techniques | Prerequisite(s) BA 1105 of logic, deduction and induction, otive words, kinds of disputes and es, classical (Aristotelian) logic, s and testing, uniform translation, ' Methods of scientific investigation. | |
| Course Code Course Description Equivalent Course(s) Course Name | Logic and Critical Thinking BA 1211 The course covers scope and laws of inferences, forms of discourse, emo- disagreements, rules and fallacie standard-form categorical syllogism dilemma and enthymemes, and Mills Critical thinking skills and techniques EN 2302 Introduction to Business Finance | Prerequisite(s) BA 1105 of logic, deduction and induction, of version of disputes and es, classical (Aristotelian) logic, s and testing, uniform translation, Methods of scientific investigation. are also introduced. Credit Hours 3 (3,0) | |
| Course Code | Logic and Critical Thinking BA 1211 The course covers scope and laws of inferences, forms of discourse, emo- disagreements, rules and fallacie standard-form categorical syllogism dilemma and enthymemes, and Mills Critical thinking skills and techniques EN 2302 | Prerequisite(s) BA 1105 of logic, deduction and induction, otive words, kinds of disputes and es, classical (Aristotelian) logic, s and testing, uniform translation, Methods of scientific investigation. are also introduced. | |
| Course Code Course Description Equivalent Course(s) Course Name | Logic and Critical Thinking BA 1211 The course covers scope and laws of inferences, forms of discourse, emo- disagreements, rules and fallacie standard-form categorical syllogism dilemma and enthymemes, and Mills Critical thinking skills and techniques EN 2302 Introduction to Business Finance | Prerequisite(s) BA 1105 of logic, deduction and induction, otive words, kinds of disputes and es, classical (Aristotelian) logic, s and testing, uniform translation, Methods of scientific investigation. are also introduced. Credit Hours 3 (3,0) Prerequisite(s) BA 1201 of business environment, forms of nancial environment, cost markets, so of financial statements, time value nd long-term finance, break even ent, valuation of financial securities | |

| Course Name | Marketing Principles | Credit Hours 3 (3,0) |
|----------------------|---|----------------------------------|
| Course Code | BA 2303 | Prerequisite(s) BA 1203 |
| | | |
| Course Description | This course introduces the basic co | ncepts of marketing, marketing |
| | environment, planning and researd targeting, consumer behavior, industr product-mix, pricing, distribution, plo marketing in global scenarios. | ial marketing, product planning, |
| Equivalent Course(s) | BA 5404, AF 1206, EN 2305 | |
| | | |

| Course Name Course Code | Business Ethics BA 2403 | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 |
|----------------------------|--|--|
| Course Description | This course introduces contemp | orary and controversial ethical issues |
| Course Description | facing the business community. dilemmas, law and morality, standards, and moral developm | opics include: moral reasoning, moral equity, justice and fairness, ethical ent. Upon completion, students would rrstanding of their moral responsibilities |
| Equivalent Course(s) | AF 3503, FN 2402 | |

| Course Name | Cost Accounting | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | BA 2408 | Prerequisite(s) BA 1201 |
| | | |
| Course Description | This course focuses on cost | allocation, process costing systems and |
| | allocation decisions (joint a factory overhead applied, | ude relevancy of revenues and costs, cost nd byproducts), process costing systems, standard costing: setting of standards, trolling, and costing material. |
| Equivalent Course(s) | BA 5411, AF 2302 | |

| Course Name | Business Statistics | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | BA 2311 | Prerequisite(s) BA1204 |
| | | |
| Course Description | This basic course aims to enhance the of the research problems and by focusin- statistics, types of data, frequency of measures of central tendency, and me curve fitting techniques, regression an series analysis; and index numbers, cou tools for statistics using add-on analysis t | g on four areas; introduction to distribution, graphs and charts, asures of dispersion; concept of alysis, correlation analysis, time unting techniques and MS Excel |
| Equivalent Course(s) | BA 2305, BIO 1208, AF 2406, EN 2304, SS 2 | 2318 |

 $Catalogue_{208} \sim$

1.1. Bachelor of Business Administration (BBA) **Course Name** Money and Banking Credit Hours 3 (3,0) **Course Code** BA 2401 Prerequisite(s) BA 1202 **Course Description** This course deals with the history, evolution and function of money. The course essentially delves into the following key topics: monetary policies which are aligned in accordance to the monetary systems, responsibilities of SBP as central bank, controlling money supply in the economy, operations and functions of commercial banks, role of other financial intermediaries, and key financial instruments available in the market. In addition, commodity markets, hedging instruments, different functions of treasury, corporate and consumer banking department is also introduced. Equivalent Course(s) AF 2404 **Course Name** Retail Management Credit Hours 3 (3,0) **Course Code** BA 2402 Prerequisite(s) BA 2303 **Course Description** This course addresses retail management at two levels: the macro-level (the role of the retailing in the business industry), and the micro-level (which focuses on the functionality of a retail business). The course provides a preview of quality management, resources management, business communication, retail marketing and advertising, consumer behavior, inventory management and accounting, and human resource management. Equivalent Course(s) Marketing Elective, EN 4XXX Elective **Course Name** Business and Electronic Communication Credit Hours 3 (3,0) **Course Code** BA 2406 Prerequisite(s) BA 1105 **Course Description** This introductory course teaches students to communicate at both personal and professional levels. In addition, it develops competency in all forms of communication. Also, this course introduces communication theories and strategies for a variety of business situations. Using a developmental approach to business communication, the course examines methods for organizing ideas, analyzing data, addressing diverse concerns, presenting information, and developing a professional communication style. Equivalent Course(s) BA 5418, AF 2301, EN 1202

| Course Name | Organizational Behavior | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | BA 3504 | Prerequisite(s) BA 2312 |
| | | |
| Course Description | The course covers the subject matter on and interpersonal, and organizational. At to examine individual behavior and diffe personality, motivation, and stress. The gra- group and inter-group behavior, creativity also includes power, conflict, leadership organizational level, it reviews the bas organizational change and develo employment relationship, and career ma | the individual level, the focus is erences, learning, perception, oup/interpersonal level covers , and team decision-making. It , and communication. At the ics of organizational culture, opment, structure, design, |
| Equivalent Course(s) | BA 5207, AF 2305, EN 2306, SS 2414 | |

| Course Name | Consumer Behavior | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | BA 3507 | Prerequisite(s) BA 2303 |
| | | |
| Course Description | This course examines in detail, the complex determine consumer actions and analyzes variety of situations with a special reference influences. It is designed to cover contempo behavior, objectives, consumer and environmental influence, individual determine behavior. | the decision patterns in a ce to individual and group prary concepts in consumer market segmentation, |
| Equivalent Course(s) | BE 484, EN 2403 | |

| Course Name | Financial Markets and Institutions | Credit Hours | 3 (3,0) |
|----------------------|---|--|--|
| Course Code | BA 3501 | Prerequisite(s) | BA 2401 |
| | | | |
| Course Description | A theoretical course that focuses on financial m equity and the effect of the economy upon the m injected into the economic system through fir Topics include: interest rates, the flow of funds, market, money markets and their relationship w services and regulatory agencies. Other topics i finance companies, insurance companies and companies. The study of Financial Market and Ins the most important areas for finance and busines has been designed to enable the students to u setup of financial markets, instruments and institut | narkets when fur capital interme capital markets ith changing fir nclude roles of d fund manag titutions (FMI) is ss students. The nderstand the o | diaries. s, debt bancial banks, jement one of course |
| Equivalent Course(s) | AF 4805 | | |

-Catalogue 2018

| Course Name | Media Management | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | BA 3508 | Prerequisite(s) BA 2303 |
| | | |
| Course Description | The course introduces basic concepts different from promotional tools. It discu dimensions, and disciplines. It also a modern and emerging communication perspective of media in Pakistan de effective ways to interact with them. The discussion on event management with communications during crisis situations. | usses various public relations tools, ddresses issues emerging out of n media and provides a broader escribing its characteristics and the course concludes with a brief h an overview of importance of |
| Equivalent Course(s) | EN 2405 | |

| Course Name Course Code | Statistical Inference BA 3605 | Credit Hours 3 (3,0) Prerequisite(s) BA 2311 |
|----------------------------|--|---|
| Course Description | The course covers probability; probabili | ity distributions: binomial poisson |
| | Hyper-geometric, Chi Square distribution Distribution; estimation; hypothesis two-populations test and analysis applications in statistics. | on, Normal distribution, Sampling testing; one-population test, |
| Equivalent Course(s) | SS 2418, AF 3506 | |

| Course Name Course Code | Development Economics BA 4706 | Credit Hours 3 (3,0) Prerequisite(s) BA 1202 |
|----------------------------|--|--|
| Course Description | This course defines development and ic development. It also discusses the theori them to the Pakistani scenario and community in the development process. analyzes the problems of the poor in Po developing countries, in general, it help contemporary domestic and internat determine whether such policies improve poor. | es of development, and relates the role of the international In addition, it also identifies and akistan, in particular, and of the os students to critically analyze ional economic policies and |
| Equivalent Course(s) | SS 1163, SS 4147, SS 4284 | |

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| Course Name | Law and Taxation | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | BA 4801 | Prerequisite(s) BA 1211 |
| | | |
| Course Description | The course covers process of legislatic Sale of Goods, Partnership Law and Tax Law and Intellectual Property La rights of persons in case of nonperform the taxation system as well as kinds of identifies the intellectual property righ | Company laws, Sales Tax, Income ws. This course identifies the legal nance of contracts, it also identifies of taxes in Pakistan. Furthermore, it |
| Equivalent Course(s) | AF 3606, EN 2401 | |

| Course Name | Financial Management | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BA 3601 | Prerequisite(s) BA 2301 |
| Course Description | Building upon the concepts already financial management helps students i relatively complex aspects of the financia present value and opportunity cost of co such as nature, scope and function objectives of financial management, capital management, valuation of stor securities, project cash flow analysis, co making, determination of the required models, dividend policy, debt policy, management and derivatives and role of | laid down in its pre-requisite, in exploring the depths of the al world, with prime focus on the apital. This course covers topics of financial decision areas, financial forecasting, working cks, valuation of fixed income apital budgeting and decision rate of return via asset pricing , introduction to financial risk |
| Equivalent Course(s) | BA 5105, AF 4702 | |

| Course Name | Marketing Management | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | BA 3602 | Prerequisite(s) BA 2303 |
| Course Description | The course introduces the concept of comanagement. Also, this course covers of internal environment, strengths, weaknesses marketing information system, buyer beh targeting and positioning strategies, product in-depth study of strategy building by organic studies and a practical, hands-on learnin management through close observations of different levels in marketing channels. | organizations' external and is, opportunities and threats, navior analysis, segmenting, ct and pricing strategies, an izations with the help of case ig experience of marketing |
| Equivalent Course(s) | BA 5106, AF 2403 | |

-Catalogue

12

| ourse Name | Operations Management | Credit Hours 3 (3,0) |
|---------------------|---|---|
| ourse Code | BA 3607 | Prerequisite(s) BA 1203 |
| ourse Description | This course introduces the concepts of production and operations management. Topics covered represent a blend of concepts from industrial engineering, cost accounting, general management, quantitative methods and statistics. The course topics include some operations and strategic issues such as applied forecasting, aggregate planning, scheduling, shop floor control, total quality management, inventory management, and facility layout and project management. In addition, topics include the complex understanding of services operations management with the help of real life case studies, processes and methodologies applied worldwide. | |
| quivalent Course(s) | EN 2406, BA 4128 | с. |
| ourse Name | Business Research Methods | Credit Hours 3 (3,0) |
| ourse Code | BA 3603 | Prerequisite(s) BA 3605 |
| | 2,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | |
| | | |
| | and covers concepts, elements, and research. It builds the specific co- identification and elicitation of rese research proposal, reviewing the li- methodology, data collection and co- report. The focus of the course is on b- the research to real life business problem. | onceptual knowledge regarding earch problem, development of terature, using suitable research analysis tools and writing research asic concept building and relating |
| quivalent Course(s) | and covers concepts, elements, and research. It builds the specific co identification and elicitation of rese research proposal, reviewing the li methodology, data collection and c report. The focus of the course is on b the research to real life business probl SS 3504, AF 3609 | d process of conducting business onceptual knowledge regarding earch problem, development of terature, using suitable research analysis tools and writing research asic concept building and relating ems. |
| course Name | and covers concepts, elements, and research. It builds the specific co identification and elicitation of rese research proposal, reviewing the li methodology, data collection and o report. The focus of the course is on b the research to real life business proble SS 3504, AF 3609 Human Resource Management | d process of conducting business onceptual knowledge regarding earch problem, development of terature, using suitable research analysis tools and writing research asic concept building and relating ems. Credit Hours 3 (3,0) |
| | and covers concepts, elements, and research. It builds the specific co identification and elicitation of rese research proposal, reviewing the li methodology, data collection and c report. The focus of the course is on b the research to real life business probl SS 3504, AF 3609 | d process of conducting business onceptual knowledge regarding earch problem, development of terature, using suitable research analysis tools and writing research asic concept building and relating ems. |

| Course Name | Quantitative Skills | Credit Hours 3 (3,0) |
|----------------------------|---|--|
| Course Code | BA 3505 | Prerequisite(s) BA 1204 |
| | 5,70000 | |
| Course Description | The course is an introduction to quantit business students. The course consists of arithmetic techniques like: numbers, et proportion, averages etc. and their usag The second part consists of algebra, equision solving business problems. The third geometry and combination of above graphical analysis and interpretation of consists of data sufficiency problems reli- geometry. None | If several parts. First is related to exponents and roots, ratio and ge in solving common problems. Justions, and their applications in part comprises of coordinate e parts. The fourth part covers the data. The fifth and last part |
| Course Name | Management Information Systems | Credit Hours 3 (3,0) |
| Course Code | BA 4704 | Prerequisite(s) BA 1108 |
| Course Description | This course covers different information technology applications in business for efficient management of business operations by providing support to decision makers for strategic business decisions. The course examines various corporate frameworks for information management | |
| Equivalent Course(s) | and their utility. AF 2402 | |
| | Convigon Markaling | |
| Course Name Course Code | Services Marketing BA 4705 | Credit Hours 3 (3,0) Prerequisite(s) BA 3602 |
| Course Code | BA 4705 | Flerequisite(s) DA 3602 |
| Course Description | This course studies the difference between marketing mix of tangible offerings and that of services; describing applications of services marketing; developing services marketing plan and practice services marketing, and developing entrepreneurial mindset in a service industry. The course focuses on marketing services through 7Ps, whether service is the primary business or a supplementary to a product. | |
| Equivalent Course(s) | Marketing Elective, EN 4XXX Elective | |

| ourse Name | Project Management | Credit Hours 3 (3,0) |
|-----------------------------------|---|--------------------------|
| ourse Code | BA 4814 | Prerequisite(s) BA 3607 |
| ourse Description | This course is split into three parts: Project Initiation, Project Implementation, and Project Termination. Topics include: definition of a project, importance of project management, project life cycle, types of projects, project management and related industries, project initiation and selection, project manager, project organization, project planning, conflicts and negotiation, project implementation, budgeting and cost estimation, scheduling, resource allocation, monitoring and information systems, project control, project termination, and project auditing. Furthermore, the course covers project feasibility study, format of feasibility study, contents of feasibility study, and making accurate estimates. | |
| uivalent Course(s) | None | |
| ourse Name | Entrepreneurship | Credit Hours 3 (3,0) |
| ourse Code | BA 3502 | Prerequisite(s) BA 1203 |
| ourse Description | This course focuses on ways in which entrepreneurs recognize opportunities, generate ideas, and organize resources to plan and run successful ventures that enable them to achieve their goals. Students are required to create an entrepreneurial venture as part of a practical learning activity. Through this hands-on experience, case studies, class discussions and text book readings students will have an opportunity to develop the values, traits, and skills most often associated with successful entrepreneurs. | |
| quivalent Course(s) ourse Name | BA 4859, BA 3517, AF 3504, EN 240 Pakistan Economy | Credit Hours 3 (3,0) |
| ourse Code | BA 3609 | Prerequisite(s) BA 4706 |
| ourse Description | This course is designed to provide students with critical information and knowledge about Pakistan economic environment. Starting with the historical background, covering topics such as agriculture, industry, public finance and social sector development. The course also reviews government interventions, like fiscal policy, monetary policy, trade policy, and income policies. Also included in this course are topics like institutional reforms, deregulation, privatization, denationalization, globalization and other policies/factors that affect business environment in Pakistan. The course ends with discussion on challenges ahead for the Pakistan Economy in the regional and global perspectives. | |
| | Pakistan Economy in the regional | ana giobal perspectives. |

-Catalogue

16

| Course Name | Research Project | Credit Hours 6 (6,0) |
|----------------------|--|--|
| Course Code | BA 4807 | Prerequisite(s) BA 3603 |
| | | |
| Course Description | The research project course is the applic concepts learned across various courses team-based project to demonstrate interdisciplinary knowledge and soft skills. It is solving a problem from any one specif management, marketing, finance, or human consists of understanding the real life busin formulating the research questions, methodology to answer the research of analyzing data from the field, and reporting scientific methods of research. | in BBA program. It is a the understanding of based on identifying and ic field of business e.g. resource management. It ess and industry problem, identifying appropriate questions, collecting and |
| Equivalent Course(s) | AF 4808 | |

1.1 Bachelor

Bachelor of Arts in Business Studies (BABS)

Students enrolled in the BA (Hons) in Business Studies (BABS) program are required to complete 27 courses with 81 Credit Hours. Upon completion of the required courses at SZABIST, students can proceed for the Final Year to the Coventry University to obtain their Bachelor (Honors) degree. If the student wishes to continue at SZABIST Karachi, they can obtain BABS degree by completing additional 19 courses and a Research Project. The break-up of the courses offered is given below:

- 46 Compulsory Courses (138 Credit Hours)
- 1 Research Project (6 Credit Hours)

| Course Code | Course Title | Page # | |
|--------------------|--|----------|--|
| | First Year | | |
| | Fall Semester | | |
| BA 1101 | Introduction to Accounting | 19 | |
| BA 1102 | Microeconomics | 19 | |
| BA 1103 | Introduction to Computers | 19 | |
| BA 1104 | Personal Management | 19 | |
| BA 1206 | Oral Communication and Presentation Skills | 20 | |
| BA 1204 | Maths for Business | 20 | |
| | Spring Semester | | |
| BA 1201 | Financial Accounting | 20 | |
| BA 1202 | Macroeconomics | 21 | |
| BA 1203 | Management Principles | 21 | |
| BA 1105 | English Writing Skills | 21 | |
| BA 2305 | Statistics and Mathematics for Business | 21 | |
| BA 2312 | Human Behavior | 22 | |
| | Summer Semester | | |
| BA 2301 | Introduction to Business Finance | 22 | |
| BA 2302 | Graphic Design in Multimedia Presentations | 22 | |
| | Second Year | | |
| | Fall Semester | | |
| BA 2303 | Marketing Principles | 22 | |
| BA 2304 | Managerial Accounting | 23 | |
| BA 2306 | Introduction to Social Sciences | 23 | |
| BA 2403 | Business Ethics | 23 | |
| BA 3504 | Organizational Behavior | 24 | |
| BA 1207 | Introduction to Logic | 24 | |
| Spring Semester | | | |
| | Quantitative Skills | 24 | |
| BA 3505 | | | |
| BA 3505 BA 3601 | Financial Management | 25 | |
| | Financial Management Marketing Management | 25 25 | |
| BA 3601 | Marketing Management | | |
| BA 3601 BA 3602 | | 25 | |

| Course Code | Course Title | Page # |
|-------------|--|--------|
| | Third Year | |
| | Fall Semester | |
| BA 1106 | Islamiat and Pakistan Studies/Humanities | 26 |
| BA 4804 | Human Resource Management | 26 |
| BA 2406 | Business and Electronic Communication | 27 |
| BA 3517 | Entrepreneurship & Small Business Management | 27 |
| BA 3518 | Law for Managers | 27 |
| BA 3605 | Statistical Inference | 27 |
| | Spring Semester | |
| BA 3617 | Introductions to International Business | 28 |
| BA 2401 | Money & Banking | 28 |
| BA 3616 | Customer Relationship Management | 28 |
| BA 3618 | Leadership Development | 29 |
| BA 3519 | Current Affairs | 29 |
| | Forth Year | |
| | Fall Semester | |
| BA 3507 | Consumer Behavior | 29 |
| BA 3501 | Financial Markets and Institutions | 30 |
| BA 4824 | Sales Management | 30 |
| BA 3603 | Methods in Business Research | 30 |
| BA 4703 | Staffing/Compensation and Employee development | 31 |
| | Spring Semester | |
| BA 4807 | Research Project | 31 |
| BA 4827 | Professional Development | 31 |
| BA 4814 | Project Management | 32 |
| BA 4128 | Operations & Supply Chain Management | 32 |
| | Managing Across Global environment | 32 |

All courses may not be offered every year. Alternate courses may be substituted as and when required.

| ourse Name ourse Code | Introduction to Accounting | Credit Hours 3 (3,0) | |
|--------------------------|--|--|----------|
| ourse Code | | (· ·) | |
| | BA 1101 | Prerequisite(s) None | |
| ourse Description | This course covers the purpose and business enterprises, accounting infor Accounting Principles, accounting e accounting cycle, ledgers and entries tory and depreciation. | mation users, Generally Accepted equation, accounting process, the | |
| quivalent Course(s) | AF 1104, EN 1103 | | |
| ourse Name | Microeconomics | Credit Hours 3 (3,0) | |
| ourse Code | BA 1102 | Prerequisite(s) None | |
| ourse Description | Microeconomics studies how the individual parts of the economy, the households and the firms, make decisions to allocate limited resources. This course is based on a comprehensive study of the market structures, product markets and resource markets. It also deals with application of demand and supply, cost analysis and factors of production. | | |
| quivalent Course(s) | SS 1105, AF 2405, EN 1205 | | |
| ourse Name | Introduction to Computers | Credit Hours 3 (1,2) | |
| ourse Code | BA 1103 | Prerequisite(s) None | |
| ourse Description | This course introduces fundamental computer concepts, including basic functions and operations of the computer. Course topics include; identification of hardware, operating system, application software, programming languages, files and data basics, data communication, networking basics, computer graphics, computer security and controls, MS Word, MS Excel, MS Access, MS Power Point, MS Project, internet browsers, databases and e-banking. | | |
| quivalent Course(s) | BA 1108, BIO 1104, AF 1102, EN 1102 | | |
| | Porconal Management | | _ |
| ourse Name ourse Code | Personal Management BA 1104 | Credit Hours 3 (3,0) Prerequisite(s) None | |
| | | | |
| ourse Description | This course teaches students to disco changes to achieve greater effective interpersonal relationship. Students lea as personality, communication style conflict, negotiation and others that i They also learn methods, and techniq confidently with others, using time presentation skills with a positive minds | eness at work, and in personal and arn the combination of factors such , self-esteem, time management, mpact their personal effectiveness. Jes required to work effectively and management, negotiation and | ESC S |

| Course Name | Oral Communication and Presentation Skills | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | BA 1206 | Prerequisite(s) None |
| | | |
| Course Description | In this course student' learns the principles of a g the opportunity to practice and experience the highly participative course. The course explores non-verbal communication characteristics, body-language expressions. Students are participative exercises with focus on active techniques, that aim to make them competer speech communication. | hese principles during this in detail, both verbal and and the importance of e challenged through listening and observation |
| Equivalent Course(s) | CSC 2101, ME 1101, AF 1203, EN 1106, SS 1116 | |

| Course Name | Maths for Business | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | BA 1204 | Prerequisite(s) None |
| | | |
| Course Description | The aim of this course is to prepare stu managerial problem through mathema covered in four parts, first part is based on its solutions provide preliminary concept, of graphical interpretation of data, systems of introduction to matrix algebra, determin method to solve system of linear equation concept of linear and nonlinear functions programming. The third part provides m covers simple, and compound interest m and future annuity calculations. The last differentiation of basic functions, higher of of functions, definite and indefinite inter integration. | atical concepts. This course is a systems of linear equations and construction of linear equations, of linear equations and solutions, nants, Cramer's rule & inverse as. The second part develops the and their application, and linear nathematics for finance, which rate computations and present st part of the course provides rder differentiation, optimization |
| Equivalent Course(s) | BIO 1107, AF 1102, EN 1101 | |

| Course Name | Financial Accounting | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | BA 1201 | Prerequisite(s) BA 1101 |
| | | |
| Course Description | This course includes accounting for | or merchandise business, classified |
| | accounting system, accounts receiv cost of goods sold, liabilities, corp | ple income statement, design of vable, notes receivable, inventories, poration and measuring cash flow nd necessary accounting software is |
| Equivalent Course(s) | AF 1201 | |
| | | |

-Catalogue 2018

| Course Description This course introduces key economic indicators, role of government in an economy, measurement of gross domestic product, components of aggregate demand, consumption function and Keynesian multiplier, investment function, government intervention through monetary and fiscal policies, impact of government intervention on economic activity, inflation and unemployment, aggregate supply and demand, balance of payments and trade, public finance, growth, and development. guivalent Course(s) SS 1205, AF 3505, EN 2303 Course Name Management Principles Credit Hours 3 (3.0) Course Code BA 1203 Prerequisite(s) None Sourse Description This course introduces the basic concepts of management, evolution and emergence of management thought, management function, planning concepts, decision-making, organizing, staffing, leading, controlling, and future of management and society. guivalent Course(s) BA 5419, AF 1106, EN 1204 Course Description This course covers comprehending problems and statements, developing arguments, and communicating ideas clearly and concisely. It also focuses on grammar, forms of punctuation, forms of speech, sentence and paragraph construction, composition, comprehension, writing styles, presentations, interactive discussions, and role-playing. course Name Statistics and Mathematics for Business Credit Hours 3 (3.0) course Code BA 1102, MD 1112, SS 2316, BIO 1111, AF 1103 | | Macroeconomics | Credit Hours 3 (3,0) | | |
|--|----------------------|---|---|--|--|
| economy, measurement of gross domestic product, components of aggregate demand, consumption function and Keynesian multiplier, investment function, government intervention through monetary and fiscal policies, impact of government intervention on economic activity, inflation and unemployment, aggregate supply and demand, bolance of payments and trade, public finance, growth, and development. Equivalent Course(s) SS 1205, AF 3505, EN 2303 Course Name Management Principles Credit Hours 3 (3.0) Course Code BA 1203 Prerequisite(s) None Course Description This course introduces the basic concepts of management, evolution and emergence of management thuction, planning concepts, decision-making, organizing, staffing, leading, controlling, and future of management and society. Equivalent Course(s) BA 5419, AF 1106, EN 1204 Course Description This course covers comprehending problems and statements, developing arguments, and communicating ideas clearly and concisely. It also focurse organ communication, planning tragments, and communication skills, formal and informal presentations, interactive discussions, and role-playing. Course Name English Writing Skills Credit Hours 3 (3.0) Course Code BA 1105 Prerequisite(s) None Course Code BA 1105 Prerequisite(s) None Course Code BA 2305 Prerequisite(s) None Course Code BA 2305 Prerequisite(s) None | Course Code | BA 1202 Prerequisite(s) BA 1102 | | | |
| Course Name Management Principles Credit Hours 3 (3.0) Course Code BA 1203 Prerequisite(s) None Course Description This course introduces the basic concepts of management, evolution and emergence of management thought, management function, planning concepts, decision-making, organizing, staffing, leading, controlling, and future of management and society. Equivalent Course(s) BA 5419, AF 1106, EN 1204 Course Name English Writing Skills Credit Hours 3 (3.0) Course Code BA 1105 Prerequisite(s) None Course Code BA 2103 Prerequisite(s) None Course Code BA 2105 Prerequisite(s) None Course Code BA 2105 Prerequisite(s) A1 204 | Course Description | economy, measurement of gross domestic product, components of aggregate demand, consumption function and Keynesian multiplier, investment function, government intervention through monetary and fiscal policies, impact of government intervention on economic activity, inflation and unemployment, aggregate supply and demand, balance of | | | |
| Course Code BA 1203 Prerequisite(s) None Course Description This course introduces the basic concepts of management, evolution and emergence of management thought, management function, planning concepts, decision-making, organizing, staffing, leading, controlling, and future of management and society. Equivalent Course(s) BA 5419, AF 1106, EN 1204 Course Name English Writing Skills Credit Hours 3 (3.0) Course Code BA 1105 Prerequisite(s) None Course Description This course covers comprehending problems and statements, developing arguments, and communicating ideas clearly and concisely. It also focuses on grammar, forms of punctuation, forms of speech, sentence and paragraph construction, composition, comprehension, writing styles, presentations, interactive discussions, and role-playing. Equivalent Course(s) CSC 1102, MD 1122, SS 2316, BIO 1111, AF 1103 Course Description The course covers descriptive statistical tools and mathematical methods. Statistical tools consist of: frequency distribution, graphs, charts, mean, and variance, percentiles, correlation, and regression analysis. Mathematical methods consist of matrices, system of linear equations, differentiation, incer programming, and simplex method. The topics are taught in relation to their application in business | Equivalent Course(s) | SS 1205, AF 3505, EN 2303 | | | |
| Course Code BA 1203 Prerequisite(s) None Course Description This course introduces the basic concepts of management, evolution and emergence of management thought, management function, planning concepts, decision-making, organizing, staffing, leading, controlling, and future of management and society. Equivalent Course(s) BA 5419, AF 1106, EN 1204 Course Name English Writing Skills Credit Hours 3 (3.0) Course Code BA 1105 Prerequisite(s) None Course Description This course covers comprehending problems and statements, developing arguments, and communicating ideas clearly and concisely. It also focuses on grammar, forms of punctuation, forms of speech, sentence and paragraph construction, composition, comprehension, writing styles, presentations, interactive discussions, and role-playing. Equivalent Course(s) CSC 1102, MD 1122, SS 2316, BIO 1111, AF 1103 Course Description The course covers descriptive statistical tools and mathematical methods. Statistical tools consist of: frequency distribution, graphs, charts, mean, and variance, percentiles, correlation, and regression analysis. Mathematical methods consist of matrices, system of linear equations, differentiation, and optimization, linear programming, and simplex method. The topics are taught in relation to their application in business | Course Name | Management Principles | Credit Hours 3 (3 0) | | |
| Course Description This course introduces the basic concepts of management function, planning concepts, decision-making, organizing, staffing, leading, controlling, and future of management and society. Equivalent Course(s) BA 5419, AF 1106, EN 1204 Course Name English Writing Skills Credit Hours 3 (3.0) Course Code BA 1105 Prerequisite(s) None Course Description This course covers comprehending problems and statements, developing arguments, and communicating ideas clearly and concisely. It also focuses on grammar, forms of punctuotion, forms of speech, sentence and paragraph construction, composition, comprehension, writing styles, presentations, verbal communication skills, formal and informal presentations, interactive discussions, and role-playing. Equivalent Course(s) CSC 1102, MD 1122, SS 2316, BIO 1111, AF 1103 Course Description The course covers descriptive statistical tools and mathematical methods. Statistical tools consist of: frequency distribution, graphs, charts, mean, and variance, percentiles, correlation, and regression analysis. Mathematical methods consist of matrices, system of linear equations, differentiation and optimization, linear programming, and simplex method. The topics are taught in relation to their application in business | | | | | |
| emergence of management thought, management function, planning concepts, decision-making, organizing, staffing, leading, controlling, and future of management and society. Equivalent Course(s) BA 5419, AF 1106, EN 1204 Course Name English Writing Skills Credit Hours 3 (3.0) Course Code BA 1105 Prerequisite(s) None Course Description This course covers comprehending problems and statements, developing arguments, and communicating ideas clearly and concisely. It also focuses on grammar, forms of punctuation, forms of speech, sentence and paragraph construction, composition, comprehension, writing styles, presentations, interactive discussions, and role-playing. Equivalent Course(s) CSC 1102, MD 1122, SS 2316, BIO 1111, AF 1103 Course Description The course covers descriptive statistical tools and mathematical methods. Statistical tools consist of: frequency distribution, graphs, charts, mean, and variance, percentiles, correlation, and regression analysis. Mathematical methods consist of matrices, system of linear equations, differentiation and optimization, linear programming, and simplex method. The topics are taught in relation to their application in business | Course coue | DA 1203 | Terequisite(s) None | | |
| Course Name English Writing Skills Credit Hours 3 (3,0) Course Code BA 1105 Prerequisite(s) None Course Description This course covers comprehending problems and statements, developing arguments, and communicating ideas clearly and concisely. It also focuses on grammar, forms of punctuation, forms of speech, sentence and paragraph construction, composition, comprehension, writing styles, presentations, verbal communication skills, formal and informal presentations, interactive discussions, and role-playing. Equivalent Course(s) CSC 1102, MD 1122, SS 2316, BIO 1111, AF 1103 Course Name Statistics and Mathematics for Business Credit Hours 3 (3,0) Course Code BA 2305 Prerequisite(s) BA 1204 Course Description The course covers descriptive statistical tools and mathematical methods. Statistical tools consist of: frequency distribution, graphs, charts, mean, and variance, percentiles, correlation, and regression analysis. Mathematical methods consist of matrices, system of linear equations, differenticition and optimization, linear programming, and simplex method. The topics are taught in relation to their application in business | Course Description | emergence of management thought, ma concepts, decision-making, organizing, stat | emergence of management thought, management function, planning concepts, decision-making, organizing, staffing, leading, controlling, and | | |
| Course Description This course covers comprehending problems and statements, developing arguments, and communicating ideas clearly and concisely. It also focuses on grammar, forms of punctuation, forms of speech, sentence and paragraph construction, composition, comprehension, writing styles, presentations, verbal communication skills, formal and informal presentations, interactive discussions, and role-playing. Equivalent Course(s) CSC 1102, MD 1122, SS 2316, BIO 1111, AF 1103 Course Name Statistics and Mathematics for Business Credit Hours 3 (3.0) Course Code BA 2305 Prerequisite(s) BA 1204 Course Description The course covers descriptive statistical tools and mathematical methods. Statistical tools consist of: frequency distribution, graphs, charts, mean, and variance, percentiles, correlation, and regression analysis. Mathematical methods consist of matrices, system of linear equations, differentiation and optimization, linear programming, and simplex method. The topics are taught in relation to their application in business | Course Name | English Writing Skills | Credit Hours 3 (3,0) | | |
| arguments, and communicating ideas clearly and concisely. It also focuses on grammar, forms of punctuation, forms of speech, sentence and paragraph construction, composition, comprehension, writing styles, presentations, verbal communication skills, formal and informal presentations, interactive discussions, and role-playing.Equivalent Course(s)CSC 1102, MD 1122, SS 2316, BIO 1111, AF 1103Course Name Course CodeStatistics and Mathematics for BusinessCredit Hours 3 (3.0) Prerequisite(s) BA 1204Course DescriptionThe course covers descriptive statistical tools and mathematical methods. Statistical tools consist of: frequency distribution, graphs, charts, mean, and variance, percentiles, correlation, and regression analysis. Mathematical methods consist of matrices, system of linear equations, differentiation and optimization, linear programming, and simplex method. The topics are taught in relation to their application in business | Course Code | BA 1105 | Prerequisite(s) None | | |
| Course NameStatistics and Mathematics for BusinessCredit Hours3 (3,0)Course CodeBA 2305Prerequisite(s)BA 1204Course DescriptionThe course covers descriptive statistical tools and mathematical methods. Statistical tools consist of: frequency distribution, graphs, charts, mean, and variance, percentiles, correlation, and regression analysis. Mathematical methods consist of matrices, system of linear equations, differentiation and optimization, linear programming, and simplex method. The topics are taught in relation to their application in business | Course Description | arguments, and communicating ideas clearly and concisely. It also focuses on grammar, forms of punctuation, forms of speech, sentence and paragraph construction, composition, comprehension, writing styles, presentations, verbal communication skills, formal and informal presentations, interactive discussions, and role-playing. | | | |
| Course CodeBA 2305Prerequisite(s)BA 1204Course DescriptionThe course covers descriptive statistical tools and mathematical methods. Statistical tools consist of: frequency distribution, graphs, charts, mean, and variance, percentiles, correlation, and regression analysis. Mathematical methods consist of matrices, system of linear equations, differentiation and optimization, linear programming, and simplex method. The topics are taught in relation to their application in business | Equivalent Course(s) | CSC 1102, MD 1122, SS 2316, BIO 1111, AF 11 | 103 | | |
| Course Description The course covers descriptive statistical tools and mathematical methods. Statistical tools consist of: frequency distribution, graphs, charts, mean, and variance, percentiles, correlation, and regression analysis. Mathematical methods consist of matrices, system of linear equations, differentiation and optimization, linear programming, and simplex method. The topics are taught in relation to their application in business | Course Name | Statistics and Mathematics for Business | Credit Hours 3 (3,0) | | |
| Statistical tools consist of: frequency distribution, graphs, charts, mean, and variance, percentiles, correlation, and regression analysis. Mathematical methods consist of matrices, system of linear equations, differentiation and optimization, linear programming, and simplex method. The topics are taught in relation to their application in business | Course Code | BA 2305 | Prerequisite(s) BA 1204 | | |
| | | | | | |
| Equivalent Course(s) BA 2311, BIO 1208, AF 2406, EN 2304, SS 2318 | Course Description | and variance, percentiles, correlation Mathematical methods consist of matrice differentiation and optimization, linear method. The topics are taught in relation t | n, and regression analysis. es, system of linear equations, programming, and simplex | | |

| | Linear and Dislam days | |
|----------------------|---|--|
| Course Name | Human Behavior | Credit Hours 3 (3,0) |
| Course Code | BA 2312 | Prerequisite(s) None |
| | | |
| Course Description | This course covers the basics of psychological fe with applications in real life situations. In additic growth and understanding are also covered. | |
| Equivalent Course(s) | BA 2306, SS 2306, AF 2303, EN 1104 | |
| | | |
| Course Name | Introduction to Business Finance | Credit Hours 3 (3,0) |
| Course Code | BA 2301 | Prerequisite(s) BA 1201 |
| | | |
| Course Description | This course covers the concepts of business envi | ironment, forms of business |
| | organization, overview of financial environmen and interest rates, analyses of financial stateme sources of short-term and long-term finance, br capital management, valuation of financial se introduction to capital budgeting. | ents, time value of money, eak even analysis, working |
| Equivalent Course(s) | BA 5401, AF 4703, EN 2301 | |
| | | |

| Course Name | Graphic Design in Multimedia Presentations | Credit Hours 3 (1,2) |
|----------------------|--|--|
| Course Code | BA 2302 | Prerequisite(s) BA 1103 |
| | | |
| Course Description | This course introduces the computer system of | developed for graphics. It |
| | covers topics such as hardware and software c production, basic computer operations, ergor scanning techniques, archiving capabilities multimedia department server and internet cor Adobe Photoshop, and Freehand are introduce | nomics, file management, , and utilization of the nnection. Software such as |
| Equivalent Course(s) | BA 4842 | |

| Course Name Course Code | Marketing Principles BA 2303 | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 |
|----------------------------|--|---|
| Course Description | environment, planning and re targeting, consumer behavior, in | c concepts of marketing, marketing search, market segmentation and dustrial marketing, product planning, placement, promotional mix, and |
| Equivalent Course(s) | BA 5404, AF 1206, EN 2305 | |

-Catalogue 22

| Course Name Course Code | Managerial Accounting BA 2304 | Credit Hours 3 (3,0) Prerequisite(s) BA 1201 |
|----------------------------|--|---|
| Course Description | This course focuses on cost alloca | ation, process costing systems and |
| Course Description | spoilage. Specific topics include rel allocation decisions (joint and by | evancy of revenues and costs, cost products), process costing systems, ard Costing: Setting of Standards, |
| Equivalent Course(s) | BA 2408, BA 5411, AF 2401 | |

| Course Name | Introduction to Social Sciences | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | BA 2306 | Prerequisite(s) None |
| | | |
| Course Description | This is an interdisciplinary course combining the perspectives of two or more of the social and behavioral sciences (anthropology, economics, | |
| | geography, history, political science, psych central issues in social science studies. This c between the social and behavioral science application of the scientific method, compo reviews the different perspectives of the course is broad in nature and scope and study in other various social and behavioral | nology and sociology) on the ourse explores the relationship as being studied. It reviews the ares theory and concepts, and discipline being studied. This provides the basis for further sciences. |
| Equivalent Course(s) | BA 2307, MD 1104, SS 2307, AF 2304, EN 120 | 3 |
| | | |

| Course Name | Business Ethics | Credit Hours 3 (3,0) |
|--------------------|--|---|
| Course Code | BA 2403 | Prerequisite(s) BA 1203 |
| Course Description | faced by the business community dilemmas, law and morality, equi and moral development. Upon | porary and controversial ethical issues 7. Topics include: moral reasoning, moral ty, justice and fairness, ethical standards, completion, students would be able to g of their moral responsibilities and orkforce and society. |

Catalogue -

Equivalent Course(s) AF 3503, EN 2402

| Course Name | Organizational Behavior | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BA 3504 | Prerequisite(s) BA 2312 |
| | | |
| Course Description | This course covers the subject matter on interpersonal, and organizational. At th examine individual behavior and di personality, motivation, and stress. The group and inter-group behavior, creativ also includes power, conflict, leadersh organizational level, it reviews the b organizational change and developme relationship, and career management. | ne individual level, the focus is to ifferences, learning, perception, group/interpersonal level covers vity, and team decision-making. It nip, and communication. At the pasics of organizational culture, |
| Equivalent Course(s) | BBA 5207, AF 2305, EN 2306 | |

| Course Name | Introduction to Logic | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | BA 1207 | Prerequisite(s) BA 1105 |
| | | |
| Course Description | The course covers scope and laws inferences, forms of discourse, emo disagreements, rules and fallaci standard-form categorical syllogism dilemma and enthymemes, and Mills Critical thinking skills and techniques o | otive words, kinds of disputes and es, classical (Aristotelian) logic, is and testing, uniform translation, ' Methods of scientific investigation. |
| Equivalent Course(s) | BA 1211, EN 2302 | |

| Course Name | Quantitative Skills | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | BA 3505 | Prerequisite(s) BA 2305 |
| | | |
| Course Description | This course is an introduction to quantitati business students. The course consists of s arithmetic techniques like: numbers, exp proportion, averages etc. and their usage The second part consists of algebra, equa solving business problems. The third po geometry and combination of above p graphical analysis and interpretation of th consists of data sufficiency problems relat geometry. | several parts. First is related to ponents and roots, ratio and in solving common problems. titions, and their applications in art comprises of coordinate parts. The fourth part covers ne data. The fifth and last part |
| Equivalent Course(s) | None | |

| Course Name | Financial Management | Credit Hours 3 (3,0) |
|----------------------|--|-------------------------|
| Course Code | BA 3601 | Prerequisite(s) BA 2301 |
| | | |
| Course Description | Building upon the concepts already laid down in its pre-requisite, financial management helps students in exploring the depths of the relatively complex aspects of the financial world, with prime focus on the present value and opportunity cost of capital. This course covers topics such as nature, scope, and function of financial decision areas, objectives of financial management, financial forecasting; working capital management, valuation of stocks, valuation of fixed income securities, project cash flow analysis, capital budgeting and decision making, determination of the required rate of return via asset pricing models, dividend policy, debt policy; introduction to financial risk management, and derivatives and role of financial markets in Pakistan. | |
| Equivalent Course(s) | BA 5105, AF 4702 | |
| Course Name | Marketing Management | Credit Hours 3 (3,0) |
| Course Code | BA 3602 | Prerequisite(s) BA 2303 |
| | | |
| Course Description | This course introduces the concept of customer and market-driven management. This course covers organizations' external and internal environment, strengths, weaknesses, opportunities and threats, marketing information system, buyer behavior analysis, segmenting, targeting and positioning strategies, product and pricing strategies, an in-depth study of | |

environment, strengths, weaknesses, opportunities and threats, marketing information system, buyer behavior analysis, segmenting, targeting and positioning strategies, product and pricing strategies, an in-depth study of strategy building by organizations with the help of case studies and a practical, hands-on learning experience of marketing management through close observations of marketing management at different levels in marketing channels.

Equivalent Course(s) BA 5106, AF 2403

| Course Name | Management Information Systems | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | BA 4704 | Prerequisite(s) BA 1103 |
| | | |
| Course Description | This course covers different information to business for efficient management of busin support to decision makers for strategic bu examines various corporate frameworks fo and their utility. | ess operations by providing siness decisions. The course |
| Equivalent Course(s) | AF 2402 | |

Catalogue

| Course Name | Advertising | Credit Hours 3 (3,0) |
|----------------------------------|--|--|
| Course Code | BA 4721 | Prerequisite(s) BA 2303 |
| Course Description | This course introduces students to the principles and practices of contemporary advertising, marketing and public relations. In this course students explore these roles in the marketplace, the elements of a successful advertisement, advertising production, and tasks accomplished by media professionals while promoting products and service businesses. | |
| Equivalent Course(s) | None | |
| | | |
| Course Name | Law and Taxation | Credit Hours 3 (3,0) |
| Course Code | BA 4801 | Prerequisite(s) BA 1211 |
| Course Description | This course covers process of legislation in I Sale of Goods, Partnership Law and Compo Law and Intellectual Property Laws. This cou persons in case of nonperformance of c taxation system as well as kinds of taxe identifies the intellectual property rights in P | any laws, Sales Tax, Income Tax urse identifies the legal rights of contracts, it also identifies the es in Pakistan. Furthermore, it |
| Equivalent Course(s) | AF 3606, EN 2401 | |
| Course Name | Islamiat and Pakistan Studies/Humanities | Credit Hours 3 (3,0) |
| Course Code | BA 1106 | Prerequisite(s) None |
| Course Description | This course provides an introduction to the history of Pakistan with reference to pre- and post-independence eras, and the contribution of different governments in nation's social, economic and legislative development over years. The second part of the course focuses on Islam and the present-day Muslim world. | |
| | | |
| Equivalent Course(s) | | 105 |
| Equivalent Course(s) | CSC 1105, MD 2402, SS 1109, BIO 2112, EN 1 | 105 |
| Equivalent Course(s) Course Name | CSC 1105, MD 2402, SS 1109, BIO 2112, EN 1 | |
| Course Name | CSC 1105, MD 2402, SS 1109, BIO 2112, EN 1 Human Resource Management | Credit Hours 3 (3,0) |
| | CSC 1105, MD 2402, SS 1109, BIO 2112, EN 1 | Credit Hours 3 (3,0) Prerequisite(s) BA 3504 an resource professional, as a rary organizations. The course ctices in human resource nning, job design and analysis, development, performance agement, career planning and ising the implications of legal the current issues (such as |
| Course Name Course Code | CSC 1105, MD 2402, SS 1109, BIO 2112, EN 1 Human Resource Management BA 4804 This course examines the role of the huma strategic partner, in managing contempo introduces concepts, issues and pra management such as human resource plat recruitment and selection, training and appraisal, compensation and benefit mana development, employee relations, apprai and global environments and analyzing diversity training, sexual harassment policies | Credit Hours 3 (3,0) Prerequisite(s) BA 3504 an resource professional, as a rary organizations. The course ctices in human resource nning, job design and analysis, development, performance agement, career planning and ising the implications of legal the current issues (such as |

-Catalogue 26

| ourse Name | Business and Electronic Communication | Credit Hours 3 (3,0) | |
|--------------------|--|---|--|
| e Code | BA 2406 | Prerequisite(s) BA 1105 | |
| e Description | This introductory course teaches students to communicate at both personal and professional levels. In addition, it develops competency in all forms of communication. This course introduces communication theories and strategies for a variety of business situations. Using a developmental approach to business communication, the course examines methods for organizing ideas, analyzing data, addressing diverse concerns, presenting information, and developing a professional communication style. | | |
| alent Course(s) | BA 5418, AF 2301, EN 1202 | | |
| | - | | |
| rse Name | Entrepreneurship & Small Business Manag | ement Credit Hours 3 (3,0) | |
| se Code | BA 3517 | Prerequisite(s) †BA 2303 | |
| | | | |
| | opportunities, generate ideas, and orgo successful ventures that enable them to required to create an entrepreneurial learning activity. Through this hands-on discussions and textbook readings stude develop the values, traits, and skills most entrepreneurs. | achieve their goals. Students are venture as part of a practical experience, case studies, class ents will have an opportunity to | |
| uivalent Course(s) | BA 4859, BA 3502, AF 3502, EN 2404 | | |
| ourse Name | Law for Managers | Credit Hours 3 (3,0) | |
| rse Code | BA 3518 | Prerequisite(s) BA 4801 | |
| ourse Description | governing the corporate laws, mana corporate entities. In addition, the stude the corporate laws applicable to the liste This course identifies the rules and regula Commission of Pakistan; and demonst | This course focuses on ways to teach students the basic principles in governing the corporate laws, management and the structure of corporate entities. In addition, the students will be able to comprehend the corporate laws applicable to the listed and public sector companies. This course identifies the rules and regulations laid down by Competition Commission of Pakistan; and demonstrate the rules and regulations governing the Non-Banking Finance Corporations. | |
| vivalent Course(s) | None | | |
| | | | |
| urse Name | Statistical Inference | Credit Hours 3 (3,0) | |
| rse Code | BA 3605 | Prerequisite(s) BA 2311 | |
| rse Description | This course covers probability; probabilit Hyper-geometric, Chi Square distribution | y distributions; Binomial, Poisson, n, Normal distribution, Sampling testing; one-population test, | |
| | | | |

| Course Name | Introduction to International Business | Credit Hours | 3 (3,0) |
|-------------------------------------|---|--|---|
| Course Code | BA 3617 | Prerequisite(s) | BA 3602, BA 4804 |
| | | | BA 2404, BA 3502 |
| Course Description | This course provides the manager perspect | ive in the fields of inte | rnational |
| | payments, international trade, and the ana | , | • |
| | given to the materials and concepts t | | 0 |
| | structure, practices, and effects of multinat | | • |
| | be covered are: The Nature of Interna- | | 0 |
| | Marketing to Customers with Diverse Cultur | e , | |
| | Diverse Political and Legal Environments, | | |
| | Marketplace, Human Resources and Er Backgrounds, and Strategy and Structur | | |
| | Enterprises. | | Giobai |
| | Lineipiises. | | |
| | | | |
| Equivalent Course(s) | BA 5308 | | |
| Equivalent Course(s) | BA 5308 | | |
| Equivalent Course(s) Course Name | BA 5308 Money and Banking | Credit Hours | 3 (3,0) |
| | | Credit Hours Prerequisite(s | . , |
| Course Name Course Code | Money and Banking BA 2401 | Prerequisite(s |) BA 1202 |
| Course Name | Money and Banking BA 2401 This course deals with the history, evolution | Prerequisite(s |) BA 1202 oney. The |
| Course Name Course Code | Money and Banking BA 2401 This course deals with the history, evolution course essentially delves into the following | Prerequisite(s n and function of mo key topics: monetary |) BA 1202 oney. The y policies |
| Course Name Course Code | Money and Banking BA 2401 This course deals with the history, evolution course essentially delves into the following which are aligned in accordance to the mo | Prerequisite(s n and function of mo key topics: monetary onetary systems, respo |) BA 1202 mey. The y policies phsibilities |
| Course Name Course Code | Money and Banking BA 2401 This course deals with the history, evolution course essentially delves into the following which are aligned in accordance to the mo of SBP as central bank, controlling mor | Prerequisite(s n and function of mo key topics: monetary onetary systems, respo ney supply in the e |) BA 1202 mey. The y policies ponsibilities conomy, |
| Course Name Course Code | Money and Banking BA 2401 This course deals with the history, evolution course essentially delves into the following which are aligned in accordance to the mo of SBP as central bank, controlling mor operations and functions of commercial | Prerequisite(s n and function of mo key topics: monetary onetary systems, respo ney supply in the e banks, role of other |) BA 1202 mey. The policies possibilities conomy, financial |
| Course Name Course Code | Money and Banking BA 2401 This course deals with the history, evolution course essentially delves into the following which are aligned in accordance to the mo of SBP as central bank, controlling mor operations and functions of commercial intermediaries, key financial instruments | Prerequisite(s n and function of mo key topics: monetary onetary systems, respo ney supply in the e banks, role of other available in the m |) BA 1202 ney. The y policies onsibilities conomy, financial arket. In |
| Course Name Course Code | Money and Banking BA 2401 This course deals with the history, evolution course essentially delves into the following which are aligned in accordance to the mo of SBP as central bank, controlling mor operations and functions of commercial intermediaries, key financial instruments addition, commodity markets, hedging inst | Prerequisite(s n and function of mo key topics: monetary onetary systems, respo ney supply in the e banks, role of other available in the m truments, different fun |) BA 1202 ney. The y policies consibilities conomy, financial arket. In actions of |
| Course Name Course Code | Money and Banking BA 2401 This course deals with the history, evolution course essentially delves into the following which are aligned in accordance to the mo of SBP as central bank, controlling mor operations and functions of commercial intermediaries, key financial instruments | Prerequisite(s n and function of mo key topics: monetary onetary systems, respo ney supply in the e banks, role of other available in the m truments, different fun |) BA 1202 ney. The y policies consibilities conomy, financial arket. In actions of |
| Course Name Course Code | Money and Banking BA 2401 This course deals with the history, evolution course essentially delves into the following which are aligned in accordance to the mo of SBP as central bank, controlling mor operations and functions of commercial intermediaries, key financial instruments addition, commodity markets, hedging inst | Prerequisite(s n and function of mo key topics: monetary onetary systems, respo ney supply in the e banks, role of other available in the m truments, different fun |) BA 1202 mey. The y policies consibilities conomy, financial arket. In actions of |

| Course Name Course Code | Customer Relationship Management BA 3616 | Credit Hours 3 (3,0) Prerequisite(s) BA 2303 |
|----------------------------|---|---|
| | | |
| Course Description | Customer Relationship Management (CRM process, culture and technology that enable revenue and increase value through a mor and fulfillment of customer needs. CRM aims of service, retaining customers as long-term p services/products more effectively, gaining n customers through referrals, and providing he | es organizations to optimize e complete understanding at providing better customer profitable customers, selling new customers from present |
| Equivalent Course(s) | BA 5124 | |

-Catalogue 2018

| ourse Name | Leadership Development | Credit Hours 3 (3,0) |
|---|--|--|
| ourse Code | BA 3618 | Prerequisite(s) BA 4804 |
| uivalent Course(s) | and perspectives within a varier interactions between the instructor, s student should develop a more con theoretical leadership framework. leadership development. The cours awareness in the areas of self-n attitudes and motivation, perso communication, diversity, and ethics | mporary leadership theories, models by of contexts. Through dynamic tudents and other experiences, each aplete and holistic philosophical and this course focuses on professional be is designed to improve personal management, professionalism, work mality, innovation and creativity, |
| se Name se Code | None Current Affairs BA 3519 | Credit Hours 3 (3,0) Prerequisite(s) BA 1202, BA 1105 |
| | BA 3317 | |
| | conflict in the world. In this course | burse will also focus on major areas of student will be engaged in critical political, intellectual, religious and experience simulations, debates and |
| vivalent Course(s) | technology incorporated into the cu None | |
| | | rriculum. |
| urse Name | None | rriculum. |
| uivalent Course(s) ourse Name ourse Code ourse Description | None Consumer Behavior | rriculum. Credit Hours 3 (3,0) Prerequisite(s) BA 2303 omplex behavioral processes which analyzes the decision patterns in a reference to individual and group ontemporary concepts in consumer market segmentation, environmental |
| urse Name urse Code | None Consumer Behavior BA 3507 This course examines in detail, the c determine consumer actions and c variety of situations with a special influences. It is designed to cover c behavior, objectives, consumer and the | rriculum. Credit Hours 3 (3,0) Prerequisite(s) BA 2303 omplex behavioral processes which analyzes the decision patterns in a reference to individual and group ontemporary concepts in consumer market segmentation, environmental |

| Course Name | Financial Markets and Institutions | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | BA 3501 | Prerequisite(s) BA 2401 |
| | | |
| Course Description | A theoretical course that focuses on finan equity and the effect of the economy upon injected into the economic system through f include; interest rates the flow of funds, c money markets and their relationship with ch regulatory agencies. Other topics include companies, insurance companies and fur The study of Financial Market and Instituti important areas for finance and business st designed to enable the students to under financial markets, instruments and institution | n the markets when funds are inancial intermediaries. Topics apital markets, debt market, nanging financial services and de roles of banks, finance and management companies. ons (FMI) is one of the most tudents. The course has been erstand the existing setup of |
| Equivalent Course(s) | BA 5135, AF 3501 | |

| Course Name | Sales Management | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | BA 4824 | Prerequisite(s) BA 3602 |
| | | |
| Course Description | This course focuses on the management selling functions which include the: 1. program. 2. Implementation of the sales control of the sales force performance approach to understand the above processes, through text and cases on so through sharing of the facilitator's ow gained while serving various multine marketing organizations. | Formulation of a strategic sales s program and, 3. Evaluation and ce. This course comprises of an e stated sets of decisions and ales management topics and also in experiences and observations |
| Equivalent Course(s) | BA 3604 | |

| Equivalent Course(s) | BA 360 |
|----------------------|--------|
|----------------------|--------|

| Course Name | Business Research Methods | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | BA 3603 | Prerequisite(s) BA 3605 |
| | | |
| Course Description | This course provides the understanding of ods in the field of marketing, human resource The subject encompasses the theory an covers concepts, elements, and process of It builds the specific conceptual knowledg elicitation of research problem, develop reviewing the literature, using suitable r collection and analysis tools and writing res course is on basic concept building and re- business problems. | ce management, and finance. Id practice of research; and conducting business research. Ie regarding identification and oment of research proposal, research methodology, data search report. The focus of the |
| Equivalent Course(s) | SS 3504, AF 3609 | |

| Course Name | Staffing & Compensation | Credit Hours 3 (3,0) | |
|----------------------|--|---|--------|
| Course Code | BA 4703 | Prerequisite(s) BA 4804 | |
| Course Description | This course focuses on strategies an excellence through a continuous cyc explains pragmatic approaches for m in knowledge workers by identifying technological strategies to recruit high | cle of Recruitment & Selection. It naintaining distinctive competence g high quality talent; creation of | |
| Equivalent Course(s) | None | | |
| Course Name | Research Project | Credit Hours 6 (6,0) | |
| Course Code | BA 4807 | Prerequisite(s) BA 3603 | |
| Course Description | The research project course is the appl learned across various courses in BABS to demonstrate the understanding of ir skills. It is based on identifying and solvir field of business e.g. management resource management. It consists of u and industry problem, formulating th appropriate methodology to answer and analyzing data from the field, and scientific methods of research. | program. It is a team-based project nterdisciplinary knowledge and soft ng a problem from any one specific t, marketing, finance, or human understanding the real life business he research questions, identifying the research questions, collecting | |
| Equivalent Course(s) | AF 4807 | | |
| Course Name | Professional Development | Credit Hours 3 (3,0) | |
| Course Code | BA 4827 | Prerequisite(s) BA 1104, BA | A 1206 |
| Course Description | The Professional Development course is students to describe their accomplishm like: professional networking, compan for services, and interviews. It teaches tion for new jobs. Particular emphasis is preparation for verbal communication | nents and sell their ideas in situations ay meetings, response to proposals writing skills and workplace integra- put on verbal communication and n. Also, students will learn to create | |
| | career plans that require them to rese employers, and prepare a developmen attain success within the chosen profes | | |

| | Project Management | Credit Hours 3 (3,0) |
|----------------------------|---|--|
| Course Code | BA 4814 | Prerequisite(s) BA 3607 |
| Course Description | The course is split into three parts: Project Init | iation, Project Implementa- |
| course Description | tion, and Project Termination. Topics include: c | |
| | tance of project management, project life | |
| | project management and related industries, | project initiation and selec- |
| | tion, project manager, project organization, | |
| | and negotiation, project implementation, buc | e |
| | scheduling, resource allocation, monitoring project control, project termination, and pro | |
| | the course covers project feasibility study, | |
| | contents of feasibility study, and making accu | |
| | | |
| Equivalent Course(s) | Finance Elective | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Course Name | Operations & Supply Chain Management | Credit Hours 3 (3,0) |
| Course Code | BA 4128 | Prerequisite(s) BA 1203 |
| | | |
| Course Description | This course covers study of the process direc | , |
| | and distribution of goods and services. Increa | 3 , |
| | taking place outside the boundaries of a tradi | · |
| | | nsure quality create value |
| | teaches students how to analyze processes, e | |
| | and manage the flow of information, prod | ucts and services across a |
| | · · · | ucts and services across a |
| -auivalent Course(s) | and manage the flow of information, produced network of customers, enterprises and supply of the second supply of | ucts and services across a |
| Equivalent Course(s) | and manage the flow of information, prod | ucts and services across a |
| Equivalent Course(s) | and manage the flow of information, produced network of customers, enterprises and supply of the second supply of | ucts and services across a |
| Equivalent Course(s) | and manage the flow of information, produced network of customers, enterprises and supply of the second supply of | ucts and services across a |
| Equivalent Course(s) | and manage the flow of information, produced network of customers, enterprises and supply of the second supply of | ucts and services across a |
| Equivalent Course(s) | and manage the flow of information, produced network of customers, enterprises and supply of the second supply of | ucts and services across a |
| | and manage the flow of information, prod network of customers, enterprises and supply BA 3607, EN 2406, BA 4128 | ucts and services across a chain partners. |
| Course Name | and manage the flow of information, prod network of customers, enterprises and supply BA 3607, EN 2406, BA 4128 Managing Across Global Environment | ucts and services across a chain partners. Credit Hours 3 (3,0) |
| Course Name | and manage the flow of information, prod network of customers, enterprises and supply BA 3607, EN 2406, BA 4128 | ucts and services across a chain partners. |
| Course Name Course Code | and manage the flow of information, prod network of customers, enterprises and supply BA 3607, EN 2406, BA 4128 Managing Across Global Environment BA 4127 | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 |
| Course Name | and manage the flow of information, prod network of customers, enterprises and supply BA 3607, EN 2406, BA 4128 Managing Across Global Environment BA 4127 The purpose of this course is to explore cultura | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 |
| Course Name Course Code | and manage the flow of information, produced network of customers, enterprises and supply of BA 3607, EN 2406, BA 4128 Managing Across Global Environment BA 4127 The purpose of this course is to explore cultural management in view of increasing cult | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 Il dimensions of international ural differences between |
| Course Name Course Code | and manage the flow of information, produced network of customers, enterprises and supply of BA 3607, EN 2406, BA 4128 Managing Across Global Environment BA 4127 The purpose of this course is to explore cultural management in view of increasing cultural individuals and groups within and between | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 Il dimensions of international ural differences between organizations as a result of |
| Course Name Course Code | and manage the flow of information, produce network of customers, enterprises and supply of BA 3607, EN 2406, BA 4128 Managing Across Global Environment BA 4127 The purpose of this course is to explore cultural management in view of increasing cult individuals and groups within and between globalization. Culture is defined in its widest see | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 Il dimensions of international ural differences between organizations as a result of ense as the accumulation of |
| Course Name Course Code | and manage the flow of information, produced network of customers, enterprises and supply of BA 3607, EN 2406, BA 4128 Managing Across Global Environment BA 4127 The purpose of this course is to explore cultural management in view of increasing cult individuals and groups within and between globalization. Culture is defined in its widest see knowledge, experience, beliefs, values, attituding and groups within and between globalization. | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 Il dimensions of international ural differences between organizations as a result of ense as the accumulation of udes, meanings, hierarchies, |
| Course Name Course Code | and manage the flow of information, produce network of customers, enterprises and supply of BA 3607, EN 2406, BA 4128 Managing Across Global Environment BA 4127 The purpose of this course is to explore cultural management in view of increasing cult individuals and groups within and between globalization. Culture is defined in its widest see knowledge, experience, beliefs, values, attitur religion, notions of time, roles, spatial relation | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 Il dimensions of international ural differences between organizations as a result of ense as the accumulation of udes, meanings, hierarchies, s, concepts of the universe, |
| Course Name Course Code | and manage the flow of information, produced network of customers, enterprises and supply of BA 3607, EN 2406, BA 4128 Managing Across Global Environment BA 4127 The purpose of this course is to explore cultural management in view of increasing cult individuals and groups within and between globalization. Culture is defined in its widest see knowledge, experience, beliefs, values, attituding and groups within and between globalization. | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 Il dimensions of international ural differences between organizations as a result of ense as the accumulation of udes, meanings, hierarchies, s, concepts of the universe, ed by a group of people in |

culture is communication and communication is culture.

Equivalent Course(s)

None

-Catalogue

1.1.2 Bachelor

1.1.3 Bachelor of Science in Accounting & Finance (BSA&F)

SStudents enrolled in the BS (A&F) program are required to complete 46 courses with a 6 credit hour Research Project within six (6) years. The break-up of 46 courses and project (144 credit hours) is as follows:

- 46 Compulsory Courses (138 Credit Hours)
- 1 Research Project (6 Credit Hours)

| Course Cod | e Course Title | Page # |
|--|---|--|
| | First Year | |
| | | |
| | Fall Semester | |
| AF 1101 AF 1102 AF 1104 AF 1105 AF 1203 AF 1205 | Business Mathematics Computer Concepts and Applications Introduction to Financial Accounting Pakistan Studies Communication Skills Islamic Studies/Humanities | 35 35 35 36 36 36 |
| | Spring Semester | |
| AF 1103 AF 1106 AF 1201 AF 2303 AF 2304 AF 2405 | English Comprehension Principles of Management Advanced Financial Accounting Introduction to Psychology Introduction to Sociology Principles of Micro Economics | 37 37 37 38 38 38 38 |
| | Second Year | |
| | Fall Semester | |
| AF 1202 AF 1206 AF 2302 AF 3503 AF 3505 AF 4703 | Calculus for Business Studies Principles of Marketing Cost Accounting Business Ethics Principles of Macro Economics Introduction to Business Finance | 38 39 39 39 39 39 40 |
| | Spring Semester | |
| AF 2301 AF 2305 AF 2401 AF 2402 AF 2404 AF 2406 | Business and Technical English Writing Organizational Behavior Management Accounting Management Information Systems Money and Banking Statistics and Probability | 40 40 41 41 41 42 |

3 List of Electives is given in Appendix B.

1.1.3 Bachelor of Science in Accounting & Finance (BSA&F)

| Course Title | Page # |
|--|---|
| Third Year | |
| | |
| | |
| | 42 |
| | 42 |
| | 43 |
| | 43 |
| | 43 |
| Islamic Banking and Finance | 43 |
| Spring Semester | |
| Introduction to Human Resource Management | 44 |
| Marketing Management | 44 |
| Corporate Accounting | 44 |
| Business and Labor Law | 45 |
| Financial Management | 45 |
| Business Research Methodologies | 45 |
| Fourth Year | |
| Fall Semester | |
| | 46 |
| | 46 |
| Company Law | 46 |
| Corporaté Finance | 46 |
| Investment Analysis and Portfolio Management | 47 |
| Management of Financial Institutions | 47 |
| Spring Semester | |
| | 47 |
| Entrepreneurship and Small Business Management | 48 |
| Financial Reporting | 48 |
| Final Project | 48 |
| International Financial Management | 49 |
| | Third Year Fall Semester Accounting and Financial Information Systems Auditing Statistical Inference E-Commerce Taxation Islamic Banking and Finance Spring Semester Introduction to Human Resource Management Corporate Accounting Business and Labor Law Financial Management Business and Labor Law Financial Management Business Research Methodologies Entreprenet Stamic Financial System Corporate Finance Investment Analysis and Portfolio Management Investment Analysis and Portfolio Management Management Management of Financial Institutions Spring Semester Pakistan Economic Policy Entrepreneurship and Small Business Management Financial Reporting Financial Reporting Financial Reporting Financial Reporting |

All courses may not be offered every year. Alternate courses may be substituted as and when required.

I.I.S Bachelor of Science in Accounting & Finance (BSA&F)

The description of 46 compulsory courses and the Research Project, as required for the BS (A&F) degree, is given below:

| Course Name | Business Mathematics | Credit Hours 3 (3,0) |
|--|---|--|
| Course Code | AF 1101 | Prerequisite(s) None |
| Course Description | The aim of this course is to prepare managerial problems through mathe covered in three parts; first part is base and its solutions to provide preliminary equations, graphical interpretation of and solutions, introduction to matrix alg & inverse method to solve system of li develops the concept of linear and application, linear programming. The the finance, which covers simple, and com- and present and future annuity calcular | matical concepts. This course is ed on systems of linear equations concepts, construction of linear data, systems of linear equations lebra, determinants, Cramer's rule near equations. The second part d nonlinear functions, and their nird part provides mathematics for upound interest rate computations |
| Equivalent Course(s) | BIO 1107, BA 1204, EN 1101 | |
| | | |
| Course Name | Computer Concepts and Application | Credit Hours 3 (3,0) |
| | Computer Concepts and Application AF 1102 | Credit Hours 3 (3,0) Prerequisite(s) None |
| Course Name Course Code Course Description | AF 1102 This course deals with the introduc | Prerequisite(s) None |
| Course Code | AF 1102 | Prerequisite(s) None tion to information technology, computer hardware, operating nming languages, files and data king basics, computer graphics, |
| Course Code | AF 1102 This course deals with the introduc understanding the computer system, system, application software, program basics, data communication, networ computer security and controls, MS Wor | Prerequisite(s) None tion to information technology, computer hardware, operating ming languages, files and data king basics, computer graphics, rd, MS Excel, MS Access, MS Power |
| Course Code Course Description | AF 1102 This course deals with the introduc understanding the computer system, system, application software, program basics, data communication, networ computer security and controls, MS Wor Point, MS Project and Databases. | Prerequisite(s) None tion to information technology, computer hardware, operating ming languages, files and data king basics, computer graphics, rd, MS Excel, MS Access, MS Power |
| Course Code Course Description | AF 1102 This course deals with the introduc understanding the computer system, system, application software, program basics, data communication, networ computer security and controls, MS Wor Point, MS Project and Databases. | Prerequisite(s) None tion to information technology, computer hardware, operating ming languages, files and data king basics, computer graphics, rd, MS Excel, MS Access, MS Power |

| Course Code | AF I I 04 | Prerequisite(s) None |
|--------------------|--|---------------------------|
| | | |
| Course Description | This course covers the purpose and nature | e of accounting, forms of |
| | business enterprises, accounting information | users, Generally Accepted |
| | Accounting Principles, accounting equati | on, accounting process, |
| | accounting cycle, ledgers and entries, ac | counting for receivables, |
| | inventory and depreciation. | |
| | | |

Catalogue

Equivalent Course(s)

BA 1101, EN 1103

I.I.3 Bachelor of Science in Accounting & Finance (BSA&F)

| | Pakistan Studies | |
|----------------------------|---|---|
| Course Name | | Credit Hours 3 (3,0) |
| Course Code | AF 1105 | Prerequisite(s) None |
| | | |
| Course Description | This course provides an introduc | tion to the history of Pakistan with |
| • | reference to pre- and post-indepe | endence eras, and the contribution of |
| | | 's social, economic and legislative |
| | 0 | |
| | development over years. | |
| | | |
| Equivalent Course(s) | ME 2306 | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Course Name | Communication Skills | Credit Hours 3 (3,0) |
| Course Name Course Code | Communication Skills AF 1203 | Credit Hours 3 (3,0) Prerequisite(s) None |
| | | |
| Course Code | AF 1203 | Prerequisite(s) None |
| | AF 1203 In this course student' learns the prin | Prerequisite(s) None |
| Course Code | AF 1203 In this course student' learns the print the opportunity to practice and e | Prerequisite(s) None nciples of a good presentation and has experience these principles during this |
| Course Code | AF 1203 In this course student' learns the print the opportunity to practice and e | Prerequisite(s) None |
| Course Code | AF 1203 In this course student' learns the prir the opportunity to practice and e highly participative course. The cou | Prerequisite(s) None nciples of a good presentation and has experience these principles during this |
| Course Code | AF 1203 In this course student' learns the prir the opportunity to practice and e highly participative course. The cou non-verbal communication char | Prerequisite(s) None nciples of a good presentation and has experience these principles during this urse explores in detail, both verbal and acteristics, and the importance of |
| Course Code | AF 1203 In this course student' learns the prir the opportunity to practice and e highly participative course. The cou non-verbal communication char body-language expressions. St | Prerequisite(s) None nciples of a good presentation and has experience these principles during this urse explores in detail, both verbal and |

techniques, that aim to make them competent in all facets of effective

| Equivalent Course(s) | CSC 2101, ME 1101, BA 1206, EN 1106 |
|----------------------|-------------------------------------|
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36

speech communication.

| Course Name | Islamic Studies/Humanities | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | AF 1205 | Prerequisite(s) None |
| | | |
| Course Description | Islamic Studies gives an introduction to | basic principles of Islam, followed |
| | by topics, such as; Ibadaat (Worship), A (i.e. commands and prohibition), comparison with science, life history of and Blessings of Allah be upon Him), uni earning) and obligations of a Muslim. rights and minorities, Islamic society, mo state, Islamic politics, problems faced by in Islam are covered. | Islam's concept of knowledge, i the Prophet Muhammad (Peace ty of Ummah ; Kasb-e-Halal (lawful In addition, fundamental human aintaining identity in a non-Islamic |
| Equivalent Course(s) | ME 1106 | |

I.I.B Bachelor of Science in Accounting & Finance (BSA&F)

| Course Name | English Comprehension | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | AF 1103 | Prerequisite(s) None |
| | | |
| Course Description | This course covers comprehending pro | oblems and statements, developing |
| | arguments, and communicating ide focuses on grammar, forms of punct and paragraph construction, compos presentations, verbal communicat presentations, interactive discussions, o | uation, forms of speech, sentence ition, comprehension, writing styles, ion skills, formal and informal |
| Equivalent Course(s) | CSC 1102, MD 1122, SS 1116, BIO 1111, | BA 1105 |
| | | |

| Course Name Course Code | Principles of Management AF 1106 | Credit Hours 3 (3,0) Prerequisite(s) None |
|----------------------------|--|--|
| Course Description | This course introduces the basic concept emergence of management thought, concepts, decision-making, organizing future of management and society. | , management function, planning |
| Equivalent Course(s) | BA 1203, BA 5419, EN 1204 | |

| Course Name | Advanced Financial Accounting | Credit Hours 3 (3,0) |
|--------------------|---|---|
| Course Code | AF 1201 | Prerequisite(s) AF 1104 |
| | | |
| Course Description | This course builds up on the Introductory Account the underlying framework and concepts of Fir context of overall business environment. Finance means of recording and reporting financial Students will learn how accounting supports e and provides value to entities and society. Stud of financial statements and related informati knowledge about types of business organize merchandising companies. Topics examined corporate financial position, operating resu Students will also study the basic accounting how the various accounting alternatives transactions impact results. | nancial Accounting in the cial accounting is the basic information in a business. conomic decision making dents will discover the uses on, and will expand their ations by learning about include those related to lts, and financial assets. system and will be shown |

Catalogue -

Equivalent Course(s) BA 1201

Bachelor of Science in Accounting & Finance (BSA&F)

| Course Name | Introduction to Psychology | Credit Hours 3 (3,0) | |
|--|--|---|--|
| Course Code | AF 2303 | Prerequisite(s) None | |
| Course Description | with applications in real life situations. In a growth and understanding are cov information processing, learning and me language acquisition, social psychology, | This course covers the basics of psychological features of human behavior with applications in real life situations. In addition, the aspects of personal growth and understanding are covered. Topics include human information processing, learning and memory, motivation, development, language acquisition, social psychology, and personality. BA 2312, SS 2306, EN 1104 | |
| Equivalent Course(s) | BA 2312, SS 2306, EN 1104 | | |
| Course Name | Introduction to Sociology | Credit Hours 3 (3,0) | |
| Course Code | AF 2304 | Prerequisite(s) None | |
| Course Description | This course focuses on three central themes; social change, social inequality, and social harmony versus conflict. It combines selective theoretical texts with case studies to understand the mechanisms and | | |
| | institutions that can trigger, foster, sustain, processes. In addition, the course covers thinkers and the influence of sociol citizenship, culture, gender, society, and e | s the work of major sociological logy on modernization, race, | |
| Equivalent Course(s) | BA 2307, SS 2307, EN 1203 | | |
| Course Name | Principles of Micro Economics | Credit Hours 3 (3,0) | |
| Course Code | AF 2405 | Prerequisite(s) None | |
| | | | |
| Course Description | Microeconomics covers how the individual parts of the economy, the households and the firms, make decisions to allocate limited resources. This course is based on a comprehensive study of the market structures, product markets and resource markets. It also deals with application of demand and supply, cost analysis and factors of production. | | |
| Equivalent Course(s) | SS 1105, BA 1102, EN 1205 | | |
| Equivalent Course(s) | | | |
| Equivalent Course(s) | | | |
| | Calculus for Business Studies | Credit Hours 3 (3,0) | |
| Course Name | Calculus for Business Studies AF 1202 | Credit Hours 3 (3,0) Prerequisite(s) AF 1101 | |
| Course Name Course Code Course Description | | Prerequisite(s) AF 1101 of differentiation, derivatives of ic functions, differentials, growth efinite integrals, techniques of c, exponential and trigonometric der curve and between curves, | |
| Course Name Course Code | AF 1202 This course covers derivatives, results of logarithmic exponential and trigonometr and decay models, definite and inde integration, integrals involving logarithmic functions, integration by tables, area un- functions of several variables, partial der | Prerequisite(s) AF 1101 of differentiation, derivatives of ic functions, differentials, growth efinite integrals, techniques of c, exponential and trigonometric der curve and between curves, | |

-Catalogue 2018

1.1.3 Bachelor of Science in Accounting & Finance (BSA&F)

| Course Name | Principles of Marketing | Credit Hours 3 (3,0) |
|--|--|--|
| Course Code | AF 1206 | Prerequisite(s) None |
| Course Description | This course introduces the basic environment, planning and rese- targeting, consumer behavior, indu product-mix, pricing, distribution, p marketing in global scenarios. | arch, market segmentation and ustrial marketing, product planning, |
| Equivalent Course(s) | BA 5404, BA 2303, EN 2305, BST 1205 | |
| Course Name | Cost Accounting | Credit Hours 3 (3,0) |
| Course Code | AF 2302 | Prerequisite(s) AF 1201 |
| Course Description | Cost Accounting covers all key inventory valuation, job costing, pro The course also covers the role of the only to outside customers, but also to into many other areas of concern to t costing, constraint analysis, capital even cost collection systems. | cess costing, and standard costing. cost accountant in setting prices, not other subsidiaries. The course delves the cost accountant, including target |
| Equivalent Course(s) Course Name | BA 2408, BA 5411 Business Ethics | Credit Hours 3 (3,0) |
| Course Name | AF 3503 | Credit Hours 3 (3,0) Prerequisite(s) AF 1106 |
| | AI 3303 | |
| Course Description | This course introduces contempore faced by the business community. To dilemmas, law and morality, equity, ju and moral development. Upon con demonstrate an understanding o | pics include: moral reasoning, moral ustice and fairness, ethical standards, npletion, students would be able to |
| | obligations as members of the workfo | |
| Equivalent Course(s) | obligations as members of the workfo | |
| | BA 2403, EN 2402 Principles of Macro Economics | |
| Course Name | BA 2403, EN 2402 | brce and society. |
| Equivalent Course(s) Course Name Course Code Course Description | BA 2403, EN 2402 Principles of Macro Economics | Credit Hours 3 (3,0) Prerequisite(s) AF 2405 indicators, role of government in an domestic product, components of function and Keynesian multiplier, intervention through monetary and it intervention on economic activity, gate supply and demand, balance of |

Catalogue -

Bachelor of Science in Accounting & Finance (BSA&F)

| Course Name | Introduction to Business Finance | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | AF 4703 | Prerequisite(s) AF 1201 |
| | | |
| Course Description | This course covers the concepts of business en organization, overview of financial environme and interest rates, analyses of financial staten sources of short-term and long-term finance, b capital management, valuation of financial s introduction to capital budgeting. | ent, cost markets, institutions nents, time value of money, preak even analysis, working |
| Equivalent Course(s) | BA 5401, BA 2301, EN 2301 | |

| Course Name | Business and Technical English Writing | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | AF 2301 | Prerequisite(s) AF 1203, AF1103 |
| | | |
| Course Description | This course helps students to analyze and documents, such as letters, memoranda, pre- reports. Through individual and collaborative purpose-driven messages that reflect the needs and the physical, stylistic, and social constraints and situations and learn revising fact sheets ac principles, developing clear instructions, and co usability tests. | entations, proposals, and projects students develop s of professional audiences s of various media, genres, cording to plain language |
| Equivalent Course(s) | None | |

| Organizational Behavior | Credit Hours 3 (3,0) |
|--|--|
| AF 2305 | Prerequisite(s) AF 2303 |
| This course covers the subject matter on thre interpersonal, and organizational. At the in examine individual behavior and differe personality, motivation, and stress. The grou group and inter-group behavior, creativity, also includes power, conflict, leadership, organizational level, it reviews the basic organizational change and development. | e levels: individual, group and idividual level, the focus is to ences, learning, perception, up/ interpersonal level covers and team decision-making. It and communication. At the cs of organizational culture, |
| relationship, and career management. | |
| | AF 2305 This course covers the subject matter on three interpersonal, and organizational. At the in examine individual behavior and different personality, motivation, and stress. The grou group and inter-group behavior, creativity, also includes power, conflict, leadership, organizational level, it reviews the basic organizational change and development, s |

-Catalogue Q

Bachelor of Science in Accounting & Finance (BSA&F)

| ourse Name | Management Accounting | Credit Hours 3 (3,0) |
|---|--|---|
| ourse Code | AF 2401 | Prerequisite(s) AF 2302 |
| Course Description | In this course student study account techniques applied in a management of analysis of accounting data with real-wa analysis, conclusions, and recomme managerial accounting topics include behavior of costs, budgeting, dit accounting, balanced score card, p monitoring. Also, reporting technique spreadsheet and graphic presentation | decision-making context. It covers vorld case studies, presentation of ndations. In addition it covers ding: cost accounting and the fferential analysis, responsibility performance measurement and es involving the use of current |
| uivalent Course(s) | None | |
| ourse Name | Management Information Systems | Credit Hours 3 (3,0) |
| Course Code | AF 2402 | Prerequisite(s) AF 1102 |
| ourse Description | This course covers different informat business for efficient management of support to decision makers for strateg | business operations by providing jic business decisions. The course |
| | and their utility. | rks for information management |
| quivalent Course(s) | | rks for information management |
| course Name | and their utility. | Credit Hours 3 (3,0) |
| quivalent Course(s) Course Name Course Code | and their utility. BA 4704 Money and Banking | |
| Course Name | and their utility. BA 4704 Money and Banking | Credit Hours 3 (3,0) Prerequisite(s) AF 3505 Ution and function of money. The ving key topics: monetary policies e monetary systems, responsibilities money supply in the economy, cial banks, role of other financial ints available in the market. In i instruments, different functions of |
| ourse Name ourse Code ourse Description | and their utility. BA 4704 Money and Banking AF 2404 This course deals with the history, evolu course essentially delves into the follow which are aligned in accordance to the of SBP as central bank, controlling to operations and functions of commerce intermediaries, key financial instrume addition, commodity markets, hedging treasury, corporate and consumer bank | Credit Hours 3 (3,0) Prerequisite(s) AF 3505 Ution and function of money. The ving key topics: monetary policies e monetary systems, responsibilities money supply in the economy, cial banks, role of other financial ints available in the market. In i instruments, different functions of |
| ourse Name ourse Code | AF 2404 Money and Banking AF 2404 This course deals with the history, evolut course essentially delves into the follow which are aligned in accordance to the of SBP as central bank, controlling a operations and functions of commerce intermediaries, key financial instrume addition, commodity markets, hedging | Credit Hours 3 (3,0) Prerequisite(s) AF 3505 Ution and function of money. The ving key topics: monetary policies e monetary systems, responsibilities money supply in the economy, cial banks, role of other financial ints available in the market. In instruments, different functions of |

E Catalogue -

1.1.3 Bachelor of Science in Accounting & Finance (BSA&F)

| Course Name | Statistics and Probability | Credit Hours 3 (3,0) |
|--|--|--|
| Course Code | AF 2406 | Prerequisite(s) AF 1101 |
| | | |
| Course Description | This basic course aims to enhance the capacit | • |
| | the research problems by focusing on four areas | |
| | types of data, frequency distribution, graphs | |
| | central tendency, and measures of dispersion; | |
| | techniques, regression analysis, correlation and | |
| | and index numbers, counting techniques, MS Exa add-on analysis tool pack. | cer roois for statistics using |
| | ada-off analysis tool pack. | |
| Equivalent Course(s) | BIO 1208, EN 2304, BA 2311 | |
| | | |
| | | |
| Course Name | Accounting and Financial Information Systems | Credit Hours 3 (3,0) |
| Course Code | AF 3501 | Prerequisite(s) AF 2401 |
| Course Description | This course covers the knowledge and skills as | added to function within |
| course Description | This course covers the knowledge and skills ne cutting edge accounting information systems t | |
| | technology and software in the transactions | |
| | financial reporting cycles. It will also cover, | - |
| | accountants to improve the analysis and de | |
| | Information Systems (AIS) to add a real value | |
| | protect business information and its net worth. | 0 |
| | issues such as advising businesses about secur | |
| | business internal control systems over financia | |
| | keeping and reporting. In addition, the cou | |
| | accounting software in designing an accounting | g information system for a |
| | small-to-medium size business. | |
| | | |
| | | |
| Equivalent Course(s) | None | |
| | | |
| Course Name | Auditing | Credit Hours 3 (3,0) |
| Course Name | | · · / |
| Course Name Course Code | Auditing AF 3502 | Prerequisite(s) AF 1104, AF 120 |
| Equivalent Course(s) Course Name Course Code Course Description | Auditing AF 3502 This course introduces students to fundame | Prerequisite(s) AF 1104, AF 120 ntal auditing concepts, |
| Course Name Course Code | Auditing AF 3502 This course introduces students to fundame principles and procedures. It addresses issues | Prerequisite(s) AF 1104, AF 120 ntal auditing concepts, concerning regulations, |
| Course Name Course Code | Auditing AF 3502 This course introduces students to fundame principles and procedures. It addresses issues appointment of auditors, audit risk, materiality | Prerequisite(s) AF 1104, AF 120 ntal auditing concepts, concerning regulations, y, and characteristics of |
| Course Name Course Code | Auditing AF 3502 This course introduces students to fundame principles and procedures. It addresses issues appointment of auditors, audit risk, materiality evidence, internal control, analytical procedu | Prerequisite(s) AF 1104, AF 120 ntal auditing concepts, concerning regulations, y, and characteristics of |
| Course Name Course Code | Auditing AF 3502 This course introduces students to fundame principles and procedures. It addresses issues appointment of auditors, audit risk, materiality | Prerequisite(s) AF 1104, AF 120 ntal auditing concepts, concerning regulations, y, and characteristics of |
| Course Name Course Code | Auditing AF 3502 This course introduces students to fundame principles and procedures. It addresses issues appointment of auditors, audit risk, materiality evidence, internal control, analytical procedu | Prerequisite(s) AF 1104, AF 120 ntal auditing concepts, concerning regulations, y, and characteristics of |
| Course Name Course Code Course Description | Auditing AF 3502 This course introduces students to fundame principles and procedures. It addresses issues appointment of auditors, audit risk, materiality evidence, internal control, analytical procedu tools, fraud, audit report and auditing theory. | Prerequisite(s) AF 1104, AF 120 ntal auditing concepts, concerning regulations, y, and characteristics of |
| Course Name Course Code Course Description | Auditing AF 3502 This course introduces students to fundame principles and procedures. It addresses issues appointment of auditors, audit risk, materiality evidence, internal control, analytical procedu tools, fraud, audit report and auditing theory. | Prerequisite(s) AF 1104, AF 120 ntal auditing concepts, concerning regulations, y, and characteristics of |
| Course Name Course Code Course Description | Auditing AF 3502 This course introduces students to fundame principles and procedures. It addresses issues appointment of auditors, audit risk, materiality evidence, internal control, analytical procedu tools, fraud, audit report and auditing theory. | Prerequisite(s) AF 1104, AF 120 ntal auditing concepts, concerning regulations, y, and characteristics of |

-Catalogue 24

11.3 Bachelor of Science in Accounting & Finance (BSA&F)

| Course Name | Statistical Inference | Credit Hours 3 (3,0) |
|--|---|--|
| Course Code | AF 3506 | Prerequisite(s) AF 2406 |
| Course Description | The course covers probability; probability distributions; Binomial, Poisson, Hyper-geometric, Chi Square distribution, Normal distribution, sampling distribution; estimation; hypothesis testing; one-population test, two-populations test and analysis of variance; and computer applications in statistics. | |
| quivalent Course(s) | SS 2418, BA 3605 | |
| Course Name | E-Commerce | Credit Hours 3 (3,0) |
| Course Code | AF 3603 | Prerequisite(s) None |
| Course Description | with a focus on strategic choice e-commerce including technology, strategy formulation process is cove decision areas: market opportunity interface, market communications, | irms compete in today's environment as and the infrastructures affecting capital, media, and public policy. The ared by focusing on its six interrelated analysis, business models, customer implementation and metrics, as well g the strategy process: technology, |
| Equivalent Course(s) | None | |
| Course Name | Taxation | Credit Hours 3 (3,0) |
| Course Code | AF 3606 | Prerequisite(s) None |
| Course Description | applicable to individuals, unincorp include Tax System, rights and obli | scope of the Pakistan Tax System as borated bodies and persons. Topics igations of taxpayers, implication of ix for persons, unincorporated bodies |
| | | ion issues, and sales tax. |
| quivalent Course(s) | None | ion issues, and sales tax. |
| | None | |
| Equivalent Course(s) Course Name Course Code | | |
| Course Name | None Islamic Banking and Finance AF 3608 This course explores the growth of multi-billion dollar venture covering worlds, the relationship between find of Islamic economics, the framewor Islamic banking and finance, the prohibition of interest, the ethical financing mechanisms used in Islam Islamic banks both by the central b | Credit Hours 3 (3,0) |

11.3 Bachelor of Science in Accounting & Finance (BSA&F)

| Course Name | Introduction to Human Resource Management | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | AF 1204 | Prerequisite(s) AF 2305 |
| Course Description | This course examines the role of the human rest strategic partner, in managing contemporary or introduces concepts, issues and practices management such as Human Resource planning, recruitment and selection, training and deve appraisal, compensation and benefit management development, employee relations, appraising the and global environments and analyzing the diversity training, sexual harassment policies, and best practices of employers of choice. | rganizations. The course in human resource job design and analysis, elopment, performance ent, career planning and he implications of legal current issues (such as |
| Equivalent Course(s) | BA 5205, BA 4804, EN 3602 | |
| Course Name | Marketing Management | Credit Hours 3 (3,0) |
| Course Code | AF 2403 | Prerequisite(s) AF 1206 |
| Course Description | This course introduces the concept of custor management. This course covers organizations environment, strengths, weaknesses, opportunitie information system, buyer behavior analysis, seg positioning strategies, product and pricing strateg strategy building by organizations with the help practical, hands-on learning experience of m through close observations of marketing manage in marketing channels. | s' external and internal s and threats, marketing gmenting, targeting and gies, an in-depth study of o of case studies and a marketing management |
| Equivalent Course(s) | BA 5106, BA 3602 | |
| Course Name | Corporate Accounting | Credit Hours 3 (3,0) |
| Course Code | AF 3607 | Prerequisite(s) AF 1104, AF 120 |
| Course Description | This course introduces students to the corporate external financial reporting environment. The focu- is on the preparation of general purpose financial the Companies ordinance 1984 and international issued by the International Accounting Standards begins by covering the regulatory environment in financial statements are prepared. It then or | us throughout the course reports that comply with al accounting standards Board (IASB). The course |
| | framework, principles of disclosure and requirement of the financial statements, measurement pri preparation of financial statements, accountin companies, amalgamation, banking & leasing consider business combinations and liquidations of main topic of the course of accounting. A primary is for students to gain an understanding of how t financial statements. The next topic is accounting The course concludes with an overview of insolve | ents for the presentation inciples applied in the g for Leases, group of g companies. We then as an introduction to the y objective of the course o prepare consolidated for banking companies. |

-Catalogue 44

1.1.3 Bachelor of Science in Accounting & Finance (BSA&F)

| Course Name | Business and Labor Law | Credit Hours 3 (3,0) |
|----------------------------|---|--|
| Course Code | AF 4701 | Prerequisite(s) None |
| | | |
| Course Description | This course covers process of legislation in Pakistan, Contract Act, Law of | |
| | Sale of Goods, Partnership Law and Company laws and Intellectual | |
| | | ould cover Factories Act and Child |
| | Labor Act along with brief overview | of different laws related to labor force. |
| | _ | |
| quivalent Course(s) | EN 2401, BA 4801 | |
| | | |
| Course Name | Financial Management | Credit Hours 3 (3,0) |
| Course Code | AF 4702 | Prerequisite(s) AF 4703 |
| | | |
| Course Description | with the skills that would be expected for the finance function of a busin advanced and specialist study in coursestarts by introducing the management function within a bus financial management decisions of policy, the syllabus explores the en- decisions are made. The next area section of the syllabus starts by exal finance and how much finance can also looks at the cost of capital a choice of the type of capital a busin the valuation of business and finance of capital on the value of business with an introduction to, and exam | nent, is designed to equip candidates d from a finance manager responsible ness. It prepares candidates for more n Corporate Finance. Therefore, the role and purpose of the financial siness. Before looking at the three key of investing, financing, and dividend conomic environment in which such introduced is financing decisions. This mining the various sources of business n be raised from within the business. It and other factors that influence the ness will raise. The principles underlying tial assets, including the impact of cost a, is also covered. The syllabus finishes nination of, investing decisions. This is n (and the management of) working erm investments. |
| quivalent Course(s) | BA 5105, BA 3601 | |
| quivaleni Couise(s) | DA 3103, DA 3001 | |
| | | |
| | | |
| | | |
| Course Name | Business Research Methodologies | |
| Course Name Course Code | Business Research Methodologies | Credit Hours 3 (3,0) Prerequisite(s) AE 3506 |
| Course Name Course Code | Business Research Methodologies AF 3609 | Credit Hours 3 (3,0) Prerequisite(s) AF 3506 |
| Course Code | AF 3609 | Prerequisite(s) AF 3506 |
| | AF 3609 This course provides the underst | Prerequisite(s) AF 3506 anding of basic business research |
| Course Code | AF 3609 This course provides the underst methods in the field of marketing, | Prerequisite(s) AF 3506 tanding of basic business research human resource management, and |
| Course Code | AF 3609 This course provides the underst methods in the field of marketing, finance. The subject encompasses | Prerequisite(s) AF 3506 tanding of basic business research human resource management, and the theory and practice of research; |
| Course Code | AF 3609 This course provides the underst methods in the field of marketing, finance. The subject encompasses and covers concepts, elements, of | Prerequisite(s) AF 3506 tanding of basic business research human resource management, and the theory and practice of research; and process of conducting business |
| Course Code | AF 3609 This course provides the underst methods in the field of marketing, finance. The subject encompasses and covers concepts, elements, or research. It builds the specific | Prerequisite(s) AF 3506 tanding of basic business research human resource management, and the theory and practice of research; and process of conducting business conceptual knowledge regarding |
| Course Code | AF 3609 This course provides the underst methods in the field of marketing, finance. The subject encompasses and covers concepts, elements, or research. It builds the specific identification and elicitation of r | Prerequisite(s) AF 3506 randing of basic business research human resource management, and the theory and practice of research; and process of conducting business conceptual knowledge regarding research problem, development of |
| Course Code | AF 3609 This course provides the underst methods in the field of marketing, finance. The subject encompasses and covers concepts, elements, or research. It builds the specific identification and elicitation of r research proposal, reviewing the | Prerequisite(s) AF 3506 randing of basic business research human resource management, and the theory and practice of research; and process of conducting business conceptual knowledge regarding research problem, development of a literature, using suitable research |
| Course Code | AF 3609 This course provides the underst methods in the field of marketing, finance. The subject encompasses and covers concepts, elements, or research. It builds the specific identification and elicitation of r research proposal, reviewing the methodology, data collection and | Prerequisite(s) AF 3506 randing of basic business research human resource management, and the theory and practice of research; and process of conducting business conceptual knowledge regarding research problem, development of a literature, using suitable research d analysis tools and writing research |
| Course Code | AF 3609 This course provides the underst methods in the field of marketing, finance. The subject encompasses and covers concepts, elements, or research. It builds the specific identification and elicitation of r research proposal, reviewing the methodology, data collection and report. The focus of the course is or | Prerequisite(s) AF 3506 randing of basic business research human resource management, and the theory and practice of research; and process of conducting business conceptual knowledge regarding research problem, development of a literature, using suitable research d analysis tools and writing research h basic concept building and relating |
| Course Code | AF 3609 This course provides the underst methods in the field of marketing, finance. The subject encompasses and covers concepts, elements, or research. It builds the specific identification and elicitation of r research proposal, reviewing the methodology, data collection and | Prerequisite(s) AF 3506 randing of basic business research human resource management, and the theory and practice of research; and process of conducting business conceptual knowledge regarding research problem, development of a literature, using suitable research d analysis tools and writing research basic concept building and relating |
| Course Code | AF 3609 This course provides the underst methods in the field of marketing, finance. The subject encompasses and covers concepts, elements, or research. It builds the specific identification and elicitation of r research proposal, reviewing the methodology, data collection and report. The focus of the course is or | Prerequisite(s) AF 3506 randing of basic business research human resource management, and the theory and practice of research; and process of conducting business conceptual knowledge regarding research problem, development of a literature, using suitable research d analysis tools and writing research h basic concept building and relating |

EXAMPLE Bachelor of Science in Accounting & Finance (BSA&F)

| Course Name | Financial Risk Management | Credit Hours 3 (3,0) |
|--|--|---|
| Course Code | AF 4708 | Prerequisite(s) AF 4702 |
| | | |
| Course Description | This course focuses on the concepts and techniques that managers use to achieve desired risk-return combinations. The course gives particular attention to the techniques and concepts associated with derivatives, that includes hedging techniques using options and futures contracts. | |
| | | |
| Equivalent Course(s) | None | |
| Course Name | Islamic Financial System | Credit Hours 3 (3,0) |
| Course Code | AF 4704 | Prerequisite(s) AF 3608 |
| Course Description | This course provides an introduction to the concepts of Islamic economics | |
| | and Divine Guidance in Islam for the development of an interest-free economy based on the principles of socio-economic justice. The course also explains the objective (the maqasid) of Shari'ah that provides a moral framework for conducting business and personal dealings with justice and fairness. The course content includes, Islamic Economics, Concept of Moral Economy, Evaluation of Islamic Banking, Islamic Commercial Law and Contracts, Islamic Financial Markets and Products, Corporate Governance and Financial Accounting Concepts in Islamic Banking. | |
| Equivalent Course(s) | None | |
| Course Name | Company Law | Credit Hours 3 (3,0) |
| Course Code | AF 4707 | Prerequisite(s) None |
| Course Description | This course covers Company Law 1984 with detailed discussion over major sections affecting the companies and their operations in Pakistan. Also, brief coverage of regulations governing Insurance, exchange and other type of companies is included in the course. | |
| Equivalent Course(s) | None | |
| | Corporato Einanco | |
| Course Name | Corporate Finance | Credit Hours 3 (3,0) |
| | AF 4801 | Credit Hours 3 (3,0) Prerequisite(s) AF 4702 |
| Course Code | AF 4801 This course covers corporate finance as | Prerequisite(s) AF 4702 |
| Course Name Course Code Course Description | AF 4801 | Prerequisite(s) AF 4702 nd capital markets, emphasizing cisions. It touches on all areas of real and financial assets, risk the trade-off between risk and ng and dividend policy. Also, the |

I.**I**.**B**Bachelor of Science in Accounting & Finance (BSA&F)

| Course Name | Investment Analysis and Portfolio Management | Credit Hours 3 (3,0) |
|----------------------|--|------------------------------|
| Course Code | AF 4804 | Prerequisite(s) AF 4702 |
| | | |
| Course Description | This course is designed to help students to develo | p analytical skills required |
| | in portfolio and investment management. It is fundamental and technical analysis which will l process while selecting asset class and secur institutions. | helps in decision making |
| Equivalent Course(s) | None | |
| | | |

| Course Name Course Code | Management of Financial Institutions AF 4805 | Credit Hours 3 (3,0) Prerequisite(s) AF 2404 |
|----------------------------|--|---|
| Course Description | Management of financial institutions reviews of that accept money from savers and invest the other assets. The course will explain how functions in terms of economics and ho government agencies. It alsocovers passthre savers receive the return on their investme expenses – mutual funds, hedge funds, and so covers institutions offering savers some form banks, insurance companies. Finally, the cou both defined contribution and defined benefit | at money in stocks, bonds or each of these institutions by each is regulated by bugh institutions where the ments minus management overeign funds. In addition, it n of guaranteed returns – rse will cover pension plans; |
| Equivalent Course(s) | BA 3501 | |

| Course Name | Pakistan Economic Policy | Credit Hours 3 (3,0) |
|--------------------|---|--|
| Course Code | AF 2306 | Prerequisite(s) AF 3505 |
| | | |
| Course Description | This course is designed to provide students wi knowledge about Pakistan economic enviro historical background, covering topics such as finance and social sector development. government interventions, like fiscal policy, mo and income policies. Also included in this course reforms, deregulation, privatization, denation other policies/factors that affect business en- course ends with discussion on challenges Economy in the regional and global perspective | onment. Starting with the agriculture, industry, public The course also reviews netary policy, trade policy, e are topics like institutional alization, globalization and vironment in Pakistan. The ahead for the Pakistan |

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Equivalent Course(s) None

1.1.3 Bachelor of Science in Accounting & Finance (BSA&F)

| a N | | |
|----------------------------|---|---|
| Course Name | Entrepreneurship and Small Business M | 6 |
| Course Code | AF 3504 | Prerequisite(s) AF 1106, AF 470 |
| Course Description | This course focuses on ways in opportunities, generate ideas, and a successful ventures that enable them required to create an entrepreneut learning activity. Through this hands discussions and text book readings s develop the values, traits, and skills m entrepreneurs. | organize resources to plan and run to achieve their goals. Students are rial venture as part of a practical -on experience, case studies, class tudents will have an opportunity to |
| Equivalent Course(s) | BA 3502, BA 3517, EN 2404 | |
| | | |
| Course Name | Financial Reporting | Credit Hours 3 (3,0) |
| Course Name Course Code | 1 0 | |
| | Financial Reporting AF 3605 | Credit Hours 3 (3,0) Prerequisite(s) AF 3607 |
| | 1 0 | Prerequisite(s) AF 3607 lards such as, IAS 1: Presentation of e, IAS 2: Inventories, IAS 7: Statement policies, Changes in accounting Plant and Equipment, IAS 17: Leases, iod, IAS 23: Borrowing Costs, IAS 12: per share, IAS 11: Accounting For ovisions, Contingent liabilities and e Adoption of Financial Reporting |

| Course Name | Final Project | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | AF 4808 | Prerequisite(s) AF 3609 |
| | | |
| Course Description | The Final project is the application | n of the theory and concepts learned |
| | demonstrate the understanding o skills. It is based on identifying and s and finance. It consists of understa problem, formulating the resear methodology to answer the resear | program. It is a team-based project to of interdisciplinary knowledge and soft solving a problem from the accounting nding the real life business and industry ch questions, identifying appropriate rch questions, collecting and analyzing g the findings, by using the scientific |
| Equivalent Course(s) | BA 4807 | |

1.1.3 Bachelor of Science in Accounting & Finance (BSA&F)

| Course Name | International Financial Management | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | AF 4803 | Prerequisite(s) AF 4801 |
| | | |
| Course Description | This course covers the nature and purp management in the international cont international investment and financing management, including accounting ar Hands-on case studies and simulations wou global company's financing and investme and divestitures, and how to measure a exposure to exchange rate and internation learning will extend to topics on, how compo as the Eurobond and currency option mark currency swaps, lease financing and spe techniques. | ext. The contents include: techniques, exchange risk ad taxation aspects. Also, uld cover, how to manage a ent decisions, including M&A and manage the company's al interest rate risks. In addition, anies use banks, markets such kets, and techniques such as |
| Equivalent Course(s) | None | |

- Ongoins Catalogue -

1.1 Bachelor

1.1.2 Bachelor of Science in Entrepreneurship (BS Entrepreneurship)

Students enrolled in the BS (Entrepreneurship) program are required to complete 45 courses with a 9 credit hour Capstone Project within six (6) years. The break-up of 45 courses and project (144 credit hours) is as follows:

- 41 Compulsory Courses (123 Credit Hours)
- 4 Elective⁴ Courses (12 Credit Hours)
- 1 Capstone Project (9 Credit Hours)

| Course Code | Course Title | Page # | | | |
|--|---|----------------------------------|--|--|--|
| | First Year | | | | |
| | Fall Semester | | | | |
| EN 1103 EN 1105 EN 1102 EN 1104 EN 1101 EN 1106 | Introduction to Accounting Islamiat and Pakistan Studies/Humanities Computer Application in Business Introduction to Human Behavior Business Mathematics and Calculus Oral and Written Communication | 52 52 52 52 53 53 | | | |
| | Spring Semester | | | | |
| EN 1203 EN 1201 EN 1205 EN 1202 EN 1206 EN 1204 | Introduction to Sociology Accounting for Business Operations Microeconomics Business and Electronic Communication Personal Management Management Principles | 54 53 54 54 55 55 | | | |
| | Second Year | | | | |
| | Fall Semester | | | | |
| EN 2303 EN 2302 EN 2301 EN 2305 EN 2304 EN 2306 | Macroeconomics Logic and Critical Thinking Introduction to Business Finance Marketing Principles Managerial Statistics Organizational Behavior | 55 55 55 56 56 56 | | | |
| Spring Semester | | | | | |
| EN 2405 EN 2404 EN 2401 EN 2403 EN 2406 EN 2402 | Media Management Introduction to Entrepreneurship Business and Labour Laws Consumer Behavior Operation Management Business Ethics | 57 57 56 57 58 00 | | | |

4 List of Electives is given in Appendix B.

| Course Code | Course Title | Page # |
|--------------------|---|------------|
| | Third Year | |
| | Fall Semester | |
| EN 3502 | Business Plan Development | 58 |
| EN 3501 | Business Analysis and Forecasting | 58 |
| EN 3503 EN 3504 | Entrepreneurial Marketing Finance and Taxation for Entrepreneurs | 58 59 |
| EN 3504 | Sustainability and Technology | 59 |
| EN 3505 | Marketing Research | 59 |
| | Spring Semester | |
| EN 3609 | Capstone Project-I | 61 |
| EN 3603 | Launching a Venture | 60 |
| EN 3602 EN 3605 | Human Resource Management Product Innovation and Design | 60 61 |
| EN 3601 | Analysis of Pakistani Industries | 60 |
| EN 3604 | Logistics and Supply Change Management | 61 |
| | Fourth Year | |
| | Fall Semester | |
| EN 4709 | Capstone Project-II | 63 |
| EN 4701 | Issues in Pakistan's Economy | 62 |
| EN 4702 | Financing a Venture | 62 |
| EN 4703 | Emerging Media Elective-l | 62 270 |
| EN 4xxx EN 4xxx | Elective-I | 270 270 |
| | | |
| EN 4809 | Spring Semester Capstone Project-III | 64 |
| EN 4801 | Business Policy and Design | 63 |
| EN 4802 | Innovative Business Models | 63 |
| EN 4803 | SME Management | 63 |
| EN 4xxx | Elective-III | 270 |
| EN 4xxx | Elective-IV | 270 |

All courses may not be offered every year. Alternate courses may be substituted as and when required.

The description of 41 compulsory courses and the Research Project, as required for the BS-Entrepreneurship degree, is given below:

| Course Name | Introduction to Accounting | Credit Hours 3 (3,0) |
|----------------------------|--|--|
| Course Code | EN 1103 | Prerequisite(s) None |
| Course Description | This course covers the purpose and nat business enterprises, accounting informatio accounting principles, accounting equ accounting cycle, ledgers and entries, inventory and depreciation. | on users, generally accepted uation, accounting process, |
| Equivalent Course(s) | BA 1101, AF 1104 | |
| Course Name | Islamiat and Pakistan Studies/Humanities | Credit Hours 3 (3,0) |
| Course Code | EN 1105 | Prerequisite(s) None |
| Course Description | This course provides an introduction to reference to pre- and post-independence different governments in nation's social development over years. The second part of and the present-day Muslim world. | eras, and the contribution of I, economic and legislative |
| Equivalent Course(s) | CSC 1105, MD 2402, SS 1109, BIO 1212, BA 1 | 1106 |
| Course Name | Computer Application in Business | Credit Hours 3 (3,0) |
| Course Code | EN 1102 | Prerequisite(s) None |
| Course Description | This course deals with the introduction to information technology, computer system, computer hardware, operating system, application software, programming languages, files and data basics, data communication, networking basics, computer graphics, computer security and controls, MS Word, MS Excel, MS Access, MS Power Point, MS Project and Databases used in a business environment. | |
| Equivalent Course(s) | BA 1103,CSC 1104, BIO 1104, AF 1102, BA 1 | 108 |
| | | |
| Course Name | Introduction to Human Behavior | Credit Hours 3 (3,0) |
| Course Name Course Code | Introduction to Human Behavior EN 1104 | Credit Hours 3 (3,0) Prerequisite(s) None |
| | | Prerequisite(s) None ological features of human fe situations and business |

-Catalogue

| Course Name | Business Mathematics & Calculus | Credit Hours 3 (3,0) |
|--|--|---|
| Course Code | EN 1101 | Prerequisite(s) None |
| | | |
| Course Description | The aim of this course is to prepare stu | udents to solve economic and |
| | managerial problem through matheme | atical concepts. This course is |
| | covered in four parts, first part is based | on systems of linear equations |
| | and its solutions; provide preliminary c | concept, construction of linear |
| | equations, graphical interpretation of de | ata, systems of linear equations |
| | and solutions, introduction to matrix alg | gebra, determinants, Cramer's |
| | rule & inverse method to solve system o | of linear equations. The second |
| | part develops the concept of linear and | d nonlinear functions, and their |
| | application, and linear programmin | ig. The third part provides |
| | mathematics for finance, which covers | simple, and compound interest |
| | rate computations and present and futu | re annuity calculations. The last |
| | part of the course provides differentia | tion of basic functions, higher |
| | order differentiation, optimization of fu | nctions, definite and indefinite |
| | integration, and applications of integrati | ion. |
| | | |
| Equivalent Course(s) | BIO 1107, BA 1204, AF 1101 | |
| | | |
| Course Name | Oral and Written Communication | Credit Hours 3 (3,0) |
| Course Code | EN 1106 | Prerequisite(s) None |
| | 2 | |
| Course Description | This course is aimed at improving English | language communication and |
| | presentation skills, specifically aimed | for business students. With a |
| | multidimensional approach, the course e | enables the students to practice |
| | the use of English in everyday usage and | professional situations, building |
| | upon all four skills: listening, speaking, re | |
| | them to make effective presentation | |
| | audience and utilizing appropriat | |
| | 0 11 1 | |
| | | nd to comments and negotiate |
| | | nd to comments and negotiate av will also learn to express their |
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| Course Name Course Code | their own point of view persuasively. The ideas in their writings displaying the c analyze well. The course uses an interacti to engage learners' interest and boost th effective communication in formal and i None Accounting for Business Operation EN 1201 This course focuses on cost allocation, | ey will also learn to express their ability to describe, argue and ive, participatory methodology, neir confidence to use English in informal contexts. Credit Hours 3 (3,0) Prerequisite(s) EN 1103 , process costing systems and ney of revenues and costs, cost |
| Course Name Course Code | their own point of view persuasively. The ideas in their writings displaying the c analyze well. The course uses an interaction to engage learners' interest and boost the effective communication in formal and in None Accounting for Business Operation EN 1201 This course focuses on cost allocation, spoilage. Specific topics include relevant allocation decisions (joint and byproduct) | ey will also learn to express their ability to describe, argue and ive, participatory methodology, neir confidence to use English in informal contexts. Credit Hours 3 (3,0) Prerequisite(s) EN 1103 , process costing systems and ney of revenues and costs, cost ucts), process costing systems, |
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| Course Name Course Code | their own point of view persuasively. The ideas in their writings displaying the c analyze well. The course uses an interaction to engage learners' interest and boost the effective communication in formal and in None Accounting for Business Operation EN 1201 This course focuses on cost allocation, spoilage. Specific topics include relevant allocation decisions (joint and byproduct) | ey will also learn to express their ability to describe, argue and ive, participatory methodology, neir confidence to use English in informal contexts. Credit Hours 3 (3,0) Prerequisite(s) EN 1103 , process costing systems and ncy of revenues and costs, cost ucts), process costing systems, costing: setting of standards, |
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| Course Name Course Code Course Description | their own point of view persuasively. The ideas in their writings displaying the canalyze well. The course uses an interactive to engage learners' interest and boost the effective communication in formal and in None Accounting for Business Operation EN 1201 This course focuses on cost allocation, spoilage. Specific topics include relevant allocation decisions (joint and byproduct factory overhead applied, standard analysis of variance and controlling, and | ey will also learn to express their ability to describe, argue and ive, participatory methodology, neir confidence to use English in informal contexts. Credit Hours 3 (3,0) Prerequisite(s) EN 1103 , process costing systems and ncy of revenues and costs, cost ucts), process costing systems, costing: setting of standards, |

Catalogue -

| Course Name | Business and Electronic Communication | Credit Hours 3 (3,0) |
|---|---|--|
| Course Code | EN 1202 | Prerequisite(s) EN 1106 |
| Course Description | This introductory course teaches students to | |
| | personal and professional levels. In addition, it all forms of communication. Also, this course in theories and strategies for a variety of bus developmental approach to business com examines methods for organizing ideas, and diverse concerns, presenting information, and communication style. | troduces communication siness situations. Using a imunication, the course alyzing data, addressing |
| Equivalent Course(s) | BA 5418, BA 2406 | |
| Course Name | Introduction to Sociology | Credit Hours 3 (3,0) |
| Course Code | EN 1203 | Prerequisite(s) None |
| Course Description | This course focuses on three central theme inequality, and social harmony versus confli- theoretical texts with case studies to understa- institutions that can trigger, foster, sustain, or three processes. The course covers the war thinkers and the influence of sociology a citizenship, culture, gender, society, and econ | ict. It combines selective and the mechanisms and r undermine each of the ork of major sociological on modernization, race, |
| | | |
| Equivalent Course(s) | SS 2307, BA 2307, AF 2304 | |
| Course Name | Management Principles | Credit Hours 3 (3,0) |
| | | Credit Hours 3 (3,0) Prerequisite(s) None |
| Course Name | Management Principles | Prerequisite(s) None f management, evolution , management function, nizing, staffing, leading, |
| Course Name Course Code | Management Principles EN 1204 This course introduces the basic concepts of and emergence of management thought, planning concepts, decision-making, orga | Prerequisite(s) None f management, evolution , management function, nizing, staffing, leading, |
| Course Name Course Code Course Description | Management Principles EN 1204 This course introduces the basic concepts of and emergence of management thought, planning concepts, decision-making, orga controlling, and future of management and so | Prerequisite(s) None f management, evolution , management function, nizing, staffing, leading, |
| Course Name Course Code Course Description Equivalent Course(s) | Management Principles EN 1204 This course introduces the basic concepts of and emergence of management thought, planning concepts, decision-making, orga controlling, and future of management and so BA 5419, BA 1203, AF 1106 | Prerequisite(s) None f management, evolution , management function, nizing, staffing, leading, ociety. |
| Course Name Course Code Course Description Equivalent Course(s) Course Name | Management Principles EN 1204 This course introduces the basic concepts of and emergence of management thought, planning concepts, decision-making, orga controlling, and future of management and so BA 5419, BA 1203, AF 1106 Microeconomics | Prerequisite(s) None f management, evolution , management function, inizing, staffing, leading, pociety. Credit Hours 3 (3,0) Prerequisite(s) None parts of the economy, the parts of the market structures, y of the market structures, p deals with application of |

| ourse Name | Personal Management | Credit Hours 3 (3,0) |
|---------------------|--|--|
| ourse Code | EN 1206 | Prerequisite(s) None |
| ourse Description | This course teaches students to disco changes to achieve greater effective interpersonal relationship. Students such as personality, communic management, conflict, negotiatior personal effectiveness. They also required to work effectively and c management, negotiation and pu mindset. | eness at work, and in personal and learn the combination of factors cation style, self-esteem, time n and others that impact their learn methods, and techniques onfidently with others, using time |
| quivalent Course(s) | BA 1104, BA 1109 | |
| ourse Name | Introduction to Business Finance | Credit Hours 3 (3,0) |
| ourse Code | EN 2301 | Prerequisite(s) EN 1201 |
| ourse Description | This course covers the concepts of business organization, overview of fir institutions and interest rates, analyses of money, sources of short-term an analysis, working capital manageme (debt/equity) and introduction to ca | nancial environment, cost markets, s of financial statements, time value ad long-term finance, break even ent, valuation of financial securities |
| quivalent Course(s) | BA 5401, BA 2301, AF 4703 | |
| ourse Name | Logic and Critical Thinking | Credit Hours 3 (3,0) |
| ourse Code | EN 2302 | Prerequisite(s) EN 1106 |
| ourse Description | This course covers scope and laws of inferences, forms of discourse, emo disagreements, rules and fallacie standard-form categorical syllogism dilemma and enthymemes, and Mills' Critical thinking skills and techniques of | otive words, kinds of disputes and es, classical (Aristotelian) logic, s and testing, uniform translation, d' Methods of scientific investigation. |
| quivalent Course(s) | BA 1211 | |
| | - | |
| ourse Name | Macroeconomics | Credit Hours 3 (3,0) |
| ourse Code | EN 2303 | Prerequisite(s) EN 1205 |
| ourse Description | This course introduces key economic an economy, measurement of gross aggregate demand, consumption investment function, government in fiscal policies, impact of government | domestic product, components of function and Keynesian multiplier, tervention through monetary and intervention on economic activity, |
| | inflation and unemployment, aggreg of payments and trade, public finance | |

| Sourse Description This course introduces the basic concepts of marketing, market segmentation and targeting, consumer behavior, industrial marketing, product planning, product-mik, pricing, distribution, placement, promotional mik, and marketing in global scenarios. quivalent Course(s) BA 5404, BA 2303, AF 1206 Sourse Name Managerial Statistics Credit Hours 3 (3.0) rourse Low EN 2004 Prerequisite(s) EN 110 Sourse Description This basic course aims to enhance the capacity of the students to solve the research problems by focusing on four areas; introduction to statistics, types of data, frequency, distribution, graphs and charts, measures of central endency, and measures of central endency and marketing to back. quivalent Course(s) BIO 1208, BA 2311, AF 2406 Sourse Description This course covers the subject matter on three levels: individual, group and interpersonal, and organizational. At the individual level, the focus is to examine individual behavior and differences, learning, perception, personally, moltation, and stress. The group/ interpersonal level covers group and inter-group behavior, creditify, and team decision-making. It also includes power, conflict, leadership, and communication. At the organizational change and development, structure, design, employment relationship, and career management. quivalent Course(s) BA 5207, BA 3504, AF 2305 Sourse Name | Course Name | Marketing Principles | Credit Hours 3 (3,0) |
|--|---|--|---|
| environment, planning and research, market segmentation and targeting, consumer behavior, industrial marketing, product planning, product-mix, princing, distribution, placement, promotional mix, and marketing in global scenarios. inguivalent Course(s) BA 5404, BA 2303, AF 1206 Course Name Managerial Statistics Credit Hours 3 (3.0) Course Code EN 2304 Prerequisite(s) EN 110 Course Description This basic course aims to enhance the capacity of the students to solve the research problems by focusing on four areas; introduction to statistics, types of data, frequency distribution, graphs and charts, measures of dispersion; concept of curve fitting techniques, regression analysis, correlation analysis, time series analysis; and index numbers, counting techniques and MS Excel tools for statistics using add-on analysis tool pack. BIO 1208, BA 2311, AF 2406 Dirganizational Behavior Credit Hours 3 (3.0) Course Name Organizational Behavior and organizational. At the individual level, the focus is to examine individual behavior and differences, learning, perception, personality, motivation, and stress. The group/ interpersonal tevel covers group and interpersonal behavior, carefitivity, and team decision-making. It also includes power, conflict, leadership, and communication. At the organizational change and development. Siguivalent Course(s) BA 5207, BA 3504, AF 2305 Course Name Business and labor Laws Credit Hours 3 (3.0) Course Code EN 2401 Prerequisite(s) EN 230 < | Course Code | EN 2305 | Prerequisite(s) EN 1204 |
| Course Name Managerial Statistics Credit Hours 3 (3.0) Course Code EN 2304 Prerequisite(s) EN 110 Course Description This basic course aims to enhance the capacity of the students to solve the research problems by focusing on four areas; introduction to statistics, types of data, frequency distribution, graphs and charts, measures of central tendency, and measures of dispersion; concept of curve fitting techniques, regression analysis, courting techniques and MS Excel tools for statistics using add-on analysis tool pack. Equivalent Course(s) BIO 1208, BA 2311, AF 2406 Course Name Organizational Behavior Credit Hours 3 (3.0) Course Description This course covers the subject matter on three levels: individual, group and interpersonal, and organizational. At the individual level, the focus is to examine individual behavior and differences, learning, perception, personality, motivation, and stress. The group/ interpersonal level covers group and inter-group behavior, creditity, and team decision-making. It also includes power, conflict, leadership, and communication. At the organizational level, it reviews the basics of organizational culture, organizational level, it reviews the basics of organizational culture, organizational level, and career management. Equivalent Course(s) BA 5207, BA 3504, AF 2305 Course Name Business and labor Laws Credit Hours 3 (3.0) Course Code EN 2401 Prerequisite(s) EN 230 Course Code EN 240 | Course Description | environment, planning and research targeting, consumer behavior, industric product-mix, pricing, distribution, place | h, market segmentation and al marketing, product planning, |
| Course Code EN 2304 Prerequisite(s) EN 110 Course Description This basic course aims to enhance the capacity of the students to solve the research problems by focusing on four areas; introduction to statistics, types of data, frequency distribution, graphs and charts, measures of central tendency, and measures of dispersion; concept of curve fifting techniques, regression analysis, correlation analysis, time series analysis; and index numbers, counting techniques and MS Excel tools for statistics using add-on analysis tool pack. Equivalent Course(s) BIO 1208, BA 2311, AF 2406 Course Name Organizational Behavior Credit Hours 3 (3.0) Course Code EN 2306 Prerequisite(s) EN 110 Course Description This course covers the subject matter on three levels: individual, group and interpersonal, and organizational. At the individual level, the focus is to examine individual behavior and differences, learning, perception, personality, motivation, and stress. The group/ interpersonal level covers group and inter-group behavior, creativity, and team decision-making, It also includes power, conflict, leadership, and communication. At the organizational level, it reviews the basics of organizational culture, organizational change and development, structure, design, employment relationship, and career management. Equivalent Course(s) BA 5207, BA 3504, AF 2305 Course Name Business and labor Laws Credit Hours 3 (3.0) Prerequisite(s) EN 230 Course Code EN 2401 Prerequisite(s) EN 230 </td <td>Equivalent Course(s)</td> <td>BA 5404, BA 2303, AF 1206</td> <td></td> | Equivalent Course(s) | BA 5404, BA 2303, AF 1206 | |
| Course Description This basic course aims to enhance the capacity of the students to solve the research problems by focusing on four areas; introduction to statisfics, types of data, frequency distribution, graphs and charts, measures of central tendency, and measures of dispersion; concept of curve fitting techniques, regression analysis, correlation analysis, time series analysis; and index numbers, counting techniques and MS Excel tools for statistics using add-on analysis tool pack. Equivalent Course(s) BIO 1208, BA 2311, AF 2406 Course Name Organizational Behavior Credit Hours 3 (3.0) Course Code EN 2306 Prerequisite(s) EN 110 Course Description This course covers the subject matter on three levels: individual, group and interpersonal, and organizational. At the individual level, the focus is to examine individual behavior and differences, learning, perception, personality, motivation, and stress. The group/ interpersonal level covers group and inter-group behavior, creativity, and team decision-making. It also includes power, conflict, leadership, and communication. At the organizational level, it reviews the basics of organizational culture, organizational level, it reviews the basics of organizational culture, organizational level, and development, structure, design, employment relationship, and career management. Equivalent Course(s) BA 5207, BA 3504, AF 2305 Course Name Business and labor Laws Credit Hours 3 (3.0) Course Code EN 2401 Prerequisite(s) EN 230 Course Code EN 2401 Prerequisite(s) EN 230 | Course Name | Managerial Statistics | Credit Hours 3 (3,0) |
| the research problems by focusing on four areas; introduction to statistics, types of data, frequency distribution, graphs and charts, measures of central tendency, and measures of dispersion; concept of curve fitting techniques, regression analysis, correlation analysis, time series analysis; and index numbers, counting techniques and MS Excel tools for statistics using add-on analysis tool pack. Equivalent Course(s) BIO 1208, BA 2311, AF 2406 Course Name Organizational Behavior Credit Hours 3 (3.0) Course Code EN 2306 Prerequisite(s) EN 110 Course Description This course covers the subject matter on three levels: individual, group and interpersonal, and organizational. At the individual level, the focus is to examine individual behavior creditivity, and team decision-making. It also includes power, conflict, leadership, and communication. At the organizational culture, organizational culture, design, employment relationship, and career management. Equivalent Course(s) BA 5207, BA 3504, AF 2305 Course Description This course covers process of legislation in Pakistan, Contract Act, Law of Sale of Goods, Partnership Law and Company laws and Intellectual Property Laws. Course would also cover Factories Act and Child Labor Act along with brief overview of different laws related to labor force. | Course Code | EN 2304 | Prerequisite(s) EN 1101 |
| Course Name Organizational Behavior Credit Hours 3 (3,0) Course Code EN 2306 Prerequisite(s) EN 110 Course Description This course covers the subject matter on three levels: individual, group and interpersonal, and organizational. At the individual level, the focus is to examine individual behavior and differences, learning, perception, personality, motivation, and stress. The group/ interpersonal level covers group and inter-group behavior, creativity, and team decision-making. It also includes power, conflict, leadership, and communication. At the organizational level, it reviews the basics of organizational culture, organizational change and development, structure, design, employment relationship, and career management. Equivalent Course(s) BA 5207, BA 3504, AF 2305 Course Name Business and labor Laws Credit Hours 3 (3,0) Course Code EN 2401 Prerequisite(s) EN 230 Course Description This course covers process of legislation in Pakistan, Contract Act, Law of Sale of Goods, Partnership Law and Company laws and Intellectual Property Laws. Course would also cover Factories Act and Child Labor Act along with brief overview of different laws related to labor force. | Course Description | the research problems by focusing statistics, types of data, frequency of measures of central tendency, and me curve fitting techniques, regression an series analysis; and index numbers, cou | on four areas; introduction to distribution, graphs and charts, easures of dispersion; concept of alysis, correlation analysis, time unting techniques and MS Excel |
| Course CodeEN 2306Prerequisite(s) EN 110Course DescriptionThis course covers the subject matter on three levels: individual, group and interpersonal, and organizational. At the individual level, the focus is to examine individual behavior and differences, learning, perception, personality, motivation, and stress. The group/interpersonal level covers group and inter-group behavior, creativity, and team decision-making. It also includes power, conflict, leadership, and communication. At the organizational level, it reviews the basics of organizational culture, organizational change and development, structure, design, employment relationship, and career management.Equivalent Course(s)BA 5207, BA 3504, AF 2305Course NameBusiness and labor LawsCredit Hours3 (3.0) Prerequisite(s) EN 230Course OdeEN 2401Prerequisite(s) EN 230Course DescriptionThis course covers process of legislation in Pakistan, Contract Act, Law of Sale of Goods, Partnership Law and Company laws and Intellectual Property Laws. Course would also cover Factories Act and Child Labor Act along with brief overview of different laws related to labor force. | Equivalent Course(s) | BIO 1208, BA 2311, AF 2406 | |
| Course CodeEN 2306Prerequisite(s) EN 110Course DescriptionThis course covers the subject matter on three levels: individual, group and interpersonal, and organizational. At the individual level, the focus is to examine individual behavior and differences, learning, perception, personality, motivation, and stress. The group/interpersonal level covers group and inter-group behavior, creativity, and team decision-making. It also includes power, conflict, leadership, and communication. At the organizational level, it reviews the basics of organizational culture, organizational change and development, structure, design, employment relationship, and career management.Equivalent Course(s)BA 5207, BA 3504, AF 2305Course NameBusiness and labor LawsCredit Hours3 (3.0) Prerequisite(s) EN 2401Course DescriptionThis course covers process of legislation in Pakistan, Contract Act, Law of Sale of Goods, Partnership Law and Company laws and Intellectual Property Laws. Course would also cover Factories Act and Child Labor Act along with brief overview of different laws related to labor force. | | | |
| Course Description This course covers the subject matter on three levels: individual, group and interpersonal, and organizational. At the individual level, the focus is to examine individual behavior and differences, learning, perception, personality, motivation, and stress. The group/ interpersonal level covers group and inter-group behavior, creativity, and team decision-making. It also includes power, conflict, leadership, and communication. At the organizational level, it reviews the basics of organizational culture, organizational level, it reviews the basics of organizational culture, employment relationship, and career management. Equivalent Course(s) BA 5207, BA 3504, AF 2305 Course Name Business and labor Laws Credit Hours 3 (3.0) Course Code EN 2401 Prerequisite(s) EN 230 Course Description This course covers process of legislation in Pakistan, Contract Act, Law of Sale of Goods, Partnership Law and Company laws and Intellectual Property Laws. Course would also cover Factories Act and Child Labor Act along with brief overview of different laws related to labor force. | Course Name | Organizational Behavior | Credit Hours 3 (3.0) |
| Course Code EN 2401 Prerequisite(s) EN 230 Course Description This course covers process of legislation in Pakistan, Contract Act, Law of Sale of Goods, Partnership Law and Company laws and Intellectual Property Laws. Course would also cover Factories Act and Child Labor Act along with brief overview of different laws related to labor force. | Course Name Course Code | | Credit Hours 3 (3,0) Prerequisite(s) EN 1104 |
| Course Code EN 2401 Prerequisite(s) EN 230 Course Description This course covers process of legislation in Pakistan, Contract Act, Law of Sale of Goods, Partnership Law and Company laws and Intellectual Property Laws. Course would also cover Factories Act and Child Labor Act along with brief overview of different laws related to labor force. | Course Code Course Description | EN 2306 This course covers the subject matter of and interpersonal, and organizational. A to examine individual behavior and di personality, motivation, and stress. The of group and inter-group behavior, creativ also includes power, conflict, leadersh organizational level, it reviews the b organizational change and deve employment relationship, and career m | Prerequisite(s) EN 1104 on three levels: individual, group at the individual level, the focus is ifferences, learning, perception, group/ interpersonal level covers ity, and team decision-making. It ip, and communication. At the asics of organizational culture, elopment, structure, design, |
| Course Description This course covers process of legislation in Pakistan, Contract Act, Law of Sale of Goods, Partnership Law and Company laws and Intellectual Property Laws. Course would also cover Factories Act and Child Labor Act along with brief overview of different laws related to labor force. | Course Code Course Description | EN 2306 This course covers the subject matter of and interpersonal, and organizational. A to examine individual behavior and di personality, motivation, and stress. The of group and inter-group behavior, creativ also includes power, conflict, leadersh organizational level, it reviews the b organizational change and deve employment relationship, and career m | Prerequisite(s) EN 1104 on three levels: individual, group at the individual level, the focus is ifferences, learning, perception, group/ interpersonal level covers ity, and team decision-making. It ip, and communication. At the asics of organizational culture, elopment, structure, design, |
| Sale of Goods, Partnership Law and Company laws and Intellectual Property Laws. Course would also cover Factories Act and Child Labor Act along with brief overview of different laws related to labor force. | Course Code | EN 2306 This course covers the subject matter of and interpersonal, and organizational. A to examine individual behavior and di personality, motivation, and stress. The g group and inter-group behavior, creativ also includes power, conflict, leadersh organizational level, it reviews the b organizational change and deve employment relationship, and career m BA 5207, BA 3504, AF 2305 | Prerequisite(s) EN 1104 on three levels: individual, group at the individual level, the focus is ifferences, learning, perception, group/ interpersonal level covers ity, and team decision-making. It ip, and communication. At the asics of organizational culture, elopment, structure, design, management. |
| | Course Code Course Description Equivalent Course(s) Course Name | EN 2306 This course covers the subject matter of and interpersonal, and organizational. A to examine individual behavior and di personality, motivation, and stress. The g group and inter-group behavior, creativ also includes power, conflict, leadersh organizational level, it reviews the b organizational change and deve employment relationship, and career m BA 5207, BA 3504, AF 2305 Business and labor Laws | Prerequisite(s) EN 1104 on three levels: individual, group at the individual level, the focus is ifferences, learning, perception, group/ interpersonal level covers ity, and team decision-making. It ip, and communication. At the asics of organizational culture, elopment, structure, design, management. |
| Equivalent Course(s) AF 4701, BA 4801 | Course Code Course Description Equivalent Course(s) Course Name Course Code | EN 2306 This course covers the subject matter of and interpersonal, and organizational. A to examine individual behavior and dipersonality, motivation, and stress. The group and inter-group behavior, creativalso includes power, conflict, leadersh organizational level, it reviews the borganizational change and development relationship, and career metabolic care and the statemetabolic covers process of legislation Sale of Goods, Partnership Law and of Property Laws. Course would also covers | Prerequisite(s) EN 1104 on three levels: individual, group At the individual level, the focus is ifferences, learning, perception, group/interpersonal level covers ity, and team decision-making. It ip, and communication. At the asics of organizational culture, elopment, structure, design, nanagement. Credit Hours 3 (3.0) Prerequisite(s) EN 2302 in Pakistan, Contract Act, Law of Company laws and Intellectual er Factories Act and Child Labor |

| Course Name | Consumer Behavior | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | EN 2403 | Prerequisite(s) EN 2305 |
| | | |
| Course Description | This course examines in detail, the comp | lex behavioral processes which |
| | determine consumer actions and analy variety of situations with a special refer influences. It is designed to cover conter behavior, objectives, consumer c environmental influence, individual deter behavior. | rence to individual and group mporary concepts in consumer and market segmentation, |
| Equivalent Course(s) | BA 3507 | |
| | | |

| Course Name | Introduction to Entrepreneurship | Credit Hours 3 (3,0) |
|--------------------|--|---|
| Course Code | EN 2404 | Prerequisite(s) EN 1204 |
| | | |
| Course Description | This course focuses on ways in which opportunities, generate ideas, and organize successful ventures that enable them to ac are required to create an entrepreneurial ve learning activity. Through this hands-on exp discussions and text book readings students develop the values, traits, and skills most ofte entrepreneurs. | e resources to plan and run chieve their goals. Students enture as part of a practical erience, case studies, class will have an opportunity to |
| | | |

Equivalent Course(s) BA 4859, BA 3517, BA 3502, AF 3504

| Course Name | Media Management | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | EN 2405 | Prerequisite(s) EN 2305 |
| | | |
| Course Description | This course introduces basic concer- different from promotional tools. It di- dimensions, and disciplines. It also modern and emerging communica perspective of media in Pakistan effective ways to interact with them discussion on event management communications during crisis situation | scusses various public relations tools, addresses issues emerging out of tion media and provides a broader describing its characteristics and h. The course concludes with a brief with an overview of importance of |
| Equivalent Course(s) | BA 3508 | |

24 Catalogue

| Course Name | Operations Management | Credit Hours 3 (3,0) |
|--|--|--|
| Course Code | EN 2406 | Prerequisite(s) EN 1204 |
| Course Description | This course introduces the concepts of management. Topics covered represent | production and operations |
| | industrial engineering, cost accounting quantitative methods and statistics. The operations and strategic issues such as ap planning, scheduling, shop floor control, inventory management, and facility layou In addition, topics include the comple operations management with the help of m and methodologies applied worldwide. | ng, general management, course topics include some oplied forecasting, aggregate , total quality management, ut and project management. x understanding of services |
| Equivalent Course(s) | BA 3607, BST 2XXX | |
| Course Name | Business Analysis and Forecasting | Credit Hours 3 (3,0) |
| Course Code | EN 3501 | Prerequisite(s) EN 2304 |
| | | |
| Course Description | This course entails understanding business management makes decisions in three ke and Operations. The course will help st balance sheet, and cash flow statemen ratios to compare companies across of (Intercompany, Intracompany and Indust Income Statements and Cash flow state | y areas Investment, Financing udents analyze profit & loss, its. Using profitability and risk different sizes and industries ry Averages). Balance Sheet, |
| | carried out in the course. | |
| Equivalent Course(s) | carried out in the course. None | |
| Equivalent Course(s) Course Name | | Credit Hours 3 (3,0) |
| | None | Credit Hours 3 (3,0) Prerequisite(s) EN 2404 |
| Course Name | None Business Plan Development | Prerequisite(s) EN 2404 ying and quantifying market |
| Course Name Course Code | None Business Plan Development EN 3502 This course covers the process of identif | Prerequisite(s) EN 2404 ying and quantifying market ew enterprise in the Pakistani I methodology and learn how form, iterate, and develop an |
| Course Name Course Code | None Business Plan Development EN 3502 This course covers the process of identif opportunities, planning, and starting a ne market. Students will adopt the lean mode to use a business model canvas to brainst idea that is both viable and doable with | Prerequisite(s) EN 2404 ying and quantifying market ew enterprise in the Pakistani I methodology and learn how form, iterate, and develop an |
| Course Name Course Code Course Description | None Business Plan Development EN 3502 This course covers the process of identifi opportunities, planning, and starting a ne market. Students will adopt the lean mode to use a business model canvas to brainst idea that is both viable and doable with from the market | Prerequisite(s) EN 2404 ying and quantifying market ew enterprise in the Pakistani I methodology and learn how form, iterate, and develop an |
| Course Name Course Code Course Description | None Business Plan Development EN 3502 This course covers the process of identif opportunities, planning, and starting a ne market. Students will adopt the lean mode to use a business model canvas to brainst idea that is both viable and doable with from the market None | Prerequisite(s) EN 2404 ying and quantifying market ew enterprise in the Pakistani I methodology and learn how form, iterate, and develop an actual figures and scenarios |
| Course Name Course Code Course Description Equivalent Course(s) Course Name | None Business Plan Development EN 3502 This course covers the process of identif opportunities, planning, and starting a ne market. Students will adopt the lean mode to use a business model canvas to brainst idea that is both viable and doable with from the market None Entrepreneurial Marketing | Prerequisite(s) EN 2404 ying and quantifying market ew enterprise in the Pakistani I methodology and learn how form, iterate, and develop an actual figures and scenarios |
| Course Name Course Code Course Description Equivalent Course(s) Course Name | None Business Plan Development EN 3502 This course covers the process of identified opportunities, planning, and starting a new market. Students will adopt the lean mode to use a business model canvas to brainst idea that is both viable and doable with from the market None Entrepreneurial Marketing EN 3503 This course covers different methods conventional marketing carried out by stomarket intelligence, guerrilla marketing, su marketing, radical marketing, viral market and expeditionary marketing. Each reflect | Prerequisite(s) EN 2404 ying and quantifying market ew enterprise in the Pakistani I methodology and learn how form, iterate, and develop an actual figures and scenarios Credit Hours 3 (3,0) Prerequisite(s) EN 2305 of conventional and non- artups and businesses by using bversive marketing, disruptive ting, convergence marketing |
| Course Name Course Code Course Description Equivalent Course(s) Course Name Course Code | None Business Plan Development EN 3502 This course covers the process of identified opportunities, planning, and starting a new market. Students will adopt the lean mode to use a business model canvas to brainst idea that is both viable and doable with from the market None Entrepreneurial Marketing EN 3503 This course covers different methods conventional marketing carried out by stormarket intelligence, guerrilla marketing, su marketing, radical marketing, viral marketing, vir | Prerequisite(s) EN 2404 ying and quantifying market ew enterprise in the Pakistani I methodology and learn how orm, iterate, and develop an actual figures and scenarios Credit Hours 3 (3,0) Prerequisite(s) EN 2305 of conventional and non- artups and businesses by using bversive marketing, disruptive ting, convergence marketing |

| ourse Name | Finance and Taxation for Entrepreneurs | Credit Hours 3 (3,0) |
|----------------------------|--|---|
| Course Code | EN 3504 | Prerequisite(s) EN 2301 |
| Course Description | This course examines the elements of | ontropropourial finance and |
| Jourse Description | This course examines the elements of entrepreneurial finance and taxation, partly focusing on start-up ventures and the early stages of | |
| | , , , | , 0 |
| | company development. The course addresses key questions which challenge all entrepreneurs: how much money can and should be | |
| | raised; when should it be raised and from | |
| | valuation of the company; and how | |
| | contracts and exit decisions be structured | 0 1 7 |
| | these decisions, both as entrepreneurs ar | nd venture capitalists. The other |
| | part of this course examines the element | nts of entrepreneurial taxation, |
| | focusing on how different taxes and un | derstanding of changes in tax |
| | laws can change entrepreneurial activiti | es. Key elements that would be |
| | considered from taxation point view are | e: income tax, sales tax, value |
| | added tax, service tax, property tax, etc | c and tax laws and regulation's |
| | structure. It aims to prepare students | for these decisions, both as |
| | entrepreneurs and venture capitalists. | |
| | | |
| quivalent Course(s) | None | |
| | | |
| | | |
| | | |
| Course Name | Marketing Research | Credit Hours 3 (3,0) |
| Course Code | EN 3505 | Prerequisite(s) EN 2305 |
| | | |
| Course Description | This course provides the understanding o | |
| | will introduce the elements and pro | - |
| | research. It will build the concepts reg | |
| | development of research problem, elici | |
| | developing suitable research method analysis tools, and report writing. | dology, data collection and |
| | | |
| quivalent Course(s) | BA 4707 | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Course Name | Sustainability and Technology | Credit Hours 3 (3,0) |
| Course Name Course Code | Sustainability and Technology EN 3506 | Credit Hours 3 (3,0) Prerequisite(s) EN 2404 |
| Course Code | EN 3506 | Prerequisite(s) EN 2404 |
| | EN 3506 This course is designed to articulate r | Prerequisite(s) EN 2404 |
| Course Code | EN 3506 This course is designed to articulate r importance of sustainability practices | Prerequisite(s) EN 2404 need for business growth and in parallel. The course will |
| Course Code | EN 3506 This course is designed to articulate r importance of sustainability practices introduce concepts of sustainability, | Prerequisite(s) EN 2404 need for business growth and in parallel. The course will significance and its role in |
| Course Code | EN 3506 This course is designed to articulate r importance of sustainability practices introduce concepts of sustainability, economic, social and environmenta | Prerequisite(s) EN 2404 need for business growth and in parallel. The course will significance and its role in al settings. Also, the course |
| Course Code | EN 3506 This course is designed to articulate n importance of sustainability practices introduce concepts of sustainability, economic, social and environmenta incorporates social responsibility in value | Prerequisite(s) EN 2404 need for business growth and is in parallel. The course will significance and its role in al settings. Also, the course e chain of business. In addition, |
| Course Code | EN 3506 This course is designed to articulate r importance of sustainability practices introduce concepts of sustainability, economic, social and environmenta | Prerequisite(s) EN 2404 need for business growth and is in parallel. The course will significance and its role in al settings. Also, the course e chain of business. In addition, |
| Course Code | EN 3506 This course is designed to articulate r importance of sustainability practices introduce concepts of sustainability, economic, social and environmenta incorporates social responsibility in value explains role of technology and innovatio | Prerequisite(s) EN 2404 need for business growth and is in parallel. The course will significance and its role in al settings. Also, the course e chain of business. In addition, |
| Course Code | EN 3506 This course is designed to articulate n importance of sustainability practices introduce concepts of sustainability, economic, social and environmenta incorporates social responsibility in value | Prerequisite(s) EN 2404 need for business growth and is in parallel. The course will significance and its role in al settings. Also, the course e chain of business. In addition, |
| Course Code | EN 3506 This course is designed to articulate r importance of sustainability practices introduce concepts of sustainability, economic, social and environmenta incorporates social responsibility in value explains role of technology and innovatio | Prerequisite(s) EN 2404 need for business growth and is in parallel. The course will significance and its role in al settings. Also, the course e chain of business. In addition, |
| Course Code | EN 3506 This course is designed to articulate r importance of sustainability practices introduce concepts of sustainability, economic, social and environmenta incorporates social responsibility in value explains role of technology and innovatio | Prerequisite(s) EN 2404 need for business growth and is in parallel. The course will significance and its role in al settings. Also, the course e chain of business. In addition, |
| Course Code | EN 3506 This course is designed to articulate r importance of sustainability practices introduce concepts of sustainability, economic, social and environmenta incorporates social responsibility in value explains role of technology and innovatio | Prerequisite(s) EN 2404 need for business growth and is in parallel. The course will significance and its role in al settings. Also, the course e chain of business. In addition, |
| Course Code | EN 3506 This course is designed to articulate r importance of sustainability practices introduce concepts of sustainability, economic, social and environmenta incorporates social responsibility in value explains role of technology and innovatio | Prerequisite(s) EN 2404 need for business growth and is in parallel. The course will significance and its role in al settings. Also, the course e chain of business. In addition, |

| Course Name Course Code | Analysis of Pakistani Industries EN 3601 | Credit Hours 3 (3,0) Prerequisite(s) EN 2303 |
|----------------------------|---|---|
| Course Code | LIN JOUT | |
| Course Description | This course is designed to make student understand the characteristics, nature of competition, growth potential, current trends, history, | |
| | concurrent issues and its importance in co scenario. Also, the course identifies the imp on businesses operating in different industr | pact of these prevailing trends |
| Equivalent Course(s) | None | |
| | | |

| Course Name | Human Resource Management | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | EN 3602 | Prerequisite(s) EN 2306 |
| | | |
| Course Description | This course examines the role of the human strategic partner, in managing startups and course introduces concepts, issues and pro- management such as Human Resource p analysis, recruitment and selection, trai performance appraisal, compensation ar career planning and development, employer implications of legal and global environment issues (such as diversity training, sexual hard benefit costs), and best practices of employer | established businesses. The actices in human resource planning, job design and ining and development, nd benefit management, ee relations, appraising the s and analyzing the current assment policies, and rising |
| Equivalent Course(s) | BA 5205, BA 4804, AF 1204 | |

| Course Name | Launching a Venture | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | EN 3603 | Prerequisite(s) EN 3502 |
| | | |
| Course Description | This course examines the role of the human strategic partner, in managing startups and course introduces concepts, issues and p management such as Human Resource analysis, recruitment and selection, tra- performance appraisal, compensation of career planning and development, employ implications of legal and global environmer issues (such as diversity training, sexual has benefit costs), and best practices of employ | d established businesses. The ractices in human resource planning, job design and aining and development, and benefit management, yee relations, appraising the nts and analyzing the current rassment policies, and rising |
| Equivalent Course(s) | None | |
| | | |

| ourse Name | Logistics and Supply Chain Management | Credit Hours 3 (3,0) |
|--------------------------|---|--|
| ourse Code | EN 3604 | Prerequisite(s) EN 2406 |
| ourse Description | This course will provide understanding of overall logistics and supply chain process for startups. Also, it will cover various activities like transportation, production, distribution, warehousing, inventory management, purchasing of raw material and handling of semi produced products, and customer services. In addition, it will equip students with various tools, models and theories to operate in a business environment. | |
| quivalent Course(s) | None | |
| ourse Name | Product Innovation and Design | Credit Hours 3 (3,0) |
| Course Code | EN 3605 | Prerequisite(s) EN 2404 |
| ourse Description | This course is designed to provide students of development and launching of a new pro reviews different stages a product/service | duct or service. The course |
| quivalent Course(s) | reaching its final customer. BA 4859 | |
| quivalent Course(s) | BA 4859 | |
| course Name | BA 4859 Capstone Project-I | Credit Hours 3 (3,0) Prerequisite(s) EN 3505 |
| | BA 4859 | Prerequisite(s) EN 3505 with vital information on the duct or service. The course |
| ourse Name ourse Code | BA 4859 Capstone Project-I EN 3609 This course is designed to provide students of development and launching of a new pro reviews different stages a product/service | Prerequisite(s) EN 3505 with vital information on the duct or service. The course |

| Course Name | Issues in Pakistan's Economy | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | EN 4701 | Prerequisite(s) EN 3601 |
| | | |
| Course Description | This course is designed to provide students of knowledge about Pakistan economic envi- historical background, it covers topics su public finance and social sector developm government interventions, like fiscal polic policy, and income policies. Further, the ad includes: institutional reforms, de denationalization, globalization and other business environment in Pakistan. The cou challenges ahead for the Pakistan Econom perspectives. | vironment. Starting with the ich as agriculture, industry, ent. The course also reviews cy, monetary policy, trade latitional topics of this course eregulation, privatization, policies/factors that affect rse ends with discussion on |
| Equivalent Course(s) | SS 4249, BA 3609 | |

| Course Name Course Code | Finance a Venture EN 4702 | Credit Hours 3 (3,0) Prerequisite(s) EN 3504 |
|----------------------------|------------------------------|--|
| Course Description | understand how to secure fu | or active entrepreneurs who want to nding for their company. This course will epts to give entrepreneurs and aspiring re funding. |
| Equivalent Course(s) | None | |

| Course Name | Emerging Media | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | EN 4703 | Prerequisite(s) EN 2405 |
| | | |
| Course Description | In this course students will learn how | new and emerging media |
| | technologies are being integrated into a campaigns, and how they are being messages in novel times and spaces. In an diversifying media space, communicator reach their intended audiences. This cours of the roles and limitations of new media engaging with key audiences, public students to critically analyze how to best with consumers. | used to deliver traditional increasingly competitive and ors are finding new ways to se will foster an understanding a for delivering messages and and markets while allowing |
| Equivalent Course(s) | BA 4125 | |
| | | |

| Course Name | Capstone Project-II | Credit Hours 3 (3,0) |
|-------------------------------------|--|------------------------------------|
| Course Code | EN 4709 | Prerequisite(s) EN 3609 |
| Course Description | In this project student's will transform their ideas practically in the market. This stage is not confined to numbers, business plan or any financial statements rather it is utilizing both primary research and secondary research to develop their ideas and taking practical steps to start their company. Also, a mentor entrepreneur in the relevant field will be assigned to facilitate the students with the research and create a prototype product to test in the market for results. | |
| quivalent Course(s) | None | |
| Course Name | Business Policy and Design | Credit Hours 3 (3,0) |
| Course Code | EN 4801 | Prerequisite(s) EN 3502 |
| Course Description | The course focuses on creating an un company policy and strategy. It will ex and business in matters relating susto leadership and policy making. | plore the issues faced by startups |
| Equivalent Course(s) Course Name | None | Credit Hours 3 (3,0) |
| Course Code | EN 4802 | Prerequisite(s) EN 3603 |
| Course Description | The course introduces students to various modern and unique business models and their critical components. The course will cover traditional and web based platform business models to give insights to the students on their synergy with the business environment. | |
| Course Name | SME Management | Credit Hours 3 (3,0) |
| Course Code | EN 4803 | Prerequisite(s) EN 2404 |
| Course Description | This course focuses on the importance and purpose of SMEs highlighting how to carry out efficient and effective small and medium business activities, in local and international markets. Students will learn the different obstacles faced by SMEs related to policy making, development of feasibility studies and interaction with both public and private sector institutions. | |
| | different obstacles faced by SM development of feasibility studies and | |

| Course Name | Capstone Project-III | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | EN 4809 | Prerequisite(s) EN 4709 |
| | | |
| Course Description | The course will help students to implem capstone projects and check its succ course represents the startup feasibi opportunity, innovation, calculated ri proactive behavior, and customer inter gauge the firm's external environmer entrepreneur to be well prepared ago rapid changes in technology and econ | cess in the chosen market. The lity around six core elements, isk-taking, resource leveraging, nsity. A continuum is involved, to nt drive the need for a future ainst turbulence, discontinuities, |
| Equivalent Course(s) | None | |

1.2 Masters and PhD

1.2.1 Master of Business Administration (MBA)

MBA (36 credit hours)

Students enrolled in Master of Business Administration-36 Credit Hours (MBA-36 CHs) program are required to complete 10 courses and a Business Research Project/Academic Research Project/ Thesis (6 credits) within four (4) years. The break-up of the 10 courses is as follows:

- 6 Core Courses (18 Credit Hours)
- 4 Elective Courses⁵ (12 Credit Hours)
- 1 Business Research Project/Academic Research Project//Thesis (6 Credit Hours)

Course Code Course Title Page # First Year **Fall Semester** BA 5501 66 Applied Research Methods BA 5104 Strategic Management 66 BA 5xxx Elective-I 271-273 BA 5xxx Elective-II 271-273 **Spring Semester** BA 5203 Strategic Marketing 66 BA 5601 Strategic Human Resource Management 67 BA 5xxx 271-273 Elective-III 271-273 BA 5xxx **Elective-IV** Second Year Fall Semester BA 5308 International Business 67 BA 5208 Strategic Finance 67 BA 5509/ Business Research Project/ 68 BA 5609/ Academic Research Project/ 68 BA 5109 Thesis 68

All courses may not be offered every year. Alternate courses may be substituted as and when required.

5 List of Electives is given in Appendix B.

| Course Name | Applied Research Methods | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BA 5501 | Prerequisite(s) None |
| | | |
| Course Description | This course equips students with the essent the basis of sound decision-making. Throu- term report supplemented by classroom students gain knowledge of converting of problem; and applying the most approp- problem. The course provides an ow methodology and statistics. The genero advanced understanding of research m enhanced research literacy, and c) a great which research methodology and statist and practice. | ugh an applied approach using discussions and presentations, a business issue into a research riate methodology to solve this verview of applied research al aims are to provide a) an nethods and data analysis, b) ater understanding of the way in |
| Equivalent Course(s) | None | |

| Course Name Course Code | Strategic Management BA 5104 | Credit Hours 3 (3,0) Prerequisite(s) None |
|----------------------------|---|--|
| Course Description | This course covers various aspects of inputs, concepts of mission and obje- plan choice, strategy selection of evaluation, strategy implementation | ectives, strategy formulation, action and evaluation, function strategy |
| Equivalent Course(s) | None | |

| Course Name | Strategic Marketing | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | BA 5203 | Prerequisite(s) None |
| | | |
| Course Description | This course addresses topics such as bus business strategy and competitive as analysis, market segmentation, marketing product portfolio strategy, price strategy strategy implementation and control. Th decision making process from strategi understanding of how marketing interacts | dvantage, marketing situation target and positioning strategy, promotion strategy, marketing focus is on the analysis and ic point of view. Additionally, s with other levels of strategy and |
| Equivalent Course(s) | integrate with all the other departments v | within the organization. |
| Equivalent Course(s) | | |

| Course Name | Strategic Human Resource Management | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | BA 5601 | Prerequisite(s) None |
| | | |
| Course Description | This course equips students to take strategic The course is designed to involve students in from assessment of the global economic envir culture to the analysis of competencies a human resource decisions. Students carry out of a human resource management issue in or learn how to contribute in improving the perf morale. | practical activities ranging ronment and organizational nd the implementation of a detailed strategic analysis ganizations and, in doing so |
| Equivalent Course(s) | None | |
| | | |

| Course Name | International Business | Credit Hours 3 (3,0) |
|--------------------|--|---|
| Course Code | BA 5308 | Prerequisite(s) None |
| | | |
| Course Description | This course develops an understanding and foundations for international busin managing in an overseas environment the macroeconomic and political char era of globalization and beyond global the political economy of international k addition, describes and explains trade of which international business transaction | ness and the cultural context for . It provides an understanding of ages that have taken place in the ization. It also helps to investigate ousiness, trade and investment. In and the investment environment in |

Equivalent Course(s) None

| Course Name | Strategic Finance | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | BA 5208 | Prerequisite(s) None |
| Course Description | This is an advanced course in finance th | hat focuses upon the linkages that |
| | exist between corporate strategy and financing strategies, corporate gove allocation of wealth. It also discusses th applied to structuring and managing th a firm under varying conditions. | d objectives, financial policy and mance, and the creation and he appropriate tools that can be |
| Equivalent Course(s) | None | |

2 Catalogue -

| | Business Research Project | Credit Hours 6 (6,0) | |
|--|---|---|--|
| ourse Code | BA 5509 | Prerequisite(s) BA 5501 | |
| | | | |
| ourse Description | In Business Research Project students are required to work in teams on a | | |
| | specific industry challenge faced by a d | | |
| | involves carrying out research and/or p | | |
| | for identifying solutions to the problem. (| Client organizations benefit a great | |
| | deal from the solutions proposed by the | | |
| | project work are to enhance the practi | | |
| | internalize managerial concepts, a | ind to develop creative and | |
| | applicable solutions. | | |
| quivalant Courso(s) | BA 5109, BA 5609 | | |
| quivalent Course(s) | BA 3107, BA 3007 | | |
| | | | |
| | | | |
| Course Name | Academic Research Project | Credit Hours 6 (6,0) | |
| Course Code | BA 5609 | Prerequisite(s) BA 5501 | |
| | 5,(000) | | |
| Course Description | The academic research project course | e is the application of the theory | |
| | and concepts learned across various | | |
| | team-based project to demonstrate the | e understanding of interdisciplinary | |
| | knowledge and soft skills. It is based on | | |
| | from any one specific field of busine | | |
| | finance, or human resource manageme | | |
| | real life business and industry problem, f | ormulating the research questions, | |
| | identifying appropriate methodology t | o answer the research questions, | |
| | collecting and analyzing data from the | e field, and reporting the findings, | |
| | by using the scientific methods of resea | rch. | |
| quivalant Course(s) | BA 5109, BA 5509 | | |
| quivalent Course(s) | BA 3107, BA 3307 | | |
| | | | |
| | | | |
| | Thesis | Credit Hours 6 (6,0) | |
| Course Name | BA 5109 | Prerequisite(s) BA 5501 | |
| | | | |
| Course Code | | | |
| Course Name Course Code Course Description | Thesis is the application of the theory an | | |
| Course Code | courses in MBA program. It is an indiv | idual project to demonstrate the | |
| ourse Code | courses in MBA program. It is an indiv understanding of interdisciplinary know | idual project to demonstrate the ledge and soft skills. It is based on | |
| ourse Code | courses in MBA program. It is an indiv understanding of interdisciplinary know identifying and solving a problem from | idual project to demonstrate the ledge and soft skills. It is based on any one specific field of business | |
| ourse Code | courses in MBA program. It is an indiv understanding of interdisciplinary know identifying and solving a problem from e.g. management, marketing, finance, | idual project to demonstrate the ledge and soft skills. It is based on any one specific field of business or human resource management. | |
| Course Code | courses in MBA program. It is an indiv understanding of interdisciplinary know identifying and solving a problem from e.g. management, marketing, finance, It consists of understanding the real lif | idual project to demonstrate the ledge and soft skills. It is based on any one specific field of business or human resource management. ie business and industry problem, | |
| Course Code | courses in MBA program. It is an indiv understanding of interdisciplinary know identifying and solving a problem from e.g. management, marketing, finance, It consists of understanding the real lif formulating the research questions, ide | idual project to demonstrate the ledge and soft skills. It is based on any one specific field of business or human resource management. The business and industry problem, ntifying appropriate methodology | |
| Course Code | courses in MBA program. It is an indiv understanding of interdisciplinary know identifying and solving a problem from e.g. management, marketing, finance, It consists of understanding the real lif formulating the research questions, ide to answer the research questions, colled | idual project to demonstrate the ledge and soft skills. It is based on any one specific field of business or human resource management. The business and industry problem, ntifying appropriate methodology cting and analyzing data from the | |
| Course Code | courses in MBA program. It is an indiv understanding of interdisciplinary know identifying and solving a problem from e.g. management, marketing, finance, It consists of understanding the real lif formulating the research questions, ide to answer the research questions, collect field, and reporting the findings, by | idual project to demonstrate the ledge and soft skills. It is based on any one specific field of business or human resource management. The business and industry problem, ntifying appropriate methodology cting and analyzing data from the | |
| Course Code | courses in MBA program. It is an indiv understanding of interdisciplinary know identifying and solving a problem from e.g. management, marketing, finance, It consists of understanding the real lif formulating the research questions, ide to answer the research questions, colled | idual project to demonstrate the ledge and soft skills. It is based on any one specific field of business or human resource management. The business and industry problem, ntifying appropriate methodology cting and analyzing data from the | |
| Course Code | courses in MBA program. It is an indiv understanding of interdisciplinary know identifying and solving a problem from e.g. management, marketing, finance, It consists of understanding the real lif formulating the research questions, ide to answer the research questions, collect field, and reporting the findings, by | idual project to demonstrate the ledge and soft skills. It is based on any one specific field of business or human resource management. The business and industry problem, ntifying appropriate methodology cting and analyzing data from the | |

MBA (72 credit hours)

Students enrolled in Master of Business Administration-72 Credit Hours (MBA-72 CHs) program are required to complete 22 courses and 1 Business Research Project/Academic Research Project/Thesis (6 credits) within four (4) years. The break-up of the 22 courses is as follows:

- 18 Core Courses (54 Credit Hours)
- 4 Elective Courses⁶ (12 Credit Hours)
- 1 Business Research Project/Academic Research Project/Thesis (6 Credit Hours)

| Course Code | Course Title | Page # |
|---|---|--|
| | First Year | |
| | Fall Semester | |
| BA 5301 BA 5419 BA 5418 BA 5502 BA 5404 BA 5207 | Financial Accounting Business Management & Ethics Managerial Communication Quantitative Tools for Managers Marketing Principles Organizational Behavior | 70 70 70 70 71 71 |
| | Spring Semester | |
| BA 5106 BA 5205 BA 5411 BA 5401 BA 5408 BA 5501 | Marketing Management Human Resource Management Cost and Management Accounting Introduction to Business Finance Business Economics Applied Research Methods | 71 72 72 72 73 73 |
| | Second Year | |
| | Fall Semester | |
| BA 5308 BA 5104 BA 5105 BA 5203 BA 5xxx BA 5xxx | International Business Strategic Management Financial Management Strategic Marketing Elective-I Elective-II | 73 74 74 74 271-273 271-273 |
| | Spring Semester | |
| BA 5601 BA 5208 BA 5509/ BA 5609/ BA 5109 BA 5xxx BA 5xxx | Strategic Human Resource Management Strategic Finance Business Research Project/ Academic Research Project/ Thesis Elective-III Elective-IV | 75 75 75 76 76 271-273 271-273 |

All courses may not be offered every year. Alternate courses may be substituted as and when required.

| Course Name | Financial Accounting | Credit Hours 3 (3,0) |
|-------------------------------------|--|--|
| Course Code | BA 5301 | Prerequisite(s) None |
| Course Description | This course includes accounting for me balance sheet, simple and multiple ir accounting system, accounts receivable, cost of goods sold, liabilities, corporation statements. Also, MS Excel is used and ne introduced. | erchandise business, classified ncome statement, design of , notes receivable, inventories, on and measuring cash flow |
| Equivalent Course(s) | None | |
| Course Name Course Code | Business Management & Ethics BA 5419 | Credit Hours 3 (3,0) Prerequisite(s) None |
| Course Description | This course introduces the basic concepts of emergence of management thought, mo concepts, decision-making, organizing, sto future perspective of management an introduces contemporary ethical issues fac | anagement function, planning affing, leading, controlling, and nd society. The course also |
| Equivalent Course(s) | BA 5303, BA 1203, AF 1106, EN 1204 | |
| Course Name | Managerial Communication | Credit Hours 3 (3,0) |
| Course Code | BA 5418 | Prerequisite(s) None |
| Course Description | This course is designed to develop the application of written oral and interpersonal communication theory in the business management environment. Areas of emphasis include the role of communication in contemporary organizations, considerations of message production and reception, internal versus external audiences, communicating change, intercultural communication, and ethics. | |
| | contemporary organizations, consideratio reception, internal versus external audier | ns of message production and |
| Equivalent Course(s) | contemporary organizations, consideratio reception, internal versus external audier | ns of message production and |
| Equivalent Course(s) Course Name | contemporary organizations, consideratio reception, internal versus external audier intercultural communication, and ethics. | ns of message production and |
| | contemporary organizations, consideratio reception, internal versus external audier intercultural communication, and ethics. BA 5304, BA 2406, AF 2301, EN 1202 | ns of message production and nces, communicating change, |
| Course Name | contemporary organizations, consideration reception, internal versus external audier intercultural communication, and ethics. BA 5304, BA 2406, AF 2301, EN 1202 Quantitative Tools for Managers BA 5502 The course is designed to provide quant managers. It encompasses descriptive st | ns of message production and inces, communicating change, Credit Hours 3 (3,0) Prerequisite(s) None ntitative tools and methods to atistics, probability theory and distribution, regression and arious population parameters, butions, time series and index ns, applications of systems of and economics applications of |
| Course Name Course Code | contemporary organizations, consideration reception, internal versus external audier intercultural communication, and ethics. BA 5304, BA 2406, AF 2301, EN 1202 Quantitative Tools for Managers BA 5502 The course is designed to provide quant managers. It encompasses descriptive stapplication, sampling methods and correlation, testing of hypotheses for very application Z, t, F, and Chi-square distribution linear and quadratic equations, business of the second state of the second | ns of message production and inces, communicating change, Credit Hours 3 (3,0) Prerequisite(s) None ntitative tools and methods to atistics, probability theory and distribution, regression and arious population parameters, butions, time series and index ns, applications of systems of and economics applications of |

| Course Name | Marketing Principles | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BA 5404 | Prerequisite(s) None |
| | | |
| Course Description | environment, planning an targeting, consumer behavi | basic concepts of marketing, marketing d research, market segmentation and or, industrial marketing, product planning, ution, placement, promotional mix, and |
| Equivalent Course(s) | BA 2303, AF 1206, EN 2305 | |
| | | |

| Course Name | Organizational Behavior | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | BA 5207 | Prerequisite(s) None |
| | | |
| Course Description | This course covers the subject matter on three interpersonal, and organizational. At the i examine individual behavior and differ personality, motivation, and stress. The gra- group and inter-group behavior, creativity, also includes power, conflict, leadership, organizational level, it reviews the basis organizational change and development, relationship, and career management. | individual level, the focus is to rences, learning, perception, oup/interpersonal level covers , and team decision-making. It and communication. At the ics of organizational culture, |
| Equivalent Course(s) | BA 3504, AF 2305, EN 2306 | |

| Course Name | Marketing Management | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BA 5106 | Prerequisite(s) BA 5404 |
| Course Description | This course introduces the concept of | customer and market-driven |
| | management. This course covers organi environment, strengths, weaknesses, oppor information system, buyer behavior analy positioning strategies, product and pricing strategy building by organizations with th practical, hands-on learning experience through close observations of marketing m in marketing channels. | rtunities and threats, marketing sis, segmenting, targeting and strategies, an in-depth study of le help of case studies and a e of marketing management |
| Equivalent Course(s) | BA 3602, AF 2403 | |

Catalogue -

| Course Name | Human Resource Management | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BA 5205 | Prerequisite(s) BA 5207 |
| Course Description | This course examines the role of the hum strategic partner, in managing contempo- introduces concepts, issues and pro- management such as human resource plo- recruitment and selection, training and appraisal, compensation and benefit man development, employee relations, appro- and global environments and analyzing diversity training, sexual harassment policies practices of employers of choice. | prary organizations. The course actices in human resource anning, job design and analysis, d development, performance ragement, career planning and aising the implications of legal g the current issues (such as |
| Equivalent Course(s) | BA 4804, AF 1204, EN 3602 | |
| Course Name | Cost and Management Accounting | Credit Hours 3 (3,0) |
| Course Code | BA 5411 | Prerequisite(s) BA 5301 |
| Conse code | 67.3411 | |
| Course Description | This course introduces cost concepts, a assignment, usage of quantitative and qu preparing spreadsheet models to analyz industries and organizational structure disadvantages, and appropriate usage costing, activity-based costing, variable of and computing and interpreting variance | ualitative tools and methods of ze data, account for specific es, understand advantages, of job-order costing, process costing, and standard costing, |
| Equivalent Course(s) | BA 2408, AF 2302 | |
| | | |
| Course Name | Introduction to Business Finance | Credit Hours 3 (3,0) |
| Course Code | BA 5401 | Prerequisite(s) BA 5301 |
| Course Description | This course covers the concepts of business organization, overview of financial enviror and interest rates, analyses of financial stc sources of short-term and long-term financ | nment, cost markets, institutions atements, time value of money, |
| | capital management, valuation of financ introduction to capital budgeting. | |

| 0 N | | | |
|----------------------------|---|---|---|
| Course Name Course Code | Business Economics BA 5408 | Credit Hours 3 (3,0) Prerequisite(s) None | <i>,</i> |
| Course Description | the business students. It covers micr essential for managers and profe microeconomics concepts such as and cost. Having established t microeconomics, parts of macroe accounts, aggregate demand, ag and unemployment, exchange rat trade, business cycles, money and macroeconomic policy operations course the students will be able | ledge of basic economic principles t o-and macroeconomic issues that ar ssionals. The course starts with basi demand, supply, elasticity, productio he solid ground of the basics of conomics including national incom ggregate supply, concepts of inflatio e, balance of payments, internation d banking, economic growth & major are dealt with. After completing the to apply principles of economics to problems being faced by both public | re |
| Equivalent Course(s) | None | | |
| Course Name | Applied Research Methods | Credit Hours 3 (3,0) |) |
| Course Code | BA 5501 | Prerequisite(s) None | |
| Course Description | the basis of sound decision-making term report supplemented by cla students gain knowledge of conve problem; and applying the most of problem. The course provides methodology and statistics. The advanced understanding of rese enhanced research literacy, and c | essential tools of research which form a. Through an applied approach usin assroom discussions and presentation perting a business issue into a researce appropriate methodology to solve the an overview of applied researce general aims are to provide a) a arch methods and data analysis, b a greater understanding of the way is statistics are interwoven with theore | g s, |
| Equivalent Course(s) | None | | |
| Course Name | International Business | Credit Hours 3 (3,0 |) |
| Course Code | BA 5308 | Prerequisite(s) None | |
| Course Description | and foundations for international managing in an overseas environ the macroeconomic and political era of globalization and beyond g the political economy of internatic | nding of the worldwide developmen business and the cultural context for ment. It provides an understanding of changes that have taken place in the lobalization. It also helps to investigat anal business, trade and investment, de and the investment environment ctions occurs. | or of of other other of other |
| | | | |

| Course Name | Strategic Management | | 3 (3,0) |
|--|--|---|---|
| Course Code | BA 5104 | | BA 5105, BA 510 |
| | | | BA 5205 |
| Course Description | This course covers various aspects of s | strategic management, infor | rmation |
| | inputs, concepts of mission and objectives, strategy formulation, action | | |
| | plan choice, strategy selection a | 01 | |
| | evaluation, strategy implementation of | and strategic control. | |
| | | | |
| Equivalent Course(s) | None | | |
| | | | |
| | | | |
| | | | |
| Course Name | Financial Management | Credit Hours | 3 (3,0) |
| Course Code | BA 5105 | | BA 5401, BA 530 |
| | | | , |
| Course Description | Building upon the concepts already la | iid down in its pre-requisite, fii | nancial |
| | management helps students in expl | 0 | , |
| | complex aspects of the financial wor | | |
| | value and opportunity cost of capita | | |
| | nature, scope and function of finar | | |
| | financial management, financial | с с | |
| | management, valuation of stocks, valuation of fixed income securiti | | |
| | - | | |
| | project cash flow analysis, capital | budgeting and decision r | making, |
| | project cash flow analysis, capital determination of the required rate of | budgeting and decision r of return via asset pricing r | making, models, |
| | project cash flow analysis, capital determination of the required rate dividend policy, debt policy, introduc | budgeting and decision r of return via asset pricing r ction to financial risk manag | making, models, |
| | project cash flow analysis, capital determination of the required rate of | budgeting and decision r of return via asset pricing r ction to financial risk manag | making, models, |
| Equivalent Course(s) | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m | budgeting and decision r of return via asset pricing r ction to financial risk manag | making, models, |
| Equivalent Course(s) | project cash flow analysis, capital determination of the required rate dividend policy, debt policy, introduc | budgeting and decision r of return via asset pricing r ction to financial risk manag | making, models, |
| Equivalent Course(s) | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m | budgeting and decision r of return via asset pricing r ction to financial risk manag | making, models, |
| Equivalent Course(s) | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m | budgeting and decision r of return via asset pricing r ction to financial risk manag | making, models, |
| Equivalent Course(s) | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m | budgeting and decision r of return via asset pricing r ction to financial risk manag | making, models, |
| Course Name | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None Strategic Marketing | budgeting and decision r of return via asset pricing r ction to financial risk manag narkets in Pakistan. Credit Hours | making, models, gement 3 (3,0) |
| Course Name | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None | budgeting and decision r of return via asset pricing r ction to financial risk manag narkets in Pakistan. Credit Hours Prerequisite(s) | making, models, gement 3 (3,0) BA 5105, BA 510 |
| Course Name | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None Strategic Marketing | budgeting and decision r of return via asset pricing r ction to financial risk manag narkets in Pakistan. Credit Hours Prerequisite(s) | making, models, gement 3 (3,0) |
| Course Name Course Code | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None Strategic Marketing | budgeting and decision r of return via asset pricing r ction to financial risk manag narkets in Pakistan. Credit Hours Prerequisite(s) | making, models, gement 3 (3,0) BA 5105, BA 510 BA 5205 |
| Course Name Course Code | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None Strategic Marketing BA 5203 | budgeting and decision r of return via asset pricing r ction to financial risk manag narkets in Pakistan. Credit Hours Prerequisite(s) business and marketing stra | making, models, gement 3 (3,0) BA 5105, BA 510 BA 5205 ategies, |
| Course Name Course Code | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None Strategic Marketing BA 5203 This course addresses topics such as | budgeting and decision r of return via asset pricing r ction to financial risk manag narkets in Pakistan. Credit Hours Prerequisite(s) business and marketing stra advantage, marketing stra | making, models, gement 3 (3,0) BA 5105, BA 510 BA 5205 ategies, ituation |
| Course Name Course Code | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None Strategic Marketing BA 5203 This course addresses topics such as business strategy and competitive | budgeting and decision r of return via asset pricing r ction to financial risk manag narkets in Pakistan. Credit Hours Prerequisite(s) business and marketing stra advantage, marketing st ting target and positioning st | making, models, gement 3 (3,0) BA 5105, BA 510 BA 5205 ategies, ituation rategy, |
| Course Name Course Code | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None Strategic Marketing BA 5203 This course addresses topics such as business strategy and competitive analysis, market segmentation, market | budgeting and decision r of return via asset pricing r ction to financial risk manag narkets in Pakistan. Credit Hours Prerequisite(s) business and marketing stro advantage, marketing st ting target and positioning st egy, promotion strategy, ma | making, models, gement 3 (3,0) BA 5105, BA 510 BA 5205 ategies, ituation rrategy, arketing |
| Equivalent Course(s) Course Name Course Code Course Description | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None Strategic Marketing BA 5203 This course addresses topics such as business strategy and competitive analysis, market segmentation, market product portfolio strategy, price strate | budgeting and decision r of return via asset pricing r ction to financial risk manag narkets in Pakistan. Credit Hours Prerequisite(s) business and marketing stro advantage, marketing si ting target and positioning st egy, promotion strategy, ma I. The focus is on the analy | making, models, gement 3 (3,0) BA 5105, BA 510 BA 5205 ategies, ituation rrategy, arketing rsis and |
| Course Name Course Code | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None Strategic Marketing BA 5203 This course addresses topics such as business strategy and competitive analysis, market segmentation, market product portfolio strategy, price strate strategy implementation and control | budgeting and decision r of return via asset pricing r ction to financial risk manag narkets in Pakistan. Credit Hours Prerequisite(s) business and marketing stro advantage, marketing si ting target and positioning st egy, promotion strategy, mo I. The focus is on the analy regic point of view. Addit | making, models, gement 3 (3,0) BA 5105, BA 510 BA 5205 ategies, ituation trategy, arketing rsis and tionally, |
| Course Name Course Code | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None Strategic Marketing BA 5203 This course addresses topics such as business strategy and competitive analysis, market segmentation, market product portfolio strategy, price strate strategy implementation and control decision making process from strate | budgeting and decision r of return via asset pricing r ction to financial risk manage narkets in Pakistan. Credit Hours Prerequisite(s) business and marketing strating target and positioning strategy, promotion strategy, mail In The focus is on the analy regic point of view. Additacts with other levels of strate | making, models, gement 3 (3,0) BA 5105, BA 510 BA 5205 ategies, ituation trategy, arketing rsis and tionally, |
| Course Name Course Code Course Description | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduce and derivatives and role of financial m None Strategic Marketing BA 5203 This course addresses topics such as business strategy and competitive analysis, market segmentation, market product portfolio strategy, price strate strategy implementation and control decision making process from strat understanding of how marketing interco integrate with all the other department | budgeting and decision r of return via asset pricing r ction to financial risk manage narkets in Pakistan. Credit Hours Prerequisite(s) business and marketing strating target and positioning strategy, promotion strategy, mail In The focus is on the analy regic point of view. Additacts with other levels of strate | making, models, gement 3 (3,0) BA 5105, BA 510 BA 5205 ategies, ituation trategy, arketing rsis and tionally, |
| Course Name Course Code | project cash flow analysis, capital determination of the required rate of dividend policy, debt policy, introduc and derivatives and role of financial m None Strategic Marketing BA 5203 This course addresses topics such as business strategy and competitive analysis, market segmentation, market product portfolio strategy, price strate strategy implementation and control decision making process from strat understanding of how marketing interco | budgeting and decision r of return via asset pricing r ction to financial risk manage narkets in Pakistan. Credit Hours Prerequisite(s) business and marketing strating target and positioning strategy, promotion strategy, mail In The focus is on the analy regic point of view. Additacts with other levels of strate | making, models, gement 3 (3,0) BA 5105, BA 510 BA 5205 ategies, ituation trategy, arketing rsis and tionally, |

| Course Name | Strategic Human Resource Management | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BA 5601 | Prerequisite(s) BA 5205 |
| | | |
| Course Description | This course equips students to take strategic | human resource decisions. |
| Equivalant Course(s) | The course is designed to involve students in from assessment of the global economic envir culture to the analysis of competencies a human resource decisions. Students carry out of a human resource management issue in org learn how to contribute in improving the perf morale. | onment and organizational nd the implementation of a detailed strategic analysis ganizations and, in doing so |
| Equivalent Course(s) | None | |
| | | |

| Course Name | Strategic Finance | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BA 5208 | Prerequisite(s) BA 5105 |
| | | |
| Course Description | This is an advanced course in finance that for that exist between corporate strategy and ob- and financing strategies, corporate governance allocation of wealth. It also discusses the appro- applied to structuring and managing the busine a firm under varying conditions. | pjectives, financial policy ce, and the creation and opriate tools that can be |
| Equivalent Course(s) | None | |

| Course Name | Business Research Project | Credit Hours 6 (6,0) | |
|--------------------|--|--|--|
| Course Code | BA 5509 | Prerequisite(s) BA 5501 | |
| | | | |
| Course Description | In Business Research Project students are required to work in teams on a | | |
| | specific industry challenge faced by a usually involves carrying out research and analysis for identifying solutions to the benefit a great deal from the solutions objectives of this project work are; to enl learning process, to internalize manage creative and applicable solutions. | d/or performing sound strategic problem. Client organizations proposed by the students. The hance the practical side of the | |

Equivalent Course(s) BA 5109, BA 5609

Catalogues-

| | A such as to December Ductored | |
|----------------------------|---|---|
| Course Name | Academic Research Project | Credit Hours 6 (6,0) |
| Course Code | BA 5609 Prerequisite(s) BA 5501 | |
| Course Description | The academic research project course is the application of the theory and concepts learned across various courses in MBA program. It is a team-based project to demonstrate the understanding of interdisciplinary knowledge and soft skills. It is based on identifying and solving a problem from any one specific field of business e.g. management, marketing, finance, or human resource management. It consists of understanding the real life business and industry problem, formulating the research questions, identifying appropriate methodology to answer the research questions, collecting and analyzing data from the field, and reporting the findings, by using the scientific methods of research. | |
| | | |
| | | |
| Course Name | Thesis | Credit Hours 6 (6,0) |
| Course Name Course Code | Thesis BA 5109 | Credit Hours 6 (6,0) Prerequisite(s) BA 5501 |

Equivalent Course(s) BA 5509, BA 5609

1.2 Masters and PhD

1.2.2 Master of Business Administration in Banking & Finance (MBA B&F)

Students enrolled for the Master of Business Administration Banking and Finance (MBA B&F) program, are required to complete 10 courses and Academic Research Project or Business Research Project within four (4) years. The break-up of the 10 courses is as follows:

- 6 Compulsory Courses (18 Credit Hours)
- 4 Elective Courses⁷ (12 Credit Hours)
- 1 Academic Research Project or Business Research Project or Thesis (6 Credit Hours)

| Course Code | Course Title | Page # | | | |
|-------------|--|--------|--|--|--|
| | First Year | | | | |
| | | | | | |
| | Fall Semester | | | | |
| BA 5501 | Applied Research Methods | 78 | | | |
| BA 5273 | Prudential Regulations | 78 | | | |
| BA 5235 | Treasury and Funds Management | 78 | | | |
| BA 5xxx | Elective-I | 274 | | | |
| | | | | | |
| | Spring Semester | | | | |
| BA 5175 | Banking Operations | 79 | | | |
| BA 5222 | Credit Analysis and Appraisal | 79 | | | |
| BA 5139 | Financial Risk Analysis | 79 | | | |
| BA 5xxx | Elective-II | 274 | | | |
| | | | | | |
| | Second Year | | | | |
| | | | | | |
| | Fall Semester | | | | |
| BA 5609/ | Academic Research Project (6 credits) or | 80 | | | |
| BA 5509/ | Business Research Project (6 credits) or | 80 | | | |
| BA 5109 | Thesis (6 credits) | 80 | | | |
| BA 5xxx | Elective-III | 274 | | | |
| BA 5xxx | Elective-IV | 274 | | | |

All courses may not be offered every year. Alternative courses may be substituted as and when required.

7 List of Electives is given in Appendix B.

1.2.2 Master of Business Administration in Banking & Finance (MBA B&F)

| Course Name | Applied Research Methods | Credit Hours 3 (3,0) | | |
|--|--|---|--|--|
| ourse Code | BA 5501 | Prerequisite(s) None | | |
| | | | | |
| ourse Description | This course equips students with the essential tools of research which forms | | | |
| | the basis of sound decision-making. Through an applied approach using | | | |
| | term report supplemented by classroom discussions and presentations, students gain knowledge of converting a business issue into a research problem; and applying the most appropriate methodology to solve this problem. The course provides an overview of applied research methodology and statistics. The general aims are to provide a) an advanced understanding of research methods and data analysis b) | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | 0 | advanced understanding of research methods and data analysis, b) enhanced research literacy, and c) a greater understanding of the way in | | |
| | which research methodology and statistic | | | |
| | and the practice. | | | |
| | | | | |
| quivalent Course(s) | None | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Course Name | Prudential Regulations | Credit Hours 3 (3,0) | | |
| Course Code | BA 5273 | Prerequisite(s) None | | |
| | 6/(32/3 | Terequisite(3) None | | |
| ourse Description | This course focuses on the Prudential Re | gulations of the State Bank of | | |
| | Pakistan. In addition, this course introduces the current law and practices of State Bank and their implication for the banking industry stake holders | | | |
| | | | | |
| | | | | |
| | | banking industry stake holders | | |
| | of State Bank and their implication for the like banks, consumers, and various corpore | banking industry stake holders | | |
| Equivalent Course(s) | of State Bank and their implication for the | banking industry stake holders | | |
| quivalent Course(s) | of State Bank and their implication for the like banks, consumers, and various corpore | banking industry stake holders | | |
| quivalent Course(s) | of State Bank and their implication for the like banks, consumers, and various corpore | banking industry stake holders | | |
| quivalent Course(s) | of State Bank and their implication for the like banks, consumers, and various corpore | banking industry stake holders | | |
| Equivalent Course(s) | of State Bank and their implication for the like banks, consumers, and various corpore | banking industry stake holders | | |
| | of State Bank and their implication for the like banks, consumers, and various corpore | banking industry stake holders | | |
| ourse Name | of State Bank and their implication for the like banks, consumers, and various corpore None | banking industry stake holders ate clients. | | |
| Course Name Course Code | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 | banking industry stake holders ate clients. Credit Hours 3 (3,0) Prerequisite(s) None | | |
| Equivalent Course(s) Course Name Course Code Course Description | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds | | |
| Course Name Course Code | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as management and it enables budding fina | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds ncial managers to gain insights | | |
| Course Name Course Code | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as management and it enables budding fina into different treasury products and their fea | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds ncial managers to gain insights atures. The course incorporates | | |
| Course Name Course Code | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as management and it enables budding fina into different treasury products and their fe- practical aspects pertaining to the action | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds ncial managers to gain insights atures. The course incorporates tual dealing room scenarios | | |
| Course Name Course Code | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as management and it enables budding fina into different treasury products and their fe- practical aspects pertaining to the act including but not limited to dealing ethics, o | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds atures. The course incorporates tual dealing room scenarios and actual transaction types. It | | |
| Course Name Course Code | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as management and it enables budding fina into different treasury products and their fe practical aspects pertaining to the ac including but not limited to dealing ethics, o covers the understanding of Financia | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds ncial managers to gain insights atures. The course incorporates thual dealing room scenarios and actual transaction types. It al Institutions (FIs), financial | | |
| Course Name Course Code | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as management and it enables budding fina into different treasury products and their fe- practical aspects pertaining to the ac including but not limited to dealing ethics, covers the understanding of Financia instruments, and linkages between the | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds ncial managers to gain insights atures. The course incorporates itual dealing room scenarios and actual transaction types. It al Institutions (FIs), financial e financial system and the | | |
| Course Name Course Code | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as management and it enables budding fina into different treasury products and their fe- practical aspects pertaining to the ac- including but not limited to dealing ethics, of covers the understanding of Financia instruments, and linkages between the macro-economy, elaborates on how inter | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds ncial managers to gain insights atures. The course incorporates itual dealing room scenarios and actual transaction types. It al Institutions (FIs), financial e financial system and the rest rates are determined, and | | |
| Course Name Course Code | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as management and it enables budding fina into different treasury products and their fe- practical aspects pertaining to the ac including but not limited to dealing ethics, covers the understanding of Financia instruments, and linkages between the | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds ncial managers to gain insights atures. The course incorporates itual dealing room scenarios and actual transaction types. It al Institutions (FIs), financial e financial system and the rest rates are determined, and | | |
| Course Name Course Code Course Description | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as management and it enables budding fina into different treasury products and their fer practical aspects pertaining to the act including but not limited to dealing ethics, a covers the understanding of Financia instruments, and linkages between the macro-economy, elaborates on how inter the role of the federal reserve in formulation | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds ncial managers to gain insights atures. The course incorporates itual dealing room scenarios and actual transaction types. It al Institutions (FIs), financial e financial system and the rest rates are determined, and | | |
| ourse Name ourse Code | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as management and it enables budding fina into different treasury products and their fe- practical aspects pertaining to the ac- including but not limited to dealing ethics, of covers the understanding of Financia instruments, and linkages between the macro-economy, elaborates on how inter | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds ncial managers to gain insights atures. The course incorporates itual dealing room scenarios and actual transaction types. It al Institutions (FIs), financial e financial system and the rest rates are determined, and | | |
| urse Name urse Code urse Description | of State Bank and their implication for the like banks, consumers, and various corpore None Treasury and Funds Management BA 5235 This course focuses on the banking as management and it enables budding fina into different treasury products and their fer practical aspects pertaining to the act including but not limited to dealing ethics, a covers the understanding of Financia instruments, and linkages between the macro-economy, elaborates on how inter the role of the federal reserve in formulation | Credit Hours 3 (3,0) Prerequisite(s) None pects of treasury and funds ncial managers to gain insights atures. The course incorporates itual dealing room scenarios and actual transaction types. It al Institutions (FIs), financial e financial system and the rest rates are determined, and | | |

1.2.2 Master of Business Administration in Banking & Finance (MBA B&F)

| Course Name | Banking Operations | Credit Hours 3 (3,0) |
|--------------------------|--|---|
| ourse Code | BA 5175 | Prerequisite(s) None |
| Course Description | Banking Operations areas includes, but is not limited to, various operations of commercial banks, central bank and Non-Banking Financial Institutions (NBFIs). The course covers; banking theory and practice, evolution and emerging trends in banking and financial markets, the role of central bank and other regulatory agencies, front office operations, bank payments, audit and internal control systems, financial management, compliance and reporting, operational planning, management information systems {Information and Communications Technology (ICT) & Business Processes}, products and services: deposits, credits, asset and liability management, trade finance, and asset finance. | |
| uivalent Course(s) | None | |
| ourse Name ourse Code | Credit Analysis and Appraisal BA 5222 | Credit Hours 3 (3,0) Prerequisite(s) None |
| Jourse Code | DA JZZZ | rierequisite(s) None |
| Course Description | This course is focused on how corporate/commercial banking professionals evaluate the credit worthiness of potential customers. The course is designed to give students the knowledge and expertise required, to asses potential client(s), in a financial intermediaries (FI)/banking setup The course will focus on identification of risk(s) in granting a loan as well as, financial statement analysis from a banker's perspective, how industry/sectoral analysis plays an important role while appraising an application, understanding a client's business process and its SWOT, and collateral/security analysis. Students will also get an opportunity to understand the difference in evaluating/appraising a corporate and SME customer. | |
| quivalent Course(s) | None | |
| Course Name | Financial Risk Analysis | Credit Hours 3 (3,0) |
| ourse Code | BA 5139 | Prerequisite(s) BA 5132 |
| | This course focuses on the risks faced by the manager of a portfolio of financial assets. Such risks include credit, liquidity, interest rate, currency, and country risks. These risks frequently have lumpy and unpredictable characteristics. Elements of immeasurability often frustrate the empirical estimation of the potential impacts of such risks. The course examines the various risk management techniques used by financial managers to address these problems, and the strengths and limitations of each of the techniques within an operational business setting. | |
| Course Description | and country risks. These risks freque characteristics. Elements of immea estimation of the potential impacts various risk management techniq address these problems, and the st | ently have lumpy and unpredictable surability often frustrate the empirical of such risks. The course examines the ues used by financial managers to rengths and limitations of each of the |

ß

1.2.2 Master of Business Administration in Banking & Finance (MBA B&F)

| Course Name | Business Research Project | Credit Hours 6 (6,0) |
|----------------------|---|---|
| Course Code | BA 5509 | Prerequisite(s) BA 5501 |
| | | |
| Course Description | In Business Research Project students ar specific industry challenge faced by a c involves carrying out research and/or pe for identifying solutions to the problem. C deal from the solutions proposed by th project work are to: enhance the pract internalize managerial concepts, and c solutions. | or pany. The project work usually erforming sound strategic analysis lient organizations benefit a great e students. The objectives of this tical side of the learning process, |
| Equivalent Course(s) | BA 5109, BA 5509 | |

| Course Name | Academic Research Project | Credit Hours 6 (6,0) |
|--------------------|---|---|
| Course Code | BA 5609 | Prerequisite(s) BA 5501 |
| | | |
| Course Description | The Academic Research Project course and concepts learned across various co- program. It is a team-based project to de interdisciplinary knowledge and soft skills solving a problem from any one sy management, marketing, finance, or hu consists of understanding the real life I formulating the research questions, ident to answer the research questions, collecti field, and reporting the findings, by u research. | urses in MBA Banking & Finance emonstrate the understanding of s. It is based on identifying and pecific field of business e.g. uman resource management. It business and industry problem, ifying appropriate methodology ing and analyzing data from the |

Equivalent Course(s) BA 5109, BA 5609

| Course Name | Thesis | Credit Hours 6 (6,0) |
|----------------------|--|---|
| Course Code | BA 5109 | Prerequisite(s) BA 5501 |
| | | |
| Course Description | Thesis is the application of the theory and co courses in MBA program. It is an individual understanding of interdisciplinary knowledg identifying and solving a problem from any e.g. Management, Marketing, Financ Management. It consists of understandin industry problem, formulating the rese appropriate methodology to answer the r and analyzing data from the field, and repo scientific methods of research. | al project to demonstrate the ge and soft skills. It is based on v one specific field of business ce, or Human Resource ig the real life business and earch questions, identifying research questions, collecting |
| Equivalent Course(s) | BA 5609, BA 5509 | |

1.2 Masters and PhD

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1.2.3 Master in Project Management (MPM)

Students enrolled in the Master in Project Management (MPM) program are required to complete 33 credit hours within four (4) years. The breakup of the courses is as follows:

- 8 Compulsory Courses (24 Credit Hours)
- 2 Elective Courses⁸ (6 Credit Hours)
- 1 Project (3 Credit Hours)

| Course Code | Course Title | Page # |
|-------------|--|--------|
| | First Year | |
| | | |
| | Fall Semester | |
| PM 5102 | Fundamentals of Project Management | 82 |
| PM 5104 | Cost and Financial Management for Project Management | 82 |
| PM 5105 | Project Scope | 82 |
| PM 5310 | SAP Training* | 83 |
| PM 5201 | Project Scheduling, Planning and Time Management | 83 |
| | Spring Semester | |
| PM 5301 | Project Quality Management | 83 |
| PM 5351 | Project Risk Management | 84 |
| PM 5309 | Project in Primavera | 84 |
| PM 5209 | Project | 85 |
| PM 5xxx | Elective-I | 274 |
| PM 5xxx | Elective-II | 274 |

* May alternatively be exchanged with "IT Tools for Project Management" or "Enterprise Project Management".

All courses may not be offered every year. Alternative courses may be substituted as and when required.

8- List of Electives is given in Appendix B.9- The course description is given on page # 89

| Course Name | Fundamentals of Project Management | Credit Hours 3 (3,0) |
|--|---|---|
| Course Code | PM 5102 | Prerequisite(s) None |
| Course Description | This introductory course provides basi organization, planning, and controlling of knowledge on managing project scope, s includes various topics like project life cycle and Gantt charts, network diagrams, sc resource allocation decisions. Also, the supplemented through practical team project management software. The purpose of this co with all terms and processes of project manage an enriched flavor of working in teams. | of projects, and practical schedule, and resources. It , work break-down structure cheduling techniques, and heoretical concepts are cts and tutorials using project purse is to familiarize students |
| Equivalent Course(s) | None | |
| | | |
| | | |
| Course Name | Cost and Financial Management for Project Manage | |
| Course Code | PM 5104 | Prerequisite(s) None |
| Course Description | This course is intended to provide the ge management, such as the methods used t budgets and controlling/monitoring a proje understand the interrelationship of various possible responses a project management te falling behind schedule or overrunning its bud | o estimate costs, preparing ect's finances. It will help to cost control concepts and am might make if a project is |
| | course would introduce the concept of proj financing of projects based upon the project It helps in understanding the strategic and project finance. Strategic elements of pro understanding of project screening, value-t mitigation and allocation. Technical elements an understanding of the data and relev analyses, tariffs, projecting cash flow, NPV capital all critical in building and interpreting | ject finance, which includes ed cash flows of the project. d technical components of oject financing include an for-money analysis, and risk s of project financing include vant assumptions, sensitivity & IRR returns, and cost of |
| Equivalent Course(s) | course would introduce the concept of proj financing of projects based upon the project It helps in understanding the strategic and project finance. Strategic elements of pro understanding of project screening, value-1 mitigation and allocation. Technical elements an understanding of the data and relev analyses, tariffs, projecting cash flow, NPV | ject finance, which includes ed cash flows of the project. d technical components of oject financing include an for-money analysis, and risk s of project financing include vant assumptions, sensitivity & IRR returns, and cost of |
| Equivalent Course(s) | course would introduce the concept of proj financing of projects based upon the project It helps in understanding the strategic and project finance. Strategic elements of pro- understanding of project screening, value-t mitigation and allocation. Technical elements an understanding of the data and relev analyses, tariffs, projecting cash flow, NPV capital all critical in building and interpreting | ject finance, which includes ed cash flows of the project. d technical components of oject financing include an for-money analysis, and risk s of project financing include vant assumptions, sensitivity & IRR returns, and cost of |
| | course would introduce the concept of proj financing of projects based upon the project It helps in understanding the strategic and project finance. Strategic elements of pro- understanding of project screening, value-t mitigation and allocation. Technical elements an understanding of the data and relev analyses, tariffs, projecting cash flow, NPV capital all critical in building and interpreting None | ject finance, which includes ed cash flows of the project. d technical components of oject financing include an for-money analysis, and risk s of project financing include vant assumptions, sensitivity & IRR returns, and cost of the actual financial model. |
| Course Name | course would introduce the concept of proj financing of projects based upon the project It helps in understanding the strategic and project finance. Strategic elements of pro- understanding of project screening, value-t mitigation and allocation. Technical elements an understanding of the data and relev analyses, tariffs, projecting cash flow, NPV capital all critical in building and interpreting | ject finance, which includes ed cash flows of the project. d technical components of oject financing include an for-money analysis, and risk s of project financing include vant assumptions, sensitivity & IRR returns, and cost of the actual financial model. Credit Hours 3 (3,0) |
| Course Name Course Code | course would introduce the concept of proj financing of projects based upon the project It helps in understanding the strategic and project finance. Strategic elements of pro- understanding of project screening, value-t mitigation and allocation. Technical elements an understanding of the data and relev analyses, tariffs, projecting cash flow, NPV capital all critical in building and interpreting None | ject finance, which includes ed cash flows of the project. d technical components of oject financing include an for-money analysis, and risk s of project financing include vant assumptions, sensitivity & IRR returns, and cost of the actual financial model. Credit Hours 3 (3,0) Prerequisite(s) None kills and knowledge required roject scope, create a Work vork components, and learn controlling scope. Scope anagers and supervisors to |
| Equivalent Course(s) Course Name Course Code Course Description | course would introduce the concept of project financing of projects based upon the project. It helps in understanding the strategic and project finance. Strategic elements of projunderstanding of project screening, value-1 mitigation and allocation. Technical elements an understanding of the data and releving analyses, tariffs, projecting cash flow, NPV capital all critical in building and interpreting. None Project Scope PM 5105 This course will provide participants with the slit to gather requirements, accurately define program. Breakdown Structure (WBS) that details all withe elements involved in verifying and Management techniques allow project models. | ject finance, which includes ed cash flows of the project. d technical components of oject financing include an for-money analysis, and risk s of project financing include vant assumptions, sensitivity & IRR returns, and cost of the actual financial model. Credit Hours 3 (3,0) Prerequisite(s) None kills and knowledge required roject scope, create a Work vork components, and learn controlling scope. Scope anagers and supervisors to |

| Course Name | SAP Training | Credit Hours 3 (3,0) | |
|----------------------------|---|---|--|
| Course Code | PM 5310 | Prerequisite(s) None | |
| Course Description | This course is designed to provide participants an overview of the basic functions in SAP Project System for structuring, planning, executing, and monitoring projects. It is based on software release SAP ERP 6.0 with Enhancement Package 5. The course covers work breakdown structure, network, project builder, project planning board, progress tracking, access control list, scheduling, resource and material planning, cost and revenue planning, cash management, budgeting, reporting, and integration with other applications. | | |
| Equivalent Course(s) | None | | |
| Course Name Course Code | Project Scheduling, Planning and Time Ma PM 5201 | nagement Credit Hours 3 (3,0) Prerequisite(s) None | |
| Course Description | process and the Microsoft Project Sch applied immediately to real-life pro process of planning and developing o sure that it aligns with the current W utilizing the Precedence Diagrammin able to develop the activity list, apply perform activity duration estimating w schedule optimization using Critical Po also provides different techniques to | ourse utilizes PMI's industry standard for the schedule management ess and the Microsoft Project Scheduling Application which can be ed immediately to real-life projects. The course begins with the ess of planning and developing of the right size schedule and making that it aligns with the current Work Breakdown Structure (WBS). By ing the Precedence Diagramming Method (PDM) the learners are to develop the activity list, apply activity sequencing methodology, rrm activity duration estimating with risk infusion, and even perform dule optimization using Critical Path Methodology (CPM). The course provides different techniques to evaluate impact of time delays of ent activities through Project Evaluation and Review Technique). | |
| Equivalent Course(s) | None | | |
| | | | |
| Course Name | Project Quality Management | Credit Hours 3 (3,0) | |
| Course Code | PM 5301 | Prerequisite(s) None | |
| Course Description | techniques used in project quality ma in project management, quality planu quality assurance, quality monitoring of customer satisfaction indices. The regarding different quality standards Also, the course covers quality implen project management with practico planning, project quality assurance, co | his course aims to give a broad understanding of various concepts and echniques used in project quality management such as quality concept project management, quality planning, tools of quality management, uality assurance, quality monitoring and control, quality partnership, and ustomer satisfaction indices. The course also equips the students garding different quality standards like, ISO 9000:2008, and six-sigma. Iso, the course covers quality implementation and review techniques in roject management with practical approaches to project quality anning, project quality assurance, continuous quality improvement and roject performance measurement through various quality metrics. | |
| Equivalent Course(s) | None | | |

| Course Name | Project Risk Management | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | PM 5351 | Prerequisite(s) None |
| Course Description | This course utilizes PMIs standards for Proje | act Rick Management. The course |
| | is designed in a way that it enhances Project Professionals in assessing and ide threats and capitalizing on opportunitie knowledge and practical application in a | expertise and competency of entifying project risks, mitigating es, while still possessing a core |
| Equivalent Course(s) | None | |
| | | |

| Course Name | Project in Primavera | Credit Hours 3 (3,0) |
|--------------------|---|---|
| Course Code | PM 5309 | Prerequisite(s) None |
| | | |
| Course Description | This course provides hands-on training for Prim solution. Participants gain a thorough backy planning and scheduling, resource and cost r hands-on workshops that create and tro completion. The major areas covered in maintaining the project documents library resources and costs, optimizing project plo control, reporting performance, top-down H Primavera report wizard, Primavera report ed to other applications, and publishing Primaver | ground in the concepts of management. It is based on ack an entire project to this training course are; , assigning and analyzing an, project execution and budgeting and estimating, litor, exporting data directly |

Equivalent Course(s) None

| Course Name | Project | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | PM 5209 | Prerequisite(s) None |
| | | |
| Course Description | This course is based upon industry-linked concepts, theories, tools, and techniq project management. The course is b real-life project from the industry, go organizations. Major emphasis is pl management skill and tools learned i skills, technical writing, and reg representatives along with the course course is to experience modern proj develop interpersonal skills to handle re by realizing the contextual information. | ues learned in various courses of ased on teams that undertake a overnment or non-governmental laced on utilization of project in the classroom, communication ular interaction with industry facilitator. The overall goal of the ect management practices and eal projects under real constraints |
| Equivalent Course(s) | None | |

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1.2 Master

275-276

1.2.4 Executive Master of Business Administration (EMBA)

Students enrolled in the Executive Master of Business Administration (EMBA) program are required to complete 20 Course, 01 Business Project and 01 Research Project within four (4) years. The break-up of 20 courses & projects (66 credit hours) is as follows:

- 17 Compulsory Courses (51 Credit Hours)
- 3 Elective¹⁰ Courses (9 Credit Hours)
- 1 Business Project (3 Credit Hours)
- 1 Research Project (3 Credit Hours)

| Course Code | Course Title | Page # |
|-------------|---|---------|
| | First Year | |
| | Fall Semester | |
| BE 417 | Accounting for Business | 87 |
| BE 421 | Economics for Business | 87 |
| BE 451 | Business Application of IT | 87 |
| BE 492 | Business Management | 88 |
| BE 413 | Quantitative Analysis for Decision Making | 88 |
| | Spring Semester | |
| BE 445 | Managerial Accounting and Control | 88 |
| BE 415 | Contemporary Marketing | 89 |
| BE 416 | Organizational Behavior | 89 |
| BE 447 | Managerial Communication | 89 |
| BE 414 | Business Finance | 90 |
| BE 406 | Applied Research Methods | 90 |
| | Second Year | |
| | Fall Semester | |
| BE 478 | Business Project | 90 |
| BE 423 | Human Resource Management | 91 |
| BE 434 | Marketing Management | 91 |
| BE 449 | Operations and Supply Chain Management | 91 |
| BE 4xx | Elective-I | 275-276 |
| | Spring Semester | |
| BE 419 | Strategic Management | 92 |
| BE 443 | Entrepreneurship and Family Businesses | 92 |
| BE 444 | Ethics and Corporate Governance | 92 |
| BE 448 | Research Project | 92 |
| BE 4xx | Elective-II | 275-276 |

All courses may not be offered every year. Alternate courses may be substituted as and when required.

10- List of Electives is given in Appendix B.

Elective-III

BE 4xx

86

| ourse Name | Accounting for Business | Credit Hours 3 (3,0) |
|---------------------|--|--|
| ourse Code | BE 417 | Prerequisite(s) None |
| | | |
| ourse Description | This course covers the basic accound financial accounting. The topics inco- business, classified balance sheet, s statement, design of accounting sy receivable, inventories, cost of good equity. | clude accounting for merchandise simple and multiple steps income stem, accounts receivable, notes |
| quivalent Course(s) | None | |
| ourse Name | Economics for Business | Credit Hours 3 (3,0) |
| ourse Code | BE 421 | Prerequisite(s) None |
| ourse Description | This course aims at imparting knowled | |
| | the business students. It covers micro-and macroeconomic issues that are essential for managers and professionals. The course starts with basic microeconomics concepts such as demand, supply, elasticity, production and cost. Having established the solid ground of the basics of microeconomics, parts of macroeconomics including national income accounts, aggregate demand, aggregate supply, concepts of inflation and unemployment, exchange rate, balance of payments, international trade, business cycles, money and banking, economic growth & major macroeconomic policy operations are dealt with. After completing the course the students will be able to apply principles of | |

Equivalent Course(s) BA 5408

| Course Name | Business Application of IT | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BE 451 | Prerequisite(s) |
| | | |
| Course Description | This course discusses why technology or organizations and how they help is enablement, process rationalization and product/service delivery. The course int software system development, life-cycli and enhancements that business organ changing day and age. Solutions are f operations, business goals and 'business services roadmaps are analyzed for poss | improve on business model d improvement, and customer troduces students to computer le, and highlight the problems nizations are facing with in this formulated through analysis of s modeling', while product and |
| Equivalent Course(s) | None | |

faced by both public and private sectors of Pakistan.

economics to understand and analyze economic problems being

28 Catalogue

| uces the basic conce of management the ots, decision-making, inture perspective of oduces contemporary ity. ysis for Decision Making aim of this course is to hiques for decision mak , both descriptive and s of a population. The make decision co regression analysis of thine helps in precise po ctively. Moreover, linea location of resources. | g Credit Ho repts of management organizing, staffing management and s of ethical issues face g Credit Ho Prerequisi develop students' alk king. This course conte d inferential, to make technique of testing procerning selection and the analysis of rediction, as well as, f | urs 3 (3,0) ite(s) None bility to use ains tools of e decisions hypothesis between f variance formulation |
|--|--|---|
| of management the ots, decision-making, inture perspective of oduces contemporary ity. ysis for Decision Making aim of this course is to hiques for decision mak , both descriptive and s of a population. The make decision co regression analysis o itline helps in precise p ctively. Moreover, linea | g Credit Ho preading staffing management and so pretection issues face g Credit Ho Prerequisi develop students' al king. This course contect d inferential, to make technique of testing procerning selection and the analysis of rediction, as well as, f | urs 3 (3,0) ite(s) None bility to use ains tools of e decisions hypothesis between f variance formulation |
| aim of this course is to niques for decision mak , both descriptive and s of a population. The make decision co regression analysis o thine helps in precise p ctively. Moreover, linea | Prerequisi develop students' al king. This course conto d inferential, to make technique of testing oncerning selection and the analysis of rediction, as well as, f | ite(s) None bility to use ains tools of e decisions hypothesis between f variance formulation |
| aim of this course is to niques for decision mak , both descriptive and s of a population. The make decision co regression analysis o thine helps in precise p ctively. Moreover, linea | Prerequisi develop students' al king. This course conto d inferential, to make technique of testing oncerning selection and the analysis of rediction, as well as, f | ite(s) None bility to use ains tools of e decisions hypothesis between f variance formulation |
| niques for decision mak , both descriptive and s of a population. The make decision co regression analysis o thine helps in precise p ctively. Moreover, linea | develop students' al king. This course conto d inferential, to make technique of testing oncerning selection and the analysis of rediction, as well as, f | bility to use ains tools of e decisions hypothesis between f variance formulation |
| niques for decision mak , both descriptive and s of a population. The make decision co regression analysis o thine helps in precise p ctively. Moreover, linea | king. This course conto d inferential, to make technique of testing oncerning selection and the analysis of rediction, as well as, f | ains tools of e decisions hypothesis between f variance formulation |
| | | |
| | | |
| unting and Control | Credit Ho | urs 3 (3,0) |
| | Prerequisi | ite(s) BE 417, BE 414 |
| This course includes the study of management accounting for internal reporting and decision making. The course introduces a business management approach for the development and use of accounting information. Major topics include cost behavior, cost analysis, profit planning, and control measures. | | |
| | | |
| | ecision making. The proach for the develo r topics include cost | ecision making. The course introduces broach for the development and use of a r topics include cost behavior, cost and |

| Course Name | Contemporary Marketing | Credit Hours 3 (3,0) |
|--|---|--|
| Course Code | BE 415 | Prerequisite(s) None |
| | | |
| Course Description | This course is designed for professionals to development in the field of marketing and where they will be able to apply experient analytical, and decision-making skills to promotes the capacity to take initiatives ar thought in a supportive framework-qual being essential to industrial and commercie | d to bring students at a level tial learning, problem solving, real situations. This course and develop independence of ities universally identified as |
| quivalent Course(s) | BA 5404 | |
| | | |
| Course Name | Oragnizational Pohavior | Crodit Hours 3 (3.0) |
| | Organizational Behavior | Credit Hours 3 (3,0) |
| | Organizational Behavior BE 416 | Credit Hours 3 (3,0) Prerequisite(s) BE 492 |
| Course Name Course Code Course Description | 0 | Prerequisite(s) BE 492 hree levels: individual, group he individual level, the focus is rences, learning, perception, up/ interpersonal level covers and team decision-making. It and communication. At the cs of organizational culture, poment, structure, design, |

| Course Name | Managerial Communication | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BE 447 | Prerequisite(s) None |
| | | |
| Course Description | This course is designed to develop the app interpersonal communication theory in t environment. Areas of emphasis include th contemporary organizations, consideration and reception, internal versus external of change, intercultural communication, and e | the business management le role of communication in ns of message production audiences, communicating |
| Equivalent Course(s) | BA 5418 | |

| Course Name | Business Finance | Credit Hours 3 (3,0) |
|----------------------|--|------------------------|
| Course Code | BE 414 | Prerequisite(s) BE 417 |
| Course Description | This course covers the concepts of business environment, forms of business organization, overview of financial environment, cost markets, institutions and interest rates, analyses of financial statements, time value of money, sources of short-term and long-term finance, break even analysis, working capital management, valuation of financial securities (debt/equity) and introduction to capital budgeting. | |
| Equivalent Course(s) | BA 5105 | |
| Course Name | Applied Research Methods | Credit Hours 3 (3,0) |
| Course Code | BE 406 | Prerequisite(s) BE 413 |
| Course Description | This course equips students with the essential tools of research which forms the basis of sound decision-making. Through an applied approach using term report supplemented by classroom discussions and presentations, students gain knowledge of converting a business issue into a research problem; and applying the most appropriate methodology to solve this problem. The course provides an overview of applied research methodology and statistics. The general aims are to provide: a) an advanced understanding of research methods and data analysis, b) enhanced research literacy, and c) a greater understanding of the way in which research methodology and statistics are interwoven with theory and the practice. | |
| Equivalent Course(s) | BA 5501 | |
| Course Name | Business Project | Credit Hours 3 (3,0) |
| Course Code | BE 478 | Prerequisite(s) BE 418 |
| Course Description | This course is designed to ensure that the students demonstrate their understanding to develop a business strategy for the existing or new business organization by utilizing the theories, concepts, and knowledge learnt during the whole program. It also ensures students' ability to critically evaluate the process of business innovation with particular reference to the groups work and experience and to generate business ideas, to screen these ideas, and to develop a realistic plan for development and implementation of a selected idea | |
| Equivalent Course(s) | None | |

| Course Name | Human Resource Management | Credit Hours 3 (3,0) |
|----------------------------|---|--|
| Course Code | BE 423 | Prerequisite(s) BE 416 |
| Course Description | This course examines the role of the human resource professional as a strategic partner in managing contemporary organizations. The course introduces concepts, issues and practices in human resource management such as Human Resource (HR) planning, job design and analysis, recruitment and selection, training and development, performance appraisal, compensation and benefit management, career planning and development, employee relations, appraising the implications of legal and global environments and analyzing the current issues (such as diversity training, sexual harassment policies, rising benefit costs), and best practices of employers of choice. | |
| Equivalent Course(s) | BA 5205 | |
| Course Name Course Code | Marketing Management BE 434 | Credit Hours 3 (3,0) Prerequisite(s) BE 415 |
| Course Description | This course introduces the concept of cu | |
| | management. This course covers organizations' external and internal environment, strengths, weaknesses, opportunities and threats, marketing information system, buyer behavior analysis, segmenting, targeting and positioning strategies, product and pricing strategies, an in-depth study of strategy building by organizations with the help of case studies and a practical, hands-on learning experience of marketing management through close observations of marketing management at different levels in marketing channels. | |
| Equivalent Course(s) | BA 5106 | |
| | | \mathbf{C} readily the same 2 (2.0) |
| Course Name | Operations and Supply Chain Management | Credit Hours 3 (3,0) |
| Course Name Course Code | Operations and Supply Chain Management BE 449 | Credit Hours 3 (3,0) Prerequisite(s) BE 492 |
| | | Prerequisite(s) BE 492 e for operations. Students' e they see how Strategy, I Accounting work together her Intimacy, and Product ey supply chain foundations itability. In this class students t on all aspects of business |
| Course Code | BE 449 This course serves as the macro perspectiv learning is rounded in this course where Operations, Marketing, Sales, Finance, IT and to add to Operational Efficiency, Custom Innovation for companies. Understanding ke is crucial to any company's success and prof learn supply chain and its significant impac while gaining an understanding of the synch | Prerequisite(s) BE 492 e for operations. Students' e they see how Strategy, I Accounting work together her Intimacy, and Product ey supply chain foundations itability. In this class students t on all aspects of business |

Le Catalogue

| Course Name | Strategic Management | Credit Hours 3 (3,0) |
|---|--|--|
| Course Code | BE 419 | Prerequisite(s) BE 414, BE 423 |
| | | BE 492 |
| Course Description | This course covers strategic management, information inputs, concepts of mission and objectives, strategy formulation, action plan choice, strategies selection and evaluation, function strategy evaluation, strategy implementation, and strategic control. | |
| Equivalent Course(s) | BA 5104 | |
| | | |
| Course Name | Entrepreneurship and Family Businesses | Credit Hours 3 (3,0) |
| Course Code | BE 443 | Prerequisite(s) BE 492 |
| Course Description | This course is designed to teach the conceptual foundations of entrepreneurship, strategic areas of business, entrepreneurial perspective, process, ventures, practices, characteristics, entrepreneurship and new free enterprise, product and service concepts, marketing and new venture development, entrepreneurial team and business formation, and applying various tools and analytical techniques to the new venture creation process in domestic and international settings. | |
| Equivalent Course(s) | BA 5406 | |
| | | |
| Course Name | Ethics and Corporate Governance | Credit Hours 3 (3,0) |
| Course Name Course Code | Ethics and Corporate Governance BE 444 | Credit Hours 3 (3,0) Prerequisite(s) BE 492 |
| | | Prerequisite(s) BE 492 knowledge about the area from different perspectives the concepts learned from onment and to understand and compliance. To provide |
| Course Code | BE 444 This course is designed so students can gain of Corporate Governance & Business Ethics and its application. To understand and apply various models to different corporate enviro the mechanisms of controls, accountability of | Prerequisite(s) BE 492 knowledge about the area from different perspectives the concepts learned from onment and to understand and compliance. To provide |
| Course Code Course Description | BE 444 This course is designed so students can gain of Corporate Governance & Business Ethics and its application. To understand and apply various models to different corporate enviro the mechanisms of controls, accountability of effective management and decision-making | Prerequisite(s) BE 492 knowledge about the area from different perspectives the concepts learned from onment and to understand and compliance. To provide |
| Course Code Course Description Equivalent Course(s) | BE 444 This course is designed so students can gain of Corporate Governance & Business Ethics and its application. To understand and apply various models to different corporate enviro the mechanisms of controls, accountability of effective management and decision-making None | Prerequisite(s) BE 492 knowledge about the area from different perspectives the concepts learned from onment and to understand and compliance. To provide g skills. |
| Course Code Course Description Equivalent Course(s) Course Name | BE 444 This course is designed so students can gain of Corporate Governance & Business Ethics and its application. To understand and apply various models to different corporate enviro the mechanisms of controls, accountability of effective management and decision-making None Research Project | Prerequisite(s) BE 492 knowledge about the area from different perspectives from different perspectives of the concepts learned from ponment and to understand and compliance. To provide g skills. g skills. Credit Hours 3 (3,0) Prerequisite(s) BE 418 e based on scientific study in Arketing, Finance, Human ormation System etc. The life business problems and them by using the scientific |
| Course Code Course Description Equivalent Course(s) Course Name Course Code | BE 444 This course is designed so students can gain of Corporate Governance & Business Ethics and its application. To understand and apply various models to different corporate environthe mechanisms of controls, accountability of effective management and decision-making. None Research Project BE 448 For this course project the research has to be a specialized field of business, such as <i>N</i> Resource Management, Management Inf course consists of understanding the real-formulating the research techniques to solve tools. It also helps to comprehend the research | Prerequisite(s) BE 492 knowledge about the area from different perspectives from different perspectives of the concepts learned from ponment and to understand and compliance. To provide g skills. g skills. Credit Hours 3 (3,0) Prerequisite(s) BE 418 e based on scientific study in Arketing, Finance, Human ormation System etc. The life business problems and them by using the scientific |

1.2 Masters and PhD

1.2.5 Master of Science in Project Management (MSPM)

The Master of Science in Project Management (MSPM) is a 1.5-2 years program having two streams i.e. Course Work Based Stream and Research Based Stream. Students enrolled in the Master of Science in Project Management (MSPM) program are required to complete 30 credit hours within four (4) years. The breakup of the courses as per specific Stream students is provided below:

Course Work based Stream

- 4 Core Courses (12 Credit Hours)
- 6 Elective Courses¹¹ (18 Credit Hours)

Research based Stream

- 4 Core Courses (12 Credit Hours)
- 4 Elective Courses¹² (12 Credit Hours)
- 2 Independent Research Study/1 Thesis (6 Credit Hours)

| Course Code | Course Title | Page # | | | | |
|-------------|--|--------|--|--|--|--|
| First Year | | | | | | |
| | | | | | | |
| | Fall Semester | | | | | |
| MP 5107 | Fundamentals of Project Management | 94 | | | | |
| MP 5105 | Advance Project Management | 94 | | | | |
| MP 5202 | Quantitative Tools for Research | 94 | | | | |
| MP 5xxx | Elective-I | 276 | | | | |
| | Spring Semester | | | | | |
| MP 5103 | Research Methodology | 95 | | | | |
| MP 5xxx | Elective-II | 276 | | | | |
| | | 276 | | | | |
| MP 5xxx | | | | | | |
| MP 5xxx | Elective-IV | 276 | | | | |
| Second Year | | | | | | |
| | | | | | | |
| | Fall Semester | | | | | |
| MP 5xxx | Thesis-I*/Independent Research Study – I*/Elective-V | 276 | | | | |
| MP 5xxx | Independent Research Study - II/Elective-VI | 276 | | | | |
| | Spring Semester | | | | | |
| MP 5xxx | Thesis-II | - | | | | |

* Thesis to be registered in two parts while Independent Research Study-I and Independent Research Study-II can be opted in one semester by Research Based Stream.

All courses may not be offered every year. Alternative courses may be substituted as and when required. Thesis may be substituted by the electives.

List of Electives is given in Appendix B.
 List of Electives is given in Appendix B.

1.2.5 Master of Science in Management Sciences (MSPM)

| Course Name | Eurodomontals of Project Management | Credit Hours 3 (3,0) | |
|----------------------|--|----------------------|--|
| Course Nome | Fundamentals of Project Management MP 5107 | | |
| Course Code | MF 5107 | Prerequisite(s) None | |
| Course Description | This is an introductory course that will provide the broad knowledge regarding basic concepts and techniques used in Project Management. It will provide practical knowledge on managing project scope, schedule and resources. It includes various topics like: Project life cycle, work breakdown structure and Gantt charts, network diagrams, scheduling techniques and resource allocation decisions. | | |
| Equivalent Course(s) | None | | |
| Course Name | | | |
| Course Name | Advanced Project Management | Credit Hours 3 (3,0) | |
| Course Code | MP 5105 | Prerequisite(s) None | |
| Course Description | This course would cover broad knowledge regarding concepts in Project Management and techniques used in project management ranging from Change Management in Projects, Project Risk, Risk Analysis, Procurement, Project Human Resource, Communication, Stockholder Management, and Integration Management. The course includes a number of case studies to integrate the broad areas and emphasize application in project management. | | |
| | | | |
| Course Name | Quantitative Tools for Research | Credit Hours 3 (3,0) | |
| Course Code | MP 5202 | Prerequisite(s) None | |
| Course Description | Quantitative Tools for Research course is designed to introduce students to some of the statistical and mathematical techniques that are widely used in empirical work in management and other related disciplines. It covers the basics of estimation and inference in the context of the single-equation linear regression model and simultaneous equation models | | |
| Equivalent Course(s) | MS 5204 | | |

1.2.5 Master of Science in Management Sciences (MSPM)

| Course Name | Research Methodology | Credit Hours 3 (3,0) |
|----------------------|---|---|
| | 0, | (\cdot, \cdot) |
| Course Code | MP 5103 | Prerequisite(s) None |
| | | |
| Course Description | This course familiarizes participants with management and project management approaches commonly used in practi- limitations of different research approa- applicability in different organizational the; design of research studies; analys report writing and presentation. Partic- useful in doing academic research inde- interest. | ent research, with an emphasis on cal settings. The advantages and ches are examined, as well as their contexts. Experience is provided in is and interpretation of data; and cipants acquire skills which will be |
| Equivalent Course(s) | MS 5137 | |

Catalogue -

1.2 Masters and PhD

277-278

1.2.6 Master of Science in Management Sciences (MSMS)

The Master of Science in Management Sciences (MSMS) is a 1.5 - 2 years program having two streams i.e. Course Work Based Stream and Research Based Stream. Students enrolled in the either stream of MSMS program are required to complete a total of 30 credit hours within four (4) years.

Course Based Stream:

The following is the break-up of the 30 credit hour courses:

6 Compulsory Courses (18 Credit Hours)

Electives-IV

4 Elective¹³ Courses (12 Credit Hours)

Course Code Course Title Page # First Year **Fall Semester** 98 MS 5137 Research Methods and Techniques MS 5112 98 Strategic Management MS 5238 Strategic Human Resource Development 98 MS 5104 99 Strategic Marketing Decision **Spring Semester** MS 5204 Quantitative Tools for Research 99 MS 5318 Strategic Finance 99 MS 5xxx Elective-I 277-278 MS 5xxx Elective-II 277-278 Second Year Fall Semester MS 5xxx Electives-III 277-278

96

MS 5xxx

1.2.6 Master of Science in Management Sciences (MSMS)

Research Based Stream:

The following is the break-up of the 30 credit hour courses:

- 6 Compulsory Courses (18 Credit Hours)
- 2 Elective¹⁴ Courses (6 Credit Hours)
- 2 Independent Research Studies (IRS)/1 Thesis (6 Credit Hours)

| Course Code | Course Title | Page # | | |
|-------------|--------------------------------------|---------|--|--|
| | First Year | | | |
| | | | | |
| | Fall Semester | | | |
| MS 5137 | Research Methods and Techniques | 98 | | |
| MS 5112 | Strategic Management | 98 | | |
| MS 5238 | Strategic Human Resource Development | 98 | | |
| MS 5104 | Strategic Marketing Decision | 99 | | |
| | | | | |
| | Spring Semester | | | |
| MS 5204 | Quantitative Tools for Research | 99 | | |
| MS 5xxx | Strategic Finance | 99 | | |
| MS 5xxx | Elective-I | 277-278 | | |
| MS 5xxx | Elective-II | 277-278 | | |
| | | | | |
| Second Year | | | | |
| | | | | |
| | Fall Semester | | | |
| MS 5xxx | IRS I and IRS II / Thesis (Part I) | - | | |
| MS 5xxx | Thesis (Part II) If any | - | | |

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

For both streams Electives can be taken from any of the following specializations:

- Finance
- Marketing
- Human Resource Management

Students cannot register in Independent Research Study (IRS) OR Thesis without completing six compulsory courses.

1.2.6 Master of Science in Management Sciences (MSMS)

| Course Name | Research Methods and Techniques | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | MS 5137 | Prerequisite(s) None |
| | | |
| Course Description | This course is designed to introduce the quantitative research. It covers the philosop designing, proposal development, me techniques, primary data collection tools, reliability and validity of the measureme research findings. A special emphasis will be business and economics in real life situatio designed, and delivered by process a competences and skills to write and present | whical underpinning, research ethod selection, sampling measurement and scaling, nt tools, and reporting the e given to the applications of ns. The course is developed, upproach to inculcate the |
| Equivalent Course(s) | EDU 5303, MS 5239, MP 5103 | |

| Course Name | Strategic Management | Credit Hours 3 (3,0) |
|----------------------|---|-------------------------------------|
| Course Code | MS 5112 | Prerequisite(s) None |
| | | |
| Course Description | This course is designed to equip w | ith necessary knowledge, skills and |
| | attitude required for crafting and executing strategies that are best suited to the changing market conditions and a firm's own resources as well. Students should be able to develop a solid action plan that will result is sustainable competitive advantage to the firm while showing profitability. | |
| Equivalent Course(s) | BA 5104 | |

| Course Name | Strategic Human Resource Development | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | MS 5238 | Prerequisite(s) None |
| | | |
| Course Description | This course is designed for delivering the know regarding strategic human resource develop organizations. The course encompasses the top environment, development of HRD strategy, ap process, cycles and theories; integrating learni SHRD interventions design, evaluations, and teams and organizations. The course also furr knowledge creation and career management | oment in local and global pics; role of SHRD, changing pproaches to HRD, learning ing with work. It also covers impact to the individual, hishes new perspectives on |
| Equivalent Course(s) | BA 5601 | |

Catalogue 98

1.2.6 Master of Science in Management Sciences (MSMS)

| Course Name | Strategic Marketing Decision | Credit Hours 3 (3,0) |
|----------------------|--|------------------------------------|
| Course Code | MS 5104 | Prerequisite(s) None |
| | | |
| Course Description | This course has been designed to enab | ble students to analyze, formulate |
| | and implement marketing strategies. An in-depth analysis of consumer and market provides basic foundation for market segmentation and targeting. Marketing programs and strategies are developed in the light of these analyses and effective implementation and control ensure its success. | |
| Equivalent Course(s) | BA 5601 | |
| | | |

| Course Name | Quantitative Tools for Research | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | MS 5204 | Prerequisite(s) None |
| | | |
| Course Description | Quantitative Tools for Research is a compu- introduces students to the concepts quantitative research techniques in scie- areas of learning in this course include ide quantitative tools in the scientific en- framework, data presentations, and interp of the research. | of inferential statistics and ntific investigation. The major entification and application of quiry, quantitative analytical |
| Equivalent Course(s) | BA 4792, SS 5207, MS 6212, MP 5202 | |

| Course Name | Strategic Finance | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | MS 5318 | Prerequisite(s) None |
| | | |
| Course Description | This course includes all such are | as of finance which will lead to plan the |
| | financial sources of any company. The cost of all such funding should be evaluated appropriately in order to attain the desired level of earnings. Similarly projects' growth opportunities and expenditures. | |
| Equivalent Course(s) | BA 5208 | |

66 Catalogue

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1.2 Masters and PhD

1.2.7 Doctor of Philosophy in Management Sciences (PhD MS)

Students enrolled in Doctor of Philosophy in Management Sciences (PhD MS) program are required to complete 48 credit hours within eight (8) years. Following is the breakup of the 48 Credit Hour courses.

- 2 Compulsory Courses (6 Credit Hours)
- 3 Elective¹⁵ Course (9 Credit Hours)
- 1 Independent Research Study (3 Credit Hours)
- 1 Dissertation (30 Credit Hours)

| Course Code | Course Title | Page # | | | |
|-------------------------------|--|-------------------|--|--|--|
| | First Year | | | | |
| | Fall Semester | | | | |
| MS 6106 MS 6216 MS 6xxx | Advanced Research Methods and Techniques Advanced Quantitative Tools for Research Elective-I | 101 101 279 | | | |
| | Spring Semester | | | | |
| MS 6119 MS 6xxx MS 6xxx | Independent Research Study Elective-II Elective-III | 279 279 279 | | | |
| | Second Year | | | | |
| | Fall Semester | | | | |
| MS 6xxx | Dissertation (Proposal) | - | | | |
| MS 6xxx | Spring Semester Dissertation | - | | | |
| Third Year | | | | | |
| MS 6xxx | Fall Semester Dissertation | | | | |
| MS 6xxx | Spring Semester Dissertation | - | | | |

All courses may not be offered every year. Alternate courses may be substituted as and when required

15- List of Electives is given in Appendix B.

1.2.7 Doctor of Philosophy in Management Sciences (PhD MS)

| Course Name | Advanced Research Methods and Techniques | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | MS 6106 | Prerequisite(s) MS 5137 |
| | | |
| Course Description | The course of ARMT covers advanced research r that include role of philosophy in research, rese theory in research, advanced research strategie identification in literature, research tools dev techniques, and inference through qualitative, data analysis. The emphasis of the course is on a through rigorous analysis and in depth phenomenon. | earch paradigms, role of s and approaches, gap elopment process and quantitative, and mixed uality criteria in research |
| Equivalent Course(s) | MS 6116 | |

| Course Name | Advanced Quantitative Tools for Research | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | MS 6216 | Prerequisite(s) MS 5204 |
| | | |
| Course Description | This course is designed for PhD students and re quantitative tools for research. It covers adva research like: multivariate model building, n multiple discriminant analysis, MANOVA, ANCC factor analysis, cluster analysis, conjoint an modelling. The emphasis of course is using research with concept building and software of | nced topics in quantitative nultiple regression analysis, DVA, canonical correlations, alysis, structured equation advanced techniques for |
| Equivalent Course(s) | MS 6212 | |

Catalopue -

Department of Computer Science

2.0 Bachelor of Science **2.1.** Bachelor of Science in **Computer Science (BSCS)**

The Bachelor of Science in Computer Science (BSCS) program is offered through a well-trained foreign qualified faculty. It consists of 40 courses (five courses per semester) with a total of 130 credit hours. BS (CS) Program is accredited by NCEAC. The maximum time to complete the degree is 6 years. The breakup of 40 courses is as follow:

- 29 Compulsory Course (97 Credit Hours)
- 2 University Electives¹⁶ (6 Credit Hours)
- CS Electives¹⁷ (21 Credit Hours) 7
- 2 Final Year Project (6 Credit Hours)

Course Code Course Title

Page #

| | Fall Semester | | |
|-----------|---------------------------------------|----------------------|-----|
| CSC 1108 | Introduction to Computer Science | | 107 |
| CSCL 1108 | Lab: Introduction to Computer Science | | 107 |
| CSC 1103 | Fundamentals of Programming | | 107 |
| CSCL 1103 | Lab : Fundamentals of Programming | | 107 |
| CSC 1102 | English Composition and Comprehension | | 107 |
| CSC 1101 | Calculus and Analytical Geometry | | 108 |
| CSC 1107 | Applied Physics | | 108 |
| CSCL 1107 | Lab: Applied Physics | | 108 |
| | | Total Credit Hrs. 16 | |
| | | | |

First Year

| | Spring Semester | |
|-----------|---|-----|
| CSC 2103 | B Digital Logic Design | 108 |
| CSCL 2103 | B Lab: Digital Logic Design | 108 |
| CSC 1208 | B Object Oriented Programming Techniques | 108 |
| CSCL 1208 | Lab: Object Oriented Programming Techniques | 109 |
| CSC 2101 | Communication and Presentation Skills | 109 |
| CSC 2105 | 5 Statistics and Probability | 109 |
| CSC XXXX | University Elective-1 | 280 |
| | Total Credit Hrs. 17 | , |

Second Year

| | Fall Semester | |
|-----------|--|-----|
| CSC 2201 | Computer Organization and Assembly Language | 110 |
| CSCL 2201 | Lab: Computer Organization and Assembly Language | 110 |
| CSC 2102 | Data Structures and Algorithms | 110 |
| CSCL 2102 | Lab: Data Structures and Algorithms | 110 |
| CSC 1201 | Discrete Mathematical Structures | 110 |
| CSC 4102 | Professional Practices | 111 |
| CSC xxxx | CS Supporting ¹⁸ -1 | 300 |
| | Total Credit Hrs. 17 | |

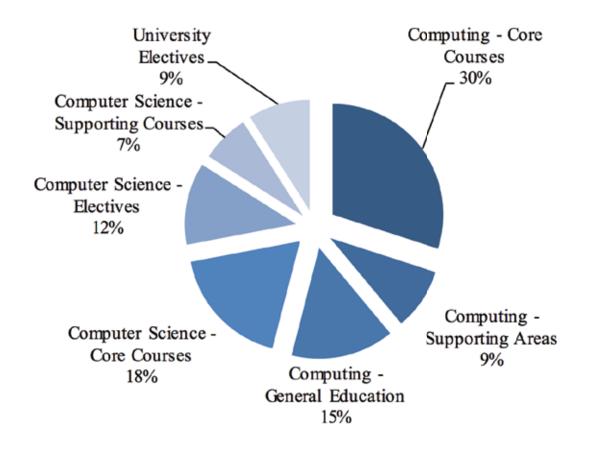
List of University Electives is given in Appendix B.
 List of CS Electives is given in Appendix B.
 List of CS Supporting Courses is given in Appendix D.

| Course Code | Course Title | Page | e # |
|-----------------------|--|----------------------|------------|
| | Spring Semeste | or | |
| CSC 3202 CSC 2204 | Design & Analysis of Algorithms Finite Automata Theory and Formal Lan | | 111 |
| CSC 2203 | Database Systems | guages | 112 |
| CSCL 2203 CSC 2206 | Lab: Database Systems Linear Algebra | | 112 112 |
| CSC XXXX | University Elective-2 | | 280 |
| | | Total Credit Hrs. 16 | |
| | Third Year | | |
| | Fall Semester | | |
| CSC 3201 CSC 2205 | Compiler Construction Operating Systems | | 112 113 |
| CSCL 2205 | Lab: Operating Systems | | 113 |
| CSC 3109 CSC xxxx | Software Engineering CS Supporting-2 | | 113 300 |
| CSC XXXX | CS Supporting-3 | | 300 |
| | | Total Credit Hrs. 16 | |
| CSC 4101 | Spring Semeste | er | 113 |
| CSCL 4101 | Artificial Intelligence Lab: Artificial Intelligence | | 113 |
| CSC 3205 CSCL 3205 | Computer Networks and Data Commur Lab: Computer Networks and Data Cor | | 114 114 |
| CSC 1205 | Technical and Business Writing | TITIONICATIONS | 114 |
| CSC 4xxx CSC 4xxx | CS Elective-1 CS Elective-2 | | 280 280 |
| 000 4000 | | Total Credit Hrs. 17 | 200 |
| | Fourth Year | | |
| | Fall Semester | | |
| CSC 4105 | Final Year Project-I | | 114 |
| CSC 4106 CSC 4xxx | Parallel & Distributed Computing CS Elective-3 | | 115 280 |
| CSC 4xxx | CS Elective-4 | | 280 |
| CSC xxxx | University Elective-3 | Total Credit Hrs. 15 | 280 |
| | Coving Covered | | |
| CSC 4205 | Spring Semeste Final Year Project-II | 51 | 115 |
| CSC 4201 CSC 4202 | Information Security Pakistan and Islamic Studies/Humanities | | 115 116 |
| CSC 4xxx | CS Elective-5 | | 280 |
| CSC xxxx | University Elective-4 | Total Credit Hrs. 15 | 280 |
| | | Total Credit Hrs. 13 | |

*A CSC xxxx Mathematics deficiency course will be offered to those students who have limited mathematical background (if deemed necessary by relevant PM/HOD)

DISTRIBUTION OF CREDIT HOURS

| Course Group | | Cr. Hrs. | % |
|----------------------|--------------------|----------|------|
| Computing | Core Courses | 39 | 30% |
| | Supporting Areas | 12 | 9% |
| | General Education | 19 | 15% |
| Computer Science | Core Courses | 24 | 18% |
| | Electives | 15 | 12% |
| | Supporting Courses | 9 | 7% |
| University Electives | | 12 | 9% |
| Total | | 130 | 100% |



| Course Name | Introduction to Computer Science | Credit Hours 3 (2,1) |
|----------------------|--|-------------------------------|
| Course Code | CSC 1108 | Prerequisite(s) None |
| | | |
| Course Description | This course introduces fundamental compu | ter concepts, including basic |
| | functions and operations of the computer. Course will cover topics that include identification of hardware components, computer software and architecture, operating system and network technologies, basic computer operations, internet and the world wide web, databases and information systems. | |
| Equivalent Course(s) | BA 1108, BA 1103, BIO 1104, AF 1102, EN 110 |)2 |
| | | |

| Course Name | Fundamentals of Programming | Credit Hours 4 (3,1) |
|-------------|-----------------------------|----------------------|
| Course Code | CSC 1103 | Prerequisite(s) None |

Course Description This course is about learning the basics of programming languages. It provides Principles of Structured and Modular Programming and Overview of Structured Programming, and subsequently targets the development of coding abilities in a student. Later, it develops skills to identify errors, troubleshoot and finally, to analyze a C programming code. To do so, the following technical topics are covered: Constructs, Data Types; Basics of Input and Output, Selection and Decision (If, If-Else, Nested If-Else, Switch Statement and Condition Operator), Repetition (While and For Loop, Do-While Loops), Break Statement, Continue Statement, Control Structures, Functions, Arrays, Pointers, Records, Files (Input-Output), Testing & Debugging.

Equivalent Course(s) None

| Course Name | English Composition and Comprehension | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | CSC 1102 | Prerequisite(s) None |
| | | |
| Course Description | This course will provide students with the basic develop and deliver effective communication students to determine the appropriate purpose communication based on the context. paragraph and essay writing, comprehension cause and effect, descriptive, comparative wr also be able to design their own CVs and cover them in their future job search. | n. It will also empower the e, audience, and mode of The course focuses on n and reading as well as riting skills. The students will |
| Equivalent Course(s) | ME 1205, MD 1222, SS 2316, BIO 1211 | |

201 Catalogue

| Course Name | Calculus and Analytical Geometry | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | CSC 1101 | Prerequisite(s) None |
| Course Description | This course begins with a review of algebra idea of limits and continuity is introduced, and continuity the student develops the ca- its applications. At the end, the student se elementary functions and the application geometry, science, and engineering. Ap where program structure permits. Topics in the following: limits and continuity; defir change, slope; derivatives of polynomial chain rule; implicit differentials; approxim- order derivatives; Rolle's Theorem: mean vo the derivative; anti-derivative; the definit- theorem of calculus; area, volume, other ap calculus of the trigonometric functions; la functions and techniques of integration | With the knowledge of limits oncept of the derivative and itudies the anti-derivative of as of the definite integral in plicable toward graduation clude (but are not limited to) nition of derivative: rate of and rational functions; the ation by differentials; higher alue theorem; applications of e integral; the fundamental oplications of the integral; the |
| quivalent Course(s) | ME 1104 | |
| Course Name | Applied Physics | Credit Hours 3 (2,1) |
| Course Code | CSC 1107 | Prerequisite(s) None |
| Course Description | The topics covered in this course include dynamics; conservation of energy and li kinematics; rigid body dynamics; conservation simple harmonic motion; the static and dy also includes basic electronics concept understand all essential electronics used for | near momentum; rotational Ition of angular momentum; rnamics of fluids. This course ots that help students to |
| Equivalent Course(s) | None | |
| Course Name | Digital Logic Design | Credit Hours 4 (3,1) |
| Course Code | CSC 2103 | Prerequisite(s) CSC 1204 |
| Course Description | This course teaches theoretical concep practical work, systematic synthesis of the design of practical digital systems. Topics in numbering systems, various design techniq for designing efficient combinational and so digital circuit building blocks, such as, registers, fin floor, etc. Modern methods | applied techniques for the clude; introduction to various ues, minimization techniques equential logic circuits, basic decoders, multiplexers, shift |
| Equivalent Course(s) | registers, flip flops, etc. Modern methods designing of autonomous and input-contro and concept of finite state machine are als None | lled counters & shift-registers |

| ourse Name | Object Oriented Programming | Credit Hours 3 (2,1) |
|--------------------|---|---|
| ourse Code | CSC 1208 | Prerequisite(s) CSC 1103 |
| ourse Description | The Object Oriented paradigm prese introduction to imperative and o exemplified by Java. Along with provid the course will cover general principle and object oriented frameworks. In a students to develop programs that sup and exploration in other parts of the | object oriented programming, ding grounding in the use of Java, es of programming in imperative ddition, the course would enable oport experimentation, simulation |
| | capacity to implement, test and obser | |
| uivalent Course(s) | None | |
| ourse Name | Communication and Presentation Skills | Credit Hours 3 (3,0) |
| ourse Code | CSC 2101 | Prerequisite(s) CSC 1102 |
| ourse Description | The course is aimed at improving Englis presentation skills of students. With a course enables students to practice situations, building upon all four skills: writing. It prepares them to participate make effective presentations, with an effective use of verbal and non-ver addresses the basic English language i also aiming to foster in them, critical ski argument, respond to others' commen of view persuasively. The course u methodology, to engage learners' int to use English in everyday commun contexts. | multidimensional approach, the the use of English in everyday listening, speaking, reading and e in seminars and discussions and awareness of the audience and bal communication. The course issues faced by the learners, while ills to develop a concise and clear nts and negotiate their own point ses an interactive, participatory erest and boost their confidence |
| uivalent Course(s) | ME 1101, MD 1122, SS 1116, BIO 1111, A | NF 1203, EN 1106 |
| ourse Name | Statistics and Probability | Credit Hours 3 (3,0) |
| ourse Code | CSC 2105 | Prerequisite(s) None |
| ourse Description | The course "Statistics and Probabili foundations required to understand p methods. Topics covered includes the (understanding data and its in tabulation, and graphical represe dispersion. Probability axioms, basi continuous random variables, proba expectation, common families of | probability models and statistical introduction to statistical methods inportance, data classification, entation), Central Tendencies, ic combinatory, discrete and bility distributions, mathematical probability distributions and |
| | introduction to correlation and regress Inferences and real life case studies wi students' understanding on the subjec | ill be included to further enhance |

| Course Name Course Code | Computer Organization and Assembly Language CSC 2201 | Credit Hours 4 (3,1) Prerequisite(s) None |
|----------------------------------|--|--|
| Course Code | C3C 2201 | rielequisile(s) None |
| Course Description | This course teaches: Microprocessor Bus Structure: Addressing, Data and Control, Memory Organization and Structure (Segmented and Linear Models), Introduction to Registers and Flags, Data Movement, Arithmetic and Logic, Programmer Control, Subroutines, Stack and its operation, Peripheral Control Interrupts, Interfacing with high level languages, Real- time application, Objectives and Perspectives of Assembly Language, Addressing Modes, Introduction to the Assembler and Debugger, Manipulate and Translate machine and Assembly code, Describe actions inside the processing chip, Discuss operations performed by an instruction set, Write a fully documented program, and Using an assembler of choice. | |
| Equivalent Course(s) | None | |
| Course Name | Data Structures and Algorithms | Credit Hours 4 (3,1) |
| Course Code | CSC 2102 | Prerequisite(s) CSC 1203 |
| Course Description | This course covers the concept of specification, design, implementation, and use of the basic data types; important programming techniques, data abstraction techniques, object oriented programming and sorting; data types: sets, bags, sequential lists, order lists, stacks, queues, and trees; types of searching such as linear and binary search, and different techniques of sorting; linear data structures and implementation each with C++/Java and non-linear data structures with implementation and the complexity of an algorithm of search and sorting. | |
| Equivalent Course(s) Course Name | None Discrete Mathematical Structures | Credit Hours 3 (3.0) |
| Course Code | CSC 1201 | Credit Hours 3 (3,0) Prerequisite(s) None |
| | | |
| Course Description | This course introduces the applications of discrete mathematics in the field of computer science. It also covers sets, logic, proving techniques, combinatorics, functions, relations, graph theory and algebraic structures. These basic concepts of sets, logic functions and graph theory are applied to Boolean Algebra and logic networks, while the advanced concepts of functions and algebraic structures are applied to finite state machines and coding theory. | |
| Equivalent Course(s) | None | |
| | | |

| Course Name | Professional Practices | Credit Hours 3 (3,0) | |
|---------------------|--|--|--|
| Course Code | CSC 4102 | Prerequisite(s) None | |
| Course Description | professional practices of software engine knowledge and set of skills/ tools to aid level and the day to day tasks of techn done by encouraging professionalism methods cases to understand the huge h identify ethical conflicts, identify their re | s course provides an introduction to and an overview of the ofessional practices of software engineers. Also it provides necessary owledge and set of skills/ tools to aid understanding at a strategic el and the day to day tasks of technology professionals. This will be ne by encouraging professionalism and professional practice thods cases to understand the huge horizons. In addition, students will ntify ethical conflicts, identify their responsibilities and options, and ak through the implications of possible solutions to ethical conflicts. | |
| quivalent Course(s) | None | | |
| | | | |
| Course Name | Design and Analysis of Algorithms | Credit Hours 3 (3,0) | |
| Course Code | CSC 3202 | Prerequisite(s) CSC 2102 | |
| Course Description | This course will cover the basic approach and designing algorithms and data struct space complexity to sorting, searchin | ures. Topics will range from time ng, and selection algorithms. | |
| | Algorithm design techniques: div programming, greedy algorithms and oth fundamental graph problems: minimum- components, topological sort, and shorte | cost spanning tree, connected | |
| quivalent Course(s) | None | | |
| Course Name | Finite Automata Theory and Formal Lang | uages Credit Hours 3 (3,0) | |
| Course Code | CSC 2204 | Prerequisite(s) None | |
| Course Description | CSC 2204 Prerequisite(s) None In this course we are primarily concerned with what computers can do. It turns out that there are problems that cannot be solved by computer, or, at least, by machines corresponding to the mathematical models of computers we shall present. Finite Automata is the theoretical study of capabilities and limitations of Computers. This course introduces finite automata, formal languages and computability, including regular and context-free languages, context-free grammar, Pushdown Automata and Turing Machine. | | |
| | Maria | | |
| quivalent Course(s) | None | | |

| Course Name | Database Systems | Credit Hours 4 (3,1) | |
|----------------------|--|---|--|
| Course Code | CSC 2203 | Prerequisite(s) CSC 2102 | |
| Course Code | 030 2203 | | |
| Course Description | This course covers: Basic database concepts; Entity Relationship modelling, Relational data model and algebra, Structured Query language; RDBMS; Database design, functional dependencies and normal forms; Transaction processing and optimization concepts; concurrency control and recovery techniques; and Database security and authorization. It also covers Small Group Project implementing a database; Physical database design; Storage and file structure indexed files, b-trees; files with dense index, files with variable length records, database efficiency and tuning. | | |
| Equivalent Course(s) | None | | |
| Course Name | Linear Algebra | Credit Hours 3 (3,0) | |
| Course Code | CSC 2206 | Prerequisite(s) None | |
| | | | |
| Course Description | The objective of the course is to provide a rig the solutions of linear models which involves mo techniques discussed in this course can be range of applications from physical world. The helpful in performing and understanding of a machine. The eigenvalues, eigenvectors, orthogonally are useful concepts for the systems. | ore than one variable. The implemented on a wide he matrix algebra will be matrix computations on , inner product spaces, | |
| Equivalent Course(s) | ME 1202 | | |
| Course Name | Compiler Construction | Credit Hours 3 (3,0) | |
| Course Code | CSC 3201 | Prerequisite(s) CSC 2204 | |
| Course Description | This course provides a thorough understanding of the basic structure of compilers for programming languages. A major part of the course consists of the implementation of a compiler for a simplified Pascal-like language. The course will acquaint students with software tools and techniques for developing compilers. | | |
| Equivalent Course(s) | None | | |

| Course Name | Operating Systems | Credit Hours 4 (3,1) |
|----------------------------|--|--|
| Course Code | CSC 2205 | Prerequisite(s) CSC 2102 |
| Course Description | This course involves study of concepts and components of general purpose operating systems. These include the study of processes and | |
| | process synchronization, multith memory management, and file sys are general purpose operating syste | readed applications, deadlocks, items. Further, UNIX and Windows NT ems used as examples when studying assignments of process/thread |
| Equivalent Course(s) | None | |
| Course Name | Software Engineering | Credit Hours 3 (3,0) |
| Course Code | CSC 3109 | Prerequisite(s) None |
| Course Description | Process Models; Programming in the Evaluation of Software Process M Design Modeling Tools; Testing Too Automate Parts of Program Con Concepts and Mechanisms; Fund Requirements; Software Requireme Data; Non-Functional Requirem System Design Principles; Des Behavioral Models of Software De between Requirements and Refactoring Designs using Design in Design; Coding Practices; Codir | includes: Introduction to Software the Large vs. Individual Programming; Models; Requirements Analysis and ols; Programming Environments that struction Processes; Tool Integration ctional Requirements; Properties of ents Elicitation; Describing System ents; Requirements Specifications; sign Paradigms; Structural and signs; Design Patterns; Relationships Designs; Software Architecture; Patterns; The Use of Components ng Standards; Integration Strategies; ctions; Reviews; Audits; Testing Types; ing; and Limitations of Testing. |
| Course Name | Artificial Intelligence | |
| Course Name Course Code | Artificial Intelligence CSC 4101 | Credit Hours 4 (3,1) Prerequisite(s) CSC 1201 |
| Course Description | This course covers Artificial Intellig Agents; Problem-solving: Solving Search and Exploration, Const Adversarial Search; Knowledge First-Order Logic, Inference ir Representation. Planning and A knowledge and reasoning: Univ Probabilistic Reasoning over Time, N Complex Decisions; Learning; Learn Learning, Statistical Learning Meth Communicating, Perceiving and A | gence: Introduction, and Intelligent Problems by Searching, Informed raint Satisfaction Problems, and and reasoning: Logical Agents, n First-Order Logic, Knowledge cting in the Real World; Uncertain certainty, Probabilistic Reasoning, Aaking Simple Decisions, and Making ing from Observations, Knowledge in nods, and Reinforcement Learning; acting: Communication, Probabilistic n and Robotics; Introduction to |
| | | |
| Equivalent Course(s) | None | |

Catalogue -

| Course Name | Computer Networks and Data Communications | Credit Hours 43.1) |
|----------------------------|---|---|
| Course Name Course Code | Computer Networks and Data Communications CSC 3205 | Credit Hours 4 (3,1) Prerequisite(s) None |
| Course Code | C3C 3203 | rierequisite(s) None |
| Course Description | This course provide students with an overview fundamentals of data communication and com- includes: data communication concepts and te network architecture, communications switching communication, network congestion, network configuration and management, network model network models (OSI reference model, TCP/IP ne and their protocols, various types of networks (Wireless networks) and their protocols. | puter networks. Topics chniques in a layered and routing, types of topologies, network components, layered tworking architecture) |
| Equivalent Course(s) | None | |
| Course Name | Technical and Business Writing | Credit Hours 3 (3,0) |
| Course Code | CSC 1205 | Prerequisite(s) None |
| Course Description | Technical and Business Writing/Business and Electr aims to teach the principles and methodology communication in the workplace. As business ca be required to draft messages using a variet channels and integrated electronic media. Thi students to communicate knowledge and info audiences ranging from experts, to coworkers, laypersons and to make the best use of electronic BIO 2411 | y of written and oral ommunicators you will ty of communication s course will prepare ormation to different to customers and to |
| Course Name Course Code | Final Year Project-I CSC 4105 | Credit Hours 3 (0,3) Prerequisite(s) None |
| | | |
| Course Description | This is the project that final year students carry out requirement. Part-I generally carries to build co model. The objective of this course is to implement software engineering processes and principles v analysis, design, implementation and evaluati problem involving computer and computational supervised by a faculty member, under whose gu team will research the solution. The mid evaluati team of experts at the conclusion of part-1. | ncept and prototype t and demonstrate the vhich include; project ion of a large-scale systems. The project is uidance each project |
| Equivalent Course(s) | None | |

| • • | | |
|----------------------|--|--|
| Course Name | Parallel & Distributed Computing | Credit Hours 3 (3,0) |
| Course Code | CSC 4106 | Prerequisite(s) CSC 2205 |
| Course Description | This course covers Asynchronous/synchronous computation/ communication, concurrency control, fault tolerance, GPU architecture and programming, heterogeneity, interconnection topologies, load balancing, memory consistency model, memory hierarchies, Message Passing Interface (MPI), MIMD/SIMD, multithreaded programming, parallel algorithms & architectures, parallel I/O, performance analysis and tuning, power, programming models (data parallel, task parallel, | |
| | process-centric, shared/distributed n performance studies, scheduling, storage tools (Cuda, Swift, Globus, Condor, Amazo threads, MPICH, OpenMP, Hadoop, FUSE). | on AWS, OpenStack, Cilk, gdb, |
| Equivalent Course(s) | None | |
| Course Name | Final Year Project-II | Credit Hours 3 (0,3) |
| Course Code | CSC 4205 | Prerequisite(s) None |
| Course Description | This is the continuation of FYP-I taken in phase, students build the actual project prototype in part-I. The complete project experts at the conclusion of part-II. | the previous semester. In this ct after duly completing the |
| Equivalent Course(s) | None | |
| | | |
| Course Name | Information Security | Credit Hours 3 (3,0) |
| | Information Security CSC 4201 | Credit Hours 3 (3,0) Prerequisite(s) None |

Equivalent Course(s) None

| Course Name | Pakistan & Islamic Studies/Humanities | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | CSC 4202 | Prerequisite(s) None |
| | | |
| Course Description | This course covers the fundamentals of Isla | am (Aqaid, Ibadat, Islamic |
| | Dawah etc.); ethical values of Islam; seerah Islamic civilization and its effects on humanit world religions and ethical systems in compa Multicultural societies, historical background in Indo-Pakistan, the movement led by the Islamic society, the establishment of consequences. It also covers political ev twentieth century: Sir Syed Ahmed Khan; Mu Iqbal: independence movement; Lahore R and society, constitutional and administrat geo-political dimension, Pakistan and interne and the challenges ahead. | y, study of other prominent rison with Islamic viewpoint; of Pakistan: Muslim society e societies, the downfall of British Raj- causes and rolution of Muslims in the slim League; Nehru; Allama Resolution; Pakistan culture ive issues, Pakistan and its |
| Equivalent Course(s) | BA 1106, MD 2402, SS 1109, BIO 2303, EN 1105 | |

2.2 Master of Science and PhD 2.2. Master of Science in Computer Science (MSCS)

SZABIST offers Master of Science in Computer Sciences (MSCS) degree in three domains: Core Computer Science and two specialization tracks, i.e., Software Engineering (SE) and Networks and Security (N&S). Students have to complete 4 focused courses in any specific domain. The program is of 2-year duration and is offered in the evening. It requires 33 credit hours to complete the degree with 9 courses (27 credit hours) and Thesis/Research Work (6 credit hours) in not more than four (4) years.

The following is the break-up of the minimum credit hours requirements to be fulfilled by the students enrolled in this program:

- 5 Compulsory/Core Courses (15 Credit Hours)
- 4 Electives¹⁹ (12 Credit Hours)
- 1 Thesis (6 Credit Hours) or 2 Course (3 Credit Hours each)

| Course Code | Course Title Po | age # |
|-------------|--|--------|
| | First Year | |
| | | |
| | First Semester | |
| CSC 5105 | Research Methodology | 118 |
| CSC 5101 | Advanced Algorithms Analysis | 118 |
| CSC 5102 | Theory of Computation | 119 |
| | Second Semester | |
| CSC 5201 | Advanced Operating Systems | 119 |
| CSC 5202 | Advanced Computer Architecture | 119 |
| CSC 5xxx | Elective-I | , |
| | (Independent Research Study – Topic related to CS/SE/N&S Stream-I or I | I) 281 |
| | Second Year | |
| | Third Semester | |
| CSC 5xxx | Thesis or Course work (from CS/SE/N&S Stream-II) | _ |
| CSC 5xxx | Elective-II (from CS/SE/N&S – Stream-I) | 281 |
| CSC 5xxx | Elective-III (from CS/SE/N&S – Stream-I) | 281 |
| 0 | | 201 |
| | Fourth Semester | |
| CSC 5xxx | Thesis or Course Work (from CS/SE/N&S– Stream-II) | - |
| CSC 5xxx | Elective-IV (from CS/SE/N&S – Stream-I) | 281 |
| | | |

All courses may not be offered every year. Alternate courses may be substituted as and when required.

2.2.1 Master of Science in Computer Sciences (MSCS)

| Course Name | Research Methodology | Credit Hours 3 (3,0) |
|----------------------------|--|---|
| Course Code | CSC 5105 | Prerequisite(s) None |
| Course Description | This course covers international | ethical, professional and legal issues in |
| | computing research including concept of research, definitions, quantitative and qualitative approaches, proposal for research, forming hypotheses, originality, critical analysis methods; also reading for research; data collection, information gathering; literature surveys and questionnaires data analysis, presentation of information, writing academic papers, content and referencing. The students have to perform meta analyses of 25-30 research papers selected in current research topics in International Journals. Topic and papers are selected with approval from the instructor. Conference papers are not allowed for review. Students have to read all such papers and prepare the analysis related to model, methods, findings and come up with what has been done related to selected area of research and research gaps if any are explicitly identified with future work. | |
| Equivalent Course(s) | None | |
| | | |
| | Advanced Algorithms Anglysis | |
| Course Name | Advanced Algorithms Analysis | Credit Hours 3 (3,0) |
| Course Name Course Code | Advanced Algorithms Analysis CSC 5101 | Credit Hours 3 (3,0) Prerequisite(s) None |
| | CSC 5101 | |
| Course Code | CSC 5101 Advanced Algorithm Analysis techniques and the under NP-completeness, search tech heuristic and approximation of analysis of upper and average and theta notation. Fundamen greedy, divide-and-conquer, pattern matching, and numeric covers standard graph and classes, time-space tradeoffs in a analyze recursive algorithms, m problem, and the implication animation is used to reinforce the course, students should be able | Prerequisite(s) None includes the introduction of formal rlying mathematical theories like aniques, randomized algorithms and Igorithms. Topics include: asymptotic complexity bounds using big-O, little-o, tal algorithmic strategies (brute-force, backtracking, branch-and-bound, al approximations) are covered. It also tree algorithms, standard complexity algorithms, using recurrence relations to on-computable functions, the halting as of non-computability. Algorithmic corretical results. Upon completion of the to explain the mathematical concepts y of an algorithm, and select and apply |

2.2.1 Master of Science in Computer Sciences (MSCS)

| Course Name | Theory of Computation | | 3 (3,0) |
|-------------------------------------|---|---|--|
| Course Code | CSC 5102 | Prerequisite(s) | lone |
| Course Description | This course includes set theory, sequences, tuples, functions, relations and graphs; Turing machine; language, designing variants of Turing machines, enumerators, dovetailing, Church-Turing Thesis, Hilbert's Tenth problem, decidable languages, acceptance problem for DFAs, the halting problem, reducibility, recursion theorem, logical theories, complexity theory; time complexity, non-deterministic time, Class P, Class NP, NP-completeness, space complexity, relationship between Space and Time complexity, P-SPACE-completeness, Class L, Class NL and NL-completeness. | | of Turing t's Tenth FAs, the theories, Class P, petween |
| Equivalent Course(s) | None | | |
| Course Name | Advanced Operating Systems | Credit Hours 3 | (3,0) |
| Course Code | CSC 5201 | Prerequisite(s) | · · · |
| Course Description | This course covers characterization of modern operating systems; file systems, memory management techniques, process scheduling and resource management; system models; architectural models; inter process communication; issues of security in distributed systems (partial coverage); distributed file system; concurrency control in distributed systems; problems of coordination and agreement in distributed systems; replication-advantages and requirements; fault-tolerant services and mobile and ubiquitous computing. | | |
| | | - | |
| Equivalent Course(s) | | - | |
| Equivalent Course(s) Course Name | mobile and ubiquitous computing. None | nents; fault-tolerant servic | |
| | mobile and ubiquitous computing. | nents; fault-tolerant servic | ces and (3,0) |
| Course Name | Mobile and ubiquitous computing. None Advanced Computer Architecture CSC 5202 This course covers architectural a computer architecture like Flynn's cla MIMD systems and their working primemory architectures, Bernsteir measurements of computers, op architectures, CISC, RISC, convention processors and WINTEL architecture memory, techniques to reduce concache-look-ahead processor, micro | Credit Hours 3 Prerequisite(s) N and organizational attrib assifications; SISD, SIMD, M nciples, shared versus dis in conditions, perfo ben architecture versus onal versus super-scalar are studied. Furthermore, ache misses, multi-level o-programmed controller formance metrics, pip operating systems, desig e, designing of executabl rersus macro code, con- arallel computing, taxon applications, synchro (Vector Processing, Mu | (3,0) None butes of USD and stributed stributed stributed stributed (K-Issue) , cache caches, r versus pelining, gn of a le versus cept of omy of onization Itimedia |

2.2 Master of Science and PhD 2.2.2 Doctor of Philosophy in Computing (PhD Computing)

Doctor of Philosophy in Computing (PhD Computing) program requires completion of a total of 48 credit hours with 5 courses, an Independent Research Study (IRS) and a dissertation. The following is the break-up of the credit hours requirements to be fulfilled by the students enrolled in this program in not more than eight (8) years

- 5 Elective Courses²⁰ (15 Credit Hours)
- 1 Independent Studies (03 Credit Hours)
- 1 Dissertation (30 Credit Hours)

| Course Code | Course Title | Page # | | |
|-----------------|---|--------|--|--|
| | First Year | | | |
| | | | | |
| | Fall Semester | | | |
| CSC 6101 | Research Methodology ²¹ (Elective-I) | 121 | | |
| CSC 6xxx | Elective-II | 282 | | |
| CSC 6xxx | Elective-III | 282 | | |
| | Spring Semester | | | |
| CSC 6xxx | Independent Research Study | - | | |
| CSC 6xxx | Elective-IV | 282 | | |
| CSC 6xxx | Elective-V | 282 | | |
| | Second Year | | | |
| | Fall Concessor | | | |
| CSC 6xxx | Dissertation Fall Semester | - | | |
| | Disendion | - | | |
| | Spring Semester | | | |
| CSC 6xxx | Dissertation | - | | |
| | | | | |
| Third Year | | | | |
| Full Comparison | | | | |
| | Fall Semester | | | |
| CSC 6xxx | Dissertation | - | | |
| | Spring Semester | | | |
| CSC 6xxx | Dissertation | - | | |

All courses may not be offered every year. Alternate courses may be substituted as and when required.

List of Electives is given in Appendix B.
 The course of Research Methodology is compulsory if not done earlier in Masters.

2.2.2 Doctor of Philosophy in Computing (PhD Computing)

| Course Name | Research Methodology | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | CSC 6101 | Prerequisite(s) None |
| | | |
| Course Description | This course covers international ethical, p computing research including conce quantitative and qualitative approaches hypotheses, originality, critical analysis research; data collection, information ga questionnaires data analysis, present academic papers, content and refere perform meta analyses of 25-30 researc research topics in International Journals. with approval from the instructor. Confere review. Students have to read all such por related to model, methods, findings and done related to selected area of researc explicitly identified with future work. | ept of research, definitions, , proposal for research, forming s methods; also reading for athering; literature surveys and ation of information, writing encing. The students have to ch papers selected in current Topic and papers are selected ence papers are not allowed for apers and prepare the analysis come up with what has been |
| Equivalent Course(s) | None | |



Department of **Ciences**

3.1 Bachelor of Science

Bachelor of Science in Social Sciences (BSSS)

Students enrolled in Bachelor of Science in Social Sciences (BSSS) program are required to complete a total of 144 credit hours within six (6) years. The course break-up is as follows:

- 32 Compulsory Courses (96 Credit Hours)
- 12 Major Courses²² (36 Credit Hours)
- 2 Elective Courses²³ (6 Credit Hours)
- 1 Research Project (6 Credit Hours)

| Course Code | Course Title | Page # | | | |
|-------------|---|--------|--|--|--|
| | First Year | | | | |
| | Fall Semester | | | | |
| SS 1117 | Computer and Web Skills | 126 | | | |
| SS 1116 | English for General Purposes (EGP) | 126 | | | |
| SS 1109 | Islamiat / Ethics and Pakistan Studies | 126 | | | |
| SS 1105 | Microeconomics | 127 | | | |
| SS 1115 | Community Services | 127 | | | |
| SS 1201 | Introduction to Social Sciences | 127 | | | |
| | Spring Semester | | | | |
| SS 2306 | Psychology | 127 | | | |
| SS 1205 | Macroeconomics | 128 | | | |
| SS 2307 | Sociology | 128 | | | |
| SS 1155 | Introduction to Political Science | 128 | | | |
| SS 2412 | International Relations | 128 | | | |
| SS 4705 | Sindh Studies | 129 | | | |
| | Second Year | | | | |
| | Fall Semester | | | | |
| SS 2314 | Study of Anthropology | 129 | | | |
| SS 2316 | English for Academic Purposes (EAP) | 129 | | | |
| SS 2313 | Introduction to Social Psychology | 130 | | | |
| SS 2318 | Mathematics and Statistics | 130 | | | |
| SS 2413 | Philosophy | 130 | | | |
| SS 1xxx | Elective-I | 283 | | | |
| | Spring Semester | | | | |
| SS 2406 | Gender Studies | 131 | | | |
| SS 2418 | Statistical Inferences | 131 | | | |
| SS 2414 | Introduction to Organizational Psychology | 131 | | | |
| SS 3503 | Development Studies | 131 | | | |
| SS 1209 | Social Policy | 132 | | | |
| SS 1xxx | Elective-II | 283 | | | |
| | | | | | |

List of Major Courses is given in Appendix C.
 List of Electives is given in Appendix B.

| Course Code | Course Title | Page # |
|-------------|------------------------------------|---------|
| | Third Year | |
| | | |
| | Fall Semester | |
| SS 2312 | Culture, Art and Society | 132 |
| SS 3509 | Language-l | 132 |
| SS 3606 | Political Economy | 132 |
| SS 4xxx | Major-I | 297-298 |
| SS 4xxx | Major-II | 297-298 |
| SS 4xxx | Major-III | 297-298 |
| | Spring Semester | |
| SS 3504 | Research Methods | 133 |
| SS 3605 | International Law and Human Rights | 133 |
| SS 3609 | Language-II | 133 |
| SS 4xxx | Major-IV | 297-298 |
| SS 4xxx | Major-V | 297-298 |
| SS 4xxx | Major-VI | |
| | Fourth Year | |
| | Fall Semester | |
| SS 2411 | Environmental Studies | 134 |
| SS 4707 | Introduction to Health Psychology | 134 |
| SS 4709 | Research Project-I | 134 |
| SS 4xxx | Major-VII | 297-298 |
| SS 4xxx | Major-VIII | 297-298 |
| SS 4xxx | Major-IX | 297-298 |
| | Spring Semester | |
| SS 4804 | Public Policy | 134 |
| SS 4809 | Research Project-II | 135 |
| SS 2405 | Enlightenment | 135 |
| SS 4xxx | Major-X | 297-298 |
| SS 4xxx | Major-XI | 297-298 |
| SS 4xxx | Major-XII | 297-298 |
| 00 TAAA | | 2//-2/0 |

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

Catalogue -

| Course Name | Computer and Web Skills | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | SS 1117 | Prerequisite(s) None |
| Course Description | This course provides understanding on computer systems and their applications. The course focuses on discussing the desktop environment, word processing, spreadsheets, graphics packages, the internet, computer programming, Microsoft Access, Microsoft Visio, html, and webpage developments. | |
| Equivalent Course(s) | BA 1103, BA 1108, CSC 1104, BIO 1104, AF 1 | 1102 |
| Course Name | English for General Purposes (EGP) | Credit Hours 3 (3,0) |
| Course Code | SS 1116 | Prerequisite(s) None |
| Course Description | This course is aimed at improving English language communication and presentation skills of students. With a multidimensional approach, the course enables the students to practice the use of English in everyday situations, building upon all four skills: listening, speaking, reading and writing. It prepares them to participate in seminars and discussions and make effective presentations, with an awareness of the audience and effective use of verbal and non-verbal communication. The course addresses the basic English language issues faced by the learners, while also aiming to foster in them, critical skills to develop a concise and clear argument, respond to others' comments and negotiate their own point of view persuasively. The course uses an interactive, participatory methodology, to engage learners' interest and boost their confidence to use English in everyday communication in formal and informal contexts. | |
| Equivalent Course(s) | ME 1101, MD 1122, CSC 2101, BIO 1111, AF | |
| Course Name | Islamiat/Ethics and Pakistan Studies | Credit Hours 3 (3,0) |
| Course Code | SS 1109 | Prerequisite(s) None |
| Course Description | This course discusses the fundamental Isla history of Pakistan. Topics include pillars of on Fiqh, the progression of Muslim society (the independence of the Indi post-independence events in Pakistan. | Islam, the Shariah, discourses from the advent of Islam up to |
| Equivalent Course(s) | BA 1106, CSC 1105, MD 2402, BIO 2303, AF | 1205 |

| | Microeconomics | Credit Hours 3 (3,0) |
|--|--|--|
| Course Code | SS 1105 | Prerequisite(s) None |
| Course Description | Microeconomics studies how the indi households and the firms, make decis This course is based on a comprehens the product markets and the reso application of demand and suppl production. | sions to allocate limited resources. sive study of the market structures, urce markets. It also deals with |
| Equivalent Course(s) | BA 1102, BA 5302, AF 2405 | |
| Course Name | Community Services | Credit Hours 3 (3,0) |
| Course Code | SS 1115 | Prerequisite(s) None |
| Course Description | This course is comprised of two comp to community-based environment, or social policies, the scope of w non-governmental organizations (NGC aspects of community work, and for procedures. In addition, the second c Application of concepts and perspec Furthermore, students would be community-based project through an | development and application of olunteer work in general and Ds) in particular, cultural and social ormulating social processes and omponent of this course consist of ectives learnt in first component. required to engage in a |
| Equivalent Course(s) | None | |
| | | |
| Course Name | Introduction to Social Sciences | Credit Hours 3 (3,0) |
| Course Name Course Code | Introduction to Social Sciences SS 1201 | Credit Hours 3 (3,0) Prerequisite(s) None |
| | | Prerequisite(s) None al concepts of social science, |
| Course Code | SS 1201 This course covers the fundament definition of social science, its scope | Prerequisite(s) None al concepts of social science, |
| Course Code Course Description | SS 1201 This course covers the fundament definition of social science, its scope branches of social sciences. | Prerequisite(s) None al concepts of social science, |
| Course Code Course Description Equivalent Course(s) | SS 1201 This course covers the fundament definition of social science, its scope branches of social sciences. None | Prerequisite(s) None al concepts of social science, and applicability and the various |
| Course Code Course Description Equivalent Course(s) Course Name | SS 1201 This course covers the fundament definition of social science, its scope branches of social sciences. None Psychology | Prerequisite(s) None al concepts of social science, and applicability and the various Credit Hours 3 (3,0) Prerequisite(s) None oduction to psychology, methods behavior, sensation, perception, |

- Catalogue -

| Course Name | Macroeconomics | Credit Hours 3 (3,0) |
|---|--|--|
| Course Code | SS 1205 | Prerequisite(s) SS 1105 |
| Course Description | This course introduces students to key government in an economy, measurem components of aggregate demand Keynesian multiplier, investment func through monetary and fiscal polic intervention on economic activity, aggregate supply and demand, balo | nent of gross domestic product, , consumption function and tion, government intervention cies, impact of government inflation and unemployment, |
| Equivalent Course(s) | public finance, growth and developmen BA 5402, BA 1202, AF 3505 | |
| Course Name | Sociology | Credit Hours 3 (3,0) |
| Course Code | SS 2307 | Prerequisite(s) None |
| | | |
| Course Description | This course covers an overview of sociol to sociology, basic concepts of soc Socialization and personality, social con | iology, social groups, culture, |
| Equivalent Course(s) | BA 2307, BA 2306, MD 1104, AF 2304 | |
| | | |
| Course Name | Introduction to Political Science | Credit Hours 3 (3,0) |
| Course Name Course Code | Introduction to Political Science SS 1155 | Credit Hours 3 (3,0) Prerequisite(s) None |
| Course Name Course Code Course Description | | Prerequisite(s) None on to major concept of political e, nature of political and social siness for the success of political In addition, different political |
| Course Code Course Description | SS 1155 This course provides students introductions systems including system of governance fabrics. Also, constitutions and rule of but system will be taught to students. | Prerequisite(s) None on to major concept of political e, nature of political and social siness for the success of political In addition, different political |
| Course Code Course Description Equivalent Course(s) | SS 1155 This course provides students introductions systems including system of governance fabrics. Also, constitutions and rule of but system will be taught to students. ideologies and political systems will be p | Prerequisite(s) None on to major concept of political e, nature of political and social siness for the success of political In addition, different political |
| Course Code Course Description Equivalent Course(s) Course Name | SS 1155 This course provides students introductions systems including system of governance fabrics. Also, constitutions and rule of but system will be taught to students. ideologies and political systems will be poly None | Prerequisite(s) None on to major concept of political e, nature of political and social siness for the success of political In addition, different political art of this course. |
| Course Code | SS 1155 This course provides students introductions systems including system of governance fabrics. Also, constitutions and rule of bur- system will be taught to students, ideologies and political systems will be provided None International Relations SS 2412 This course introduces students to key about international relations in historical politics since the First World War, and the | Prerequisite(s) None on to major concept of political and social siness for the success of political and social In addition, different political art of this course. Credit Hours 3 (3,0) Prerequisite(s) Issues, questions, and theories I context. Course covers world lessons learnt by the academic, |
| Course Code Course Description Equivalent Course(s) Course Name Course Code | SS 1155 This course provides students introductions systems including system of governance fabrics. Also, constitutions and rule of bur- system will be taught to students, ideologies and political systems will be pro- None International Relations SS 2412 This course introduces students to key about international relations in historical | Prerequisite(s) None on to major concept of political and social siness for the success of political and social ln addition, different political art of this course. Credit Hours 3 (3,0) Prerequisite(s) None issues, questions, and theories al context. Course covers world lessons learnt by the academic, of international relations since politics, liberal internationalism, political economy, international globalization |

-Catalogue 20

| | Sindh Studies | Credit Hours 3 (3,0) |
|--|---|---|
| Course Code | SS 4705 | Prerequisite(s) None |
| Course Description | In this course students explore the civilizations of geographic, historical, anthropological, perspective. They study modern Sindh from the disciplines, as for example, culture, literature, et course gives students the foundation to interdisciplinary paradigms and prepares them area studies in Sindh. One underlying aim encourage students to think critically about soc interethnic harmony in Sindh. | and archaeological ne viewpoint of several nnomusicology etc. The understand Sindh in of for further aspects of of Sindh Studies is to |
| Equivalent Course(s) | None | |
| Course Name | Study of Anthropology | Credit Hours 3 (3,0) |
| Course Code | SS 2314 | Prerequisite(s) None |
| Course Description | This course introduces the discipline of Anthropole fields. It shall be discussed what is the Anthropole human associations and groups (families, marri groups), and of systems humans have evolved t | ogical understanding of ages, ethnic and racial |
| Equivalent Course(s) | (political, and economic systems). | |
| Equivalent Course(s) | None | Credit Hours 3 (3.0) |
| Equivalent Course(s) Course Name Course Code | · · · · · · | Credit Hours 3 (3,0) Prerequisite(s) SS 1116 |
| Course Name | None English-II: English for Academic Purposes (EAP) | Prerequisite(s) SS 1116 English language and idimensional approach c focus on reading and study at university level. kills, library and internet . In addition, the course kim, scan and infer from enabling the students to entence structures and oherent, cohesive and |

| Course Name | Introduction to Social Psychology | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | SS 2313 | Prerequisite(s) SS 2306 |
| | | |
| Course Description | This course provides an understanding on he and thoughts are affected by social factor versa. Topics include group behavior, so behaviors, self-concept, cognitive dissonor aggression and prejudices. | ors of environment and vice ocial perception, nonverbal |
| Equivalent Course(s) | None | |
| Course Name | Mathematics and Statistics | Credit Hours 3 (3,0) |
| Course Code | SS 2318 | Prerequisite(s) None |
| Course Code | 33 2310 | rielequisile(s) None |
| Course Description | This course introduces basic statistical conc include; sampling and experimentati probability, binomial and normal distribution and two sample hypothesis tests for Mathematical methods consists of; matrice differentiation and optimization, linear p method. Additional topics cover descriptive correlation, or contingency table analysis. | on, descriptive statistics, ns, estimation, single sample means and proportions. s, system of linear equations, programming, and simplex |
| Equivalent Course(s) | BA 5305, BA 2305, BIO 1208, BA 2311, AF 240 | 4 |

| Course Name | Philosophy | Credit Hours 3 (3,0) |
|--------------------|--|---|
| Course Code | SS 2413 | Prerequisite(s) None |
| | | |
| Course Description | This course is both an introduction to ph analysis, and argumentation. The c introduction to philosophy, Greek development of Muslims, Al-Farabi, Al Gl tradition in Muslim thought, Renaissance Voltaire), German Idealism, model contemporary social philosophers. | ourse focuses on a general philosophy, medieval era, hazali, Ibn-e-Rushd, and mystical e, the Enlightenment (Rousseau, |

Equivalent Course(s) None

| Course Name | Gender Studies | Credit Hours 3 (3,0) |
|--|--|---|
| Course Code | SS 2406 | Prerequisite(s) None |
| Course Description | This course covers basic concepts, appreside the studies. The course introduces gender tender division of labour, gender development process on women and magender and development, gender of Development Goals, definition and explot theory, history of the feminist movements development of Muslim feminism and its legal impact on Muslim countries. | rms and concepts, the concept mainstreaming, the effects of nen and various approaches to equality and the Millennium anation of feminism and feminist s around the world, conceptual |
| quivalent Course(s) | None | |
| | | |
| Course Name Course Code | Statistical Inferences | Credit Hours 3 (3,0) |
| Course Description | SS 2418Prerequisite(s)SS 2318This course covers; sets and probability, concept of random variable, possibilities, theory, estimation theory, testing hypothesis, one sample tests, two sample tests, regression and correlation, analysis of variance, Chi-square distribution, F-distribution, and computer applications. | |
| Equivalent Course(s) | BA 3605, BA 5405, AF 3506 | |
| | | |
| | Introduction to Organizational Psycholog | |
| | Introduction to Organizational Psycholog SS 2414 | Credit Hours 3 (3,0) Prerequisite(s) SS 2306 |
| Course Code | | Prerequisite(s) SS 2306 ee and its employees and how formance and satisfaction of its d management, job attitudes, a composition, job designs, |
| Course Code Course Description | SS 2414 It is the study of organization, workplac work can be done to enhance the perf people. The course discusses hiring and leadership, workplace ethics, team | Prerequisite(s) SS 2306 ee and its employees and how formance and satisfaction of its d management, job attitudes, a composition, job designs, |
| Course Code Course Description Equivalent Course(s) Course Name | SS 2414 It is the study of organization, workplac work can be done to enhance the perf people. The course discusses hiring and leadership, workplace ethics, team organizational development and human BA 3504, BA 5207, AF 2305, EN 2306 Development Studies | Prerequisite(s) SS 2306 ee and its employees and how formance and satisfaction of its d management, job attitudes, a composition, job designs, a resources. Credit Hours 3 (3,0) |
| Course Code Course Description Equivalent Course(s) Course Name | SS 2414 It is the study of organization, workplac work can be done to enhance the perf people. The course discusses hiring and leadership, workplace ethics, team organizational development and human BA 3504, BA 5207, AF 2305, EN 2306 | Prerequisite(s) SS 2306 ee and its employees and how formance and satisfaction of its d management, job attitudes, a composition, job designs, a resources. |
| Course Code Course Description Equivalent Course(s) Course Name Course Code | SS 2414 It is the study of organization, workplac work can be done to enhance the perf people. The course discusses hiring and leadership, workplace ethics, team organizational development and human BA 3504, BA 5207, AF 2305, EN 2306 Development Studies | Prerequisite(s) SS 2306 ce and its employees and how formance and satisfaction of its d management, job attitudes, formance and satisfaction of its d management, job attitudes, formance and satisfaction of its d monogement, job attitudes, formance and satisfaction of its formance and satisfaction of its designs, n composition, job designs, formation of its n resources. formation of its Credit Hours 3 (3,0) Prerequisite(s) None ad multidimensional nature of even of the development studies, |
| Course Name Course Code Course Description Equivalent Course(s) Course Name Course Code Course Description | SS 2414 It is the study of organization, workplac work can be done to enhance the perf people. The course discusses hiring and leadership, workplace ethics, team organizational development and human BA 3504, BA 5207, AF 2305, EN 2306 Development Studies SS 3503 This course explores the complex an development. It covers a broad overvie | Prerequisite(s) SS 2306 ee and its employees and how formance and satisfaction of its d management, job attitudes, formance and satisfaction of its d management, job attitudes, formance and satisfaction of its d management, job attitudes, formance and satisfaction of its d management, job attitudes, formance and satisfaction of its n composition, job designs, formance and satisfaction of its n resources. formance and satisfaction of its Credit Hours 3 (3,0) Prerequisite(s) None ad multidimensional nature of an attributions, formance and satisfactions, |

| Course Name | Social Policy | Credit Hours 3 (3,0) |
|-----------------------------------|--|--|
| Course Code | SS 1209 | Prerequisite(s) SS 2307 |
| Course Description | This course discusses concepts and parace policy issues, such as, education, housin responsibility (CSR), and social service delive | g, health, corporate social |
| Equivalent Course(s) | None | |
| Course Name | Culture, Art and Society | Credit Hours 3 (3,0) |
| Course Code | SS 2312 | Prerequisite(s) None |
| Course Description | In addition to the stylistic and structural co includes the historical, social, religious, p philosophical issues related to the producti along with basic understanding of culture art and culture, media and development o cultures subcultures, and public relations. | oolitical, technological, and ion and development of art, and society, globalization of |
| Equivalent Course(s) | None | |
| Course Name | Language-I | Credit Hours 3 (3,0) |
| Course Code | SS 3509 | Prerequisite(s) None |
| Course Description | This course focuses on the practical and the language in relation to everyday life communicative approach working documents offers role-plays, group comprehension exercises as well as w essay-writing. | in the target culture, the mainly through video discussions, listening |
| Equivalent Course(s) | None | |
| Course Name | Political Economy | |
| | | Credit Hours 3 (3,0) |
| Course Code | SS 3606 | Credit Hours 3 (3,0) Prerequisite(s) None |
| Course Code Course Description | | Prerequisite(s) None proach ranging from political gy in order to offer a broad I economy. Topics include ne post-structuralism, Marxian en capitalist class processes alist (slave, feudal, ancient, Il trade, money and debt, rer, economic integration, |
| | SS 3606 This course adapts an interdisciplinary app science, economics, history, and sociolog introduction to current issues in political mercantilism and liberalism, structuralism, the definition of capitalism, difference between (the basis for capitalism) from non-capital communal) class processes, international global security, knowledge and powen development and multinational corpored | Prerequisite(s) None proach ranging from political gy in order to offer a broad I economy. Topics include ne post-structuralism, Marxian en capitalist class processes alist (slave, feudal, ancient, il trade, money and debt, ver, economic integration, |

| Course Name Course Code | Research Methods SS 3504 | Credit Hours 3 (3,0) Prereguisite(s) None |
|----------------------------|---|---|
| | 00 0004 | |
| Course Description | methods, social research, steps sampling, and data collection to | the quantitative/qualitative research is involved in conducting research, bols, data collection and processing, sis and techniques, and (Statistical S. |
| Equivalent Course(s) | BA 3603, BA 5206, AF 3609 | |

| Course Name | International Law and Human Rights Credit Hours 3 (3,0) | |
|----------------------|--|--|
| Course Code | SS 3605 Prerequisite(s) None | |
| Course Code | SS 3605 Prerequisite(s) None This course covers origins, content, applications, and ongoing development of human rights principles and doctrines in both international and national politics. Furthermore, this course discusses the historical development of human rights principles and doctrines, including the religious and philosophical ideas that have contributed to their development, the reasons for shifting from moral movements for human rights and national human rights doctrines to the codification of | |
| | international human rights law. Also, it explains the work of governments, multilateral, and international and local non-governmental organizations in the enforcement of human rights laws, major debates in the field of human rights, including debates over the limits of sovereignty, universality versus relativism, individual versus group rights, and first, second, and third generation rights. | |
| Equivalent Course(s) | None | |

| Course Name Course Code | Language-II SS 3609 | Credit Hours 3 (3,0) Prerequisite(s) \$\$\$ 3509 |
|----------------------------|----------------------------------|--|
| Course Description | advanced skills and knowledge to | 0 0 0 |
| Equivalent Course(s) | None | |

Catalogue. -

| Course Description This course covers research methods application to research report, and research proposal writing, applying a systematic approach to solve problems, analyze, evaluate, and apply relevant information from a variety of sources, and writing accurately, concisely, and logically in American Psychological Association (APA) or Harvard styles. Equivalent Course(s) None Course Name Public Policy Credit Hours 3 (3.0) Course Code SS 4804 Prerequisite(s) SS 1209 | Course Name | Environmental Studies | Credit Hours 3 (3,0) |
|--|---|--|---|
| policy and politics, impact of human activities on natural environmental actiss. The course covers introduction to environmental issues, foundations of environmental policy and politics, interactional environmental law and policy, natural resources policy practicum and environmental diplomacy practicum, water resource management, land planning and impact of urban land use planning and impact of urban land use planning and transportation on environmental campoigns, strategies and tactics. Equivalent Course(s) None Course Name Introduction to Health Psychology Credit Hours 3 (3.0) Course Code SS 4707 Prerequisite(s) SS 2306 Course Description This course helps in identifying behaviors and experiences that promote health, give rise to illness, and influence the effectiveness of health care. Topics include occupational health and public health. Equivalent Course(s) None Course Name Research Project-I Credit Hours 3 (3.0) Course Code SS 4709 Prerequisite(s) SS 35304.SS 23 Course Name Research Project-I Credit Hours 3 (3.0) Course Code SS 4709 Prerequisite(s) SS 35304.SS 23 Course Name Research Project-I Credit Hours 3 (3.0) Course Code SS 4709 Prerequisite(s) SS 35304.SS 23 Course Name Research Project-I Credit Hours 3 (3.0) Course Code | Course Code | SS 2411 | Prerequisite(s) None |
| Course Name Introduction to Health Psychology Credit Hours 3 (3.0) Course Code SS 4707 Prerequisite(s) SS 2306 Course Description This course helps in identifying behaviors and experiences that promote health, give rise to illness, and influence the effectiveness of health care. Topics include occupational health and public health. Equivalent Course(s) None Course Name Research Project-I Credit Hours 3 (3.0) Course Code SS 4709 Prerequisite(s) SS 3504, SS 23 Course Code SS 4709 Prerequisite(s) SS 3504, SS 23 Course Description This course covers research methods application to research report, and research proposal witting, applying a systematic approach to solve problems, analyze, evaluate, and apply relevant information from a variety of sources, and writing accurately, concisely, and logically in American Psychological Association (APA) or Harvard styles. Equivalent Course(s) None Course Name Public Policy Credit Hours 3 (3.0) Course Code SS 4804 Prerequisite(s) SS 1209 SS 4804 Course Code SS 4804 Prerequisite(s) SS 1209 Course Code Course Description This course explores both t | Course Description | policy and politics, impact of human ac and basic economic and political fact crisis. The course covers introducti foundations of environmental policy environmental law and policy, natural re environmental diplomacy practicum, v land planning and impact of urbo transportation on environment, strategie | tivities on natural environment tors generating environmental on to environmental issues, and politics, international esources policy practicum and water resource management, an land use planning and es for land conservation, and |
| Course Code SS 4707 Prerequisite(s) SS 2306 Course Description This course helps in identifying behaviors and experiences that promote health, give rise to illness, and influence the effectiveness of health care. Topics include occupational health and public health. Equivalent Course(s) None Course Code SS 4709 Course Code SS 4709 Prerequisite(s) SS 3504, SS 23 SS 2418 Course Description This course covers research methods application to research report, and research proposal writing, applying a systematic approach to solve problems, analyze, evaluate, and apply relevant information from a variety of sources, and writing accurately, concisely, and logically in American Psychological Association (APA) or Harvard styles. Equivalent Course(s) None Course Name Public Policy Credit Hours 3 (3,0) Course Code SS 4804 Prerequisite(s) SS 1209 Course Code SS 4804 Prerequisite(s) SS | Equivalent Course(s) | None | |
| Course Description This course helps in identifying behaviors and experiences that promote health, give rise to illness, and influence the effectiveness of health care. Topics include occupational health and public health. Equivalent Course(s) None Course Name Research Project-I Credit Hours 3 (3,0) Course Code SS 4709 Prerequisite(s) SS 3504, SS 23 IS 24 IS Course Description This course covers research methods application to research report, and research proposal writing, applying a systematic approach to solve problems, analyze, evaluate, and apply relevant information from a variety of sources, and writing accurately, concisely, and logically in American Psychological Association (APA) or Harvard styles. Equivalent Course(s) None Course Name Public Policy Credit Hours 3 (3,0) Course Code SS 4804 Prerequisite(s) SS 1209 Course Code SS 4804 Prerequisite(s) SS 1209 Course Description This course explores both the theoretical and practical aspects of performing policy analysis. The themes of the course include current policy issues from the perspectives of local, state, and federal governments, non-governmental and advocacy organizations, needs and demands for public action, organization and nature of polifical support, and processes and problems of decision making in major policy areas. | Course Name | Introduction to Health Psychology | Credit Hours 3 (3,0) |
| health, give rise to illness, and influence the effectiveness of health care. Topics include occupational health and public health. Equivalent Course(s) None Course Name Research Project-I Credit Hours 3 (3,0) Course Code SS 4709 Prerequisite(s) SS 3504, SS 23 SS 2418 Course Description This course covers research methods application to research report, and research proposal writing, applying a systematic approach to solve problems, analyze, evaluate, and apply relevant information from a variety of sources, and writing accurately, concisely, and logically in American Psychological Association (APA) or Harvard styles. Equivalent Course(s) None Course Description This course explores both the theoretical and practical aspects of performing policy analysis. The themes of the course include current policy issues from the perspectives of local, state, and federal governments, non-governmental and advocacy organizations, needs and demands for public action, organization and nature of political support, and processes and problems of decision making in major policy areas. | Course Code | SS 4707 | Prerequisite(s) SS 2306 |
| Course Name Research Project-I Credit Hours 3 (3,0) Course Code SS 4709 Prerequisite(s) SS 3504, SS 23 Course Description This course covers research methods application to research report, and research proposal writing, applying a systematic approach to solve problems, analyze, evaluate, and apply relevant information from a variety of sources, and writing accurately, concisely, and logically in American Psychological Association (APA) or Harvard styles. Equivalent Course(s) None Course Description This course explores both the theoretical and practical aspects of performing policy analysis. The themes of the course include current policy issues from the perspectives of local, state, and federal governmental and advocacy organizations, needs and demands for public action, organization and nature of political support, and processes and problems of decision making in major policy areas. | Course Description | health, give rise to illness, and influence th | ne effectiveness of health care. |
| Course Code SS 4709 Prerequisite(s) SS 3504, SS 23 SS 2418 Course Description This course covers research methods application to research report, and research proposal writing, applying a systematic approach to solve problems, analyze, evaluate, and apply relevant information from a variety of sources, and writing accurately, concisely, and logically in American Psychological Association (APA) or Harvard styles. Equivalent Course(s) None Course Name Public Policy Credit Hours 3 (3.0) Course Code SS 4804 Prerequisite(s) SS 1209 Course Description This course explores both the theoretical and practical aspects of performing policy analysis. The themes of the course include current policy issues from the perspectives of local, state, and federal governments, non-governmental and advocacy organizations, needs and demands for public action, organization and nature of political support, and processes and problems of decision making in major policy areas. | Equivalent Course(s) | None | |
| SS 2418 Course Description This course covers research methods application to research report, and research proposal writing, applying a systematic approach to solve problems, analyze, evaluate, and apply relevant information from a variety of sources, and writing accurately, concisely, and logically in American Psychological Association (APA) or Harvard styles. Equivalent Course(s) None Course Name Public Policy Credit Hours 3 (3.0) Course Code SS 4804 Prerequisite(s) SS 1209 Course Description This course explores both the theoretical and practical aspects of performing policy analysis. The themes of the course include current policy issues from the perspectives of local, state, and federal governments, non-governmental and advocacy organizations, needs and demands for public action, organization making in major policy areas. | Course Name | | |
| Course DescriptionThis course covers research methods application to research report, and research proposal writing, applying a systematic approach to solve problems, analyze, evaluate, and apply relevant information from a variety of sources, and writing accurately, concisely, and logically in American Psychological Association (APA) or Harvard styles.Equivalent Course(s)NoneCourse Name Course CodePublic PolicyCredit Hours S 3 (3.0)Course DescriptionThis course explores both the theoretical and practical aspects of performing policy analysis. The themes of the course include current policy issues from the perspectives of local, state, and federal governments, non-governmental and advocacy organizations, needs and demands for public action, organization making in major policy areas. | Course Nume | Research Project-I | Credit Hours 3 (3,0) |
| Course NamePublic PolicyCredit Hours3 (3,0)Course CodeSS 4804Prerequisite(s)SS 1209Course DescriptionThis course explores both the theoretical and practical aspects of performing policy analysis. The themes of the course include current policy issues from the perspectives of local, state, and federal governments, non-governmental and advocacy organizations, needs and demands for public action, organization and nature of political support, and processes and problems of decision making in major policy areas. | | | Prerequisite(s) SS 3504, SS 23 |
| Course CodeSS 4804Prerequisite(s)SS 1209Course DescriptionThis course explores both the theoretical and practical aspects of performing policy analysis. The themes of the course include current policy issues from the perspectives of local, state, and federal governments, non-governmental and advocacy organizations, needs and demands for public action, organization and nature of political support, and processes and problems of decision making in major policy areas. | Course Code | SS 4709 This course covers research methods app research proposal writing, applying a s problems, analyze, evaluate, and apply variety of sources, and writing accurate | Prerequisite(s) SS 3504, SS 23 SS 2418 lication to research report, and systematic approach to solve y relevant information from a ely, concisely, and logically in |
| Course Description This course explores both the theoretical and practical aspects of performing policy analysis. The themes of the course include current policy issues from the perspectives of local, state, and federal governments, non-governmental and advocacy organizations, needs and demands for public action, organization and nature of political support, and processes and problems of decision making in major policy areas. | Course Code Course Description | SS 4709 This course covers research methods app research proposal writing, applying a s problems, analyze, evaluate, and apply variety of sources, and writing accurate American Psychological Association (APA | Prerequisite(s) SS 3504, SS 23 SS 2418 lication to research report, and systematic approach to solve y relevant information from a ely, concisely, and logically in |
| performing policy analysis. The themes of the course include current policy issues from the perspectives of local, state, and federal governments, non-governmental and advocacy organizations, needs and demands for public action, organization and nature of political support, and processes and problems of decision making in major policy areas. | Course Code Course Description Equivalent Course(s) Course Name | SS 4709 This course covers research methods app research proposal writing, applying a s problems, analyze, evaluate, and apply variety of sources, and writing accurate American Psychological Association (APA None Public Policy | Prerequisite(s) SS 3504, SS 23 SS 2418 lication to research report, and systematic approach to solve y relevant information from a ely, concisely, and logically in A) or Harvard styles. Credit Hours 3 (3,0) |
| Equivalent Course(s) None | Course Code Course Description Equivalent Course(s) Course Name | SS 4709 This course covers research methods app research proposal writing, applying a s problems, analyze, evaluate, and apply variety of sources, and writing accurate American Psychological Association (APA None Public Policy | Prerequisite(s) SS 3504, SS 23 SS 2418 lication to research report, and systematic approach to solve y relevant information from a ely, concisely, and logically in A) or Harvard styles. Credit Hours 3 (3,0) |
| | Course Code Course Description Equivalent Course(s) Course Name Course Code | SS 4709 This course covers research methods appresearch proposal writing, applying a sproblems, analyze, evaluate, and apply variety of sources, and writing accurate American Psychological Association (APA None Public Policy SS 4804 This course explores both the theoretic performing policy analysis. The themes policy issues from the perspectives of governments, non-governmental and and demands for public action, organic support, and processes and problems of comparison of the perspectives. | Prerequisite(s) SS 3504, SS 23 SS 2418 SS 2418 lication to research report, and systematic approach to solve y relevant information from a ely, concisely, and logically in A) or Harvard styles. A) or Harvard styles. Credit Hours 3 (3,0) Prerequisite(s) SS 1209 cal and practical aspects of of the course include current of local, state, and federal dvocacy organizations, needs ization and nature of political |

| Course Name | Research Project-II | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | SS 4809 | Prerequisite(s) SS 4709 |
| | | |
| Course Description | This course covers research meth | ods application to research report, and |
| | research proposal writing, applying a systematic approach to solve problems, analyze, evaluate, and apply relevant information from a variety of sources, and writing accurately, concisely, and logically in American Psychological Association (APA) or Harvard styles. | |
| Equivalent Course(s) | None | |
| | | |

| Course Name | Enlightenment | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | SS 2405 | Prerequisite(s) SS 2413 |
| | | |
| Course Description | This course discusses classic Enlig | ntenment texts and writers such as |
| | explores the ways that contempo Habermas, Adorno, Lyotard and Lu | e, Kant, and Rousseau. This course prary thinkers like Derrida, Foucault, hman have absorbed, engaged and completely or attempted to resurrect cts. |
| Equivalent Course(s) | None | |

Catalogue -

3.2 Master of Science and PhD

3.2.1 Master of Science (International Relations, Economics, Psychology and Sociology)

The Master of Science (International Relations, Economics, Psychology and Sociology) is a 1.5 - 2 years program having two streams i.e. Course Work Based Stream and Research Based Stream. Students enrolled in the either stream of MS (International Relations, Economics, Psychology and Sociology) program are required to complete a total of 30 credit hours within four (4) years.

Course Based Stream:

The following is the break-up of the 30 credit hour courses:

- 2 Compulsory Courses (6 Credit Hours)
- 8 Elective²⁴ Courses (24 Credit Hours)

Course Code Course Title

| | First Year | |
|--------------------|---|------------|
| | Fall Semester | |
| SS 5229 SS 5122 | Advance Research Methods and Techniques (ARMT)-I (Qualitative) | 138 138 |
| SS 5xxx | Advance Research Methods and Techniques (ARMT)- II (Quantitative) Elective-I | 284-285 |
| SS 5xxx | Elective-II | 284-285 |
| | Spring Semester | |
| SS 5xxx | Elective-III | 284-285 |
| SS 5xxx | Elective-IV | 284-285 |
| SS 5xxx | Elective-V | 284-285 |
| SS 5xxx | Elective-VI | 284-285 |
| | | |
| | Second Year | |

| | | Fall Semester | |
|--------------------|-------------------------------|---------------|--------------------|
| SS 5xxx SS 5xxx | Elective-VII Elective-VIII | | 284-285 284-285 |

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

Research Based Stream:

The following is the break-up of the 30 credit hour courses:

- 2 Compulsory Courses (6 Credit Hours)
- 6 Elective²⁵ Courses (18 Credit Hours)
- 2 Independent Research Studies (IRS) / 1 Thesis (6 Credit Hours)

| Course Code | Course Title | Page # |
|---|--|--|
| | First Year | |
| | Fall Semester | |
| SS 5229 SS 5122 SS 5xxx SS 5xxx | Advance Research Methods and Techniques (ARMT)-I (Qualitative) Advance Research Methods and Techniques (ARMT)-II (Quantitative Elective-I Elective-II | 138) 138 284-285 284-285 |
| | Spring Semester | |
| SS 5xxx SS 5xxx SS 5xxx SS 5xxx SS 5xxx | Elective-III Elective-IV Elective-V Elective-VI | 284-285 284-285 284-285 284-285 |
| | Second Year | |
| | Fall Semester | |
| SS 5xxx | Independent Research Studies (I & II)/Thesis-I | - |
| | Spring Semester | |
| SS 5xxx | Thesis-II | - |

21 Catalogue

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

For both streams Electives can be taken from any of the following specializations:

- International Relations
- Economics
- Psychology
- Sociology

25 List of Electives is given in Appendix. B

| Course Name Course Code | Advance Research Methods and Techniques-I (Qualitative) SS 5229 | Credit Hours Prerequisite(s) | 3 (3,0) |
|----------------------------|---|--|----------------|
| Course Code | 33 JZZ7 | rielequisile(s) | NONE |
| Course Description | This course develops critical and practical understandings for and conducting research from five qualitative research (narrative research, grounded theory, phenomenology, et and case studies). It develops an ethically and procedur qualitative research proposal for qualitative research desig analyze and interpret qualitative, textual, and other non forms of data obtained through various tools and sources. | n traditions hnography rally sound ns; collect, | |
| Equivalent Course(s) | SS 6104, ELM 5102, ELM 6101 | | |

| Course Name | Advance Research Methods and Techniques-II (Quantitative) Credit Hours 3 | 3 (3,0) |
|----------------------|--|----------------|
| Course Code | SS 5122 Prerequisite(s) N | Vone |
| Course Description | In this course, concepts, techniques and applications of quantitative | |
| | methods for decision making are introduced. Topics include: forecasting, regression analysis, analysis of variance, statistical decision theory, utility theory, linear programming, and waiting lines. The course incorporates computer software packages. | |
| Equivalent Course(s) | SS 6105, ELM 5102, ELM 6102 | |

3.2 Master of Science and PhD

3.2.2 Doctor of Philosophy in Social Sciences (PhD SS)

Students enrolled in the Doctor of Philosophy in Social Sciences (PhD SS) Program with a MS /M.Phil (with minimum 5 years of formal university education) are required to complete a total of 48 credit hours within eight (8) years. The following is the break-up of the 48 credit hour courses:

- 2 Compulsory Courses (6 Credit Hours)
- 3 Electives²⁶ (9 Credit Hours)
- 1 Independent Research Studies (3 Credit Hours)
- 1 Dissertation (30 Credit Hours)

Further, students cannot register in IRS before completing compulsory courses. In addition, candidate may be given prerequisite/deficiency courses or theses which will be decided by the Interview Board at the time of admission. Moreover, all the requirements of HEC pertaining to PhD must be fulfilled.

| Course Code | Course Title | Page # | |
|-----------------|---|---------|--|
| PhD | First Year | | |
| | Fall Semester | | |
| SS 6104 | Advance Research Methods and Techniques-I (Qualitative) | 140 | |
| SS 6105 | Advance Research Methods and Techniques-II (Quantitative) | 140 | |
| SS 5xxx | Elective-I | 286-287 | |
| | | | |
| | Spring Semester | | |
| SS 5xxx | Elective-II | 286-287 | |
| SS 5xxx | Elective-III | 286-287 | |
| SS 6xxx | Independent Research Study | - | |
| | | | |
| | Second Year | | |
| | Fall Semester | | |
| MS 6x09 | Dissertation | - | |
| | | | |
| Spring Semester | | | |
| MS 6x09 | Dissertation | - | |
| | | | |

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

26- List of Electives is provided in Appendix B.

3.2.2 Doctor of Philosophy in Social Sciences (PhD SS)

| Course Name | Advance Research Methods and Techniques-I (Qualitative) | Credit Hours | 3 (3,0) |
|----------------------|--|--|----------------|
| Course Code | SS 6104 | Prerequisite(s) | . , |
| | 00 0101 | | 110110 |
| Course Description | This course develops critical and practical understandings fo and conducting research from five qualitative researc (narrative research, grounded theory, phenomenology, e and case studies). Develops an ethically and procedu qualitative research proposal for qualitative research desig analyze and interpret qualitative, textual, and other not forms of data obtained through various tools and sources. | h traditions thnography rally sound gns; collect, | |
| Equivalent Course(s) | SS 5229, ELM 5102, ELM 6101 | | |
| Course Name | Advance Research Methods and Techniques-II (Quantitative | e) Credit Hours | 3 (3,0) |
| Course Code | SS 6105 | Prerequisite(s | N N I |

| Course Description | In this course, concepts, techniques and applications of quantitative | |
|--------------------|---|--|
| | methods for decision making are introduced. Topics include; forecasting, regression analysis, analysis of variance, statistical decision | |
| | theory, utility theory, linear programming, and waiting lines. The course incorporates computer software packages. | |

Equivalent Course(s) SS 5122, ELM 5103, ELM 6102

Department of ciences

4.1 Bachelor of Science **Zall** Bachelor of Media Science (BMS)

Students enrolled in the Bachelor of Media Science (BMS) program are required to complete 43 courses and a thesis within six (6) years. The break-up of the 43 courses, including thesis is as follows:

- 33 Compulsory Courses (99 Credit Hours)
- 7 Major Requirements²¹ (21 Credit Hours)
- 3 Open Electives²² (9 Credit Hours)
- 1 Thesis²³ (6 Credit Hours)

| Course Code | Course Title | Page # |
|--|---|--|
| | Year | |
| | Tear | |
| | Fall Semester | |
| MD 1122 MD 1107 MD 1115 | English for General Purposes (EGP) Drawing and Perspective Introduction to Media Industries | 144 144 144 |
| MD 1116 MD 2402 MD 3601 | Civilization Studies-I Islamiat and Pakistan Studies / Humanities Art of Music | 145 145 145 |
| | Spring Semester | |
| MD 1222 MD 1104 MD 1106 MD 1119 MD 1216 MD 2323 | English for Academic Purposes (EAP) Culture, Media, and Society Photography Play Analysis Civilization Studies-II Production Practices-I | 146 146 146 147 147 147 |
| | Second Year | |
| | | |
| | Fall Semester | |
| MD 1211 MD 1217 MD 2321 MD 2325 MD 2313 MD 2423 | Basic Design Introduction to Sound History and Aesthetics of Film Media Research Idea Development Theater Project | 1 47 1 48 1 48 1 48 1 48 1 49 1 49 |
| | Spring Semester | |
| MD 1118 MD 2318 MD 2425 MD 2427 | Topics in Asian Literature History of Commercial Art Audiovisual Editing Design Practices-I Praduction Practices II | 149 150 150 150 |

151

151

MD 3523

MD 3505

List of Major Courses is given in Appendix A.
 List of Electives is given in Appendix B.
 Guidelines for completion of Thesis are given in Appendix D.

Production Practices-II

Principles of Journalism

142

| | Course Tille | Danas # |
|-------------|---------------------------------------|---------|
| Course Code | Course Title | Page # |
| | Third Year | |
| | Fall Semester | |
| MD 1213 | Creative Writing | 151 |
| MD 2424 | Media Psychology | 151 |
| MD 3518 | Animation and Motion Graphics | 152 |
| MD 3527 | Design Practices-II | 152 |
| MD 3525 | Radio Programming and Production | 152 |
| MD 4xxx | Major-I | 299 |
| | Spring Semester | |
| MD 2405 | Media Laws and Ethics | 153 |
| MD 4701 | State and Nation Building in Pakistan | 153 |
| MD 4xxx | Major-II | 299 |
| MD 4xxx | Major-III | 299 |
| MD 4xxx | Major-IV | 299 |
| MD 4xxx | Elective-I | 288 |
| | Fourth Year | |
| | Fall Semester | |
| MD 4714 | Producing Short Narratives | 153 |
| MD 3506 | Theories of Visual Culture | 154 |
| MD 4xxx | Major-V | 299 |
| MD 4xxx | Major-VI | 299 |
| MD 4xxx | Major-VII | 299 |
| MD 4xxx | Elective-II | 288 |
| | Spring Semester | |
| MD 4807 | Thesis-I | 154 |
| MD 4xxx | Elective-III | 288 |
| | Summer Semester | |
| MD 4808 | Thesis-II | - |

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

Catalogue -

l

| Course Name | English for General Purposes (EGP) | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | MD 1122 | Prerequisite(s) None |
| | | |
| Course Description | The course is aimed at improving English lan presentation skills of students. With a mult course enables the students to practice th situations, building upon all four skills: listen writing. It prepares them to participate in se make effective presentations, with an awa effective use of verbal and non-verbal of addresses the basic English language issues also aiming to foster in them, critical skills to of argument, respond to others' comments ar of view persuasively. The course uses of methodology, to engage learners' interest to use English in everyday communicati contexts. | idimensional approach, the e use of English in everyday ning, speaking, reading and eminars and discussions and reness of the audience and communication. The course faced by the learners, while develop a concise and clear nd negotiate their own point an interactive, participatory and boost their confidence |
| Equivalent Course(s) | CSC 1102, BA 1105, SS 1116, BIO 1103, ME 11 | 01, AF 1203, EN 1106, BST 1103 |

| Course Name | Drawing and Perspective | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | MD 1107 | Prerequisite(s) None |
| | | |
| Course Description | This course introduces students to visual reading and thinking skills through the practice of elementary drawing techniques. The topics | |
| | include linear and aerial perspective, cor volume, and proportion, depth and vanishing-points, the use and manipulation stippling and cross-hatching; primary, second colors, rendering mood, expression, and motio | distance, horizons and n of shadow and light, dary, and complementary |
| Equivalent Course(s) | None | |

| Course Name | Introduction to Media Industries | Credit Hours 3 (3,0) | |
|----------------------|---|---|--|
| Course Code | MD 1115 | Prerequisite(s) None | |
| | | | |
| Course Description | This course introduces students to the histo of mass media nationally and internati- different media outlets and industry/busine print and broadcast journalism, print, bro fringe, mainstream, regional, national structures, formats and business models. Al journalism, film, TV, print media, advertisin and introduction to media convergence e | onally, with a focus on the ess models. It covers history of badcast, and digital formats, I and international media Iso, functions and evolution of ng, and digital technologies, | |
| Equivalent Course(s) | MD 1117 | MD 1117 | |

| Course Name | Civilization Studies-I | Credit Hours | 3 (3,0) |
|---|--|---|---|
| Course Code | MD 1116 | Prerequisite(s | s) None |
| Course Description | This course investigates major historical civilizations in Ancient Egypt, China, and India; classical Greece and Rome; and medieval and renaissance Europe. It also covers oral cultures and oral transmission, the invention of writing, the production and preservation of cultural and social artifacts and texts, the emergence, development, dissemination, and cross-cultural influences of aesthetic practices. Topics include comparative analysis of Asian, Greco-Roman, Chinese and Medieval traditions from Pyramids to Pre-Socratics and from Ancient Chinese thought to Early Cathedrals and from Bronze revolution in Central Asia to Iron revolution in India to the discovery of Laws of Reflecton by Alhazen. The course places a fundamental emphasis on the history of ideas, cultural expressions, and social institutions. The course will stop at the discussions of the emergence of Gothic Cathedrals in France. | | |
| Equivalent Course(s) | None | | |
| | | | |
| Course Name | Islamiat and Pakistan Studies/Humanities | Credit Hours | 3 (3,0) |
| Course Name Course Code | Islamiat and Pakistan Studies/Humanities MD 2402 | Credit Hours Prerequisite(s | · · / |
| | | Prerequisite(s and practice of Isla and cultural importan History of religion, r ditions, religion and loxy, Comparative I | s) None am and ce and religious society, religion, |
| Course Code | MD 2402 The course focuses on the history, theory, of other religions, and their social, political, an impact in Pakistan and beyond. It covers practice and thought, major interpretive trad religion and politics, mysticism and orthod religion and gender, Islam and other Abra | Prerequisite(s and practice of Isla and cultural importan History of religion, r ditions, religion and loxy, Comparative n ahamic religions, Isla | s) None am and ce and religious society, religion, |
| Course Code Course Description | MD 2402 The course focuses on the history, theory, of other religions, and their social, political, an impact in Pakistan and beyond. It covers practice and thought, major interpretive trad religion and politics, mysticism and orthod religion and gender, Islam and other Abra modernity. | Prerequisite(s and practice of Isla and cultural importan History of religion, r ditions, religion and loxy, Comparative n ahamic religions, Isla | s) None am and ce and religious society, religion, |
| Course Code Course Description Equivalent Course(s) | MD 2402 The course focuses on the history, theory, of other religions, and their social, political, an impact in Pakistan and beyond. It covers practice and thought, major interpretive trader religion and politics, mysticism and orthod religion and gender, Islam and other Abra modernity. SS 1109, CSC 1105, BA 1106, BIO 1212, EN 110 | Prerequisite(s and practice of Isla and cultural importan History of religion, r ditions, religion and loxy, Comparative i shamic religions, Isla | s) None am and ice and religious society, religion, am and 3 (3,0) |

This course focuses upon the evolution and development of sound and music. It covers global and local genres and styles (western art music, jazz, Indian classical, qawwali, hip-hop, rock, punk, etc.), the history and evolution of instruments and instrumentation, electronic and digital music technologies, performance modes, forms, and venues, music's influence in the media and on popular culture, and music's relationship with the visual and performing arts.

E Catalogue

Equivalent Course(s)

None

| Course Name | English for Academic Purposes (EAP) | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | MD 1222 | Prerequisite(s) MD 1122 |
| | | |
| Course Description | This course is designed to improve academic I study skills of students. The course follows a multion based on the four language skills with a specific writing skills that are required in research-based st The course includes listening and note taking ski use for locating and evaluating research articles. seeks to enable the students to of speed read, ski written text. The course specifically focuses on er experiment with complex grammatical forms, se logical paragraph development, to present co effective arguments clearly in research-based with | dimensional approach focus on reading and tudy at university level. Ills, library and internet In addition, the course m, scan and infer from habling the students to intence structures and wherent, cohesive and |
| | requirements of their specific discipline. | |
| Equivalent Course(s) | ME 1205, SS 2316, BIO 1211, BA 1206, CSC 2101, A | F 1203, EN 1106 |

| Course Name | Culture, Media and Society | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | MD 1104 | Prerequisite(s) MD 1115, MD 1122 |
| | | |
| Course Description | This course covers the basic theoretical conc on the relations among media, cultural texts, o which these are produced and dissemin Theories of media and popular culture post-structuralism, modernity, and post-mo youth cultures. The role of media in culture identity (race, gender, ethnicity, religio nationality), the emergence and effect of c and multiculturalism. | and the communities within ated. The topics include – Marxism, structuralism, odernism. Subcultures and and society, the politics of n, sexuality, class, and |
| Equivalent Course(s) | SS 2312 | |

| Course Name | Photography | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | MD1106 | Prerequisite(s) MD 1107 |
| | | |
| Course Description | This course introduces students to the photography. It covers cameras, their digital versus film as a medium, set-up indoor versus outdoor photography (stu apertures, lighting, film and shutter speed panning, zooming, and light-painting, basic Photoshop editing and manipul developing and printing, and portfolio pr | construction and use, use of b, focus, framing, composition, udio versus landscape), lenses, d, exposure, and depth of field, black-and-white versus color, lating, narrative photography, |
| Equivalent Course(s) | None | |

| ourse Name | Play Analysis | Credit Hours 3 (3,0) |
|---------------------|--|---|
| ourse Code | MD 1119 | Prerequisite(s) MD 1122 |
| ourse Description | The focus of this course is upon a variety of techniques and strategies through which theatrical texts are analyzed and understood. It discusses plot and scene structures, character construction, the use and effect of language, syntax, rhythm, tone, sound, gesture, movement, design, and spatial composition, the origins and development of performance conventions, the relationship between audiences and performances, the interplay between performed events, and cultural and social formations. | |
| uivalent Course(s) | None | |
| | | |
| ourse Name | Civilization Studies-II | Credit Hours 3 (3,0) |
| ourse Code | MD 1216 | Prerequisite(s) MD 1116 |
| ourse Description | offer an introduction to the aes movements from renaissance to how one art movement trigg connections among the art mo | nergence of Gothic Cathedral and will thetic and contextual study of different to the present. The course will investigate ered the other and how to discover ovements of different times. The course s, and art of major Islamic civilizations |
| quivalent Course(s) | through history. MD1216 | |
| ourse Name | Production Practices-I | Credit Hours 3 (3,0) |
| ourse Code | production. Students will pract show a silent, low-budget, and the technology of motion pictur animation, frames, storyboardin | Prerequisite(s) MD 1107 is to the basic craft of film and video vice how to conceive, shoot, edit, and simple narrative film. The topics include es, HD cameras, flip-books, stop-motion g, basic camera set-ups, basic lighting, hing, basic editing, creating rough-cuts, occesses, and film screenings. |
| quivalent Course(s) | MD 2311 | |
| ourse Name | Basic Design | Credit Hours 3 (3,0) |
| ourse Code | MD 1211 | Prerequisite(s) MD 1107 |
| ourse Description | of design. It covers grids, hierc value, proportion, space, and p and composition, issues of balo | o fundamental elements and principles rchies, scale, point, line, texture, color, plane, figure-ground, color theory; form ince, emphasis, position, unity, pattern, epetition, and movement, and the |
| | anatomy of fonts and types. | |

| Introduction to Sound | Credit Hours 3 (3,0) |
|---|---|
| MD 1217 | Prerequisite(s) MD 3601 |
| | |
| This course introduces students to; the | properties and uses of sound in |
| media texts, evolving technologies, and | d techniques employed to create |
| | |
| 0 | |
| | |
| | er edining, dynamics processing, |
| sound design, and him sconing. | |
| | |
| None | |
| | |
| | |
| | |
| | |
| History and Aesthetics of Film | Credit Hours 3 (3,0) |
| | (-,-) |
| | Prerequisite(s) MD 2323 |
| This course covers the history and aes | thetics of world cinema from its |
| | |
| | |
| | 0 |
| | |
| innovations. The topics include Origin | ns (Edison, Melies and Griffith), |
| German Expressionism (Wieneand Lan | ng), Soviet montage (Eisenstein), |
| American and Indian Silent Films | (Chaplin, Keaton, and Wadia |
| Movietone), Impressionism and Surreali | sm (Bunuel and Renoir), national |
| cinemas (Italy, Japan, France, Easterr | n Europe, and India), American |
| | . , |
| directors, technological developmen | |
| | |
| experimental film | is and apparatos meory, and |
| experimental film. | is and apparatos meory, and |
| | is and apparatos meory, and |
| experimental film. | is and apparatos meory, and |
| | is and apparatos meory, and |
| None | |
| None Media Research | Credit Hours 3 (3,0) |
| None | Credit Hours 3 (3,0) |
| None Media Research MD 2325 | Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 122 |
| None Media Research MD 2325 This course teaches the quantitative an | Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 122 nd qualitative methods for media |
| None Media Research MD 2325 This course teaches the quantitative and research. It covers designing research of | Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 122 and qualitative methods for media question, reviewing the literature, |
| None Media Research MD 2325 This course teaches the quantitative and research. It covers designing research of writing proposal, researching industry | Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 122 and qualitative methods for media question, reviewing the literature, 1, researching text, researching |
| None Media Research MD 2325 This course teaches the quantitative and research. It covers designing research of | Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 122 and qualitative methods for media question, reviewing the literature, 1, researching text, researching |
| None Media Research MD 2325 This course teaches the quantitative and research. It covers designing research of writing proposal, researching industry | Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 122 and qualitative methods for media question, reviewing the literature, r, researching text, researching nnaire, focus group interviews, |
| None Media Research MD 2325 This course teaches the quantitative and research. It covers designing research of writing proposal, researching industry audiences, research tools – question | Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 122 and qualitative methods for media question, reviewing the literature, r, researching text, researching nnaire, focus group interviews, |
| None Media Research MD 2325 This course teaches the quantitative and research. It covers designing research of writing proposal, researching industry audiences, research tools – question | Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 122 and qualitative methods for media question, reviewing the literature, r, researching text, researching nnaire, focus group interviews, |
| None Media Research MD 2325 This course teaches the quantitative an research. It covers designing research of writing proposal, researching industry audiences, research tools – question ethnography, phenomenology, hermen | Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 122 and qualitative methods for media question, reviewing the literature, r, researching text, researching nnaire, focus group interviews, |
| None Media Research MD 2325 This course teaches the quantitative an research. It covers designing research of writing proposal, researching industry audiences, research tools – question ethnography, phenomenology, hermen | Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 122 and qualitative methods for media question, reviewing the literature, r, researching text, researching nnaire, focus group interviews, |
| None Media Research MD 2325 This course teaches the quantitative an research. It covers designing research of writing proposal, researching industry audiences, research tools – question ethnography, phenomenology, hermen | Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 122 and qualitative methods for media question, reviewing the literature, r, researching text, researching nnaire, focus group interviews, |
| | MD 1217 This course introduces students to; the media texts, evolving technologies, and sound recordings. It covers basic sound sampling, sequencing, mixing, and mo Studio 1, volume envelopes, voice-ow sound design, and film scoring. None History and Aesthetics of Film MD 2321 This course covers the history and aes origins to the present, emphasizing critically important movements and development of film genres, and the origing German Expressionism (Wieneand Lar American and Indian Silent Films Movietone), Impressionism and Surrealii cinemas (Italy, Japan, France, Eastern Melodrama (Sirk and Minnelli), film genres |

| narrafii product storyte versus metap necess charact quivalent Course(s) None Course Name Theate course Code MD 242 Course Description This cor product Federor perform and p Project archive | r Project 23 burse introduces students we ideas applicable to a stion. It covers theories ling, the psychology of print narratives, find hors, parables and ity, simple and comp thers, establishing place, thers, establishing place, thers, establishing place, there, | pped in the US through the auspices of the to create an original Living Newspaper and practice of documentary theater Newspaper and the Federal Theater rching newsworthy topics, conducting field interviews, improvisation and script | |
|---|---|--|--|
| narrafii product storyte versus metap necess charado quivalent Course(s) None Course Name Course Code MD 242 Course Description This correct product Federation Project archive develot | re ideas applicable to a stion. It covers theories ling, the psychology of print narratives, find hors, parables and ity, simple and comp sters, establishing place, restablishing place, the stablishing place, the stablishing place, the stablishing place, the stablishing place, the stablishing place, the stablishing place, stablishing place, the stablishing place, the stablishing place, stablishing place, the stablishing place, the stablishing place, the stablishing place, the stablishing place, place, the stablishing place, the stablishishing pl | advertising, journalism, and film and video and structures of narrative, elements of narrative, effective brainstorming, visual ling images, idioms, analogies, and allegories, causality, probability, and olex plots, inventing and developing conceiving, and shaping stories visually. Credit Hours 3 (3,0) Prerequisite(s) MD 1119 Chinques of theater and documentary oped in the US through the auspices of the to create an original Living Newspaper or and practice of documentary theater g Newspaper and the Federal Theater rching newsworthy topics, conducting field interviews, improvisation and script | |
| Course Name Theate Course Code MD 242 Course Description This con product Federac perform and p Project archive develo | 23 ourse discusses the tec tion using a form develo I Theatre Project, and nance. It covers history erformance, the Living , selecting and resea al research, conducting | Prerequisite(s) MD 1119 chniques of theater and documentary oped in the US through the auspices of the to create an original Living Newspaper or and practice of documentary theater g Newspaper and the Federal Theater rching newsworthy topics, conducting field interviews, improvisation and script | |
| Course Code MD 242 Course Description This con product Federac perform and p Project archive develo | 23 ourse discusses the tec tion using a form develo I Theatre Project, and nance. It covers history erformance, the Living , selecting and resea al research, conducting | Prerequisite(s) MD 1119 chniques of theater and documentary oped in the US through the auspices of the to create an original Living Newspaper or and practice of documentary theater g Newspaper and the Federal Theater rching newsworthy topics, conducting field interviews, improvisation and script | |
| Course Code MD 242 Course Description This con product Federac perform and p Project archive develo | 23 ourse discusses the tec tion using a form develo I Theatre Project, and nance. It covers history erformance, the Living , selecting and resea al research, conducting | Prerequisite(s) MD 1119 chniques of theater and documentary oped in the US through the auspices of the to create an original Living Newspaper or and practice of documentary theater g Newspaper and the Federal Theater rching newsworthy topics, conducting field interviews, improvisation and script | |
| produc Federa perforr and p Project archive develo | tion using a form develo I Theatre Project, and nance. It covers history erformance, the Living , selecting and resea Il research, conducting | chniques of theater and documentary oped in the US through the auspices of the to create an original Living Newspaper and practice of documentary theater Newspaper and the Federal Theater rching newsworthy topics, conducting field interviews, improvisation and script | |
| quivalent Course(s) None | | This course discusses the techniques of theater and documentary production using a form developed in the US through the auspices of the Federal Theatre Project, and to create an original Living Newspaper performance. It covers history and practice of documentary theater and performance, the Living Newspaper and the Federal Theater Project, selecting and researching newsworthy topics, conducting archival research, conducting field interviews, improvisation and script development, staging and design, and rehearsals and performance. | |
| | | | |
| Course Name Topics | n Asian Literature | Credit Hours 3 (3,0) | |
| Course Code MD 11 | | Prerequisite(s) MD 1222 | |
| fiction, employ and re and w | This course introduces students to a range of literatures produced in Asia fiction, poetry, and drama. It covers a range of themes and styles employed by Asian writers, examines how these writers appropriated and renewed older narrative forms and conventions, and consider how and why this body of work both responds to/and reconstructs Asian constructs of nation, society, community, and identity. | | |
| quivalent Course(s) SS 2404 | | | |

| Course Name | History of Commercial Art | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | MD 2318 | Prerequisite(s) MD 1107, MD 121 |
| Course Description | This course introduces students to the lithography to logos, book design to graphics, and covering the origins and h | branding, stencils to motion |
| | The topics include defining commerce commercial art and design, inve manuscripts, the psychology of bra advertising design, impact of new techn computers, and the past, present, and t | cial art, origins and history of enting alphabets, illuminated nding, graphic design versus sologies from the printing press to |
| Equivalent Course(s) | None | |
| Course Name | Audiovisual Editing | Credit Hours 3 (3,0) |
| Course Code | MD 2425 | Prerequisite(s) MD 2323, MD 121 |
| Course Description | This course discusses the aesthetics and | |
| | editing. The topics include perspective, transitions, and pace, cutting, splicing, fading, dissolving, and wiping, controlling and manipulating content and audience response, continuity editing, frame rates and temporal compression, visual effects, axis of action, jump-cuts, eye-lines and match-cuts, incorporating sound, ambient and Foley sound effects, and musical scoring. | |
| Equivalent Course(s) | None | |
| Course Name | Design Practices-I | Credit Hours 3 (3,0) |
| Course Code | MD 2427 | Prerequisite(s) MD 1211 |
| Course Description | This course covers the theory and practice of design to inculcate logical methods of reasoning through design problems, and to polish aesthetic sensibilities. The course introduces students to all the important software such as InDesign, Illustrator, Photoshop, CorelDraw, Freehand, etc. Topics may include package design, basic typography (Urdu and English), signs, symbols, logos and identities, illustration, photography, 2-D versus 3-D design, visual problem-solving, symmetry and asymmetry, rhythm and balance, hierarchies, layers, transparencies, and visual thinking. | |
| | | |

| ourse Name | Production Practices-II | Credit Hours 3 (3,0) | | |
|---|---|--|--|--|
| Course Code | MD 3523 | Prerequisite(s) MD 1217, MD 2313 | | |
| | | MD 2323 | | |
| Course Description | This course develops and extend | as the theories and techniques | | |
| | introduced in Production Practices-I. | | | |
| | students to use elements of sound ar | d dialogue with visuals in narrative | | |
| | films. It covers advanced single-co | amera techniques, using camera | | |
| | angles, jibs, cranes, tracks, and doll | | | |
| | lenses and looks, digital speed, co | | | |
| | visual storytelling, 3-act structures, pro editing, advanced digital editing, a | - | | |
| | post production strategies. | na mear and non-mear pre and | | |
| | pesi predecilen siraregios. | | | |
| quivalent Course(s) | MD 4725 | | | |
| | | | | |
| | | | | |
| Course Name | Principles of Journalism | Credit Hours 3 (3,0) | | |
| Course Code | MD 3505 | Prerequisite(s) MD 1122 | | |
| Course Description | This course introduces students to b | pasic news, feature, and editorial | | |
| | writing, and reporting. It covers lead writing, story-structure, interviewing, | | | |
| | note-taking, background research, issue analysis, feature development, | | | |
| | editorials, editing, journalistic ethics, and inference. | print versus digital, and evidence | | |
| | and interence. | | | |
| quivalent Course(s) | None | | | |
| | | | | |
| | | | | |
| S N | | | | |
| Course Name | Creative Writing | Credit Hours 3 (3,0) | | |
| Course Name Course Code | MD 1213 | Prerequisite(s) MD 1122, MD 1118 | | |
| Course Code | MD 1213 | Prerequisite(s) MD 1122, MD 1118 | | |
| | MD 1213 This course introduces students to | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of | | |
| Course Code | MD 1213 | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include | | |
| Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and g poetry, and creative expression in | | |
| Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and g poetry, and creative expression in | | |
| Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and g poetry, and creative expression in | | |
| Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and g poetry, and creative expression in | | |
| Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and g poetry, and creative expression in | | |
| Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and g poetry, and creative expression in | | |
| Course Code Course Description | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. None | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and g poetry, and creative expression in | | |
| Course Code Course Description quivalent Course(s) Course Name Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. None Media Psychology MD 2424 | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and g poetry, and creative expression in Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 1222 | | |
| Course Code Course Description quivalent Course(s) Course Name | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. None Media Psychology MD 2424 This course introduces students to | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and goetry, and creative expression in Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 1222 the basic principles of human 1 | | |
| Course Code Course Description quivalent Course(s) Course Name Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. None Media Psychology MD 2424 | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and goetry, and creative expression in Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 1222 the basic principles of human affect who we | | |
| Course Code Course Description quivalent Course(s) Course Name Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. None Media Psychology MD 2424 This course introduces students to behavior, with a focus on how different | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and goetry, and creative expression in Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 1222 the basic principles of human nt media shape and affect who we prmation of personality types, the | | |
| Course Code Course Description quivalent Course(s) Course Name Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. None Media Psychology MD 2424 This course introduces students to behavior, with a focus on how different are and how we think. It covers for structures of learning, the development and neuroses, the functions of memory MD 2424 | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and goetry, and creative expression in Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 1222 the basic principles of human affect who we principles of principles, the principles of principles, the | | |
| Course Code Course Description quivalent Course(s) Course Name Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. None Media Psychology MD 2424 This course introduces students to behavior, with a focus on how different are and how we think. It covers for structures of learning, the developm | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and goetry, and creative expression in Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 1222 the basic principles of human affect who we principles of principles, the principles of principles, the | | |
| Course Code Course Description Equivalent Course(s) Course Name Course Code Course Description | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. None Media Psychology MD 2424 This course introduces students to behavior, with a focus on how different are and how we think. It covers for structures of learning, the developm and neuroses, the functions of memi- effect of media images on self-percent | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and goetry, and creative expression in Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 1222 the basic principles of human affect who we principles of principles, the principles of principles, the | | |
| Course Code Course Description quivalent Course(s) Course Name Course Code | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. None Media Psychology MD 2424 This course introduces students to behavior, with a focus on how different are and how we think. It covers for structures of learning, the development and neuroses, the functions of memory MD 2424 | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and goetry, and creative expression in Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 1222 the basic principles of human affect who we principles of principles, the principles of principles, the | | |
| ourse Code ourse Description quivalent Course(s) ourse Name ourse Code ourse Description | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. None Media Psychology MD 2424 This course introduces students to behavior, with a focus on how different are and how we think. It covers for structures of learning, the developm and neuroses, the functions of memi- effect of media images on self-percent | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and goetry, and creative expression in Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 1222 the basic principles of human affect who we principles of principles, the principles of principles, the | | |
| Course Code Course Description quivalent Course(s) Course Name Course Code Course Description | MD 1213 This course introduces students to creative writing in both English understanding and analyzing creati non-fiction, understanding and writing different genres and language styles. None Media Psychology MD 2424 This course introduces students to behavior, with a focus on how different are and how we think. It covers for structures of learning, the developm and neuroses, the functions of memi- effect of media images on self-percent | Prerequisite(s) MD 1122, MD 1118 various forms and techniques of and Urdu. The topics include ve texts, writing prose fiction and goetry, and creative expression in Credit Hours 3 (3,0) Prerequisite(s) MD 1104, MD 1222 the basic principles of human affect who we principles of principles, the principles of principles, the | | |

| Course Name | Animation and Motion Graphics | Credit Hours | 3 (3,0) |
|----------------------|--|--|---|
| Course Code | MD 3518 | Prerequisite(s) | MD 2425, MD 242 |
| Course Description | This course discusses the principles of motion graphic design, and to teach them how to create complex, multi-layered animations. It also covers after effects (AE) basics; interface and palettes, vector art versus bitmap art, anchor points, typography in AE, track mattes, layers, framing, basic animation, and rotoscoping, motion masks, composing and nesting, using green screens, color keying and compositing, expressions in AE; scripting, time remapping, and temporal processing. | | . It also rt versus layers, nposing positing, |
| Equivalent Course(s) | None | | |
| Course Name | Design Practices-II | Credit Hours | 3 (3,0) |
| Course Code | MD 3527 | Prerequisite(s) | MD 2427 |
| Course Description | This course extends and develops theories and p Graphic Design-I. It discusses contemporary trend layout strategies, merging text and art, sustainab design, the psychological impact of design, or (Urdu and English), publication design, brochure cover art, advanced Photoshop techniques, ar techniques. MD 2409 | s and styles, adv le design, propo advanced typc es, packaging, | vanced aganda ography posters, |
| Course Name | Radio Programming and Production | Credit Hours | 3 (3,0) |
| Course Code | MD 3525 | | |
| Course Description | MD 3525 Prerequisite(s) MD 1217, MD 360 This course aims to train students to apply in a practical setting the skills they've learned in their sound and music classes using SZABIST's on-campus radio station. It discusses digital audio recording, digital workstations, and introduction to Studio 1, editing techniques, and radio story production and programming. | | |
| | | | |

| Course Name | Media Laws and Ethics | Credit Hours 3 (3,0) |
|----------------------------|---|--|
| Course Code | MD 2405 | Prerequisite(s) MD 1115, MD 1222 |
| Course Description | This course introduces students to the way media policies are influenced and shaped by legal and ethical considerations. It covers basic ethical theories, defining media laws, free speech and human rights, press freedoms and democratic politics, slander, defamation and libel, morality, propriety and obscenity laws, private and public knowledge, objectivity and sensationalism, conflicts of interest and transparency, the use, abuse, and protection of sources, accuracy, liability and licensing, regulating advertising, copyright laws and fair-use, self-censorship and content regulation, federal, provincial, and local laws, Pakistan Electronic Media Regulatory Authority (PEMRA), new media technologies and the law, and contempt of court. | |
| Equivalent Course(s) | None | |
| | | |
| Course Name | State and Nation Building in Pakistan | Credit Hours 3 (3,0) |
| Course Code | MD 4701 | Prerequisite(s) MD 1216, MD 1222 |
| Course Description | The focus of this course is on both the idea and fact of Pakistan starting with the 1857 War of Independence, extending through Partition, the founding of the nation and its subsequent dismemberment, and ending with contemporary issues and challenges facing our future. The topics include theories of nationalism, Iqbal and Pakistan, partition and political relations with India, military versus civilian rule 1971 war and the break-up of Pakistan, 1973 Constitution, secularism and Islam, national symbols and national identity, the role of the media, foreign policy, and national identity. | |
| | | |
| Equivalent Course(s) | SS 3605 | |
| | SS 3605 | Credit Hours 3 /3 0) |
| Course Name | | Credit Hours 3 (3,0) Prerequisite(s) MD 3523 |
| | SS 3605 Producing Short Narratives | Credit Hours 3 (3,0) Prerequisite(s) MD 3523 |
| Course Name | SS 3605 Producing Short Narratives | Prerequisite(s) MD 3523 re, write, storyboard, film, edit, employing the skills they have n courses in the previous five scripting, creating characters, ferencing, creating storyboards selection and design, short |
| Course Name Course Code | SS 3605 Producing Short Narratives MD 4714 This course focuses on how to conceiv produce, and present a short project of learned in their production and design semesters. It discusses conceiving and design and art direction, light and shot re and mood boards, music and sound | Prerequisite(s) MD 3523 re, write, storyboard, film, edit, employing the skills they have n courses in the previous five scripting, creating characters, ferencing, creating storyboards a selection and design, short |

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| Course Name | Theories of Visual Culture | Credit Hours | 3 (3,0) |
|----------------------|--|--|---|
| Course Code | MD 3506 | Prerequisite(s) | MD 1104, MD 122 |
| | | | |
| Course Description | This course introduces students to a range of defining, analyzing, and categorizing visu- limited to, films, photographs, advertis sculpture, graffiti, architecture, paintings, per and interior design. It covers theory versus p sociological processes of culture, the conspicuous consumption, Marxist, fe semiological approaches to visual culture, McLuhan, media, and messages. | ual texts including, b sements, television erformance, fashion, g oraxis, defining the visu politics of visual c minist, structuralism, | ut not shows, raphic al, the ulture, and |
| Equivalent Course(s) | SS 4804 | | |
| | | | |
| Course Name | Thesis-I | Credit Hours | 3 (3,0) |
| Course Code | MD 4807 | Prerequisite(s) | Dept. Permission (38 Courses) |
| | | | |
| | students the opportunity to demonstrate to the Media Sciences faculty their proficiency in their chosen area of specialization. It covers proposal development and pre-production (Communication design and market research, component gathering, scriptwriting, campaign planning, storyboarding, production design, and story research). | | oposal narket |
| Equivalent Course(s) | None | | |
| Course Name | Thesis-II | Credit Hours | 3 (3,0) |
| Course Code | MD 4808 | Prerequisite(s) | |
| | | | |
| | The course is a culmination of thesis I. Students start their projects (films, documentaries, journalistic assignments, written work, advertising or design projects) and makes final presentations to demonstrate their proficiency in their chosen area of specialization. | | |
| Course Description | documentaries, journalistic assignments, v design projects) and makes final presente | written work, advertis ations to demonstrate | (films, ing or |
| Course Description | documentaries, journalistic assignments, v design projects) and makes final presente | written work, advertis ations to demonstrate | (films, ing or |

4.2 Masters

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155

Z.2. Master of Advertising (MoA)

Students enrolled in Master of Advertising program are required to complete 8 courses and a 6-credit hour Research Project within five (5) years. The breakup of the courses is as follows:

- 5 Core Courses (15 Credit Hours)
- 3 Elective Courses (9 Credit Hours)
- 1 Research Project (6 Credit Hours)

Master of Advertising (36 credit hours)

| Course Code | Course Title | Page # | | | |
|-------------|--|--------|--|--|--|
| First Year | | | | | |
| | | | | | |
| | Fall Semester | | | | |
| MD 5168 | Research Methods in Advertising | 156 | | | |
| MD 5xxx | History of Communication and Advertising | 156 | | | |
| MD 5xxx | Ideation Techniques in Advertising | 156 | | | |
| MD 5167 | Principles of Advertising | 157 | | | |
| | | | | | |
| | Spring Semester | | | | |
| MD 5xxx | Creative Advertising Campaigns | 157 | | | |
| MD 5xxx | Research Project-I | 157 | | | |
| MD 5xxx | Elective-I | 289 | | | |
| MD 5xxx | Elective-II | 289 | | | |
| | | | | | |
| | Second Year | | | | |
| | | | | | |
| | Fall Semester | | | | |
| MD 5xxx | Research Project-II | - | | | |
| MD 5xxx | Elective-III | 289 | | | |

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

4.1.1 Master of Advertising (MoA)

| ourse Name | Research Methods in Advertising | Credit Hours 3 (3,0) |
|--------------------------|--|--|
| ourse Code | MD 5168 | Prerequisite(s) None |
| ourse Description | This course teaches students how to co understand how consumer behavior and maximizes the effective reach of ad advanced quantitative vs. qualitative and interpreting data sets, customi effective pre and post testing studies, f meaning, brand linkage and bran longitudinal vs. latitudinal studies, sele copy sorts. | d advertisements work, and that lvertising campaigns. It covers research strategies, collecting zed vs. syndicated research, lows of attention, emotion, and ding moments, ad tracking, |
| valent Course(s) | MD 5162 SS 3504 BA 5609 | |
| ourse Name | History of Communication and Advertisi | ng Credit Hours 3 (3,0) |
| ourse Code | MD 5xxx | Prerequisite(s) None |
| ourse Description | This course introduces students to a soc and its' role in society. It covers contemporary advertising and its relation Visual and Oral Communication of mechanisms of persuasion and effects through representation of gender, class various groups; inclusive of how advertis children and society. | the historical beginnings of onship to popular culture. Part of theories, advertising content, on human behavior is studied s, race and ethnicity present in |
| uivalent Course(s) | MD 5164 | |
| course Name | Ideation Techniques in Advertising | Credit Hours 3 (3,0) |
| ourse Name ourse Code | Ideation Techniques in Advertising MD 5xxx | Credit Hours 3 (3,0) Prerequisite(s) None |

Equivalent Course(s) MD5166

4.1.1 Master of Advertising (MoA)

| Course Name | Principles of Advertising | Credit Hours | 3 (3,0) |
|-----------------------------------|---|--|--|
| Course Code | MD 5167 | Prerequisite(s) | None |
| Course Description | The purpose of this course is to gi industry, its functions and practices within the broader communications | , and an appreciation of i | Ũ |
| | In the course the students will a advertising, discovering best practi exploring the processes involved in a | ce in the advertising indus | |
| | They will examine advertising pro agencies, advertising professional audiences, media, and strategic analysis sheds light on the important evolution of advertising. | roles, advertising clients, and creative thinking. A t | , target nistorical |
| Equivalent Course(s) | None | | |
| | | | |
| Course Name | Creative Advertising Campaigns | Credit Hours | 3 (3,0) |
| Course Name Course Code | Creative Advertising Campaigns MD 5xxx | Credit Hours Prerequisite(s) | |
| | MD 5xxx This course investigates issues assoc such as development of creative advertising messages and evaluati campaigns. By the end of this collaboratively in a team to desi campaign. | Prerequisite(s) ciated with creativity in ad strategy, generation of su on of creative output to p course you will have gn and create a live ad | None vertising loccessful broduce worked vertising |
| Course Code | MD 5xxx This course investigates issues assoc such as development of creative advertising messages and evaluati campaigns. By the end of this collaboratively in a team to desi | Prerequisite(s) ciated with creativity in ad strategy, generation of su on of creative output to p a course you will have gn and create a live ad ad learning experience in wh and assessed in a real or sin feedback from industry | None vertising iccessful produce worked vertising nich your mulated |
| Course Code | MD 5xxx This course investigates issues assoc such as development of creative advertising messages and evaluati campaigns. By the end of this collaboratively in a team to desi campaign. The course includes a work integrate knowledge and skills will be applied workplace context and where | Prerequisite(s) clated with creativity in ad strategy, generation of su on of creative output to p course you will have gn and create a live ad ed learning experience in wh and assessed in a real or sin feedback from industry ence. | None vertising uccessful produce worked vertising hich your mulated and/or |
| Course Code | MD 5xxx This course investigates issues assoc such as development of creative advertising messages and evaluati campaigns. By the end of this collaboratively in a team to desi campaign. The course includes a work integrate knowledge and skills will be applied workplace context and where community is integral to your experie | Prerequisite(s) clated with creativity in ad strategy, generation of su on of creative output to p course you will have gn and create a live ad ed learning experience in wh and assessed in a real or sin feedback from industry ence. | None vertising uccessful produce worked vertising hich your mulated and/or |
| Course Code Course Description | MD 5xxx This course investigates issues assoc such as development of creative advertising messages and evaluati campaigns. By the end of this collaboratively in a team to desi campaign. The course includes a work integrate knowledge and skills will be applied workplace context and where community is integral to your experies Examine creative approaches to ad | Prerequisite(s) clated with creativity in ad strategy, generation of su on of creative output to p course you will have gn and create a live ad ed learning experience in wh and assessed in a real or sin feedback from industry ence. | None vertising uccessful produce worked vertising hich your mulated and/or |

| | , | |
|----------------------|---|----------------------------------|
| Course Code | MD 5349 | Prerequisite(s) Dept. Permission |
| | | |
| Course Description | Research Project provides students with an opportunity to conduct a | |
| | sustained research and analysis focused on a subject of their choice. | |
| | | |
| | | |
| Equivalent Course(s) | None | |

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4.2 Masters

Z.2.2 Master of Science in Media Studies (MS Media Studies)

Students enrolled in MS in Media Studies program are required to complete 30 credits within five (5) years. The breakup of the courses is as follows:

- 6 Compulsory Courses (18 Credit Hours)
- 2 Electives²⁴ (6 Credit Hours)
- 2 Independent Research Studies (6 Credit Hours)

| Course Code | Course Title | Page # |
|-------------|---------------------------------|---------|
| | First Year | |
| | Full Coursestory | |
| | Fall Semester | |
| MD 5102 | Media and Contemporary Culture | 159 |
| MD 5104 | Research Methodology | 159 |
| MD 5207 | Media Evolution and Innovation | 159 |
| | Spring Semester | |
| MD 5212 | Theories of Visual Culture | 160 |
| MD 5112 | Media and Post-Colonialism | 160 |
| | | |
| MD 5201 | Communication for Social Change | 160 |
| | Second Year | |
| | | |
| | Fall Semester | |
| MD 5xxx | Elective-I | 288-289 |
| MD 5xxx | Elective-II | 288-289 |
| MD 5xxx | Independent Research Study-I | - |
| | Spring Semester | |
| | sping semesier | |

MD 5xxx Independent Research Study-II

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

24- List of Electives is provided in Appendix B

4.1.1 Master of Science in Media Studies (MS Media Studies)

| Course Name | Media and Contemporary Culture | Credit Hours 3 (3,0) | |
|-----------------------------------|---|--|---|
| Course Code | MD 5102 | Prerequisite(s) None | |
| Course Description | This course discusses theoretical foundar criticism, especially as this relates to a practices across media. The topics ind popular culture-Marxism, structuralism, and post-modernism. Also, subcultures a media in culture and society, the poli ethnicity, religion, sexuality, class, and no | aesthetic, social and political clude: Theories of media and post-structuralism, modernity, and youth cultures, the role of tics of identity (race, gender, | |
| Equivalent Course | effect of cyber culture, globalization and | | |
| Course Name | Research Methodology | Credit Hours 3 (3,0) | |
| Course Code | MD 5104 | Prerequisite(s) None | |
| Course Description | This course introduces students to both methods of research and analysis. T research (choosing, narrowing, and research questions and hypotheses; o quantitative methods (sampling, design interviews, selecting focus groups, analyz (primary vs. secondary sources, adjudice assessing bias); textual analysis; historica audience analysis, and writing research r | he topics include: designing shaping topics); articulating conducting literature reviews; ng questionnaires, conducting ting data); qualitative methods uting contradictory information, I analysis; productions analysis; | |
| Equivalent Courses Course Name | SS 5229 SS 6313 MS 5131 Media Evolution and Innovation | Credit Hours 3 (3,0) | |
| Course Code | MD 5207 | Prerequisite(s) None | |
| Course Description | This course aims at discussing the development of media practices and te possibilities. The topics include Birth of r media content; economic, social and | emergence, growth, and chnologies, and to chart future nedia technologies; traditional cultural influences; traditional ergence, evolution, and ns technologies; synergy and | |
| Equivalent Courses | MD 5164 | | - |

4.1.1 Master of Science in Media Studies (MS Media Studies)

| Course Name | Theories of Visual Culture | Credit Hours 3 (3,0) |
|--|---|--|
| Course Code | MD 5212 | Prerequisite(s) MD 5102 |
| | | |
| Course Description | This course introduces students to a ran defining, analyzing, and categorizing limited to, films, photographs, adv sculpture, graffiti, architecture, pai graphic, and interior design. It covers defining the visual; the sociological pro- visual culture; conspicuous consu- structuralism, and semiological approa- vs. style. | visual texts including, but not vertisements, television shows, intings, performance, fashion, topics such as theory vs. praxis; pocesses of culture; the politics of umption; Marxism, Feminism, |
| Equivalent Courses | None | |
| | | |
| Course Name | Media and Post-Colonialism | Credit Hours 3 (3,0) |
| Course Code | MD 5112 | Prerequisite(s) MD 5102 |
| Course Description | This course discusses theories and prac | tices of media representation as |
| | these relate to the formation of post-c such as theories of post-colonialism representation; post-modernism and nation building, and identity; med indigeneity, and hybridity; language of | n; the politics of post-colonial post-colonialism; nationalism, dia and resistance; ethnicity, |
| | liberation; alternative media and repres | |
| Equivalent Courses | | |
| Equivalent Courses Course Name Course Code | liberation; alternative media and repres | |
| Course Name | liberation; alternative media and repres | sentations of local. Credit Hours 3 (3,0) |
| Course Name Course Code | liberation; alternative media and repres | Credit Hours 3 (3,0) Prerequisite(s) None develop, apply, and coordinate elp facilitate interdisciplinary the topics include: Models of ms, change theories, the impact ons in the Triple Helix model i.e. ct management and resolution, in social change, and content |
| Course Name | liberation; alternative media and represent None Communication for Social Change MD 5201 This course teaches students how to be communication strategies that he collaboration and social change. The communication, information ecosystem of media concentration and interactive Public, Private and Academia, conflic media activism, gender and its role | Credit Hours 3 (3,0) Prerequisite(s) None develop, apply, and coordinate elp facilitate interdisciplinary the topics include: Models of ms, change theories, the impact ons in the Triple Helix model i.e. ct management and resolution, in social change, and content |

Department of echatronics Engineering

5.1 Bachelor of Engineering

S.I. Bachelor of Engineering in Mechatronics Engineering (BEME)

Students enrolled in the Bachelor of Engineering in Mechatronics (BEME) program, are required to complete 46 courses with a total of 140 credit hours and an Internship, within six (6) years, to be eligible for BE (Mechatronics) degree. The following is the break-up of the 46 courses:

- 42 Compulsory Courses (123 Credit Hours)
- 4 Electives²⁵ (11 Credit Hours)
- Final Year Project (6 Credit Hours) (to be completed in 7th & 8th semesters)

| Course Code | Course Title Page | # |
|---|--|--|
| | First Year | |
| | Fall Comester | |
| ME 1101 ME 1111 ME 1104 ME 1106 ME 1109 ME 1203 | Fall Semester Communication and Presentation Skills Electric Circuits Engineering Mathematics-I: Calculus and Analytical Geometry Islamic Studies Engineering Drawing-I Engineering Physics | 164 164 165 165 165 |
| | Spring Semester | |
| ME 1201 ME 1202 ME 1204 ME 1207 ME 2301 ME 2306 | Electronic Devices and Circuits Engineering Mathematics-II: Linear Algebra and Ordinary Differential Equations (ODES) Engineering Statics Engineering Workshop Computer Programming Pakistan Studies | 166 166 167 167 167 |
| | Second Year | |
| | Fall Semester | |
| ME 2302 ME 2303 ME 2304 ME 2311 ME 2307 ME 2309 ME 23xx | Digital Logic Design Engineering Dynamics Engineering Mathematics-III: 3-D Geometry and Vector Calculus Network Analysis Data Structures and Object-Oriented Programming Engineering Drawing-II Social Sciences Elective | 166 168 168 168 168 168 169 290 |
| | Spring Semester | |
| ME 2401 ME 2403 ME 2406 ME 2407 ME 2408 ME 3607 | Electronics Circuit Design Engineering Mathematics-IV: Transformation Techniques Strength of Materials Actuating Systems Signals and Systems Solid Modeling | 169 169 170 170 170 |

25- List of Electives is given in Appendix B.

162

S.I.I Bachelor of Engineering in Mechatronics Engineering (BEME)

| Course Cod | e Course Title | Page # |
|------------|--|--------|
| | Third Year | |
| | | |
| | Fall Semester | |
| VE 3201 | Engineering Mathematics-V: Numerical Methods | 170 |
| AE 3502 | Fluid Mechanics | 171 |
| ле 3509 | Microprocessor and Microcontroller Based Systems | 171 |
| ле 3506 | Materials and Manufacturing Processes | 171 |
| лЕ 3507 | Theory of Machines | 172 |
| AE 3508 | Instrumentation and Measurements | 172 |
| | Spring Semester | |
| ЛЕ 3602 | Control Systems | 172 |
| ЛЕ 3603 | Engineering Mathematics-VI: Probability and Statistics | 173 |
| ЛЕ 3604 | Machine Design | 173 |
| ЛЕ 3605 | Power Electronics | 173 |
| VE 4202 | Mechatronics System Design | 173 |
| AE 1205 | Technical Writing Skills | 174 |
| | Fourth Year | |
| | Fall Semester | |
| VE 4205 | Engineering Economics and Project Management | 174 |
| ЛЕ 4707 | Mechanical Vibrations | 175 |
| AE 4701 | Fundamentals of Thermal Sciences | 175 |
| ∕/E 4802 | Robotics | 175 |
| ΛE 4708 | Final Year Project I* | 176 |
| ∕/E 4xxx | Engineering Elective-I | 290 |
| | Spring Semester | |
| VE 4206 | Professional Practices | 176 |
| AE 4808 | Final Year Project II* | 176 |
| AE 4807 | Manufacturing Automation | 176 |
| ΛE 4xxx | Engineering Elective-II | 290 |
| ΛE 4xxx | Management Sciences Elective | 290 |

All courses may not be offered every year. Alternate courses may be substituted as and when required.

*To be continued and final grades will be awarded at the end of 8th Semester.

*To be continued from 7th semester and final grades will be awarded at the conclusion of 8th Semester.

Sachelor of Engineering in Mechatronics Engineering (BEME)

| Course NameCommunication and Presentation SkillsCredit Hours2 (2,0)Course CodeME 1101Prerequisite(s)NoneCourse DescriptionThis course is aimed at improving English language communication and presentation skills of students. With a multidimensional approach, the course enables the students to practice the use of English in everyday situations, building upon all four skills: listening, speaking, reading and writing. It prepares them to participate in seminars and discussions and make effective presentations, with an awareness of the audience and effective use of verbal and non-verbal communication. The course addresses the basic English language issues faced by the learners, while also aiming to foster in them critical skills to develop a concise and clear argument, respond to others' comments and negotiate their own point of view persuasively. The course uses an interactive, participatory methodology, to engage learners' interest and boost their confidence to use English in everyday communication in formal and informal contexts.Equivalent Course(s)CSC 2101, MD 1122, SS 1116, BIO 1111 AF 1203, EN 1106 | | | |
|---|----------------------|--|--|
| Course Description This course is aimed at improving English language communication and presentation skills of students. With a multidimensional approach, the course enables the students to practice the use of English in everyday situations, building upon all four skills: listening, speaking, reading and writing. It prepares them to participate in seminars and discussions and make effective presentations, with an awareness of the audience and effective use of verbal and non-verbal communication. The course addresses the basic English language issues faced by the learners, while also aiming to foster in them critical skills to develop a concise and clear argument, respond to others' comments and negotiate their own point of view persuasively. The course uses an interactive, participatory methodology, to engage learners' interest and boost their confidence to use English in everyday communication in formal and informal contexts. | Course Name | Communication and Presentation Skills | Credit Hours 2 (2,0) |
| presentation skills of students. With a multidimensional approach, the course enables the students to practice the use of English in everyday situations, building upon all four skills: listening, speaking, reading and writing. It prepares them to participate in seminars and discussions and make effective presentations, with an awareness of the audience and effective use of verbal and non-verbal communication. The course addresses the basic English language issues faced by the learners, while also aiming to foster in them critical skills to develop a concise and clear argument, respond to others' comments and negotiate their own point of view persuasively. The course uses an interactive, participatory methodology, to engage learners' interest and boost their confidence to use English in everyday communication in formal and informal contexts. | Course Code | ME 1101 | Prerequisite(s) None |
| presentation skills of students. With a multidimensional approach, the course enables the students to practice the use of English in everyday situations, building upon all four skills: listening, speaking, reading and writing. It prepares them to participate in seminars and discussions and make effective presentations, with an awareness of the audience and effective use of verbal and non-verbal communication. The course addresses the basic English language issues faced by the learners, while also aiming to foster in them critical skills to develop a concise and clear argument, respond to others' comments and negotiate their own point of view persuasively. The course uses an interactive, participatory methodology, to engage learners' interest and boost their confidence to use English in everyday communication in formal and informal contexts. | | | |
| Equivalent Course(s) CSC 2101, MD 1122, SS 1116, BIO 1111 AF 1203, EN 1106 | Course Description | presentation skills of students. With a multic course enables the students to practice the situations, building upon all four skills: listenir writing. It prepares them to participate in ser make effective presentations, with an aware effective use of verbal and non-verbal co addresses the basic English language issues for also aiming to foster in them critical skills to de argument, respond to others' comments and of view persuasively. The course uses an methodology, to engage learners' interest of to use English in everyday communication | dimensional approach, the use of English in everyday and, speaking, reading and minars and discussions and eness of the audience and communication. The course acced by the learners, while evelop a concise and clear d negotiate their own point interactive, participatory and boost their confidence |
| | Equivalent Course(s) | CSC 2101, MD 1122, SS 1116, BIO 1111 AF 1203 | 3, EN 1106 |

| Course Name | Electric Circuits | Credit Hours 3 (2,1) |
|----------------------|--|--|
| Course Code | ME 1111 | Prerequisite(s) None |
| Course Description | | rking principles of resistors, capacitors |
| | Current Law (KCL) and Kirchhoff's detail. Each discussion on theory is | e and current. Ohm's law, Kirchhoff's s Voltage Law (KVL) are explained in s supplemented with appropriate lab rudents for more advanced courses in ved in subsequent semesters. |
| Equivalent Course(s) | None | |

| Course Name | Engineering Mathematics-I: Calculus and Analytical Geometry Credit Hours 3 (3,0) |
|----------------------|--|
| Course Code | ME 1104 Prerequisite(s) None |
| | |
| Course Description | The course begins with a review of vector algebra and trigonometry; then limits and continuity are introduced. With the knowledge of limits and continuity the students develop the concept of the derivative and its applications. At the end, the students study the anti-derivative of elementary functions and applications of the definite integral in geometry, science, and engineering. |
| Equivalent Course(s) | CSC 1101, BA 2404 |
| | |

5.1.1 Bachelor of Engineering in Mechatronics Engineering (BEME)

| Course Name | Islamic Studies | Credit Hours 2 (2,0) | |
|----------------------------|--|--|--|
| Course Code | ME 1106 | Prerequisite(s) None | |
| Course Description | by topics, such as; Ibadaat (Worsl (i.e. commands and prohibitic comparison with science, life hist and Blessings of Allah be upon (lawful earning) and obligations human rights and minorities, Isla | on to basic principles of Islam, followed hip), Amr Bil Maroof wa Nahi anl Munkir n), Islam's concept of knowledge, ory of the Prophet Muhammad (Peace Him), unity of Ummah ; Kasb-e-Halal of a Muslim. In addition, fundamental mic society, maintaining identity in a , problems faced by Muslims and the being covered. | |
| Equivalent Course(s) | None | | |
| Course Name | Engineering Drawing-I | Credit Hours 2 (0,2) | |
| Course Code | ME 1109 | Prerequisite(s) None | |
| Course Description | this is accomplished through knowledge of orthographic proje to engineering drawing basics dimensioning, use of pencil ar drawing sheet. Then students are drawings of different objects. Fu practice to draw orthographic p | | |
| Course Name Course Code | Engineering Physics ME 1203 | Credit Hours 3 (2,1) Prerequisite(s) None | |
| Course Description | physical processes which govern key branches in physics like mec | e is to develop an understanding of the nature. Emphasis is given to certain nanics, fluids, heat, electromagnetism, a given environment. This constructs a semesters. | |
| Equivalent Course(s) | None | | |

S... Bachelor of Engineering in Mechatronics Engineering (BEME)

| Course Name | Electronic Devices and Circuits | Credit Hours 4 (3,1) |
|----------------------------|--|--|
| Course Code | ME 1201 | Prerequisite(s) ME 1102 |
| Course Description | This course is an introduction to electronic circu concepts of semi-conductor diode, its current-ver- various applications of junction diode, and Bip and Field-Effect Transistor are evolved as two addition, relations of various currents and voltage explained in detail, and effect of temperature of devices is highlighted. A variety of application transistors, amplifiers and power supplies are disc | oltage relationship and polar Junction Transistor PN-junction devices. In es in these transistors are on these semiconductor ns of various types of |
| Equivalent Course(s) | None | |
| Course Name | Engineering Mathematics-II: Linear Algebra and Ordinary Differential Equations (ODES) | Credit Hours 3 (3,0) |
| Course Code | ME 1202 | Prerequisite(s) ME 1104 |
| Course Description | The first half of the course covers topics such as; | linear algebra systems |
| Equivalent Course(s) | of linear algebraic equations, vector spaces, linear dimension, matrix algebra, determinants, eigenvectors. The second half covers; ordinary including solutions to separable and linear first higher order linear equations with constant coeff CSC 2104 | , eigenvalues, and differential equations, order equations, and |
| Course Name Course Code | Engineering Statics ME 1204 | Credit Hours 3 (3,0) Prerequisite(s) None |
| | This course provides a basic understanding of | the part of mechanics |
| Course Description | This course provides a basic understanding of which is concerned with the equilibrium of bod forces. It lays the foundation and framework for namely Engineering Dynamics and Mechanics of include: basic concepts of mechanics and vector and equilibrium of particles, free-body diagrams bodies, force systems, analysis of trusses, beams forces, friction and application of frictional forces | ies under the action of or subsequent courses, of Materials. The topics ors, free-body diagrams and equilibrium of rigid and frames, distributed |
| Equivalent Course(s) | None | |

State <th

| Course Name | Engineering Workshop | Credit Hours 2 (0,2) |
|--|---|--|
| ourse Code | ME 1207 | Prerequisite(s) None |
| Course Description | Engineering Workshop course introduces students to various engineering processes in electrical and mechanical workshops. The electrical workshop would further include the hardware and software interfacing and the electro-mechanical project. Whereas, the mechanical workshop would elaborate on the wood working shop, metal work, welding shop, fitting shop and machine shop. | |
| Equivalent Course(s) | None | |
| | | |
| Course Name | Computer Programming | Credit Hours 3 (2,1) |
| Course Code | ME 2301 | Prerequisite(s) None |
| Course Description | Computer Programming teaches Language. The topics include: C operations), expressions and op statement, flowcharting, if/else struct flow conditions, properties of whi statements, functions, arrays and the structures. | (variable, data type, arithmetic berators, decisions (conditional ure, logical operators), loops, over le loop, do while loop, switch |
| Equivalent Course(s) | None | |
| | | |
| Course Name | Pakistan Studies | Credit Hours 2 (2,0) |
| Course Code | ME 2306 | Prerequisite(s) None |
| Course Description | This course is oriented towards dev Pakistan with a critical perspective. development, cultural and social inte foreign policy forms a major part of th | History, economics, constitutional gration, as well as the study of the |
| | None | |
| Equivalent Course(s) | | |
| | Digital Logic Design | Credit Hours 3 (2,1) |
| Course Name | Digital Logic Design ME 2302 | Credit Hours 3 (2,1) Prerequisite(s) None |
| Equivalent Course(s) Course Name Course Code Course Description | | Prerequisite(s) None oncepts, well-supported through is of the applied techniques for the bics include; introduction to various chniques, minimization techniques and sequential logic circuits, basic as, decoders, multiplexers, shift thods of designing digital circuits. |

S.I.I Bachelor of Engineering in Mechatronics Engineering (BEME)

| Course Name | Engineering Dynamics | Credit Hours 3 (3,0) |
|---|---|---|
| ourse Code | ME 2303 | Prerequisite(s) ME 1204 |
| Course Description | During this course, students are explained the co particle motion in various coordinate systems constrained motion. This helps in understanding t on a system in motion. Students are further expo which include; the force mass acceleration, wo momentum. These help students in strengthenin bodies in motion. | as well as relative and he forces being applied osed to particles kinetics rk – energy and impulse |
| quivalent Course(s) | None | |
| Course Name | Engineering Mathematics-III: 3-D Geometry and Vector Calcul | us Credit Hours 3 (3,0) |
| Course Code | ME 2304 | Prerequisite(s) ME 1104 |
| | | |
| Course Description | This course is designed to introduce the con- functions, functions of several variables, parti- integrals, and vector analysis. Also, applicati- physics, as well as other real-life problems are po- the course, e.g., surface areas or volumes of a divergence of vector fields, etc. | ial derivatives, multiple ions to geometry and articularly emphasized in |
| quivalent Course(s) | None | |
| | | |
| Course Name | Network Analysis | Credit Hours 2 (2,0) |
| | Network Analysis ME 2311 | Credit Hours 2 (2,0) Prerequisite(s) ME 1102 |
| Course Code | | Prerequisite(s) ME 1102 "'s response of first and erential equation of the inctions. The concept of uced as a tool to solve pmains. The course also |
| Course Code Course Description | ME 2311 This course focuses on the analysis and circuit second order circuits by formulation of the diffe circuit and its solutions for DC and AC Forcing fu phasors and Laplace transformation are introd the circuit equations in Laplace and phasor do | Prerequisite(s) ME 1102 "'s response of first and erential equation of the inctions. The concept of uced as a tool to solve pmains. The course also |
| Course Name Course Code Course Description Equivalent Course(s) | ME 2311 This course focuses on the analysis and circuit second order circuits by formulation of the diffe circuit and its solutions for DC and AC Forcing fu phasors and Laplace transformation are introd the circuit equations in Laplace and phasor do covers the frequency response of a circuit throu None | Prerequisite(s) ME 1102 It's response of first and erential equation of the inctions. The concept of uced as a tool to solve omains. The course also gh sinusoidal analysis. |
| Course Code Course Description Equivalent Course(s) Course Name | ME 2311 This course focuses on the analysis and circuit second order circuits by formulation of the diffe circuit and its solutions for DC and AC Forcing fu phasors and Laplace transformation are introd the circuit equations in Laplace and phasor do covers the frequency response of a circuit throu None Data Structures and Object-Oriented Programming | Prerequisite(s) ME 1102 It's response of first and erential equation of the inctions. The concept of uced as a tool to solve omains. The course also gh sinusoidal analysis. Credit Hours 3 (2,1) |
| Course Code Course Description Equivalent Course(s) Course Name | ME 2311 This course focuses on the analysis and circuit second order circuits by formulation of the diffe circuit and its solutions for DC and AC Forcing fu phasors and Laplace transformation are introd the circuit equations in Laplace and phasor do covers the frequency response of a circuit throu None | Prerequisite(s) ME 1102 It's response of first and erential equation of the inctions. The concept of uced as a tool to solve omains. The course also gh sinusoidal analysis. |
| Course Code Course Description Equivalent Course(s) | ME 2311 This course focuses on the analysis and circuit second order circuits by formulation of the diffe circuit and its solutions for DC and AC Forcing fu phasors and Laplace transformation are introd the circuit equations in Laplace and phasor do covers the frequency response of a circuit throu None Data Structures and Object-Oriented Programming | Prerequisite(s) ME 1102 It's response of first and erential equation of the inctions. The concept of uced as a tool to solve omains. The course also gh sinusoidal analysis. Credit Hours 3 (2,1) Prerequisite(s) ME 2301 epts of object-oriented action, polymorphism, also reinforces students |
| Course Code Course Description Equivalent Course(s) Course Name Course Code | ME 2311 This course focuses on the analysis and circuit second order circuits by formulation of the diffe circuit and its solutions for DC and AC Forcing fu phasors and Laplace transformation are introd the circuit equations in Laplace and phasor do covers the frequency response of a circuit throu None Data Structures and Object-Oriented Programming ME 2307 This course introduces students to the conce programming like classes, objects, abstr- encapsulation, inheritance, etc. The course of understanding of basic programming principle | Prerequisite(s) ME 1102 It's response of first and erential equation of the inctions. The concept of uced as a tool to solve omains. The course also gh sinusoidal analysis. Credit Hours 3 (2,1) Prerequisite(s) ME 2301 epts of object-oriented action, polymorphism, also reinforces students |

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| ourse Name | Engineering Drawing-II | Credit Hours | 1 |
|---|--|---|---|
| ourse Code | ME 2309 | Prerequisite(| s) ME 1109 |
| ourse Description | Initially students are introduced to the basic Auto computer-aided-drafting concepts to draw, Emphasis is placed on efficient and accurate incorporating the features, commands, and te editing, and printing 2D production drawings. D the course students will create several mech following the ANSI (American Standards Institute) Standards Organization) standards. | design, and e drawing teo echniques for o puring the latte nanical CAD o | d draft. chniques creating, r part of drawings |
| uivalent Course(s) | None | | |
| ourse Name | Electronics Circuit Design | Credit Hours | 4 (3,1) |
| ourse Code | ME 2401 | Prerequisite(| s) ME 1201 |
| ourse Description | This course contributes to both the engineering components. The course has been designed with and multi-device sub-circuits, frequency respons feedback, stability, efficiency, and IC technique senior-level electronic design courses. | consideration se characterist | to single ics, and |
| uivalent Course(s) | None | | |
| ourse Name ourse Code | Engineering Mathematics-IV: Transformation Tech | • | dit Hours 3 (3,0) |
| uise code | ME 2403 | riek | equisite(s) ME 1202 |
| urse Description | The course covers the advanced topics in mathe engineering problems. Topics include; complex Fourier analysis including complex Fourier se integral, Fourier transforms and discrete Fourier tra | variable analy eries, complex | /sis, and |
| quivalent Course(s) | None | | |
| | | | |
| ourse Name | Strength of Materials | Credit Hours | 4 (3,1) |
| | Strength of Materials ME 2406 | Credit Hours Prerequisite(| · · / |
| ourse Name ourse Code ourse Description | | Prerequisite(techniques th s and understa des basic tools t ods for determi plied loads are | s) ME 1204 at allow and the for stress, ning the a taught. |

S.L. Bachelor of Engineering in Mechatronics Engineering (BEME)

| Course Code | Actuating Systems | Credit Hours 4 (3,1) |
|--|--|--|
| | ME 2407 | Prerequisite(s) ME 2305 |
| | The second device in the last of the last | |
| Course Description | The course topics include; magnetic circuits, tra | |
| | electro-mechanical energy conversion. Farc | , 0 |
| | machines, construction and operation of synchr | Ũ |
| | motors, operation and performance of DC mac | |
| | motors, brush-less DC motors, stepper motors, | |
| | addition, sensors and microprocessor technolog | |
| | The course includes a number of lab experi | ments to explain the |
| | theoretical aspect. | |
| Equivalent Course(s) | None | |
| | | |
| Course Name | Signals and Systems | Credit Hours 2 (2,0) |
| Course Code | ME 2408 | Prerequisite(s) None |
| D | This course would develop a good understand | ing about Signals and |
| Course Description | This course would develop a good understand | |
| | Systems as they occur in various domains. Various | • |
| | and associated mathematical representations w | |
| | would help develop expertise to model, analyze it occurs in different domains. | and process signals as |
| | n occurs in direrent domains. | |
| quivalent Course(s) | None | |
| | NONE | |
| | | |
| Course Name | Solid Modelling | Credit Hours 1 (1,0) |
| Course Code | ME 3607 | Prerequisite(s) ME 2309 |
| | <u>-</u> | |
| Course Description | This course is taught with a combination of | , , |
| | Alongside with the theory, the course requires c | |
| | | |
| | assignments using major commercial softwares. | |
| | intensive hand-on training on leading commer | cial CAD packages is |
| | intensive hand-on training on leading commer provided to enable students to develop the know | cial CAD packages is |
| | intensive hand-on training on leading commer | cial CAD packages is |
| Equivalent Course(s) | intensive hand-on training on leading commer provided to enable students to develop the know | cial CAD packages is |
| quivalent Course(s) | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. | cial CAD packages is |
| | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. | cial CAD packages is |
| Course Name | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. None | cial CAD packages is ledge of the complete |
| Course Name Course Code | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. None Engineering Mathematics-V: Numerical Methods ME 3501 | cial CAD packages is ledge of the complete Credit Hours 3 (3,0) Prerequisite(s) ME 1202 |
| Course Name Course Code | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. None Engineering Mathematics-V: Numerical Methods ME 3501 This course introduces students to a variety of ne | cial CAD packages is ledge of the complete Credit Hours 3 (3,0) Prerequisite(s) ME 1202 umerical methods and |
| Course Name Course Code | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. None Engineering Mathematics-V: Numerical Methods ME 3501 This course introduces students to a variety of mapplication of these methods to solve a broad | cial CAD packages is ledge of the complete Credit Hours 3 (3,0) Prerequisite(s) ME 1202 umerical methods and range of engineering |
| Course Name Course Code | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. None Engineering Mathematics-V: Numerical Methods ME 3501 This course introduces students to a variety of mapplication of these methods to solve a broad problems. The course covers fundamental principation of the sector of the secto | cial CAD packages is /ledge of the complete Credit Hours 3 (3,0) Prerequisite(s) ME 1202 umerical methods and range of engineering ples regarding types of |
| Equivalent Course(s) Course Name Course Code Course Description | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. None Engineering Mathematics-V: Numerical Methods ME 3501 This course introduces students to a variety of mapplication of these methods to solve a broad problems. The course covers fundamental princip computational errors, and propagation of errors. | cial CAD packages is ledge of the complete Credit Hours 3 (3,0) Prerequisite(s) ME 1202 umerical methods and range of engineering ples regarding types of The numerical methods |
| Course Name Course Code | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. None Engineering Mathematics-V: Numerical Methods ME 3501 This course introduces students to a variety of mapplication of these methods to solve a broad problems. The course covers fundamental princip computational errors, and propagation of errors. Tinclude finding zeros of functions, solving system | cial CAD packages is ledge of the complete Credit Hours 3 (3,0) Prerequisite(s) ME 1202 umerical methods and range of engineering ples regarding types of [he numerical methods ns of linear equations, |
| Course Name Course Code | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. None Engineering Mathematics-V: Numerical Methods ME 3501 This course introduces students to a variety of nu application of these methods to solve a broad problems. The course covers fundamental princip computational errors, and propagation of errors. Tinclude finding zeros of functions, solving system interpolation and approximation of functions, nur | cial CAD packages is ledge of the complete Credit Hours 3 (3,0) Prerequisite(s) ME 1202 umerical methods and range of engineering ples regarding types of The numerical methods ns of linear equations, merical integration and |
| Course Name Course Code | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. None Engineering Mathematics-V: Numerical Methods ME 3501 This course introduces students to a variety of nu application of these methods to solve a broad problems. The course covers fundamental princip computational errors, and propagation of errors. Tinclude finding zeros of functions, solving system interpolation and approximation of functions, nur differentiation, and solving initial value problems | cial CAD packages is ledge of the complete Credit Hours 3 (3,0) Prerequisite(s) ME 1202 umerical methods and range of engineering ples regarding types of The numerical methods ns of linear equations, merical integration and |
| Course Name Course Code | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. None Engineering Mathematics-V: Numerical Methods ME 3501 This course introduces students to a variety of nu application of these methods to solve a broad problems. The course covers fundamental princip computational errors, and propagation of errors. Tinclude finding zeros of functions, solving system interpolation and approximation of functions, nur | cial CAD packages is redge of the complete Credit Hours 3 (3,0) Prerequisite(s) ME 1202 umerical methods and range of engineering ples regarding types of The numerical methods ns of linear equations, merical integration and |
| Course Name Course Code | intensive hand-on training on leading commer provided to enable students to develop the know concept from 3D Solid Modelling. None Engineering Mathematics-V: Numerical Methods ME 3501 This course introduces students to a variety of nu application of these methods to solve a broad problems. The course covers fundamental princip computational errors, and propagation of errors. Tinclude finding zeros of functions, solving system interpolation and approximation of functions, nur differentiation, and solving initial value problems | cial CAD packages is redge of the complete Credit Hours 3 (3,0) Prerequisite(s) ME 1202 umerical methods and range of engineering ples regarding types of The numerical methods ns of linear equations, merical integration and |

S.I.I Bachelor of Engineering in Mechatronics Engineering (BEME)

| ourse Name | Fluid Mechanics | Credit Hours 4 (3,1) |
|---|---|---|
| ourse Code | ME 3502 | Prerequisite(s) ME 2405 |
| ourse Description | This course introduces students to the concepts, principles, laws, observations, and models of fluids at rest and in motion. The basic idea of what fluids are, the study of static fluids, the use of control volumes for fluids in motion, and the uses of length, mass, time and temperature dimensions to greatly simplify the description of fluids are illustrated. During the later part of the course particular attention is paid to application of hydraulics and pneumatics in Mechatronics systems. | |
| quivalent Course(s) | None | |
| ourse Name | Microprocessor and Microcontroller Ba | sed Systems Credit Hours 3 (2,1) |
| ourse Code | ME 3509 | Prerequisite(s) None |
| ourse Description | of microcontrollers for a variety of p perform analysis requirement of selecting an appropriate controlle testing the hardware and software course covers programming the r instructions, programming the micro | phasizes on the practical applications products in various fields. It teaches to a given task, making decisions in er, designing, implementing and fully part of the product. Furthermore, the nicrocontroller using assembly code pocontroller using C/C++ in integrated course is heavily based on practical |
| quivalent Course(s) ourse Name ourse Code | None Materials and Manufacturing Proce ME 3506 | esses Credit Hours 3 (3,0) Prerequisite(s) None |
| | ME 0000 | |
| ourse Description | ceramics, polymers, and compos processing and design limitations of to new classes of materials be expanding range of material rec | e structures and properties of metals, sites, with an understanding of the of contemporary materials, as well as ing developed to meet the ever quirements. In the later part of the o different manufacturing processes |
| | | |

SILL Bachelor of Engineering in Mechatronics Engineering (BEME)

| Course Name | Theory of Machines | Credit Hours 3 (2,1) |
|----------------------|--|--|
| Course Code | ME 3507 | Prerequisite(s) ME 2303 |
| | | |
| Course Description | The objective of this course is to introduce the preliminary concepts of | |
| | mechanisms and to present methods of analysis for the motion and | |
| | force transmission in mechanisms. This course enables students to | |
| | understand various independent | technical approaches that exist in the |
| | field of mechanisms, kinematics of | and machine dynamics. |
| | | |
| Equivalent Course(s) | None | |
| | | |

| Course Name Course Code | Instrumentation and Measurements ME 3508 | Credit Hours 4 (3,1) Prerequisite(s) ME 2402 |
|----------------------------|---|--|
| Course Description | This course covers the operating principles and introduces the concepts & design measurement of electrical and non-el completion of this course, along with its lab s able to select, interface and calibrate v instruments. | ns of instruments for the lectrical quantities. Upon lessions, students will also be |
| Equivalent Course(s) | None | |

| - ··· | | |
|----------------------|---|--|
| Course Name | Control Systems | Credit Hours 4 (3,1) |
| Course Code | ME 3602 | Prerequisite(s) None |
| | | |
| Course Description | In this course students, initially are to time-invariant electrical, mechanical, and Then, students are taught to anal above-mentioned systems in time an recognize the performance characteristic stability, damping, phase and gain margi learn to analyze the performance of integral feedback controllers and design satisfy given criteria. Finally, students state-space-based control system analysi students also use industry standard softw analyze, design, and evaluate control system | d electro-mechanical systems. lyze the behavior of the ad frequency domains and cs of a control system such as ins. Subsequently, the students proportional, derivative and n simple control systems that are introduced to modern is and design techniques. The ware tools such as Matlab to |
| Equivalent Course(s) | None | |

Equivalent Course(s)

5.1.1 Bachelor of Engineering in Mechatronics Engineering (BEME)

| Course Name Course Code | Engineering Mathematics-VI: Probability and Statistics ME 3603 | Credit Hours Prerequisite(s) | 3 (3,0) ME 1104 |
|----------------------------|---|---|---------------------------|
| | | , | |
| Course Description | Engineering Mathematics-VI covers data and ty | | |
| | techniques, group and ungroup data, measure mathematical and statistical functions, multiple linear r of probability, probability distribution-binomic distribution-normal, probability distribution-poisson, ste hypothesis analysis, quality control, control chart, accep errors and rectification, goodness of fit, Chi-square test | regressions, laws al, probability eps involved in tance sampling, | |
| Equivalent Course(s) | CSC 2105 | | |
| Course Name | Machine Design | Credit Hours | 3 (3,0) |
| Course Code | ME 3604 | Prerequisite(s) | |
| 000100 00000 | | 110104010110(0) | 1112 2000 |
| | strength information to develop ability to analyze, desig machine elements - with attention to safety, reliability, c fiscal aspects. Finally, the course prepares the students and dynamic machine elements such as shafts, springs, s and gears. | and societal and to design static | |
| Equivalent Course(s) | None | | |
| | | | |
| Course Name | Power Electronics Crea | dit Hours 4 (3,1) | |
| Course Name Course Code | | dit Hours 4 (3,1) equisite(s) ME 24 | |
| | | equisite(s) ME 24 electric power al semiconductor e fully explained. bhase-controlled to give students | |
| Course Code | ME 3605 Prev The objective of this course is to expose students to conversion i.e. from AC to DC and DC to AC. Specia devices like Thyristors, Silicon controlled rectifiers etc. are The course also covers choppers, regulators and p circuits. The course is supplemented with experiments hands-on-practice for developing a thorough under | equisite(s) ME 24 electric power al semiconductor e fully explained. bhase-controlled to give students | |

S.I.I Bachelor of Engineering in Mechatronics Engineering (BEME)

| ourse Name | Mechatronics System Design | Credit Hours 4 (3,1) |
|---------------------|---|---|
| ourse Code | ME 4705 | Prerequisite(s) ME 2402 |
| ourse Description | This course provides the essentials of high-speed mechanical systems. The of practical in providing the optimal sof solution. Project work will include mechanical, electrical, microprocesso components including programming w | approach is both theoretical and tware and/or hardware control mechatronics integration of or, micro-controller and software |
| quivalent Course(s) | None | |
| | | |
| Course Name | Technical Writing Skills | Credit Hours 2 (2,0) |
| Course Code | ME 1205 | Prerequisite(s) None |
| Course Description | This course focuses on the use of Eng course aims to develop interpersonal co- digitalized and globally connected I course will create an awareness in th communication in formal contexts, mechanics of technical business writing and experiment with different types of I presentations, and manuals to commu- clarity, conciseness, and force t communication needs of working profe CSC 1102, MD 1222, SS 2316, BIO 1211 | ommunication skills in a dynamic, business world. This interactive ne students about the basics of allows them to analyze the g with the use of specific registers, etters, memos, reports, proposals, nicate complex information with o meet the basic business |
| Course Name | Engineering Economics and Project Mc | |
| Course Code | ME 4702 | Prerequisite(s) Nor |
| Course Description | Engineering Economics and Projec economic concepts, such as types of c mechanism, equivalence, project feas financing, depreciation accounting, c and cost benefit analysis. Further, get | costs, cash flow diagrams, market ibility analysis, equity versus debt onsumer demand and elasticity, |

and techniques are also covered.

Equivalent Course(s) None

5.1.1 Bachelor of Engineering in Mechatronics Engineering (BEME)

| ourse Code | | Credit Hours 2 (2,0) |
|---|---|---|
| Course Description | ME 4707 Prerequisite(s) ME 2303 | |
| | In this course students are introduced to a system, harmonic motion, viscous modeling and vibration measurement with the response of various systems s infinite degrees of freedom to vario impulse excitation and base excitation for vibration suppression and mach vibration and acoustics emission is intro placed on developing a thorough under system parameters affect the system re | o the concepts of free vibration of damping, stiffness, and system is. Students will become familiar uch as single degree, multi and us inputs (harmonic excitation,). Furthermore, design of systems ine condition monitoring using boduced. In summary, emphasis is erstanding of how the changes in |
| uivalent Course(s) | None | |
| Course Name | Fundamentals of Thermal Sciences | Credit Hours 4 (3,2) |
| Course Code | ME 4701 | Prerequisite(s) ME 2303 |
| Course Description | This course gives introduction of basic concepts of thermodynamics, like system, surrounding, work, heat, modes of heat transfer and different process to the students. It will also introduce steady flow and non-steady flow processes and basic steam and gas turbine cycles. | |
| | flow processes and basic steam and g | |
| quivalent Course(s) | flow processes and basic steam and g | as turbine cycles. |
| Course Name | flow processes and basic steam and ge None Robotics | as turbine cycles. Credit Hours 4 (3,1) |
| quivalent Course(s) Course Name Course Code | flow processes and basic steam and g | as turbine cycles. |
| Course Name | flow processes and basic steam and ge None Robotics | Credit Hours 4 (3,1) Prerequisite(s) ME 2303 of robotics is undertaken with ransformations, kinematics, force ectors and the interpretation of gned to explore the current and in industry and everyday use. The |

Sachelor of Engineering in Mechatronics Engineering (BEME)

| ngineering ethics. It places th amework, and it seeks to ext tellectual challenge. The goal is to udents with the conceptual tools aking. one hal Year Project I & II E 4708 and ME 4808 hal Year Project is a group lechatronics product or applicatio udents the project is stretched over | Prerequisite(s) None th an introduction to the issues in nose issues within a philosophical hibit their social importance and o stimulate reasoning and to provide Is necessary for responsible decision Credit Hours 6 (0,6)=(0,3)+(0, Prerequisite(s) None project requiring designing of a on. Each group consists of two to four er two semesters (i.e. the seventh and |
|--|---|
| ngineering ethics. It places th amework, and it seeks to ext tellectual challenge. The goal is to udents with the conceptual tools aking. one hal Year Project I & II E 4708 and ME 4808 hal Year Project is a group lechatronics product or applicatio udents the project is stretched over | hose issues within a philosophical hibit their social importance and o stimulate reasoning and to provide ls necessary for responsible decision Credit Hours 6 (0,6)=(0,3)+(0, Prerequisite(s) None project requiring designing of a on. Each group consists of two to four |
| nal Year Project I & II E 4708 and ME 4808 nal Year Project is a group lechatronics product or applicatio udents the project is stretched over | Prerequisite(s) None project requiring designing of a on. Each group consists of two to four |
| E 4708 and ME 4808 nal Year Project is a group lechatronics product or application udents the project is stretched over | Prerequisite(s) None project requiring designing of a on. Each group consists of two to four |
| E 4708 and ME 4808 nal Year Project is a group lechatronics product or application udents the project is stretched over | Prerequisite(s) None project requiring designing of a on. Each group consists of two to four |
| lechatronics product or application udents the project is stretched over | project requiring designing of a on. Each group consists of two to four |
| the presence of the department | is carried out in the summer semester nt's faculty. Towards the end of the uired to submit a report according to |
| anufacturing Automation | Credit Hours 4 (2,1) |
| E 480/ | Prerequisite(s) ME 3503 |
| This course introduces the student to practical methods of automatic control of machines, processes and systems. This course primarily covers manufacturing automation with reference to CNC and PLC. The course also includes familiarization with PLCs, covering programming of some popular PLCs used in the industry. Towards the end of the course, an introduction to industrial robots and their application is covered. | |
| one | |
| | e university's report format and p one anufacturing Automation E 4807 his course introduces the studen ontrol of machines, processes an anufacturing automation with re so includes familiarization with P opular PLCs used in the industry troduction to industrial robots and |

5.2.1 Master of Science in Mechatronics Engineering (MSME)

5.2 Master

SZABIST offers Master of Science in Mechatronics Engineering (MSME) degree with two specializations; namely: Robotics & Industrial automation and Smart Electromechanical Systems. The program is of 2-year duration and is offered in the evening. It requires 30 credit hours to complete the degree with 8 courses (24 credit hours) and Thesis/Research Work (6 credit hours) in not more than four (4) years.

The following is the break-up of the minimum credit hours requirements to be fulfilled by the students enrolled in this program:

- 5 Core Courses (15 Credit Hours)
- 3 Electives²⁶(9 Credit Hours)

Thesis/Research Project or (2 Electives in lieu of Thesis/Research Project) (6 Credit Hours)

| Course Code | Course Title | Page # | | |
|-------------|--|--------|--|--|
| | First Year | | | |
| | | | | |
| | Fall Semester | | | |
| ME-5102 | Advanced Robotics | 178 | | |
| ME-5101 | Advanced Embedded Systems | 178 | | |
| ME-5105 | Research Methodology | 178 | | |
| | | | | |
| | Spring Semester | | | |
| ME-5202 | Image Processing for Intelligent Systems | 178 | | |
| ME-5201 | Data Acquisition and Control | 179 | | |
| ME-5xxx | Elective-I | 291 | | |
| | | | | |
| | Second Year | | | |
| | Fall Semester | | | |
| ME-5xxx | Elective-II | 291 | | |
| ME-5xxx | Elective-III | 291 | | |
| | | 271 | | |
| | Spring Semester | | | |
| ME-5xxx | Elective-IV / Thesis | 291 | | |
| ME-5xxx | Elective-V / Thesis | 291 | | |
| | | | | |

All courses may not be offered every year. Alternate courses may be substituted as and when required.

26- List of Electives is given in Appendix B.

5.2.1 Master of Science in Mechatronics Engineering (MSME)

| Course Name | Advanced Robotics | Credit Hours 3 (3,0) |
|--|---|---|
| Course Code | ME 5102 | Prerequisite(s) None |
| Course Description | This course will mainly cover geometry and mathematical representation of rigid body motion; forward and inverse kinematics of articulated mechanical arms; trajectory generation, splines, interpolation; manipulator dynamics; position sensing, actuation and fundamentals of manipulator control. | |
| Equivalent Course(s) | None | |
| Course Name | Advanced Embedded Systems | Credit Hours 3 (3,0) |
| Course Code | ME 5101 | Prerequisite(s) None |
| Course Description | This course is intended to give detailed architecture and design, memory access, p systems and integration of embedded system An overview of programmable logic devices be given along with IC fabrication and desig | rogramming of embedded ns in real time environment. and system on chip will also |
| Equivalent Course(s) | None | |
| | | |
| Course Name | Research Methodology | Credit Hours 3 (3,0) |
| Course Name Course Code | Research Methodology ME 5105 | Credit Hours 3 (3,0) Prerequisite(s) None |
| | | Prerequisite(s) None to students. It covers review earch problem formulation, g. The students are required |
| Course Code Course Description Equivalent Course(s) | ME 5105 This course introduces the Research Process of of technical publications and journals, rese research methodologies and article drafting to undertake a research project that wo formatted article. None | Prerequisite(s) None to students. It covers review earch problem formulation, g. The students are required build result in an IEEE style |
| Course Code Course Description Equivalent Course(s) Course Name | ME 5105 This course introduces the Research Process of of technical publications and journals, rese research methodologies and article drafting to undertake a research project that wo formatted article. None | Prerequisite(s) None to students. It covers review earch problem formulation, g. The students are required build result in an IEEE style Credit Hours 3 (3,0) |
| Course Code Course Description Equivalent Course(s) | ME 5105 This course introduces the Research Process of of technical publications and journals, rese research methodologies and article drafting to undertake a research project that wo formatted article. None | Prerequisite(s) None to students. It covers review earch problem formulation, g. The students are required build result in an IEEE style |
| Course Code Course Description Equivalent Course(s) Course Name | ME 5105 This course introduces the Research Process of of technical publications and journals, rese research methodologies and article drafting to undertake a research project that wo formatted article. None | Prerequisite(s) None to students. It covers review earch problem formulation, g. The students are required build result in an IEEE style Credit Hours 3 (3,0) Prerequisite(s) None of digital image processing ical hands-on exercises are mage processing is covered f a discussion of the basic |

5.2.1 Master of Science in Mechatronics Engineering (MSME)

| | Deter A convisition and Constral | |
|----------------------|--|-------------------------------------|
| Course Name | Data Acquisition and Control | Credit Hours 2 (2,0) |
| Course Code | ME 5201 | Prerequisite(s) None |
| | | |
| Course Description | This course is intended to give detai | led explanation of passive and |
| | active electrical transducers, signal digital interfacing techniques. An overv digital controller design will also be give | view of digital control systems and |
| Equivalent Course(s) | None | |
| | | |



Department of BioSciences

6.1 Bachelor of Science

6.1.1 Bachelor of Science in Biosciences (BS-Biosciences)

Students enrolled in Bachelor of Science in Biosciences (BS Bio) program are required to complete 43 courses and a research report with a minimum of 135 credit hours, within six (6) years to become eligible for obtaining the BS degree in Biosciences. The break-up of 43 courses is as follows:

- 39 Compulsory Courses (117 credit hours)
- 4 Electives²⁷ (12 credit hours)
- 1 Research Report (6 credit hours)

| Course Code | Course Title | Page # | | | |
|--|---|---|--|--|--|
| | First Year | | | | |
| | Fall Semester | | | | |
| BIO 1101 BIO 1111 BIO 1107 BIO 2404 BIO 1109 | Cell Biology English for General Purposes Fundamental Mathematics Lab Management Chemistry | 184 185 185 190 186 | | | |
| | Spring Semester | | | | |
| BIO 1113 BIO 2301 BIO 1211 BIO 1214 BIO 1208 BIO 1212 | Microbiology-I Biochemistry-I English for Academic Purposes Sociology Statistics Islamic Studies/Ethics and Pakistan Studies | 185 188 187 187 187 187 188 | | | |
| | Second Year | | | | |
| | Fall Semester | | | | |
| BIO 1206 BIO 2411 BIO 2401 BIO 1104 BIO 1213 | Physiology-I English for Professional Purposes Biochemistry-II Introduction to Computing Microbiology-II | 188 189 189 189 189 186 | | | |
| Spring Semester | | | | | |
| BIO 2305 BIO 3504 BIO 4803 BIO 2409 BIO 3503 | Physiology-II Immunology Molecular Biology Humanities Genetics | 190 190 191 191 191 | | | |

27 List of Electives is given in Appendix B.

| Course Code | Course Title | Page # |
|-------------|---------------------------------|--------|
| | Third Year | |
| | Fall Semester | |
| BIO 2406 | Genetic Engineering | 192 |
| BIO 3507 | Biotechnology-I | 192 |
| BIO 2405 | Hematology | 192 |
| BIO 4801 | Bioethics | 193 |
| BIO 3505 | Pharmacology-l | 193 |
| BIO 2306 | Psychology | 194 |
| | Spring Semester | |
| BIO 2407 | Basic Endocrinology | 194 |
| BIO 3607 | Biotechnology-II | 194 |
| BIO 3601 | Agricultural Science | 195 |
| BIO 2304 | Nutrition and Dietetics | 194 |
| BIO 3605 | Pharmacology-II | 194 |
| BIO 4703 | Research Methodology | 196 |
| | Fourth Year | |
| | Fall Semester | |
| BIO 4701 | Business Management | 196 |
| BIO 4705 | Research Report-I | 196 |
| BIO 2309 | Animal and Plant Tissue Culture | 197 |
| BIO 2402 | Bioinformatics | 197 |
| BIO 4xxx | Elective-I | 292 |
| BIO 4xxx | Elective-II | 292 |
| | Spring Semester | |
| BIO 2403 | Environmental Sciences | 197 |
| BIO 4802 | Biophysics | 198 |
| BIO 3509 | Epidemiology | 198 |
| BIO 4805 | Research Report-II | 196 |
| BIO 4xxx | Elective-III | 292 |
| BIO 4xxx | Elective-IV | 292 |

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

Catalopue -

| Course Name | Cell Biology | Credit Hours 3 (2,1) |
|----------------------|--|----------------------|
| Course Code | BIO 1101 | Prerequisite(s) None |
| | | |
| Course Description | The course topics include: cell theory, structure, chemical constituents of cell and cell organelles and their functions, separation of cell organelles, cell membrane, its molecular organization and functional role. The concept of the unit membrane, the fluid mosaic model, membrane receptors and transport mechanisms, endoplasmic reticulum, lysosome, micro-bodies, mitochondrial ultra-structure and function, chloroplast ultra-structure and the mechanism of photosynthesis. Cell movements, structure and function of cytoskeleton, centriole, cilia and flagella, the mitotic apparatus. The nucleus, structure and function of chromosomes, and the cell cycle. Fundamentals of Eukaryotic Gene Expression, and | |
| Equivalent Course(s) | and the cell cycle. Fundamentals of Eukaryotic Gene Expression, and reproduction in Eukaryotic cell. | |
| Course Name | English for General Purposes | Credit Hours 3 (3,0) |
| Course Code | BIO 1111 | Prerequisite(s) None |
| Course Description | The course is aimed at improving English language communication and presentation skills of students. With a multidimensional approach, the course enables the students to practice the use of English in everyday situations, building upon all four skills: listening, speaking, reading and writing. It prepares them to participate in seminars and discussions and make effective presentations, with an awareness of the audience and effective use of verbal and non-verbal communication. The course addresses the basic English language issues faced by the learners, while also aiming to foster in them, critical skills to develop a concise and clear argument, respond to others' comments and negotiate their own point of view persuasively. The course uses an interactive, participatory methodology, to engage learners' interest and boost their confidence to use English in everyday communication in formal and informal contexts. | |
| | | |

| Course Name | Fundamental Mathematics | Credit Hours 3 (3,0) | | |
|----------------------|--|--|--|--|
| Course Code | BIO 1107 | Prerequisite(s) None | | |
| | | | | |
| Course Description | The course topics include: | | | |
| | | | | |
| | Preliminaries: Real-number system, complex numbers, introduction to | | | |
| | sets, set operations, functions, types of | sets, set operations, functions, types of functions. | | |
| | Matrices: Introduction to matrices, typ | oes matrix inverse determinants | | |
| | system of linear equations, Cramer's ru | | | |
| | | | | |
| | Quadratic Equations: Solution of q | uadratic equations, qualitative | | |
| | analysis of roots of a quadratic eq | uations, equations reducible to | | |
| | quadratic equations, cube roots of u | nity, relation between roots and | | |
| | coefficients of quadratic equations. | | | |
| | Converses and Corios. Arithmetic are | | | |
| | Sequences and Series: Arithmetic progression, geometric progression, | | | |
| | harmonic progression. | | | |
| | Binomial Theorem: Introduction to m | athematical induction, binomial | | |
| | theorem with rational and irrational inc | theorem with rational and irrational indices. | | |
| | | | | |
| | Trigonometry: Fundamentals of trigonometry and trigonometric | | | |
| | identities. | | | |
| Equivalent Course(s) | BA 1204, AF 1102, EN 1101 | | | |
| | DA 1204, AL TIUZ, LIN TIUT | | | |
| | | | | |
| Course Name | Microbiology-I | Credit Hours 3 (2,1) | | |
| Course Code | BIO 1113 | Prerequisite(s) None | | |
| | | | | |
| Course Description | The course topics include; Fu | 67 | | |
| | Microorganisms and their respectiv | | | |
| | differentiation between prokaryotic | | | |
| | development of Microbiology and its | | | |
| | bacterial taxonomy and nomenclatu | · • | | |
| | nutrition (physical and nutritional red | | | |
| | sources of energy, C, N, H, O, S, P, H2C |), trace elements, growth tactors) | | |

development of Microbiology and its scope. Microscopy, morphology, bacterial taxonomy and nomenclature, other topics include growth, nutrition (physical and nutritional requirement and nutritional types, sources of energy, C, N, H, O, S, P, H2O, trace elements, growth factors) and reproduction, general methods of studying microorganisms, including cultivation, isolation, purification and characterization, control of microorganisms by physical and chemical methods. Chemotherapeutic agents and antibiotics, modes of action of antibiotics on microorganisms, basic properties of fungi, protozoa and algae, and a brief introduction to structure and propagation of viruses and bacteriophages.

E Catalogue

Equivalent Course(s) None

| Course Name | Chemistry | Credit Hours 3 (3,0) |
|----------------------|--|--|
| Course Code | BIO 1109 | Prerequisite(s) None |
| | | |
| Course Description | Equilibrium, Solution Chemistry, Phys tension, viscosity, refractive index. reactions, zero, first, second and thin different initial concentrations, half-liv Methods in Chemical Industries. | h, theories of chemical bonding. of chemical equilibrium. p-Block c chemistry: structure- aromaticity, nt, resonance and its rules, and nomenclature of organic h, types of organic reactions (an ons: saturated, unsaturated and asis on synthesis and free radical, lic substitution reactions. Chemistry mistry, ionic liquids, super critical al Thermodynamics, Chemical sical properties of liquids, surface Chemical Kinetics, The rates of rd order reactions with same and |
| Equivalent Course(s) | None | |
| | | |
| Course Name | Microbiology-II | Credit Hours 3 (2,1) |
| Course Code | BIO 1213 | Prerequisite(s) BIO 1113 |

| Course Code | BIO 1213 | Prerequisite(s) BIO 1113 |
|--------------------|---|--|
| | | |
| Course Description | The course topics include; bacterial | DNA replication, transcription, |
| | translation, mutation and variation, intermixing of bacteria including trans conjugation. Microbiology of water ar source of infection and methods of Methods of sewage treatment and disp food and dairy microbiology, include food intoxication and food-infection. Micro reference to nitrogen cycle and micro microorganism and molecular mech bacterial, fungal and viral diseases are of | nsformation, transduction and nd wastewaters is studied as a water purification, along with bosal. The course introduction to methods of food preservation, icrobiology of soil with particular obiology of air. Pathogenesis of hanism of pathogenesis and |
| | | |

Equivalent Course(s) None

| urse Name | English for Academic Purposes | Credit Hours 3 (3,0) |
|------------------------|--|--|
| e Code | BIO 1211 | Prerequisite(s) BIO 1111 |
| se Description | This course is designed to improve academic English language and study skills of students. The course follows a multidimensional approach based on the four language skills with a specific focus on reading and writing skills that are required in research-based study at university level. The course includes listening and note taking skills, library and internet use for locating and evaluating research articles. In addition, the course seeks to enable the students to of speed read, skim, scan and infer from written text. The course specifically focuses on enabling the students to experiment with complex grammatical forms, sentence structures and logical paragraph development, to present coherent, cohesive and effective arguments clearly in research-based writing according to the requirements of their specific discipline. | |
| ivalent Course(s) | BA 1206, CSC 2101, BIO 1202, ME 1205, | MD 1222, SS 2316, AF 1203, EN 1106 |
| urse Name | Sociology | Credit Hours 3 (3,0) |
| urse Code | BIO 1214 | Prerequisite(s) None |
| urse Description | This course focuses on three central themes: social change, social inequality, and social harmony versus conflict. It combines selective theoretical texts with case studies to understand the mechanisms and institutions that can trigger, foster, sustain, or undermine each of the three processes. The course covers the work of major sociological thinkers and the influence of sociology on modernization, race, citizenship, culture, gender, society, and economic development. | |
| ivalent Course(s) | BA 2307, BA 2306, MD 1104, AF 2304, SS 2307 | |
| urse Name urse Code | Statistics BIO 1208 | Credit Hours 3 (3,0) Proroquisito(s) BIO 1107 |
| urse Description | The course topics include; Definition importance and limitations, popula distribution and probabilities, formation data, histograms, applications of p measures of central tendencies and median, mode, range, variance and str of the mean, mean deviation, sem distribution (binomial, poison and norr application, normality), test of significa- test, multiple range test), design of correlation and regression, and com | tion and samples, frequency n of frequency table from raw probabilities to simple events, d dispersion, arithmetic mean, andard deviation, standard error i interquartile range, standard mal distributions, properties and ance (t-test, X2-test, F-test, L.S.D. experiment, brief account of |
| | applications. | |

| Course Name | Islamic Studies/Ethics and Pakistan Studies | Credit Hours 3 (3,0) | |
|----------------------|---|--|--|
| Course Code | BIO 1212 | Prerequisite(s) None | |
| | | | |
| Course Description | Islamiat: Islamic history, Introduction to Quranic | studies, study of selected | |
| | text of Holy Quran, Seerat of Holy Prophet | () | |
| | Sunnah, Selected study of Hadith, Islamic cult | | |
| | Science, Eonomic, Political, and Social System | | |
| | Ethics: This course introduces contemporary of | | |
| | issues facing the scientific community. Topics | • | |
| | moral dilemmas, law and morality, equity, jus | | |
| | | standards, and moral development. Upon completion, students should | |
| | be able to demonstrate an understanding of their moral responsibilities | | |
| | and obligations as members of the workforce and society. | | |
| | • | Pakistan Studies: Historical Perspective: Ideological rationale with | |
| | special reference to Sir Syed Ahmed Khan, Allama Muhammad Iqbal | | |
| | and Quaid-i-Azam Muhammad Ali Jinnah, Fo | • | |
| | separatism. Government and Politics in | | |
| | constitutional phases of 1947-58, 1958-71, 1971-77, 1977-88, 1988-99, 1999 onward. Contemporary Pakistan: Economic institutions and issues, Society and social structure, Ethnicity, Foreign policy of Pakistan and | | |
| | | | |
| | | | |
| | challenges, Futuristic outlook of Pakistan. | | |
| | | 5 51 1105 | |
| Equivalent Course(s) | BA 1106, CSC 1105, MD 2402, SS 1109, CSC 1103 | 5, EN 1105 | |

| Course Name | Physiology-I | Credit Hours 3 (2,1) |
|----------------------|---|---|
| Course Code | BIO 1206 | Prerequisite(s) None |
| | | |
| Course Description | This course is designed to provide stude function and regulation of the hur integration of the organ system. The principle of physiology level of chemica of human, cell physiology, physiol cardiovascular and circulatory system. mechanism of oxygen transport into the system. | man body and physiological e course topics include; basic al and physiological organization ogy blood and blood cells Physiology of respiratory system, |
| Equivalent Course(s) | None | |

| Course Name | Biochemistry-I | Credit Hours 3 (2,1) |
|----------------------|---|--|
| Course Code | BIO 2301 | Prerequisite(s) None |
| | | |
| Course Description | The course topics include; Water, pH, | buffers, diffusion, osmosis, surface |
| | tension, carbohydrates, amino acids, molecular structure of proteins, relation function of proteins, relationship of p protein, enzymes, the Michaelis-Men reversible enzyme inhibition, irreven vitamins and nucleic acids. | onship between the structure and primary structure and function of oten equation, enzyme inhibitors, |
| Equivalent Course(s) | None | |

| Course Name | English for Professional Purposes | Credit Hours 3 (3,0) |
|--|---|--|
| Course Code | BIO 2411 | Prerequisite(s) BIO 1211 |
| Course Description | This technical and business writing course focuses on the use of English in professional contexts. The course aims to develop interpersonal communication skills in a dynamic, digitalized and globally connected business world. This interactive course will create an awareness in the students about the basics of communication in formal contexts, allows them to analyze the mechanics of technical business writing with the use of specific registers, and experiment with different types of letters, memos, reports, proposals, presentations, and manuals to communicate complex information with clarity, conciseness, and force to meet the basic business communication needs of working professionals. | |
| Equivalent Course(s) | CSC 1205 | |
| Course Name | Biochemistry-II | Credit Hours 3 (2,1) |
| Course Code | BIO 2401 | Prerequisite(s) BIO 2301 |
| Course Description | The course topics include, metabolism, metabolic pathways, major pathways in cells, thermodynamics and metabolism. The concept of oxidation electron transport chain and oxidative phosphorylation. Carbohydrate metabolism, lipids metabolism, amino acid metabolism, nucleotide metabolism, introduction to molecular biology, and introduction to endocrinology. | |
| | introduction to endocrinology. | |
| Equivalent Course(s) | introduction to endocrinology. None | |
| | | Credit Hours 3 (2,1) |
| Course Name | None | Credit Hours 3 (2,1) Prerequisite(s) None |
| Equivalent Course(s) Course Name Course Code Course Description | None Introduction to Computing | Prerequisite(s) None apputing hardware (input, output, and software classification with are applications using office ad Sheet, Presentation Software); introduction to software/web omputer networks, information |
| Course Name Course Code | None Introduction to Computing BIO 1104 The course topics include; basic com processing and storage devices) a important historical events; softwo automation tools (Word Processor, Spree effective use of internet/intranet; programming and development, co technology within the broader domain | Prerequisite(s) None apputing hardware (input, output, and software classification with are applications using office ad Sheet, Presentation Software); introduction to software/web omputer networks, information |

| Course Name | Immunology | Credit Hours 3 (2,1) |
|----------------------|---|---|
| Course Code | BIO 3504 | Prerequisite(s) None |
| Course Description | The course topics include; introduc and scope of immunology. Immunity and types (specific and non specific Complement system. Cells and tissue structure (simple and comple polysaccharides) and immunogenicit function; classes, subclasses, types genetics. Immune response to antigen-antibody reactions: metho antibodies (agglutination, precipitatic HLA & MHC and its role in immune resp in tissue transplantation. Immunore immunology, hypersensitivity reactiv immunodeficiencies, and Immunizo vaccines and adjuvants). | and immune responses: Definitions c). Humoral and cellular immunity. es of immune system. The antigens: ex molecules, proteins and ty. Immunoglobulins: structure and s and subtypes; immunoglobulin an antigen. Introduction to ods for detecting antigens and on, complement fixation, EIA, etc.). ponse, disease and its significance egulation and tolerance, cancer ions, autoimmune diseases and |
| Equivalent Course(s) | None | |
| Course Name | | |
| Course Name | Physiology-II BIO 2305 | Credit Hours 3 (2,1) |
| Course Code | DIO 2303 | Prerequisite(s) BIO 1206 |
| | | |
| Course Description | This course will cover physiology, gast system, autonomic nervous system, special senses which include sense o pain, sense of taste and sense of sme | , peripheral nervous system and of vision, sense of hearing, sense of |
| Course Description | system, autonomic nervous system, special senses which include sense o | , peripheral nervous system and of vision, sense of hearing, sense of |
| | system, autonomic nervous system, special senses which include sense o pain, sense of taste and sense of sme | , peripheral nervous system and of vision, sense of hearing, sense of |
| | system, autonomic nervous system, special senses which include sense o pain, sense of taste and sense of sme | , peripheral nervous system and of vision, sense of hearing, sense of |
| Equivalent Course(s) | system, autonomic nervous system, special senses which include sense o pain, sense of taste and sense of sme None | , peripheral nervous system and of vision, sense of hearing, sense of III. |

biosafety, levels of biosafety, biocontainment of genetically modified

organisms, packing and shipment of biological materials.

Equivalent Course(s) None

-Catalogue

190

61. Bachelor of Science in Biosciences (BS-Biosciences) **Course Name** Credit Hours Molecular Biology 3 (2,1) **Course Code** BIO 4803 Prerequisite(s) None **Course Description** The course topics include; overview of Molecular Biology, logic of Molecular Biology, types and functions of various DNA and RNA polymerases, types and functions of Endonucleases and Exonucleases, Plasmid, Vectors types and functions, transfer of specific genetic material in host and its expression, Molecular techniques for Gene Amplification, techniques for DNA sequencing, techniques for identification of Genetic disorders and infectious diseases e.g. HBV, HCV, HAV, HIV, Tuberculosis, Typhoid, etc. Equivalent Course(s) None **Course Name Humanities** Credit Hours 3 (3,0) **Course Code** BIO 2409 Prerequisite(s) None **Course Description** This course includes an introduction to the humanities through a review of some of the major developments in human culture. The goal is to analyze how societies express themselves through literature, art, music, philosophy, and technology. Focus is on developing the conceptual tools to understand cultural phenomena critically. Equivalent Course(s) None **Course Name** Genetics Credit Hours 3 (2,1) **Course Code** BIO 3503 Prerequisite(s) BIO 4803 **Course Description** The course topics include; Mendelian genetics, principle of segregation, symbols and terminology, monohybrid crosses, dominance, principle recessiveness, codominance, semidominance, of independent assortment, dihybrid ratios, trihybrid ratios, gene interaction, epistasis, and multiple alleles. ABO blood type alleles in humans, Rh factor alleles in humans, probability in Mendetion inheritance, chi-square, structure of chromosomes and genes, DNA as storage of genetic information, Friedrich Miescher Experiment, Avery, Macleod and McCarty experiment, Hershey and Chase experiment, Watson and Crick DNA model, sex determination, identification of sex chromosomes, environmental factors and sex determination, linkage and crossing over. Equivalent Course(s) None

191

| Course Name | Genetic Engineering | Credit Hours | 3 (2,1) |
|----------------------|---|--|---|
| Course Code | BIO 2406 | Prerequisite(s) | None |
| Course Description | The course topics include; an outline of DNA cloning experiment, cloning vectors including plasmids, bacteriophages, cosmids YAC vectors, shuttle and expression vectors, Tumor Inducing (TI) plasmids, and DNA libraries, screening methods for gene libraries. Southern and Northern blotting Human genome project along with stem cells and therapeutic cloning and social considerations are included in the course. | | |
| Equivalent Course(s) | None | | |
| Course Name | Biotechnology-I | Credit Hours | 3 (2,1) |
| Course Code | BIO 3507 | Prerequisite(s) | None |
| Course Description | The course topics include: history, importe of microorganisms of industrial impor- maintenance of pure cultures, microbial environments on microbial activity, maintenance, strain improvement, scree fusion, gene cloning, inoculum, develop state, mixed cultures and substra nano-biotechnology, principles of meth industry and agricultural, biomed biotechnology. | ortance, developme al growth dynamics, o culture preservatio ening, enrichment, p oment, size and phys te system, tissue nods and their applic | ent and effect of on and rotoplast siological culture, |
| Equivalent Course(s) | None | | |
| Course Name | Hematology | Credit Hours | 3 (2,1) |
| Course Code | BIO 2405 | Prerequisite(s |) None |
| Course Description | The course topics include; ABO and Rhesu blood cells and their functions, formation general principles and iron metabolis hereditary spherocytosis, anaemia, type Hodgkin's disease, idiopathic and thromb its types, hematology laboratory procedu disorders, and detection of coagulation of | and maturation of blo sm, hematological es of anaemia, neu potic purpura, thalasse ures, clotting mechan | bod cells, disorders, tropenia, emia and |
| Equivalent Course(s) | None | | |

| Course Name | Bioethics | Credit Hours | 2 (2 0) |
|----------------------|---|-------------------|----------------|
| | | | 3 (3,0) |
| Course Code | BIO 4801 | Prerequisite(s) | None |
| | | | |
| Course Description | The course topics include; why study Bioethics, | Introduction (D | efinition, |
| | branches, Oaths & laws relating to Medical Pro | ofession), Ethica | l Issues in |
| | Organ transplantation & artificial insem | ination and | Assisted |
| | Reproductive Technology (ART), Ordinance, | Laws pertinent | Gender |
| | sensitivity/women issues, such as: Hadood Ord | linance, Swara | + Vanni, |
| | Karo-Kari, Taboos against divorced women/w | vidow, Female | feticide, |
| | Physical violence against women, Fo | atal/lethal bu | urns to |
| | married/unmarried women, Assessment process and intervention | | |
| | strategies by medical professionals, Medical negligence and medical | | |
| | malpractice, Patients' rights, Consent to Medical Examination and | | |
| | Treatment, Global ethical issues, Other ethical | | |
| | | | |
| | abuse and molestation, The practice of alterno | | |
| | Pakistan ethical issues verses global ethical issue | 0 1 | |
| | (commonality), Ethical dilemmas at workplace, | Hesh frade, Ch | iild labor, |
| | Myths and ethics. | | |
| | | | |
| Equivalent Course(s) | None | | |
| | | | |

| Course Name | Pharmacology-l | Credit Hours | 3 (2,1) |
|--------------------|---|--|---|
| Course Code | BIO 3505 | Prereguisite(s) | · · · |
| Course Code | 510 3303 | Trerequisite(5) | NONC |
| Course Description | The course topics include; introduction, h classification, drugs and their sources, n advantages and disadvantages of en disadvantages of parenteral routes, adva topical routes, pharmacokinetics, drug s across the body membranes, plasma various factors affecting it (absorption an absorption, GIT and other routes) of a influencing the rate of distribution of factors influencing the rate of biotrans channels of excretion and factors influe drugs, definition of bioavailability and index, plasma half life (t ¹ / ₂), dose-respo volume of distribution, pharmaco dy theories, mechanisms of drug action, s factors modifying the action and dosage | routes of drugs admin teral routes, advanto antages and disadvan solubility and passage concentration of dr d factors influencing the drugs, distribution and drugs, biotransformat formation of drugs, e encing the rate of exc bioequivalence, the onse curve, area und ynamics, drug recept specificity of drug action | nistration, ages and ntages of e of drugs rugs and he rate of d factors tion and excretion, cretion of erapeutic er curve, tors and |

Equivalent Course(s) None

Catalopue

| Course Name | Psychology | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | BIO 2306 | Prerequisite(s) None |
| | | |
| Course Description | The course topics include why study psycholog of psychology with special reference to Pakisto methods of psychology, biological basis of perception and attention. It helps distingu- perspectives on human thought and behave variety of ways psychological data are gather course also entails gaining insight into human own personality or personal relationships, e psychological theories are used to describe, control or modify behavior, motives, emotion thinking, impact of behavior on organization psychology improve work output, social medic | an, schools of psychology, behavior and sensation, wish between the major vior and appreciate the ered and evaluated. The behavior and into one's exploring the ways that understand, predict, and is, learning, memory and on, how do the tools of |
| Equivalent Course(s) | SS 2306, BA 2312, MD 2424, BA 2306, SS 2306, A | F 2303, EN 1104 |
| | | |

| | Device Freedometrical and | |
|----------------------|---|---|
| Course Name | Basic Endocrinology | Credit Hours 3 (3,0) |
| Course Code | BIO 2407 | Prerequisite(s) None |
| | | |
| Course Description | The course topics include; hormones and c | chemical signals, receptors, |
| | basic principle of endocrine physiology, syn of action of various hormones, hormone hypothalamic and pituitary hormones, thyro adrenal glands and its hormones, calcium he and hormonal control of reproduction in ma | al control of metabolism, id glands and its hormones; emostasis, hormonal assays, |
| Equivalent Course(s) | None | |

| Course Name | Biotechnology-II | Credit Hours 3 (2,1) |
|----------------------|---|---|
| Course Code | BIO 3607 | Prerequisite(s) BIO 3507 |
| | | |
| Course Description | The course topics include; adv | ances in vaccine development, |
| | introduction to factors affecting b typical aseptic bioreactor, bioreactor bioreactor system, design of sterilize and heat transfer in bioreactor product recovery, waste treatment of biosensors, transducer techn recombinant protein production, protein expression, bacterial expre Bacillus subtilis, Saccharomyces cei heterologous proteins, expression in and filamentous fungi, enzymes ar | and transgenic, bioreactor design, bioreactor design, description of a ctor configurations and scale-up of ation systems, oxygen mass transfer systems, fermentation technology, and safety, biosensors (applications hology, principles of biosensors), general aspects of heterologous assion systems- Escherichia coli and revisiaea a system for expression of n non-saccharomyces yeast species and industry, extremozymes, enzyme ons of pharmaceuticals, diagnostic and insecticides. |
| Equivalent Course(s) | None | |

| ourse Name | Agricultural Science | Credit Hours 3 (3,0) |
|---|---|---|
| Course Code | BIO 3601 | Prerequisite(s) None |
| | | |
| ourse Description | domestication), the concepts of background of tissue culture, req Phyto-hormones in somatic embr breeding tool, Somatic Hybridizatic related to tissue culture, plant tr transformation, Agrobacterium mediated transformation, field transgenic crops for herbicide, introduction to bio fertilizers, biosc | cultural systems (definitions, history, plant molecular markers, historical uirements for in-vitro cultures, role of yogenesis, Somaclonal variations as on, commercial application and issues ansformation, gene gun method of -mediated transformation, PEG evaluation and commercialization, biotic and abiotic stress resistance, afety concerns and bioethics on GM ainable agriculture and agricultural |
| uivalent Course(s) | None | |
| Course Name | Nutrition and Dietetics | Credit Hours 3 (3,0) |
| Course Code | BIO 2304 | Prerequisite(s) None |
| | | , |
| Course Description | role of nutrition and dietetics in hea and protein, carbohydrates and f vitamins, minerals RDA/dietary gu lactation, nutrition in the growing nutrition problem in Pakistan, nut therapy in patients, diet in bod hypertension, cardiovascular di | and why study nutrition and dietetics, alth and how it helps in health, energy ats, water soluble vitamin, fat soluble videlines, nutrition in pregnancy and years, nutrition in adult and elderly, ritional assessment, principle of diet y weight control, diabetes mellitus, sease, cancer, osteoporosis, renal ement in hospitals, and screening of |
| | role of nutrition and dietetics in hea and protein, carbohydrates and f vitamins, minerals RDA/dietary gu lactation, nutrition in the growing nutrition problem in Pakistan, nut therapy in patients, diet in bod hypertension, cardiovascular di disease and food service manag | alth and how it helps in health, energy ats, water soluble vitamin, fat soluble videlines, nutrition in pregnancy and years, nutrition in adult and elderly, ritional assessment, principle of diet y weight control, diabetes mellitus, sease, cancer, osteoporosis, renal |
| Course Description Equivalent Course(s) Course Name | role of nutrition and dietetics in hea and protein, carbohydrates and f vitamins, minerals RDA/dietary gu lactation, nutrition in the growing nutrition problem in Pakistan, nut therapy in patients, diet in bod hypertension, cardiovascular di disease and food service manag deficiencies. | alth and how it helps in health, energy ats, water soluble vitamin, fat soluble videlines, nutrition in pregnancy and years, nutrition in adult and elderly, ritional assessment, principle of diet y weight control, diabetes mellitus, sease, cancer, osteoporosis, renal |
| quivalent Course(s) | role of nutrition and dietetics in hea and protein, carbohydrates and f vitamins, minerals RDA/dietary gu lactation, nutrition in the growing nutrition problem in Pakistan, nut therapy in patients, diet in bod hypertension, cardiovascular di disease and food service manag deficiencies. None | alth and how it helps in health, energy ats, water soluble vitamin, fat soluble videlines, nutrition in pregnancy and years, nutrition in adult and elderly, rritional assessment, principle of diet y weight control, diabetes mellitus, sease, cancer, osteoporosis, renal ement in hospitals, and screening of |
| quivalent Course(s) ourse Name | role of nutrition and dietetics in hea and protein, carbohydrates and f vitamins, minerals RDA/dietary gu lactation, nutrition in the growing nutrition problem in Pakistan, nut therapy in patients, diet in bod hypertension, cardiovascular di disease and food service manag deficiencies. None Pharmacology-II BIO 3605 The course topics include; drugs | alth and how it helps in health, energy ats, water soluble vitamin, fat soluble videlines, nutrition in pregnancy and years, nutrition in adult and elderly, rritional assessment, principle of diet y weight control, diabetes mellitus, sease, cancer, osteoporosis, renal ement in hospitals, and screening of Credit Hours 3 (2,1) |

The course topics include; drugs acting on central nervous systemsdepressants, hypnotic and sedatives and analgesics (narcotic analgesics and opioid antagonists, analgesic, antipyretic and anti-inflammatory drugs, chemotherapy, anti-microbials, sulphonamides, anti-virals, anti-protozoals treatment of malaria and treatment of amebiasis), anti-fungals, anthelmintics, penicillins, cephalosporins, aminoglycosides, tetracyclines, chloramphenicol, macrolides, quinolones and miscellaneous anti-biotics.

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Equivalent Course(s)

None

| Course Name | Research Methodology | Credit Hours | 3 (3,0) |
|----------------------|---|--|--|
| Course Code | BIO 4703 | Prerequisite(s) | None |
| Course Description | The course topics include; problem ide objectives, literature review and framework/hypotheses, planning, metho professional papers, introduction to o statistical measures, hypothesis testing, I variance in application oriented manner various instruments, analysis of experin methods, and presentation of research f | d referencing, co ods and procedures, p data collection and inear regression and a ; data collection meth nental and quasi-expo | nceptual resenting analysis, inalysis of ods using |
| Equivalent Course(s) | CSC 5105, MPH 5205 | | |

| Course Name Course Code | Business Management BIO 4701 | Credit Hours3 (3,0)Prerequisite(s)None |
|----------------------------|--|---|
| Course Description | The course topics include; basic business of and choosing options, laying the four understanding and reaching customers, finances and assets, competitors and constr running your business; selling techniques e-marketing and online selling, custom budgeting; cash flow and book-keeping, aspects of small businesses. | ndations, market research, cost and profit analysis, raints, writing a business plan, and business promotions, er satisfaction, price and |
| Equivalent Course(s) | None | |

| Course Name | Research Report-I Research Report-II | Credit Hours | 6 (0,3)+(0,3) |
|----------------------|---|--------------------------------|----------------------|
| Course Code | BIO 4705 BIO 4805 | Prerequisite(s) | None None |
| Course Description | A Biosciences related research candidates are required to do c findings in terms of research repo | short lab experiment, and pres | ent their |
| Equivalent Course(s) | None | | |

| | Animal and Plant Tissue Culture | Credit Hours | 3 (2,1) |
|--|---|---|--|
| Course Code | BIO 2309 | Prerequisite(s) | None |
| | | | |
| Course Description | The course topics include; Introduction of design of typical tissue culture labor components. Culture initiation; explants explant and their sterilization. Callus cul culture. Synseeds or synthetic seeds pro problems and benefits. Protoplast cult Somatic Embryo Production (Soma technology of automation and the ap products by plant cell, tissue and organ tissue culture, history and application of types of cell culture, Isolation of cells f growth of cultured cell, contact inhibitio cell line, cryopreservation, characteriza | ratory, basic media ar ; type of explants, prepar lture, cell culture, and sir oduction. Somaclonal v ture and Somatic hybrid tric Embryogeneis); Pr oplication. Production of n culture. Introduction to f cell and tissue culture, of for culture, factors effect on, subculturing, establish | nd their ration of ngle cell ariation; dization. inciples, inciples, animal different ting the |
| Equivalent Course(s) | None | | |
| Course Name | Bioinformatics | Credit Hours | 3 (2,1) |
| Course Code | BIO 2402 | Prerequisite(s) | · · / |
| | to organism level of biological hierar computational tools to the analysis of ge protein structure, classification, mech folding pathways and role of ch experimental techniques for characteri | enome and their gene p nanism of protein foldi naperones in protein | roducts, ng and folding, |
| Equivalent Course(s) | sequence databases, comparing s databases, predicting protein codir Additional topics include; predictio sequencing data, phylogenetic analysi bioinformatics, and genome analysis. | sequences against se ng and non coding on of protein structur | equence regions. re from |
| Course Name | databases, predicting protein codir Additional topics include; predictio sequencing data, phylogenetic analysi bioinformatics, and genome analysis. CSC 4707 Environmental Science | sequences against se ng and non coding on of protein structur is, genome sequencing p Credit Hours | equence regions. re from projects, 3 (2,1) |
| Course Name | databases, predicting protein codir Additional topics include; predictio sequencing data, phylogenetic analysi bioinformatics, and genome analysis. CSC 4707 | sequences against se ng and non coding on of protein structur is, genome sequencing p | equence regions. re from projects, 3 (2,1) |
| Equivalent Course(s) Course Name Course Code Course Description | databases, predicting protein codir Additional topics include; predictio sequencing data, phylogenetic analysi bioinformatics, and genome analysis. CSC 4707 Environmental Science | Credit Hours Prerequisite(s) Credit urs Prerequisite(s) Credit urs Prerequisite(s) Credit urs Prerequisite(s) Commental Sciences str eochemical cycle, popiodiversity, land use p ement, water managen int and disposal, environ | aquence regions. re from projects, 3 (2,1) None udy of essment, pulation lanning, nent, air |

| Course Name | Biophysics | Credit Hours | 3 (3,0) |
|----------------------|--|--|---|
| Course Code | BIO 4802 | Prerequisite(s) | None |
| Course Description | The course topics include; introduction to basic physicist and biologist approaches to biophys assemblies of biomolecules, physical sketch photosynthesis, UV effects on biosystems, me physics of reactions, molecular machines, asser | sics, water, biost of cell, light o chanics and dy | ructures, and life, ynamics, |
| Equivalent Course(s) | None | | |
| Course Name | Epidemiology | Credit Hours | 3 (3,0) |
| Course Code | BIO 3509 | Prerequisite(| |
| Course Description | The course topics include; dynamics of disease to disease impact, disease surveillance, validity and tests, natural history of disease, cohort studies other design, risk and association, bias with cofor genetic and environmental factors in disease of to evaluate health services with screening prog- ethical and professional issues in Epidemiology. | nd reliability of dia and case cont ounding and inte causation, epide grams and public | agnostic trols with eraction, emiology |
| | | | |
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6.1 Bachelor of Science

661 Catalog

6.1.2 Bachelor of Science in Biotechnology (BS-BTC)

Students enrolled in Bachelor of Science in Biotechnology (BS BTC) program are required to complete 43 courses and a research report with a minimum of 135 credit hours, within seven (7) years to become eligible for obtaining the BS degree in Biotechnology. The break-up of 43 courses is as follows:

- 38 Compulsory Courses (114 credit hours)
- 4 Electives²⁸ (12 credit hours)
- 1 Research Report (6 credit hours)

| Course Code | Course Title | Page # |
|--|--|--|
| | Semester-I | |
| BTC 1103 BTC 1105 BTC 1101 BTC 1102 BTC 1104 | Cell Biology English for General Purposes Biomathematics Biosafety & Biosecurity Chemistry | 201 201 201 202 202 |
| | Semester-II | |
| BTC 1204 BTC 1201 BTC 1202 BTC 1206 BTC 1205 BTC 1203 | Microbiology Biochemistry-I English for Academic Purposes Sociology Probability & Biostatistics Islamic Studies/Ethic and Pakistan Studies | 203 203 203 204 204 205 |
| | Semester-III | |
| BTC 2303 BTC 2305 BTC 2304 BTC 2301 BTC 2302 | English for Professional Purposes Microbial Biotechnology Introduction to Computer Science Biochemistry-II Ecology, Biodiversity & Evolution-I | 205 206 206 206 206 207 |
| | Semester-IV | |
| BTC 2402 BTC 2404 BTC 2405 BTC 2403 BTC 2401 | Ecology, Biodiversity & Evolution-II Immunology Molecular Biology Humanities Classical Genetics | 207 208 208 208 208 209 |
| | Semester-V | |
| BTC 3505 BTC 3501 BTC 3504 BTC 3503 BTC 3502 BTC 3506 | Principles of Biochemical Engineering Bioethics Introduction to Biotechnology Enzymology Business Management Psychology | 209 210 209 210 211 210 |

28 List of Electives is given in Appendix B.

| 6.1.2Ba | chelor of Science in Biotechnology (BS-BT | (\mathbf{C}) |
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| | | |
| | | |
| Course Code | Course Title Semester-VI | Page # |
| BTC 3603 BTC 3601 BTC 3605 BTC 3606 BTC 3604 BTC 3602 | Industrial Biotechnology Agriculture Biotechnology Nutrition and Dietetics Research Methodology Medical Biotechnology Health Biotechnology | 211 211 212 212 213 213 212 |
| BTC 4705 | Semester-VII Research Report I | 213 |
| BTC 4701 BTC 4702 BTC 4703 BTC 4xxx BTC 4xxx | Animal and Plant Tissue Culture Bioinformatics Fermentation Biotechnology Elective-I Elective-II | 213 214 214 292 292 |
| | Semester-VIII | |
| BTC 4801 BTC 4805 BTC 4802 BTC 4803 BTC 4xxx BTC 4xxx | Biological physics Research Report II Environmental Biotechnology Food Biotechnology Elective-III Elective-IV | 214 213 215 215 292 292 |
| | | |
| | | |
| | | |

6.1.2 Bachelor of Science in Biotechnology (BS-BTC)

| Course Name Course Code | Cell Biology BTC 1103 | Credit Hours 3 (2,1) Prereguisite(s) None |
|----------------------------|--|--|
| Course Code | BIC 1105 | rieredoisiie(s) None |
| Course Description | Introduction to cell theory including membrane structure and chemical isolation and molecular organization the endoplasmic reticulum, lysosc ultra-structure and function, chlo mechanism of photosynthesis; membranes; membrane receptors movement - structure and function of flagella; nucleus; structure and function mitosis and meiosis. | constituents of the cell; function, n of cellular organelles specifically ome, micro-bodies, mitochondrial proplast ultra-structure and the composition and structure of and transport mechanisms; cell of cytoskeleton, centriole, cilia and |
| Equivalent Course(s) | BIO 1101 | |
| Course Name | English for General Purposes | Credit Hours 3 (3,0) |
| Course Code | BTC 1105 | Prerequisite(s) None |
| Course Description | The course is aimed at improving Eng presentation skills of students. With course enables the students to prace situations, building upon all four skill writing. It prepares them to participal make effective presentations, with a effective use of verbal and non-ver- addresses the basic English language also aiming to foster in them, critical s argument, respond to others' comm of view persuasively. The course methodology, to engage learners' in to use English in everyday comm contexts. CSC 1102, BA 1105, SS 1116, MD-1122 | a multidimensional approach, the stice the use of English in everyday s: listening, speaking, reading and ate in seminars and discussions and an awareness of the audience and erbal communication. The course e issues faced by the learners, while skills to develop a concise and clear ents and negotiate their own point uses an interactive, participatory interest and boost their confidence unication in formal and informal |
| | EN 1106, BST 1103, BIO 1111 | , ЫО 1103, МЕ 1101, АГ 1203, |
| Course Name | Biomathematics | Credit Hours 3 (3,0) |
| Course Code | BTC 1101 | Prerequisite(s) None |
| Course Description | Preliminaries: Real-number system, or sets, set operations, functions, types to matrices, types, matrix inverse equations, Cramer's rule. Quadratic equations, qualitative analysis of equations reducible to quadratic equ between roots and coefficients of qu Series: Arithmetic progression, g progression. Binomial Theorem: Introc binomial theorem with rational an Fundamentals of trigonometry, trigor | of functions. Matrices: Introduction , determinants, system of linear c Equations: Solution of quadratic roots of a quadratic equations, uations, cube roots of unity, relation uadratic equations. Sequences and eometric progression, harmonic duction to mathematical induction, id irrational indices. Trigonometry: |
| Equivalent Course(s) | BA 1204, AF 1102, EN 1101, BIO 1107 | |

Catalogue -

6.1.2 Bachelor of Science in Biotechnology (BS-BTC)

| Course Name | Biosafety & Bioethics | Credit Hours | (2+1) |
|--|---|---|--|
| Course Code | BTC 1102 | Prerequisite(s) | None |
| Course Description | Introduction to Biosafety - definition genetic information, and biohazards; related to genetically modified orgo and regulations for biosafety and C ethical issues related to GMOs; euthor technologies, transplants and eugeni and benefit sharing; role of national guidelines from a national pers management, quality manageme laboratories, work safety legislations, a safety and risk assessment, hazards of basic principles of biosafety, levels genetically modified organisms, pact materials | good laboratory pract inisms (GMO); internation GMOs; introduction to be anasia, reproductive and cs; patenting, commerce bioethics committees; spective; introduction nt systems, health se nimal biosafety considered of biological waste and of biosafety, biocontair | ices; risks pioethics; d cloning biosafety to lab afety in ation, fire disposal, ment of |
| Equivalent Course(s) | BIO 2404 | | |
| | | | |
| Course Name | Chemistry | Credit Hours | 3 (2+1) |
| Course Name | Chemistry BIC 1104 | Credit Hours Prerequisite(s) | 3 (2+1) |
| Course Name Course Code Course Description | Chemistry BTC 1104 Review of stoichiometry, mass relative theoretical and percent yield, limiting of atom, chemical kinetics; methods specific rate constant, order and r equations, concept of rate determin arrhanious theory, effect of temperate energy; catalysis, introduction top or Polari meters, chiral compounds, proper mixtures, mutarotation of glucose. aromatic hydrocarbons, electrophilic aldehydes and ketones, carboxylic amines, spontaneity of chemical and l free energy, second law of thermos energy, entropy v/s enthalpy, driven sp of electro chemistry, voltaic cells, n standard EMF of half cells, standard ce as calculated from half cell potential a equation. | Prerequisite(s) ationship in chemical reagents, extra nuclear of measuring rates of r molecularity; rate law of ing step in a multistep ture on rate constant; of ganic chemistry, optical erties of enantiomers and Alkanes, alkenes and acid, its derivatives, eth biological processes, Ent odynamics, equilibrium of pontaneous process, intr iormal hydrogen electro ell potential of a coupled | None reaction, structure eactions; and rate reaction, netivation I activity, racemic alkynes, alcohols, ners and ropy and and free oduction ode and reaction |

6.1.2 Bachelor of Science in Biotechnology (BS-BTC)

| Course Name | Microbiology | Credit Hours | 3 (2,1) |
|----------------------|--|---|--|
| Course Code | BTC 1204 | Prerequisite(s) | None |
| | | | |
| Course Description | Overview and history of microbiolo (Archaea, bacteria, fungi, algae, metabolism; cultivation; viruses; contra and disinfection, antimicrobial agents and susceptibility, antifungal and antivi- carbon, nitrogen, sulfur and phosphor freshwater and seawater. | protozoa), nutrition, ol of microorganisms: ste , antibiotics, antibiotic re viral agents; cell death; s | growth, erilization esistance ymbiosis, |
| Equivalent Course(s) | BIO 1113 | | |
| | | | |

| Course Name | Biochemistry-I | Credit Hours 3(2,1) |
|--------------------|---|---|
| Course Code | BTC 1201 | Prerequisite(s) None |
| | | |
| Course Description | composition of cells; carbohydr proteins - overview with emphasis classification and function; lipids - s significance; enzymes - propertie factors affecting enzyme activity | ater, pH, buffers, and biochemical ates - structure and classification; on their composition and structure, tructure, classification and biological s, nomenclature, classification, and including inhibitors and potentiators, nd Vmax; coenzymes and vitamins; on. |

Equivalent Course(s) BIO 2301

| Course Name | English for Academic Purposes | Credit Hours | 3 (3,0) |
|----------------------|--|--|---|
| Course Code | BTC 1202 | Prerequisite(s) | BTC 1105 |
| | | | |
| Course Description | The course is designed to improve acader study skills of students. The course follows a n based on the four language skills with a spea writing skills that are required in research-base The course includes listening and note taking use for locating and evaluating research artic seeks to enable the students to of speed read written text. The course specifically focuses of experiment with complex grammatical form logical paragraph development, to presen effective arguments clearly in research-base requirements of their specific discipline. | nultidimensional a cific focus on read ed study at univer g skills, library and ciles. In addition, th d, skim, scan and i on enabling the stu s, sentence struct t coherent, cohe | pproach ding and sity level. I internet le course nfer from udents to ures and sive and |
| Equivalent Course(s) | BA 1206, CSC 2101, BIO 1202, ME 1205, MD 12 | 22, SS 2316, AF 12 | 03, |
| | EN 1106, BIO 1211 | | |

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| Course Name | Sociology | Credit Hours 3(3,0) |
|----------------------|---|--|
| Course Code | BTC 1206 | Prerequisite(s) None |
| | | |
| Course Description | The course focuses on three central the | emes: social change, social |
| | inequality, and social harmony versus co theoretical texts with case studies to under institutions that can trigger, foster, sustain three processes. The course covers the thinkers and the influence of sociolog citizenship, culture, gender, society, and ec | erstand the mechanisms and , or undermine each of the work of major sociological yy on modernization, race, |
| Equivalent Course(s) | BA 2307, BA 2306, MD 1104, AF 2304, SS 230 | 7, BIO 1214 |

| Course Name | Probability & Biostatistics | Credit Hours 3(3,0) |
|----------------------|---|---|
| Course Code | BTC 1205 | Prerequisite(s) BTC 1101 |
| | | |
| Course Description | The course topics include definition of importance and limitations, population distribution and probabilities, formation of data, histograms, applications of probo measures of central tendencies and dis median, mode, range, variance and stando of the mean, mean deviation, semi inte distribution (binomial, poison and normal of application, normality), test of significance test, multiple range test), design of exp correlation and regression, and computer applications. | and samples, frequency frequency table from raw abilities to simple events, spersion, arithmetic mean, and deviation, standard error erquartile range, standard distributions, properties and (t-test, X2-test, F-test, L.S.D. periment, brief account of |
| Equivalent Course(s) | CSC 2105, BA 3605, BA 5405, BA 5305, BA 230 | 05, BIO 1208, AF 2406, |

EN 2304, BST 1206. BIO 1208

-Catalogue 2018 204

| Course Name | Probability & Biostatistics | Credit Hours | 3 (3,0) |
|----------------------|--|---|--|
| Course Code | BTC 1203 | Prerequisite(s) | . , |
| | 510 1200 | | 1 tonio |
| Course Description | Islamiat: Islamic history, Introduction to Quranic studies, study of selected text of Holy Quran, Seerat of Holy Prophet (S.A.W), Introduction to Sunnah, Selected study of Hadith, Islamic culture & civilization, Islam & Science, Eonomic, Political, and Social System of Islam. | | |
| | Ethics: This course introduces contemporary and controversial ethical issues facing the scientific community. Topics include moral reasoning, moral dilemmas, law and morality, equity, justice and fairness, ethical standards, and moral development. Upon completion, students should be able to demonstrate an understanding of their moral responsibilities and obligations as members of the workforce and society. | | |
| | Pakistan Studies: Historical Perspective: Ideologia reference to Sir Syed Ahmed Khan, Allama Quaid-i-Azam Muhammad Ali Jinnah, Fact separatism. Government and Politics in H constitutional phases of 1947-58, 1958-71, 1971-7 onward. Contemporary Pakistan: Economic Society and social structure, Ethnicity, Foreign challenges, Futuristic outlook of Pakistan. | Muhammad Iq ors leading to Pakistan: Politic 7, 1977-88, 1988- institutions and | bal and Muslim cal and -99, 1999 d issues, |
| Equivalent Course(s) | BA 1106, CSC 1105, MD 2402, SS 1109, CSC 1105 | , en 1105, bio 12 | 212 |

| Course Name | English for Professional Purposes | Credit Hours 3(3,0) |
|--------------------|--|---|
| Course Code | BTC 2303 | Prerequisite(s) BTC 1202 |
| | | |
| Course Description | This technical and business writing course foo professional contexts. The course aims communication skills in a dynamic, digitalize business world. This interactive course will o students about the basics of communicatio them to analyze the mechanics of technical of specific registers, and experiment with memos, reports, proposals, presentations, an complex information with clarity, concisent basic business communication needs of wor | to develop interpersonal ed and globally connected create an awareness in the n in formal contexts, allows business writing with the use a different types of letters, d manuals to communicate ess, and force to meet the |

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Equivalent Course(s) CSC 1205, BIO 2411

| Course Name | Microbial Biotechnology | Credit Hours 3(2,1) |
|----------------------|--|---|
| Course Code | BTC 2305 | Prerequisite(s) None |
| Course Code | BIC 2000 | Terequisite(s) None |
| Course Description | Issues and scope of microbial biotec microorganisms; microbes as tools biotechnological potential of microbes, in food production, fermentation, pharr vaccine development and production; and use of microbes in petroleum indu bio-fertilizers, biopesticides, composting microbial biotechnology in the econom | for microbiological research; ; significance of microorganisms maceutical and other industries; microbiological mining, biofuels ustry; plant-microbe interactions; g; antimicrobials; significance of |
| Equivalent Course(s) | None | |
| Course Name | Introduction to Computer Science | Credit Hours 3(2,1) |
| Course Code | BTC 2304 | Prerequisite(s) None |
| | 510 2001 | |
| Course Description | The course topics include basic comp processing and storage devices) ar important historical events; softwar automation tools (Word Processor, Sprece effective use of internet/intranet; in programming and development, con- technology within the broader domain of computing. | nd software classification with re applications using office ad Sheet, Presentation Software); introduction to software/web omputer networks, information |
| | | |

| Course Name | Biochemistry-II | Credit Hours 3(2,1) |
|----------------------|--|--|
| Course Code | BTC 2301 | Prerequisite(s) BTC 1201 |
| | | |
| Course Description | Introduction to metabolism and basic as biochemical thermodynamics (endergoni phosphoryl group transfer and ATP oxidation-reduction; carbohydrate me (glycolysis, glycogenolysis; gluconeoge pathway); citric acid cycle (reactions, ener transport chain, oxidative phosphoryla (glycerol-phosphate shunt), lipid metabol acid oxidation, ketone bodies, acyl cholesterol); photosynthesis; Calvin Cycle compounds (amino acid synthesis, catab synthesis); nucleic acid metabolism and co of metabolism. | c and exergonic reactions); production; metabolism, etabolism and regulation nesis; pentose phosphate rgetics and control), electron ation, shuttle mechanisms ism (energy yield from fatty glycerol, compound lipids, ; metabolism of nitrogenous olism, purine and pyrimidine |
| Equivalent Course(s) | BIO 2401 | |

| Course Name | Ecology, Biodiversity & Evolution –I | Credit Hours | 3 (2,1) |
|----------------------|--|--|--|
| Course Code | BTC 2302 | Prerequisite(s) | . , |
| | 510 2002 | 11010401010(0) | |
| Course Description | Introduction; ecosystem and ecological on phenotype of organisms; food chain, w | vebs and trophic level | s; factors |
| | influencing environment; impact of un environment; population: air, water, land, community ecology; atmosphere – com climate change (greenhouse effect and g composition and state across the gl processing and disposal; microbes, p comparative study of life forms; features a archaea and eukaryotes; phylogenetic re kingdoms; evolution of different member three domains of life (with specific exan causes and consequences of extinction. | thermal, radiation and position and cycles; p global warming); ozor lobe; waste and so olants and animal and characteristics of b slationships between t ers belonging to eac | nd noise; pollution; ne layer – ewerage species; pacteria, the three h of the |
| Equivalent Course(s) | None | | |
| | | | |
| | | | |

| Course Name Course Code | Ecology, Biodiversity & Evolution –II BTC 2402 | Credit Hours 3(2,1) Prerequisite(s) BTC 2302 |
|----------------------------|---|---|
| Course Code | DTC 2402 | |
| Course Description | Introduction to animal kingdom: features of arthropods, myriapods, echinoderms, cho and birds. Plant biodiversity – history, i evolution; importance of plants, their cons improvement of crops; impact of environme and speciation; in situ and ex situ conserv- plants and animals; origin of life; meth construction of phylogenetic trees on molecular markers; environmental ethics. | ordates, amphibians, reptiles mportance, usefulness and ervation and domestication; ent on loss of genetic diversity ation; evolution of microbes, nods of studying evolution; |
| Equivalent Course(s) | None | |

- Sion Course Catalopule -2012

| Course Name | Immunology | Credit Hours 3(2,1) |
|----------------------|---|---|
| Course Code | BTC 2404 | Prerequisite(s) BTC 1204 |
| | | |
| Course Description | Overview of the immune system as the mechanism; elements of innate and acq organs of the immune system; properties of together with their structure, function and antibody structure and diversity; expression VDJ recombination; antigen processing histocompatibility complex; monoclonal a T-cell receptors, maturation, activation, of generation, activation, and differentiation hypersensitivity, cytokines, resistance and immedise diseases, cell-mediated effector response, inflammation, vaccines, diseases of the immune transplantation immunology. | uired immunity; cells and of antibodies and antigens d interactions; genetics of of immunoglobulin genes; and presentation; major nd polyclonal antibodies; and differentiation; B-cell on; complement system, nune response to infectious leukocyte migration and |
| Equivalent Course(s) | BIO 3504 | |

| Course Name | Molocular Piology | Credit Hours 3(2,1) |
|----------------------|--|---|
| Course Name | Molecular Biology | Credit Hours 3(2,1) |
| Course Code | BTC 2405 | Prerequisite(s) BTC 1204 |
| | | |
| Course Description | Introduction to molecular biology and his DNA; chromatin and structure of chroma function; DNA replication in prokaryotes a prokaryotes and eukaryotes; post transcr splicing, alternative splicing, editing); post-translational processing in prokaryot folding, targeting and turnover; DNA recombination and transposable eleme gene regulation in prokaryotes and eukar | osomes; protein structure and ind eukaryotes; transcription in iptional processing (e.g., RNA genetic code; translation, otes and eukaryotes; protein A 27 damage and repair, nts. Signaling and control of |
| Equivalent Course(s) | BIO 4803 | |

| Course Name | Humanities | Credit Hours 3(3,0) |
|----------------------|--|--|
| Course Code | BTC 2403 | Prerequisite(s) None |
| | | |
| Course Description | The course includes an introduction to | 8 |
| | of some of the major developments analyze how societies express themse philosophy, and technology. Focus i tools to understand cultural phenome | elves through literature, art, music, is on developing the conceptual |
| Equivalent Course(s) | BIO 2409 | |

| Course Name | Classical Genetics | Credit Hours | 3 (2,1) |
|----------------------------|---|---|--|
| Course Code | BTC 2401 | Prerequisite(s) | . , |
| | | | |
| Course Description | The course includes Classical Mendelian genet dominance, recessiveness, co-dominance, principle of independent assortment; dihybrid of interactions; epistasis and multiple alleles; ABO b factor alleles in humans; probability in Mendelia of chromosomes; organization of genes and function; DNA as warehouse of genetic inf evidence that DNA is genetic material; sex det crossing over. | and semi-don and trihybrid ratio blood type allele an inheritance; genomes; nucl- ormation; expe | ninance; os; gene s and Rh structure eic acid rrimental |
| Equivalent Course(s) | BIO 3503 | | |
| Course Name | Principles of Biochemical Engineering | Credit Hours | 3 (2,1) |
| Course Code | BTC 3505 | Prerequisite(s) | None |
| Course Description | Introduction to microorganisms and biological molecules; principles of enzyme catalysis; methods of enzyme and cell immobilization; enzyme kinetics; internal mass transfer effect on immobilized growth; stoichiometry models of microbial growth; structured model, of microbial growth; bioreactors - continuous stirred tank bioreactors, plug-flow and packed bed bioreactors, imperfect mixing, fed batch bioreactors, gas liquid mass transfer in bioreactors, power requirement for bioreactor, sterilization and heat transfer in bioreactors; introduction to bio product recovery; biological product manufacturing; economic analysis of bioprocesses; case study: penicillin. | | |
| Equivalent Course(s) | | | |
| | None | | |
| Course Name | Introduction to Biotechnology | Credit Hours | 3 (2,1) |
| Course Name Course Code | | Credit Hours Prerequisite(s) | |
| | Introduction to Biotechnology | Prerequisite(s) ns of biotechnol cations of biotec ries, algae, fun- in biotechnolog | None ogy and :hnology gi, etc.); y; public |

| Course Name | Enzymology | Credit Hours | 3 (2,1) |
|----------------------|--|--|--|
| Course Code | BTC 3503 | Prerequisite(s) | · · / |
| | | | Rono |
| Course Description | Introduction to enzymes, nomenclature, classi characteristics of theories of enzyme cataly specificity, isozymes, coenzymes, cofactor activity, chemical kinetics and enzyme k equation, effect of various factors on rate enzymatic reactions and kinetics, multienzyn reactions, catalytic mechanisms, regulato enzyme and enzyme assays. | rsis, enzyme and s rs, regulation of kinetics, Michaelis of reactions, inhi me system and bis | enzyme -Menten bition of substrate |
| Equivalent Course(s) | BIO 4726 | | |
| Course Name | Bioethics | Credit Hours | 3 (2,1) |
| Course Code | BTC 3501 | Prerequisite(s) | · · / |
| | 210 0001 | receptione(s) | 1,0110 |
| Course Description | The course topics include; why study Bioethic branches, Oaths & laws relating to Medical F Organ transplantation & artificial inse Reproductive Technology (ART), Ordinance sensitivity/women issues, such as: Hadood C Karo-Kari, Taboos against divorced women Physical violence against women, married/unmarried women, Assessment p strategies by medical professionals, Medical malpractice, Patients' rights, Consent to N Treatment, Global ethical issues, Other ethi abuse and molestation, The practice of altern Pakistan ethical issues verses global ethical iss (commonality), Ethical dilemmas at workplace Myths and ethics. | Profession), Ethical emination and ce/Laws pertinent Ordinance, Swara n/widow, Female Fatal/lethal bu process and inte I negligence and Medical Examinat ical issues, such o nate medicine, Q sues, Religious per | Issues in Assisted Gender + Vanni, feticide, urns to ervention medical tion and as: Child uackery, spective |
| Equivalent Course(s) | BIO 4801 | | |
| Course Name | Psychology | Credit Hours | 3 (2,1) |
| Course Code | BTC 3506 | Prerequisite(s) | None |
| Course Description | The course topics include why study psychology, nature and application of psychology with special reference to Pakistan, schools of psychology, methods of psychology, biological basis of behavior and sensation, perception and attention. It helps distinguish between the major perspectives on human thought and behavior and appreciate the variety of ways psychological data are gathered and evaluated. The course also entails gaining insight into human behavior and into one's own personality or personal relationships, exploring the ways that psychological theories are used to describe, understand, predict, and control or modify behavior, motives, emotions, learning, memory and thinking, impact of behavior on organization, how do the tools of psychology improve work output, social medicine, and social evils. | | |
| | psychological theories are used to describe, control or modify behavior, motives, emotio thinking, impact of behavior on organizati | , understand, prec ns, learning, mem ion, how do the | dict, and hory and tools of |

| | Duck and Management | \mathbf{C} readiation \mathbf{C} (0.1) |
|----------------------|--|---|
| Course Name | Business Management | Credit Hours 3(2,1) |
| Course Code | BTC 3502 | Prerequisite(s) None |
| | | |
| Course Description | The course topics include; basic busines and choosing options, laying the for understanding and reaching custome finances and assets, competitors and cor running your business; selling techniqu e-marketing and online selling, custo budgeting; cash flow and book-keepin aspects of small businesses. | oundations, market research, ers, cost and profit analysis, nstraints, writing a business plan, ues and business promotions, omer satisfaction, price and |
| Equivalent Course(s) | BIO 4701 | |

| Course Name | Industrial Biotechnology | Credit Hours 3(3,0) |
|--------------------|---|---|
| Course Code | BTC 3603 | Prerequisite(s) BTC 3504 |
| | | |
| Course Description | Industrial biotechnology – introduction of commonly used in industry; media and industrial organisms; screening for pro- improvement; culture collections; ferm extraction of fermented products; product vinegar; use of single cell proteins as f microbial insecticides; production of met amino acids; vaccines and antibiotic product | nutritional requirements of ductive strains and strain nentation and fermenters; ion of beer, wines, spirits and ood products; biocatalysts; abolites: organic acids and |

Equivalent Course(s) None

| Course Name | Agriculture Biotechnology | Credit Hours | 3 (3,0) |
|----------------------|---|---|---|
| Course Code | BTC 3601 | Prerequisite(s) | BTC 3504 |
| | | | |
| Course Description | Agriculture biotechnology and its application cell and plant tissue culture methodology; in plant cell culture; plant molecular biomari methods of plant and animal transformatio transformation, Agrobacterium mediated tra transformation and polyethylene glycol (PEG) transgenic crops with herbicide, biotic and problems related to transgenic plants; genet (GMOs); field evaluation and commercializ effects of releasing GMOs into the er bio-pesticides and their types; non-symbiotic n future prospects of bio fertilizers | nprovement of p kers; direct and n: gene gun me ansformation, ch mediated transfor abiotic stress re ically modified o ation of GMOs; wironment; bio- | olants via indirect ethod of oloroplast prmation; isistance; rganisms possible fertilizers, |
| Equivalent Course(s) | BIO 3601 | | |

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| Course Name | Nutrition and Dietetics | | 3 (3,0) |
|----------------------|---|---|--|
| Course Code | BTC 3605 | Prerequisite(s) | None |
| Course Description | The course topics include; what is and why study nutrition and dietetics, role of nutrition and dietetics in health and how it helps in health, energy and protein, carbohydrates and fats, water soluble vitamin, fat soluble vitamins, minerals RDA/dietary guidelines, nutrition in pregnancy and lactation, nutrition in the growing years, nutrition in adult and elderly, nutrition problem in Pakistan, nutritional assessment, principle of diet therapy in patients, diet in body weight control, diabetes mellitus, hypertension, cardiovascular disease, cancer, osteoporosis, renal disease and food service management in hospitals, and screening of deficiencies. | | energy soluble cy and elderly, of diet mellitus, , renal |
| Equivalent Course(s) | BIO 2304 | | |
| Course Name | Health Biotechnology | Credit Hours | 3 (3,0) |
| Course Code | BTC 3602 | Prerequisite(s) | · · · |
| course code | 510 5002 | Trerequisite(3) | DIC 0004 |
| Course Description | Introduction to health biotechnology; social acceptance of medical biotechnology; molecular basis of disease; molecular and genetic markers; detection of mutations and infectious agents; active and passive immunization; vaccines (live, killed, recombinant DNA vaccines, subunit vaccines, DNA vaccines, edible vaccines); organ transplantation; applications of transgenic animals (animal models of diseases, farming and enhancement of farm animals); drug delivery systems; blood transfusion and grafting techniques; pharmacogenetics; gene therapy; biopharmaceuticals from plants; stem cell technology | | |
| Equivalent Course(s) | None | | |
| Course Name | Research Methodology | Credit Hours | 3 (3,0) |
| Course Code | BTC 3606 | Prerequisite(s) | BTC 1102, BTC 120 |
| Course Description | Introduction; unethical academic research and research types; ex identifying a research problem and a study; data collection, interpretat report, project, thesis and/or rese posters; making scientific presentation | traction and review of lite formulating a hypothesis; de ion and analysis; writing a re earch article or review; pre | erature; signing esearch |
| Equivalent Course(s) | CSC 5105, MPH 5205, BIO 4703 | | |

-Catalogue 2018 212

| Course Name | Medical Biotechnology | Credit Hours | 3 (3,0) |
|--|---|---|--|
| Course Code | BTC 3604 | Prerequisite(s) | BTC 3504 |
| Course Description | Introduction to health biotechnology; s biotechnology; molecular basis of dis markers; detection of mutations and passive immunization; vaccines (live, kille subunit vaccines, DNA vaccines, transplantation; applications of transge diseases, farming and enhancement of systems; blood transfusion and grafting t gene therapy; biopharmaceuticals from None | ease; molecular and infectious agents; act ed, recombinant DNA v edible vaccines); nic animals (animal m of farm animals); drug echniques; pharmacog | genetic tive and accines, organ nodels of delivery genetics; |
| Course Name | Research Report-I Research Report-II | Credit Hours | 6 (0,3)+(0,3) |
| | | | |
| Course Code | BTC 4705 | Prerequisite(s) | BTC 2301, BTC 2405 |
| Course Code | BTC 4705 BTC 4805 | Prerequisite(s) | |
| Course Code Course Description | | ct is to be conducted, b experiment, and pres | BTC 3504, BTC 1204 in which sent their |
| | BTC 4805 A Biotechnology related research project candidates are required to do a short la | ct is to be conducted, b experiment, and pres | BTC 3504, BTC 1204 in which sent their |
| Course Description Equivalent Course(s) | BTC 4805 A Biotechnology related research project candidates are required to do a short la findings in terms of research report and p None | ct is to be conducted, b experiment, and pres bower point presentatio | BTC 3504, BTC 1204 in which sent their ons. |
| Course Description | BTC 4805 A Biotechnology related research project candidates are required to do a short la findings in terms of research report and p | ct is to be conducted, b experiment, and pres | BTC 3504, BTC 1204 in which sent their ons. 3 (2,1) |
| Course Description Equivalent Course(s) Course Name | BTC 4805 A Biotechnology related research project candidates are required to do a short la findings in terms of research report and p None Animal and Plant Tissue Culture | Credit Hours Credit Hours Prerequisite(s) and history of plant tissue atory, basic media a type of explants, prepo ure, cell culture, and si duction. Somal clonal v ure and Somatic hybri ic Embryogeneis); P plication. Production o culture. Introduction to cell and tissue culture, or culture, factors effecon h, subculturing, establish | BTC 3504, BTC 1204 in which sent their ons. 3(2,1) None e culture; and their arration of ngle cell variation; idization. rinciples, f natural o animal different cting the |
| Course Description Equivalent Course(s) Course Name Course Code | BTC 4805 A Biotechnology related research project candidates are required to do a short la findings in terms of research report and provide the second sec | Credit Hours Credit Hours Prerequisite(s) and history of plant tissue atory, basic media a type of explants, prepo ure, cell culture, and si duction. Somal clonal v ure and Somatic hybri ic Embryogeneis); P plication. Production o culture. Introduction to cell and tissue culture, or culture, factors effecon h, subculturing, establish | BTC 3504, BTC 1204 in which sent their ons. 3(2,1) None e culture; and their arration of ngle cell variation; idization. rinciples, f natural o animal different cting the |

| Course Name | Bioinformatics | Credit Hours 3(3,0) |
|----------------------|---|---|
| Course Code | BTC 4702 | Prerequisite(s) BTC 2304 |
| | | |
| Course Description | Introduction; bio-computing; biological c of nucleic acid (or genomic) or pr sequence alignment - pairwise, mult identification of protein motifs and domc proteins and RNAs including protein mo interactions with other proteins and smo genes and promoter regions within gen whole genome sequencing and assembl | otein sequence information; iple; phylogenetics; in silico ains; structural bioinformatics of odeling and prediction of their all molecules; identification of nomes; networks; strategies for |
| Equivalent Course(s) | CSC 4707, BIO 2402 | |

| Course Name | Fermentation Biotechnology | Credit Hours 3(3,0) |
|--------------------|---|---|
| Course Code | BTC 4703 | Prerequisite(s) BTC 3504 |
| | | |
| Course Description | Overview of fermentation technolo applications; strain development and microorganisms - plating, criteria for selec genetic engineering; growth requireme media preparation; stoichiometry of mic inoculum; microbial growth kinetics in bat sterilization: modes & kinetics of steriliz continuous sterilization process, air steriliz fluid rheology: classification, Newtonic effecting KLa in fermentation vessel; configuration for free and immobilized engineering for plant and animal cell cu product recovery; scaling-up of fermentation | d improvement: isolation of tion and improvement through ent of various organisms and crobial growth; preparation of tch culture; continuous culture; zation, design of batch and ation & theory of fibrous filters; an & non-Newtonian factors design of bioreactors and cells; waste treatment; tissue ultures; aeration and agitation; |
| | | |

Equivalent Course(s) BIO 4825

| Course Name | Biological Physics | Credit Hours 3(3,0) |
|----------------------|---|---|
| Course Code | BTC 4801 | Prerequisite(s) None |
| Course Description | Essentials of thermodynamics; concep free energy; order and disorder in diffusion, random walks and fir macromolecules; interactions of mole binding and dissociation constants; r Reynold's number; chemical forces of channels. | n biological systems; molecules, riction; methods of studying ecules in 3-D space – determining molecular motors; sedimentation; |
| Equivalent Course(s) | BIO 4802 | |

| Course Name | Environmental Biotechnology | Credit Hours 3(3,0) |
|----------------------|--|---|
| Course Code | BTC 4802 | Prerequisite(s) BTC 3504 |
| | | |
| Course Description | Introduction to environmental bioto biological interventions; genetic environmental biotechnology; pollution strategies; bioreactors; domestic was effluent treatment; sludge treatment; bioremediation; phytoremediation; land integrated environmental biotechno- biotransformation of hazardous chemic biotechnology. | manipulation strategies in indicators and pollution control ite water treatment; industrial ; contaminated 30 land and dfills and composts; concept of ology; biodegradation and |
| Equivalent Course(s) | BIO 2403 | |

| Course Name | Food Biotechnology | Credit Hours 3(3,0) |
|--------------------|---|--|
| Course Code | BTC 4803 | Prerequisite(s) BTC 3504 |
| | | |
| Course Description | Food composition, probiotics, ferme | ented foods, food enzymes, colors |
| | and additives; overview of metabol | ic engineering of bacteria for food |
| | ingredients; 32 techniques used for | production of food ingredients by |
| | microbes; genetic modification of p | lant starches for food applications; |
| | biotechnological approaches to imp | prove nutritional quality and shelf life |
| | of fruits and vegetables; microbic | I food spoilage and food borne |
| | diseases; detection and control of | food borne bacterial pathogens; |
| | food safety and quality control; international aspects of quality and | |
| | safety assessment of food derived b | y modern biotechnology. |
| | | |

Catalogue -

Equivalent Course(s) BIO 4727

6.2 Masters

6.2.2 Master of Science in Biosciences (MS-Biosciences)

Students enrolled in Master of Science in Biosciences (MS-BIO) program are required to complete 8 courses with a minimum of 30 credit hours, within five (5) years to become eligible for obtaining the MS degree in Biosciences. The break-up of 30 courses is as follows:

- 4 Compulsory Courses (12 Credit Hours)
- 4 Electives²⁹ (12 Credit Hours)
- 1 Thesis / 2 additional electives or 2 IRS instead of thesis (6 Credit Hours)

| Course Code | Course Title | Page # | | |
|-------------|-------------------------------------|--------|--|--|
| | First Year | | | |
| | | | | |
| | Fall Semester | | | |
| BIO 5101 | Advanced Research Methodology | 217 | | |
| BIO 5102 | Biostatistics | 217 | | |
| | Spring Semester | | | |
| BIO 5201 | Molecular Genetics | 218 | | |
| BIO 5202 | Techniques in Biomolecules Analyses | 218 | | |
| | Second Year | | | |
| | | | | |
| | Fall Semester | | | |
| BIO 5xxx | Elective-I | 293 | | |
| BIO 5xxx | Elective-II | 293 | | |
| BIO 5xxx | Thesis / Elective-V | 293 | | |
| | Spring Semester | | | |
| BIO 5xxx | Elective-III | 293 | | |
| BIO 5xxx | Elective-IV | 293 | | |
| BIO 5xxx | Thesis / Elective-VI | 293 | | |

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

216

6.2.2 Master of Science in Biosciences (MS-Biosciences)

| Course Name | Advanced Research Methodology | Credit Hours | 3 (3,0) |
|-------------------------------------|---|--|--|
| Course Code | BIO 5101 | Prerequisite(s) | None |
| | | | |
| Course Description | This course is aimed to provide a compu- research and its methods. Topics inco- research, scientific methods of research classification of research, how to select of research, concepts, variables and types and characteristics, review of literatu- literature review, theoretical framew- research proposal, the research proce- measurement of concepts, criteria for design, tools for data collection, sample non-probability sampling, data analy experimental research, use of secondar and referencing. | clude definition and arch and its special a topic for research? the s of variables, hypothes ure, conducting a sy vork, problem definiti ess, ethical issues in r good measurement, e and sampling, probat ysis tools, data prese | value of features, eory and sis testing restematic ion and research, research polity and entation, |
| | | | |
| Equivalent Course(s) | MPH 5205, MS 5239 | | |
| Equivalent Course(s) Course Name | MPH 5205, MS 5239 Biostatistics | Credit Hours | 3 (2,1) |
| | | Credit Hours Prerequisite(s) | · · · |
| Course Name | Biostatistics | Prerequisite(s) o students with current ta. Topics include the c scriptive data; the rat nalysis of variance; and d regression analysis; tatistical control of cont s; and survival analysis ecognize and interpret ent literature. This cout t, and interpret basic | None tools and collection, ionale of nalysis of multiple founding; s. Special statistical rse gives |

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6.2.2 Master of Science in Biosciences (MS-Biosciences)

| Course Name | Molecular Genetics | Credit Hours | 3 (2,1) |
|----------------------|--|---|---|
| Course Code | BIO 5201 | Prerequisite(s) | None |
| Course Description | In this course, students will be introduced to developments in the field of molecular biolog include: genome structure and function, chrom structure, genome organization, genetic and p regulation, gene and RNA splicing, gene cla regulation, molecular and genetic diagnosis of or resistance, gene therapy, human genome p genetics, cancer genetics, immunogenetics population genetics. | gy and genetic nosomes and ch ohysical mappir oning, control diseases, genetic oroject, develo | s. Topics nromatin ng, gene of gene cs of host pmental |
| Equivalent Course(s) | None | | |
| Course Name | Techniques in Biomolecules Analyses | Credit Hours | 3 (2,1) |
| Course Code | BIO 5202 | Prerequisite(s) | None |
| Course Description | In this course, students are introduced to varia that are currently applied for the analyses of b like nuclear magnetic resonance, mass spect infrared spectroscopy, genome sequencing chromatographic separation of molecules are i addition, various visits to high profile research I give proper demonstration and experience to t | viomolecules. Te trometry, ultravi and proteome included in this o labs will be orgo | chniques olet and analysis, course. In |
| Equivalent Course(s) | None | | |
| | | | |
| | | | |
| | | | |

6.2 Masters

6.2. Master of Public Health (MSPH)

(MSPH)-36 credits hours

Students enrolled in Master of Public Health (MSPH-36) are required to complete 36 credits, within 5 years. The break-up of credit hours is as follows:

- 7 Core Courses (21 credit hours)
- 3 Electives (9 credit hours)
- 1 Thesis (6 Credit Hours) OR 2 IRS (6 Credit Hours)

First Year Fall Semester MSP 5104 Social and Behavioral Aspects of Public Health 221 MSP 5101 Basic Epidemiology and Biostatistics 221 MSP 5103 Environmental and Occupational Health 223 MSP 5102 Health Promotion, Advocacy and Social Mobilization 222 Spring Semester MSP 5201 Applied Epidemiology and Biostatistics 222 MSP 5202 222 Health System MSP 5203 Research Methods: Quantitative and Qualitative 224 MSP 5xxx Elective-I Second Year **Fall Semester** MSP 5xxx Thesis-I or IRS-I MSP 5xxx Elective-II **Spring Semester** MSP 5xxx Thesis-II or IRS-II MSP 5xxx Elective-III

Practicum OR One Publication in Peer Reviewed Journal (HEC Indexed Journal) All courses may not be offered every year. Alternate courses may be substituted as and when needed.

6.2 Masters

6.2.1 Master of Public Health (MSPH)

(MSPH)-60 credits hours

Students enrolled in Master of Public Health 60 credit hours (MSPH-60) are required to complete 60 credits, within 5 years. The break-up of credit hours is as follows:

• 15 core courses (45 credit hours)

220

- 3 elective courses in the specialized track (9 credit hours)
- 1 Thesis (6 Credit Hours) OR 2 IRS (6 Credit Hours)

| Course Title | Page # |
|--|---|
| First Year | |
| Fall Comester | |
| | 221 |
| | 224 |
| | 224 |
| | 225 |
| | |
| Mental Health | 225 |
| Spring Semester | |
| Microbiology | 226 |
| Entomology | 226 |
| Research Methods: Quantitative and Qualitative | 224 |
| Health Care Risk Management | 227 |
| Parasitology | 226 |
| Second Year | |
| | |
| Fall Comester | |
| Fall Semester | 001 |
| Basic Epidemiology and Biostatistics | 221 |
| Basic Epidemiology and Biostatistics Environmental and Occupational Health | 223 |
| Basic Epidemiology and Biostatistics Environmental and Occupational Health Health Promotion, Advocacy and Social Mobilization | 223 222 |
| Basic Epidemiology and Biostatistics Environmental and Occupational Health Health Promotion, Advocacy and Social Mobilization Health System | 223 |
| Basic Epidemiology and Biostatistics Environmental and Occupational Health Health Promotion, Advocacy and Social Mobilization | 223 222 |
| Basic Epidemiology and Biostatistics Environmental and Occupational Health Health Promotion, Advocacy and Social Mobilization Health System | 223 222 |
| Basic Epidemiology and Biostatistics Environmental and Occupational Health Health Promotion, Advocacy and Social Mobilization Health System Thesis-I or IRS-I Spring Semester | 223 222 |
| Basic Epidemiology and Biostatistics Environmental and Occupational Health Health Promotion, Advocacy and Social Mobilization Health System Thesis-I or IRS-I | 223 222 222 - |
| Basic Epidemiology and Biostatistics Environmental and Occupational Health Health Promotion, Advocacy and Social Mobilization Health System Thesis-I or IRS-I Spring Semester Applied Epidemiology and Biostatistics | 223 222 222 - |
| Basic Epidemiology and Biostatistics Environmental and Occupational Health Health Promotion, Advocacy and Social Mobilization Health System Thesis-I or IRS-I Spring Semester Applied Epidemiology and Biostatistics Thesis-II or IRS-II | 223 222 222 - |
| | First Year Fall Semester Social and Behavioral Aspects of Public Health Sociology of Health and Disease Population Dynamics Professional Ethics Mental Health Spring Semester Microbiology Entomology Research Methods: Quantitative and Qualitative Health Care Risk Management Parasitology |

| Course Name | Social and Behavioral Aspects of Public H | Health Credit Hours 3 (3, 0) | |
|----------------------------|---|--|--------------------------------------|
| Course Code | MSP 5104 | Prerequisite(s) None | |
| | | | |
| Course Description | Definition of public health in a hi developments in public health and futu Problem-solving methodology applied to conceptual framework for understan Identifying and developing strategies Setting priorities and recommendin Implementing interventions or policies an a communication strategy, Research in pr evidence-based decision making, Overv in Pakistan | ore directions of public health o public health, Developing ding the key determinants (policies and interventions or policies and evaluation plan, Developing ublic health and importance of | n, a s,), s, g pf |
| Equivalent Course(s) | MPH 5104 | | |
| | | | |
| | | | |
| | Basic Epidemiology and Biostatistics | Credit Hours 3 (3, 0) | |
| Course Name Course Code | | Credit Hours 3 (3, 0) Prerequisite(s) None | 1 |

various sampling techniques, Data presentation: Figures, graphs, tables

Equivalent Course(s)

MPH 5102

- Catalogue -

| Course Name | Epidemiology | Credit Hours | 3 (3,0) |
|----------------------------|---|---|---|
| Course Code | MSP 5102 | Prerequisite(s) | None |
| Course Description | Introduction to Environmental Health Issues, of Pakistan, Human Impacts on Environmer Human Health, Sanitation Status and Option Drinking Water Quality Situation in Pakisto Arsenic, Fluoride and Nitrate contaminatio Born Diseases in Pakistan, Water Supply Ag Performance, Present Drinking Water Treatr Availability and its Treatment, Air Pollution Hazardous Waste Management Environmer Climate Change and Its Effect on Health, E Workplace and Health, Scope of Occup Occupational Health Issues in Low-income Anticipation, Recognition, Evaluation, Con and Environmental Medicine, Legal and Re | at, Environmental Imp is in Pakistan, Water Po- in, Pesticides and Fe on in Drinking Waters gencies, their Capaco- nent Practices, Waster, Noise Pollution,, So atal Impact Assessme Environment Policy ar pational Health and Countries, Industrial H ntrol, Clinical Occup | acts on ollution, ertilizers, , Water ity and e Water lid and nt (EIA), nd Law, Safety, ygiene, pational |
| Equivalent Course(s) | MPH 5101 | | |
| Course Name | Health system | Credit Hours | 3 (3,0) |
| Course Code | MSP 5202 | Prerequisite(s) | None |
| Course Description | Definitions of health input, output and Conceptual Frameworks, Health System: Te Approach, Micro Health System: Kielmann M their use, Situation Analysis Approach, Ins Analysis, Macro Health System: WHO m Information System, Field Visits for data analysis), Health system functions, Health Health Care, Linking the Micro and Macro H | erms and Concepts, S Model, Health Indicat strument for Health S odel, Health Manag collection (applied system outcomes, | Systems ors and Systems gement system |
| Equivalent Course(s) | MPH 5202 | | |
| | | | |
| Course Name | Applied Epidemiology and Biostatistics | Credit Hours | 3 (3,0) |
| Course Name Course Code | Applied Epidemiology and Biostatistics MSP 5201 | Credit Hours Prerequisite(s) | , , |
| | | Prerequisite(s) ence, Proportional M ation and inference in ons of Chance, confo fect modification. Is dardization techniq NOVA, Non Parametr x k tables and tabl ametric tests for a si ink sum tests, Mann-N | None orbidity cohort ounding sues in ues in ic tests: es with ngle or Whitney |
| Course Code | MSP 5201 Disease frequency: Incidence and Prevale and mortality, Details of measures of associa and case control studies, Further applicatio and bias in studies. Interaction and eff screening. Survival time analysis. Stan epidemiological studies. Parametric test: Al Chi square test for several proportions, n ordered data, Fisher's exact test, non-par more than one samples e.g. Wilcoxon's Ro U-tests. Partial correlation coefficients, co | Prerequisite(s) ence, Proportional M ation and inference in ons of Chance, confo fect modification. Is dardization techniq NOVA, Non Parametr x k tables and tabl ametric tests for a si ink sum tests, Mann-N | None orbidity cohort ounding sues in ues in ic tests: es with ngle or Whitney |

| Course Name | Health Promotion, Advocacy and Social Mobilization Credit Hours 3 (3,0) |
|----------------------|---|
| Course Code | MSP 5103 Prerequisite(s) None |
| ourse Description | 1. Introduction to Health Promotion and Education |
| | Health promotion, Risk transition, Ottawa Charter, Adelaide, Sundsval, |
| | Jakarta and Mexico, Bangkok conferences, Life course perspective, World Health Report 2002. |
| | |
| | 2. Health perspectives and reflections |
| | Health as a continuum, Approaches to Health Education, Orientations for health education. |
| | 3. Evidence-based Health Promotion and Planning |
| | Principles of Health Promotion, Hierarchy of evidence, Outcome model |
| | of Health Promotion, A new evidence paradigm, Health A new evidence paradigm |
| | 4. Health Promotion theoretical perspectives |
| | Ecological Models, Community theories, Diffusion of innovations, |
| | Community organization theory, Organizational change theory, |
| | Interpersonal, Social learning theory, Social cognitive theory, Trans theoretical model/Stages of change model, Health belief model, |
| | Consumer information processing Model. |
| | 5. Models of Health Promotion |
| | Aims of Health Promotion, Towards a more integrated model, Tanahills |
| | Model. |
| | 6. Models of Health Promotion Planning |
| | Precede-Proceed, Social Marketing, Logic Model. |
| | 7. Health Communication |
| | Types and levels, Principles of effective communication, Message, |
| | Audience, HEALTHCOMS 5 step methodology, CDC's Health |
| | Communication Wheel, "A" frame of advocacy, 7 C's of effective communication, "P" process, Health Communication campaign, |
| | Planning a comprehensive health communication campaign, |
| | 8. Steps of the comprehensive health communication campaign |
| | Steps of the comprehensive health communication campaign. |
| | 9. Social Marketing |
| | 10. Evaluating Health Promotion Programs |
| | Stages of research and evaluations for Health Promotion programs, Best |
| | practices in health promotion, Skills for evaluation, Steps off evaluation process. |
| Equivalent Course(s) | MPH 5103 |
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| | |
| | |

| Course Name | Research Methods: Quantitative and Qualitative | Credit Hours 3 (3, 0) |
|----------------------|---|---|
| Course Code | MSP 5203 | Prerequisite(s) None |
| | | |
| Course Description | Principles of critical reading of a scientific pa | aper, Definition of research, |
| | Importance of research in public health, Sele Literature Search using internet and library, for the proposal writing. Parts of proposal writ techniques, inclusion and exclusion criteria. <i>N</i> statistical techniques. Reference writing, Abs the proposals | Preparing the background ting. Study design, sampling Methodology, Choosing the |
| Equivalent Course(s) | BMPH 5205, BIO 5101 | |
| Course Name | Sociology of Health & Diseases | Credit Hours 3 (3, 0) |
| Course Code | MSP 5111 | Prerequisite(s) None |
| | | |

Course Description Evolution of Health & Healing, Body, Mind, Illness and Environment, Theories, research and debates of medical sociology. Social, environmental and occupational factors in health and illness; The meaning of health and illness from the patient's perspective; The historical transformation of the health professions and the health work force; The social and cultural factors surrounding the creation and labeling of diseases; Disparities in health, access to healthcare, and the quality of healthcare received; Organizational and ethical issues in medicine including rising costs and medical technology; and health care reform.

Equivalent Course(s) None

| Course Name | Population Dynamics | Credit Hours 3 (3, 0) |
|--------------------|--|--|
| Course Code | MSP 5106 | Prerequisite(s) None |
| | | |
| Course Description | Introduction to language and metho | ds in demography. The |
| | demographic transition and historical and Reading: PRB Handbook; Dyson 2001. C Mortality and Development. Reading: Johansson & Mosk 1987. The Local Politica HIV/AIDS Reading: Watkins 2004; Madhaver Watkins 2012 [long]. Gender Dimensions Reading: Das Gupta 1987. Fertility Transitions Bongaarts et al. 1990; Pritchett 1994. The P Reading: Sinding 2000. Migration and Dev 1988; Dyson 2011; Korinek et al. 2005. Te Reading: Boserup 1965; Johnson and N Population Structures I: Age Structure Dy Mason 2006; Eastwood and Lipton 2007. Cur Reading: Lagarde et al. 2007 | General relationship linking McKeown; Preston 1975; al Economy of Health; and n& Schatz 2007; Swidler and of Health and Mortality. s in Poor Countries. Reading: olitics of Population Control elopment Reading: Massey echnology: Beyond Malthus Nurick 1995; McNeil 2006. namics. Reading: Lee and |
| | | |

Equivalent Course(s) MPH 5301

Catalogue

22/

| Course Name | Professional Ethics | Credit Hours 3 (3, | , 0) |
|--|--|--|--|
| ourse Code | MSP 5107 | Prerequisite(s) None | ne |
| | | | |
| ourse Description | | any field to have an understanding of | |
| | | s in their field. But anyone, no matter wl | |
| | , . | any other professions as well. Part | |
| | professional ethics is the understanding of the professionalism and ethics of other professions: how they interact and what can be expected from them as correct ethical behavior. In turn, any professional will benefit from a critical scrutiny of their own ethics by those from other professions. | | |
| | | | |
| | | | |
| | , | ssional ethics will be examined, as well | |
| | 0 1 1 1 | e different fields. The course covers | |
| | | sions: Business Ethics, Media Ethics, Pol | |
| | , , , | hics, and Research Ethics. Topics cover | |
| | | a profession, professional codes of eth | |
| | | g, the responsibility of business to t | |
| | | of human research, and animal ethic. | |
| | research. | | 55 111 |
| | | | |
| quivalent Course(s) | MPH 5307 | | |
| | | | |
| | | | |
| Course Name | Mental Health | Credit Hours 3 (3, | , 0) |
| | Mental Health MSP 5105 | Credit Hours 3 (3, Prerequisite(s) None | ' |
| | | · · · | ' |
| ourse Code | MSP 5105 | · · · | ne |
| Course Code | MSP 5105 Introduction to Mental Healt | Prerequisite(s) None | ne and |
| Course Name Course Code Course Description | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants | Prerequisite(s) Non- h, Prevention of Mental ill health o nd protective factors for mental disorde of Mental health, Mental Health o | and ders, and |
| Course Code | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C | Prerequisite(s) Non- h, Prevention of Mental ill health o nd protective factors for mental disorde of Mental health, Mental Health o community Network, Reducing Harm fro | and ders, and rom |
| Course Code | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent | Prerequisite(s) Non- h, Prevention of Mental ill health of nd protective factors for mental disorder of Mental health, Mental Health of community Network, Reducing Harm fro- tion of Child abuse and neglect, Cop | and ders, and rom ping |
| Course Code | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent with parental mental illness | Prerequisite(s) Non- h, Prevention of Mental ill health o nd protective factors for mental disorde of Mental health, Mental Health o community Network, Reducing Harm fro | and ders, and rom ping |
| Course Code | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent | Prerequisite(s) Non- h, Prevention of Mental ill health of nd protective factors for mental disorder of Mental health, Mental Health of community Network, Reducing Harm fro- tion of Child abuse and neglect, Cop | and ders, and rom ping |
| ourse Code | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent with parental mental illness Rehabilitation Centers | Prerequisite(s) Non- h, Prevention of Mental ill health of nd protective factors for mental disorder of Mental health, Mental Health of community Network, Reducing Harm fro- tion of Child abuse and neglect, Cop | and ders, and rom ping |
| ourse Code ourse Description | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent with parental mental illness | Prerequisite(s) Non- h, Prevention of Mental ill health of nd protective factors for mental disorder of Mental health, Mental Health of community Network, Reducing Harm fro- tion of Child abuse and neglect, Cop | and ders, and rom ping |
| Course Code | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent with parental mental illness Rehabilitation Centers | Prerequisite(s) Non- h, Prevention of Mental ill health of nd protective factors for mental disorder of Mental health, Mental Health of community Network, Reducing Harm fro- tion of Child abuse and neglect, Cop | and ders, and rom ping |
| Course Code | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent with parental mental illness Rehabilitation Centers | Prerequisite(s) Non- h, Prevention of Mental ill health of nd protective factors for mental disorder of Mental health, Mental Health of community Network, Reducing Harm fro- tion of Child abuse and neglect, Cop | and ders, and rom ping |
| Course Code | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent with parental mental illness Rehabilitation Centers | Prerequisite(s) Non- h, Prevention of Mental ill health of nd protective factors for mental disorder of Mental health, Mental Health of community Network, Reducing Harm fro- tion of Child abuse and neglect, Cop | and ders, and rom ping |
| Course Code Course Description | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent with parental mental illness Rehabilitation Centers MPH 5201 | Prerequisite(s) Non- h, Prevention of Mental ill health of and protective factors for mental disorder of Mental health, Mental Health of community Network, Reducing Harm fre tion of Child abuse and neglect, Cop s, Management of mental health | and ders, and rom ping n in |
| Course Code Course Description Equivalent Course(s) | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent with parental mental illness Rehabilitation Centers MPH 5201 | Prerequisite(s) Non- h, Prevention of Mental ill health of and protective factors for mental disorder of Mental health, Mental Health of community Network, Reducing Harm fre tion of Child abuse and neglect, Cop s, Management of mental health S, Management of mental health | and ders, and rom bing n in |
| Course Code Course Description quivalent Course(s) | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent with parental mental illness Rehabilitation Centers MPH 5201 | Prerequisite(s) Non- h, Prevention of Mental ill health of and protective factors for mental disorder of Mental health, Mental Health of community Network, Reducing Harm fre tion of Child abuse and neglect, Cop s, Management of mental health | and ders, and rom bing n in |
| Course Code Course Description quivalent Course(s) Course Name Course Code | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent with parental mental illness Rehabilitation Centers MPH 5201 Microbiology MSP 5206 | Prerequisite(s) Non- h, Prevention of Mental ill health of and protective factors for mental disorder of Mental health, Mental Health of community Network, Reducing Harm fro- tion of Child abuse and neglect, Cop s, Management of mental health s, Management of mental health Credit Hours 3 (3, Prerequisite(s) Non- | ne and ders, and rom bing n in in |
| Course Code Course Description quivalent Course(s) Course Name | MSP 5105 Introduction to Mental Healt promote mental health, Risk ar Socioeconomic determinants Quality of life, Strengthening C Addictive Substances, Prevent with parental mental illness Rehabilitation Centers MPH 5201 Microbiology MSP 5206 Fundamentals of Microbiology | Prerequisite(s) Non- h, Prevention of Mental ill health of of Mental health, Mental Health of community Network, Reducing Harm fra- tion of Child abuse and neglect, Cop s, Management of mental health 3 (3, | , 0) |

Familiarize students with fundamental concept of Microbiology

Equivalent Course(s) None

Catalogue –

| | | · · · · · · | . (0, 0) |
|----------------------|--|---|--|
| Course Name | Entomology | Credit Hours | 3 (3, 0) |
| Course Code | MSP 5204 | Prerequisite(s) | None |
| | | | |
| Course Description | Common arthropod borne diseases, Arthropods of medical importance | | |
| | (mosquito, flies, flees, ticks, mites and human lice), Principles of arthropods control (environmental, chemical, biological and genetics), | | |
| | | | |
| | Insecticides and their public health importance | 0 0 | |
| | | | |
| Equivalent Course(s) | None | | |
| | None | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Course Name | Parasitology | Credit Hours | 3 (3, 0) |
| | r arashology | Clean noois | 3 (3, 0) |
| Course Code | MSP 5207 | Prerequisite(s) | · · / |
| | | | · · · |
| | | | · · / |
| Course Code | MSP 5207 Protozoa | Prerequisite(s) | None |
| Course Code | MSP 5207 Protozoa Plasmodium and malaria, Entameobahistolytica | Prerequisite(s) | None y, Giardia |
| Course Code | MSP 5207 Protozoa Plasmodium and malaria, Entameobahistolytica lamblia and giardiasis, Trichomonas and trichor | Prerequisite(s) | None y, Giardia |
| Course Code | MSP 5207 Protozoa Plasmodium and malaria, Entameobahistolytica lamblia and giardiasis, Trichomonas and trichor leishmaniasis | Prerequisite(s) | None y, Giardia |
| Course Code | MSP 5207 Protozoa Plasmodium and malaria, Entameobahistolytica lamblia and giardiasis, Trichomonas and trichor leishmaniasis Helminths | Prerequisite(s) a and dysentery moniasis, Leishm | None y, Giardia bania and |
| Course Code | MSP 5207 Protozoa Plasmodium and malaria, Entameobahistolytica lamblia and giardiasis, Trichomonas and trichor leishmaniasis Helminths Taeniasaginata, Ancylostomaduodenale, Asca | Prerequisite(s) a and dysentery moniasis, Leishm | None y, Giardia bania and |
| Course Code | MSP 5207 Protozoa Plasmodium and malaria, Entameobahistolytica lamblia and giardiasis, Trichomonas and trichor leishmaniasis Helminths Taeniasaginata, Ancylostomaduodenale, Asca and worm infestation | Prerequisite(s) a and dysentery moniasis, Leishm | None y, Giardia bania and |
| Course Code | MSP 5207 Protozoa Plasmodium and malaria, Entameobahistolytica lamblia and giardiasis, Trichomonas and trichor leishmaniasis Helminths Taeniasaginata, Ancylostomaduodenale, Asca and worm infestation Ectoparasites | Prerequisite(s) a and dysenter, moniasis, Leishm ris, enterobiusve | None y, Giardia nania and ermicularis |
| Course Code | MSP 5207 Protozoa Plasmodium and malaria, Entameobahistolytica lamblia and giardiasis, Trichomonas and trichor leishmaniasis Helminths Taeniasaginata, Ancylostomaduodenale, Asca and worm infestation | Prerequisite(s) a and dysenter, moniasis, Leishm ris, enterobiusve | None y, Giardia pania and ermicularis |
| Course Code | MSP 5207 Protozoa Plasmodium and malaria, Entameobahistolytica lamblia and giardiasis, Trichomonas and trichor leishmaniasis Helminths Taeniasaginata, Ancylostomaduodenale, Asca and worm infestation Ectoparasites | Prerequisite(s) a and dysenter, moniasis, Leishm ris, enterobiusve | None y, Giardia nania and ermicularis |
| Course Code | MSP 5207 Protozoa Plasmodium and malaria, Entameobahistolytica lamblia and giardiasis, Trichomonas and trichor leishmaniasis Helminths Taeniasaginata, Ancylostomaduodenale, Asca and worm infestation Ectoparasites | Prerequisite(s) a and dysenter, moniasis, Leishm ris, enterobiusve | None y, Giardia nania and ermicularis |

| Course Name | Thesis I | Credit Hours 3 (0, 3) |
|----------------------|---|---|
| Course Code | MSP 5xxx | Prerequisite(s) None |
| | | |
| Course Description | | n to public health systems research is a |
| | boosts. This will conceptualize th into a scientific report. This will c session of MSPH program. By co demonstrate their understanc | Public Health (MSPH) program at SZABIST he research experience and revamp it complete the requirement for the fourth pompleting their thesis MSPH students will ling of core competencies through nowledge and principles, critical thinking |
| Equivalent Course(s) | MPH 5309 | |
| | | |

| Course Name | Health Care Risk Management | Credit Hours | 3 (3, 0) |
|----------------------|--|--|--|
| Course Code | MSP 5205 | Prerequisite(s) | None |
| | | | |
| Course Description | The course will provide a historical perspe health care risk management, the role of the principles of health care risk manage between risk management, quality im compliance in various health care settings Management Program, The Process Identification of Organizational Risks and E | the health care risk n lement and the co lprovement and c Development o of Professional Re | nanager, nnection orporate ıf a Risk gulation, |
| Equivalent Course(s) | MPH 5401 | | |

| Course Name | Thesis II | Credit Hours 3 (0, 3) |
|----------------------|---|---|
| Course Code | MSP 5xxx | Prerequisite(s) None |
| | | |
| Course Description | The course includes introduction to pub vital element that the Master of Public He boosts. This will conceptualize the resect into a scientific report. This will complete session of MSPH program. By completing demonstrate their understanding of successful application of core knowledge and analytic reasoning skills. | ealth (MSPH) program at SZABIST arch experience and revamp it to the requirement for the fourth g their thesis MSPH students will core competencies through |
| Equivalent Course(s) | MPH 5409 | |

272 Catalogue –

6.2 Master & PhD

6.2.3 Doctor of Philosophy in Biosciences (Ph.D-BIO)

Students enrolled in Doctor of Philosophy in Biosciences (MS-BIO) program are required to complete 48 credit hours, within eight (8) years to become eligible for obtaining the Ph.D. degree in Biosciences. The break-up of 48 credit hours is as follows:

- 2 Compulsory Courses (6 Credit Hours)
- 4 Electives (12 Credit Hours) OR 1 IRS (3 Credit Hours) with 3 Electives (9 Credit Hours)
- 1 Dissertation (30 Credit Hours)

Page # **First Year Fall Semester** BIO 6101 Statistical Tools for Research 229 293 BIO 6xxx Elective-I BIO 6xxx 293 Elective-II **Spring Semester** BIO 6201 Research Methodology 229 BIO 6xxx Elective-III 293 BIO 6xxx **Elective-IV** 293 **Second Year** Fall Semester BIO 6xxx Dissertation **Spring Semester** BIO 6xxx Dissertation Third Year Fall Semester BBIO 6xxx Dissertation Spring Semester BIO 6xxx Dissertation

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

| ourse Name | Statistical Tools for Research | Credit Hours 3 (3,0) |
|---|--|---|
| ourse Code | BIO 6101 | Prerequisite(s) None |
| ourse Description | In this course, concepts, techniques | and any lightings of an autitative |
| | methods for decision making are forecasting, regression analysis, anal theory, utility theory, linear programm incorporates computer software pac | ysis of variance, statistical decision ning, and waiting lines. The course |
| uivalent Course(s) | ELM 6102, SS 6105 | |
| | | |
| | Research Methodology | Credit Hours 3 (3,0) |
| | Research Methodology BIO 6201 | Credit Hours 3 (3,0) Prerequisite(s) None |
| ourse Name course Code course Description | 0, | Prerequisite(s) None arch, definitions, quantitative and research, identification of research cal analysis methods; reading for ation gathering; writing literature writing academic papers, content |

Catalogue -

Department of _ducation

7.1 Bachelor

7.1.1 Bachelors of Education (B.Ed.) Secondary

Bachelor of Education (B.Ed.) Secondary is 1.5 years duration program to cater the intellectual and professional need of pre-service and in-service teachers who have completed 16 years of prior education. Students enrolled B.Ed. program are required to complete a total of 54 Credit Hours within 4 years.

The break-up of 54 credit hours is as follows:

- 12 Compulsory Courses (36 Credit Hours)
- 4 Content Specialized Courses (12 Credit Hours)
- One Action Research Study (3 credit hours)
- Teaching Practice (3 credit hours)

Course Code Course Title Page # First Year **Fall Semester** Foundations of Education 233 BED 5005 Educational Leadership and Management BED 5102 233 BED 5104 Effective Communication in Education 233 BED 5103 Educational Psychology 234 BED 5106 Testing and Evaluation 234 BED 5101 Curriculum Design and Development 234 **Spring Semester** BED 5201 Academic Content I and Pedagogy 234 BED 5202 Academic Content II and Pedagogy 235 BED 5203 Academic Content III and Pedagogy 235 BED 5204 Academic Content IV and Pedagogy 236 BED 5205 **Research Methods and Techniques** 236 BED 5206 School, Community and Teacher 236 Second Year

| | Fall Semester | |
|----------|---|-----|
| BED 5304 | ICT in Education | 237 |
| BED 5303 | Educational Policies and Practices | 237 |
| BED 5305 | Teaching Practice | 237 |
| BED 5302 | Critical Thinking and Reflective Practice | 238 |
| BED 5304 | Classroom Management | 238 |
| BED 5308 | Research project | 238 |

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

| | Foundations of Education | Credit Hours 3 (3,0) |
|----------------------------|---|--|
| ourse Code | BED 5005 | Prerequisite(s) None |
| ourse Description | This course will focus on the ideological, philosop socio-economic and historical foundations of e focus will be on developing an understanding of different philosophical theories affect education include historical development of education of th will be given on analyzing various sociological, po- ideological forces that influence the process of ec- context. This course will also be used to develop the teachers to interpret knowledge within its his ideological, and social contexts, which will lear perspectives on education both within, and outsic | education. The major f the participants how h. The course will also he Pakistan. Emphasize plitical, economic and ducation in our culture e ability in prospective torical, philosophical, d to produce critical |
| quivalent Course(s) | EDU 5103 | |
| Course Name | Educational Leadership and Management | Credit Hours 3 (3,0) |
| Course Code | BED 5102 | Prerequisite(s) None |
| | BED 0102 | |
| quivalent Course(s) | to improve the quality and effectiveness of sch introducing current methods of educational admi on important issues such as cultural influence, management, and other problems associated of teaching and learning. Participants are going to a skills with an ongoing reflective practice and will id for personal and professional development. | nistration, with a focus power, conflict, time with management of audit their professional |
| | | |
| Course Name Course Code | Effective Communication in Education BED 5104 | Credit Hours 3 (3,0) Prerequisite(s) None |
| | | Prerequisite(s) None nication competence need a great deal of course will act as an ature, functions, and communication. It will ition and leadership. nunication contributes ition, to adequately do practical work in symbolic process and |

| Course Name | Educational Psychology | Credit Hours | 3 (3,0) |
|-------------------------------------|--|---|--------------------------------|
| Course Code | BED 5103 | Prerequisite(s) | None |
| Course Description | The purpose of this course is to develop learner's insight approach helps students\teachers to understand psychological concepts by encouraging them to examine learning and then showing them how to apply these c teachers. This course concentrates on core concepts and p gives readers an in-depth understanding of the centro educational psychology. | different e their own oncepts as principles. It | |
| Equivalent Course(s) | EDU 5302 | | |
| Course Name | Testing and Evaluation | Credit Hours | 3 (3,0 |
| Course Code | BED 5106 | Prerequisite(s | • |
| Course Description | This course is designed to develop prospective teacher adequate knowledge of the concept of evaluation construction during the course. The teacher will devel construct classroom based tests to evaluate studen outcomes. The learner will also be able to report the result stake holders in a professional manner. | and test op skills to ts learning | |
| Equivalent Course(s) | EDU 5305 | | |
| Course Name | Curriculum Development and Planning | Credit Hours | 3 (3,0 |
| Course Code | BED 5101 | Prerequisite(s |) None |
| Course Description | This course is designed to develop the theoretical and knowledge of participants about issues in curriculum develo | | |
| | course intends to examine various approaches to development together with latest trends in curriculum Moreover, it will highlight the role of teachers in curriculum de and instruction, and distinguish between curriculum asses evaluation. The course will also enable participants to de curricular unit on the basis of assessment by using an innovation | curriculum innovation. evelopment ssment and sign a new | |
| Equivalent Course(s) | course intends to examine various approaches to development together with latest trends in curriculum Moreover, it will highlight the role of teachers in curriculum de and instruction, and distinguish between curriculum asses evaluation. The course will also enable participants to de | curriculum innovation. evelopment ssment and sign a new | |
| Equivalent Course(s) Course Name | course intends to examine various approaches to development together with latest trends in curriculum Moreover, it will highlight the role of teachers in curriculum de and instruction, and distinguish between curriculum asses evaluation. The course will also enable participants to de curricular unit on the basis of assessment by using an innovat EDU 5202 | curriculum innovation. evelopment ssment and sign a new tive strategy. | 3 (3.0 |
| | course intends to examine various approaches to development together with latest trends in curriculum Moreover, it will highlight the role of teachers in curriculum de and instruction, and distinguish between curriculum asses evaluation. The course will also enable participants to de curricular unit on the basis of assessment by using an innovation | curriculum innovation. evelopment ssment and sign a new tive strategy. | 3 (3,0) None |
| Course Name | course intends to examine various approaches to development together with latest trends in curriculum Moreover, it will highlight the role of teachers in curriculum de and instruction, and distinguish between curriculum asses evaluation. The course will also enable participants to de curricular unit on the basis of assessment by using an innovat EDU 5202 Teaching of Language (Academic Content and Pedagogy) | curriculum innovation. evelopment ssment and sign a new tive strategy. Credit Hours Prerequisite(s and skills to liar with the outcomes. age skills to ive learning | • |

| ourse Name | Teaching of General Science (Academic Content and Pedagogy) BED 5202 | Credit Hours 3 (3,0) |
|---------------------|---|----------------------|
| ourse Code | DED 3202 | Prerequisite(s) None |
| ourse Description | The study of General Science in Primary and Secondary sc | |
| | to National prosperity and economic development. The designed for the effective interactive ways of teaching | |
| | course will highlight the power of observation and inqu | |
| | general sciences studies. It will also focus on how to | relate facts, |
| | concepts, and theories to every day experience | |
| quivalent Course(s) | EDU 5308 | |
| | | |
| ourse Name | Teaching of Mathematics (Academic Content and Pedagogy) | Credit Hours 3 (3,0) |
| ourse Code | BED 5203 | Prerequisite(s) None |
| ourse Description | This course is designed to prepare Student/Teachers | - |
| | mathematics in elementary grades. It provides opportunitie Teachers to strengthen their mathematical knowledge and | |
| | gain confidence in their understanding of mathematics. | |
| | outcome of this course for Student Teachers is to be al | |
| | mathematics successfully in the primary, elementary, grades. Research-based knowledge about good i | |
| | instruction provides a solid base of information for educat | |
| | they identify mathematics skills that Student/Teachers need | |
| | as well as teaching strategies and instructional approach support the development of these skills. The course design | |
| | what research tells us about good mathematics instruct | |
| | Teachers will learn to use a variety of instructional methods t | - |
| | active learning of mathematics, including making and us and learning materials. They will plan mathematics lessons c | |
| | and engage in practice teaching of mathematics. | |
| | The overall organization of the course is divided into four ur | nits: |
| | 1) Numbers and operations | |
| | Algebra Geometry and geometric measurement | |
| | 4) Information handling | |
| | Each unit of study has a consistent design or organization of to maximize Student/Teachers' time for learning | and is meant |
| quivalent Course(s) | EDU 5309 | |
| | | |
| | | |
| | | |

| Course Name | Teaching of Social Studies and Pakistan Studies(Academic Content and Pedagogy) | | |
|--|---|--|--------------------------------|
| Course Code | BED 5204 | Prerequisite(s) | 3 (3,0) None |
| | DED 0204 | | Nono |
| Course Description | This course will equip prospective teachers with knowledge teach social studies in grade I through VIII and Pakistan studi IX and X. They will become familiar with the social studies of studies' curriculum and expected student learning Prospective teachers will learn to use variety of instruction that promote active learning of social studies including r using teaching and learning materials. They will plan soc lessons and activities and practice teaching social studies w | es for grade and Pakistan outcomes. nal methods making and ocial studies | |
| Equivalent Course(s) | None | | |
| Course Name | | | 2 (2.0 |
| Course Name | Research Methods and Techniques | Credit Hours | 3 (3,0 |
| Course Code | BED 5205 | Prerequisite(s) | |
| Course Description | This course is designed for students to prepare them themselves as researching professionals and at the same tim their own professional practice. Students will engage in a crit of different research work and relate it to their own conte | ne enhance ical analysis | |
| | provides students with the opportunity to engage with resear and to establish how different researchers techniques help i overall classroom situation. | ch literature | |
| Equivalent Course(s) | provides students with the opportunity to engage with resear and to establish how different researchers techniques help i | ch literature | |
| | provides students with the opportunity to engage with resear and to establish how different researchers techniques help i overall classroom situation. MS 5137, EDU 5303 | ch literature improve the | 3 (3.0 |
| Equivalent Course(s) Course Name Course Code | provides students with the opportunity to engage with resear and to establish how different researchers techniques help i overall classroom situation. | ch literature | • |
| Course Name Course Code | provides students with the opportunity to engage with resear and to establish how different researchers techniques help i overall classroom situation. MS 5137, EDU 5303 School, Community and Teacher BED 5206 | ch literature improve the Credit Hours Prerequisite(s) | 3 (3,0) None |
| Course Name | provides students with the opportunity to engage with resear and to establish how different researchers techniques help i overall classroom situation. MS 5137, EDU 5303 School, Community and Teacher | ch literature mprove the Credit Hours Prerequisite(s) awareness or effective exploration school and e the social unity for the sue include ollaborative course will and social may affect ctive, it has | • |

| Course Name | ICT in Education | Credit Hours | 3 (3,0) |
|-----------------------------------|---|---|----------------|
| Course Code | BED 5304 | Prerequisite(s) | . , |
| Course Code Course Description | BED 5304 Information and Communication Technologies (ICTs) in Ed broad and constantly changing subject. This course of teachers to understand, use and apply a range of technol platforms in teaching and learning, in line with international With the changing face of technologies and related app course will primarily focus on using technologies for learn learn' to cope with change. It will provide opportunities to teachers to collaborate with students, educators, peers, p global community using digital tools and resources to supp success and innovation. Teachers-in-training will engage with and creation of exciting, intellectually challenging and learning environments in which ICT changes not only what st but also how they learn, as we move forward in the 21st cent | Aucation is a will prepare nologies and standards. Dication, this ing 'how to prospective parents, and port learning, th the design d authentic udents learn | None |
| | in this course will examine how ICT might be used to both e transform learning. | nhance and | |
| Equivalent Course(s) | EDU 5401 | | |

| Course Name | Educational Policy and Practices | Credit Hours | 3 (3,0) |
|----------------------|--|---|----------------|
| Course Code | BED 5303 | Prerequisite(s) | None |
| | | | |
| Course Description | This course explores and furthers understanding of reform over the past two decades in Pakistan and South academic readings, the role of educational policies over be analyzed and examined against the backdrop of w policies in the country. It will also examine how and why p discourses have become accepted in recent years. I further consider the implications of policy reforms for p educational organizations. The design of this course re that reforms cannot be comprehended without consider political, economic and historical contexts in which they | Asia. Through er the years will various political particular policy The course will practices within flects the view ering the social, | |
| Equivalent Course(s) | EDU 5306 | | |

| Course Name | Teaching Practice | (The Teaching Practicum) | Credit Hours 3 (3,0) |
|----------------------|-------------------|--------------------------------|---------------------------|
| Course Code | BED 5305 | | Prerequisite(s) None |
| | | | |
| Course Description | 9 | ned to equip prospective tead | 0 |
| | 0. | hers will be able to apply and | I test their knowledge in |
| | schools. | | |
| | | | |
| Equivalent Course(s) | EDU 5403 | | |
| | | | |

Catalogue -

| Course Name | Critical Thinking and Reflective Practices | Credit Hours | 3 (3,0) |
|-------------------------------------|---|---|-------------------------|
| Course Code | BED 5302 | Prerequisite(s) |) None |
| Course Description | This course is aimed at introducing the participants to reflective practice as a critical process of inquiry and new understandings of various disciplines. The reflect make participants critically reflect and evaluate their of that of other practitioners. In the course, different left techniques of reflective practice will be discu- effectiveness of the role of reflective practice in pro- and professional growth will be highlighted through the critical thinking skills. Moreover, the participants will thinking as a way to acquire knowledge, improve est and strengthen arguments. They will be able to use a enhance work processes and improve social instit practice some of the most central and important skills and focus on applying those strategies to understand belief systems, and ethical positions.Further, through pr inquiries participants will gather evidence of how learning capabilities and achievement of their learner | o the concept of a means to reach tive input aims to own practices and evels, models and ussed. Also, the omoting individual e development of I interpret critical tablished theories, critical thinking to itutions. They will of critical thinking, ling current issues, rocesses of critical to enhance the | |
| Equivalent Course(s) | EDU 5201 | | |
| Course Name | Classroom Management | Credit Hours | 3 (3,0 |
| Course Code | BED 5304 | Prerequisite(s) | • |
| Course Description | In this course, prospective teachers will be encourage own beliefs about teaching and learning to arrive a classroom management that places learning as of Prospective teachers will be given the chance to concerns of what to teach and how to teach it ar planning as the consequence of these decisions. Th research and best practices on differentiation of instr structures, routines, procedures, and community buildi | at a philosophy of an ultimate goal. explore curricular and to view lesson aey will also study ruction, classroom | |
| | | | |
| Equivalent Course(s) | EDU 5101 | | |
| Equivalent Course(s) Course Name | EDU 5101 Research Project | Credit Hours | 3 (3,0 |
| | | - | • |
| Course Name | Research Project | Credit Hours Prerequisite(s) the knowledge and d problem solving ction Research to lving, verification, vidual, teacher or orks best through ght by employing includes: Problem Use of objective | 3 (3,0) None |
| Course Name Course Code | Research Project EDU 5308 The purpose of this course is to provide teachers with the skills to integrate Action Research as a teaching and methodology, as well as teaching students to use Action Research is a specific process for problem so and discovery. The process can be used by an indivisitudent, but experience indicates the process we cooperation and collaboration. This course will be tau the attributes of the Action Research process, which definition, A plan to answer or resolve the problem, | Credit Hours Prerequisite(s) the knowledge and d problem solving ction Research to lving, verification, vidual, teacher or orks best through ght by employing includes: Problem Use of objective | • |

7.2 Master of Science and PhD 7.2. Masters of Arts in Education

MA Education is a 2 years degree program offered to candidates who wish to pursue teaching as their career. The candidates will have the opportunity to specialize in the fields of Teacher Education, Educational Leadership and Management, or Early Childhood Education. Students enrolled in Master of Arts in Education (MA EDU) are required to complete 63 Credit Hours, within four (4) years.

The break-up of 63 credit hours is as follows:

- 13 Compulsory Courses (39 Credit Hours)
- 4 Electives³⁰ (12 Credit Hours)
- 2 Content Specialization and Pedagogy related Courses (6 Credit Hours)
- 1 Teaching practice (3 Credit Hours)
- 1 Thesis (3 Credit Hours)

Course Code Course Title

Page #

239

| | Fall Semester | |
|----------|--|-----|
| EDU 5103 | Foundations of Education | 240 |
| EDU 5107 | Educational Leadership and Management | 240 |
| EDU 5105 | Trends in Teacher Education | 240 |
| EDU 5101 | Classroom Management | 241 |
| EDU 5102 | Effective Communication in Education | 241 |
| | | |
| | Spring Semester | |
| EDU 5305 | Testing and Evaluation | 241 |
| EDU 5302 | Educational Psychology | 242 |
| EDU 5202 | Curriculum Design and Development | 242 |
| EDU 5201 | Critical Thinking and Reflective Practices | 242 |
| EDU 5204 | School, Community and Teacher | 243 |

First Year

| S | ec | or | nd | Ye | ar |
|---|----|----|----|----|----|
| | | | | | |

| Fall Semester | | | | | |
|---------------|----------------------------------|-----|--|--|--|
| EDU 5401 | ICT in Education | 243 | | | |
| EDU 5308 | Academic Content-I and Pedagogy | 243 | | | |
| EDU 5303 | Research Methods and Techniques | 244 | | | |
| EDU 5309 | Academic Content-II and Pedagogy | 244 | | | |
| EDU 5306 | Educational Policy and Politics | 245 | | | |
| EDU 5xxx | Elective-I | 294 | | | |
| | | | | | |

| Spring Semester | | | | |
|-----------------|-------------------|-----|--|--|
| EDU 5403 | Teaching Practice | - | | |
| EDU 5xxx | Elective-II | 294 | | |
| EDU 5xxx | Elective-III | 294 | | |
| EDU 5xxx | Elective-IV | 294 | | |
| EDU 5408 | Thesis | 245 | | |
| | | | | |

30- List of Electives is provided in Appendix B.

7.2. Masters of Arts in Education (MA EDU)

| s) None |
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7.2. Masters of Arts in Education (MA EDU)

| Course Name | Classroom Management | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | EDU 5101 | Prerequisite(s) None |
| | | |
| Course Description | In this course, prospective teachers will be encourd own beliefs about teaching and learning to arrive classroom management that places learning as Prospective teachers will be given the chance t concerns of what to teach and how to teach it planning as the consequence of these decisions. research and best practices on differentiation of ir structures, routines, procedures, and community built | e at a philosophy of s an ultimate goal. to explore curricular and to view lesson They will also study nstruction, classroom |
| Equivalent Course(s) | BED 5301 | |
| | | |

| Course Name | Effective Communication in Education | Credit Hours 3 (3,0) |
|--------------------|--|---|
| Course Code | EDU 5102 | Prerequisite(s) None |
| | | |
| Course Description | Leadership competence is the product of communicat and the communication discipline has experienced change and growth over the last fifty years. This cou- invitation to join in this debate about the nature processes underlying leadership and human comm explore the connection between communication Particularly, we will examine how the field of communic to effective teaching and learning. In addition, understanding communication theory one must do communication as well. Because leadership is a symb leaders are made, not born, this class will integrate practice. | a great deal of rse will act as an e, functions, and nunication. It will and leadership. cation contributes to adequately practical work in polic process and |

Equivalent Course(s) BED 5104

| Course Name | Testing and Evaluation | Credit Hours | 3 (3,0) |
|----------------------|---|-----------------------|----------------|
| Course Code | EDU 5305 | Prerequisite(s) | None |
| | | | |
| Course Description | This course is designed to develop prospective teachers | towards | |
| | adequate knowledge of the concept of evaluation construction during the course. The teacher will develop construct classroom based tests to evaluate students outcomes. The learner will also be able to report the result to stake holders in a professional manner. | skills to learning | |
| Equivalent Course(s) | BED 5106 | | |

- Sing Catalogue 24

7.2.1 Masters of Arts in Education (MA EDU)

| Course Name | Educational Psychology | Credit Hours | 3 (3,0 |
|--|--|---|---------------|
| Course Code | EDU 5302 | Prerequisite(s) | None |
| Course Description | The purpose of this course is to develop learner's insight. It approach helps students teachers to understand different psyc concepts by encouraging them to examine their own learning showing them how to apply these concepts as teachers. Th concentrates on core concepts and principles. It gives re- in-depth understanding of the central ideas of educational psyc | chological and then nis course eaders an | |
| Equivalent Course(s) | BED 5103 | | |
| Course Name | Curriculum Design and Development | Credit Hours | 3 (3,0 |
| Course Code | EDU 5202 | Prerequisite(s) | None |
| Course Description | This course is designed to develop the theoretical and knowledge of participants about issues in curriculum developm course intends to examine various approaches to c development together with latest trends in curriculum inr Moreover, it will highlight the role of teachers in curriculum deve and instruction, and distinguish between curriculum assessm evaluation. The course will also enable participants to desig | ment. The curriculum novation. elopment nent and | |
| Equivalent Course(s) | curricular unit on the basis of assessment by using an innovative | e strategy. | |
| Equivalent Course(s) | curricular unit on the basis of assessment by using an innovative | e strategy. | |
| Course Name | BED 5101 Critical Thinking and Reflective Practices | Credit Hours | 3 (3,0 |
| Equivalent Course(s) Course Name Course Code | BED 5101 | | • |
| Course Name | BED 5101 Critical Thinking and Reflective Practices | Credit Hours Prerequisite(s) oncept of s to reach ut aims to ottices and odels and Also, the individual opment of et critical a theories, ninking to They will al thinking, ent issues, of critical | • |

7.2. Masters of Arts in Education (MA EDU)

| urse Name | School, Community and Teacher | Credit Hours 3 (3,0) |
|--------------------|---|--|
| rse Code | EDU 5204 | Prerequisite(s) None |
| urse Description | This course is designed to provide an opportunit about linkage among school, community an education program. Through this course the stud of interaction between teaching and learn community. The course emphasized that how t contact with the community, and how to mot | d teacher for effective dent have an exploration ning within school and to experience the social |
| | development of the school. The course includ culture, gender, special needs, equity and equi working condition within the school and com provide an orientation for the process of s development. It's also emphasize on social fa education. This course have not only a theore some practical aspects as well like community activities, and promotion of healthy environmer | le a wider issue include uality and collaborative munity. This course will socialization and social ictors which may affect stical perspective, it has work, health promotion |
| vivalent Course(s) | BED 5206 | |
| ourse Name | ICT in Education | Credit Hours 3 (3,0) |
| ourse Code | EDU 5401 | Prerequisite(s) None |
| ourse Description | Information and Communication Technologies broad and constantly changing subject. T teachers to understand, use and apply a ran platforms in teaching and learning, in line with i With the changing face of technologies and course will primarily focus on using technolog learn' to cope with change. It will provide opp teachers to collaborate with students, educar global community using digital tools and resou success and innovation. Teachers-in-training will and creation of exciting, intellectually cha learning environments in which ICT changes not but also how they learn, as we move forward in in this course will examine how ICT might be use transform learning. | his course will prepare age of technologies and international standards. related application, this gies for learning 'how to portunities to prospective tors, peers, parents, and urces to support learning, Il engage with the design allenging and authentic tonly what students learn the 21st century. Trainees |
| uivalent Course(s) | BED 5304 | |
| ourse Name | Teaching of General Science(Academic Content-I a | |
| urse Code | EDU 5308 | Prerequisite(s) None |
| urse Description | The study of General Science in Primary and Se to National prosperity and economic devel designed for the effective interactive ways of course will highlight the power of observatio general sciences studies. It will also focus o | lopment. The course is f teaching science. The n and inquisitiveness in on how to relate facts, |
| | concepts, and theories to every day experience | Е. |

7.2.1 Masters of Arts in Education (MA EDU)

| Course Name | Research Methods and Techniques | Credit Hours | 3 (3,0) |
|----------------------|---|---|----------------|
| Course Code | EDU 5303 | Prerequisite(s |) None |
| Course Description | This course is designed for students to prepare them | n to situate | |
| | themselves as researching professionals and at the same tir their own professional practice. Students will engage in a cri of different research work and relate it to their own conte provides students with the opportunity to engage with t literature and to establish how different researchers tech improve the overall classroom situation. | ne enhance tical analysis ext. The units he research | |
| Equivalent Course(s) | MS 5137, BED 5205 | | |

| Course Name | Teaching of Mathematics (Academic Content and Pedagogy | Credit Hours 3 |
|----------------------|---|-----------------|
| Course Code | EDU 5309 | Prerequisite(s) |
| | | |
| Course Description | This course is designed to prepare Student/Teachers | Ũ |
| | mathematics in elementary grades. It provides opportunitie | es for Student |
| | Teachers to strengthen their mathematical knowledge and | d skills and to |
| | gain confidence in their understanding of mathematics. | An important |
| | outcome of this course is for Student Teachers to be at | ole to teach |
| | mathematics successfully in the primary, elementary, | and middle |
| | grades. Research-based knowledge about good i | mathematics |
| | instruction provides a solid base of information for educat | ors to use as |
| | they identify mathematics skills that Student Teachers need | to develop, |
| | as well as teaching strategies and instructional approach | |
| | support the development of these skills. The course design | |
| | what research tells us about good mathematics instruct | tion. Student |
| | Teachers will learn to use a variety of instructional methods t | hat promote |
| | active learning of mathematics, including making and us | ing teaching |
| | and learning materials. They will plan mathematics lessons c | ind activities, |
| | and engage in practice teaching of mathematics. | |
| | | |
| | The overall organization of the course is divided into four ur | nits: |
| | 1) Numbers and operations | |
| | 2) Algebra | |
| | Geometry and geometric measurement | |
| | 4) Information handling | |
| | | |
| | Each unit of study has a consistent design or organization | and is meant |
| | to maximize Student Teachers' time for learning | |
| | | |
| Equivalent Course(s) | BED 5203 | |
| | | |
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| | | |

7.2. Masters of Arts in Education (MA EDU)

| Course Name | Educational Policy and Politics | Credit Hours 3 (3,0 |
|----------------------------|--|--|
| Course Code | EDU 5306 | Prerequisite(s) None |
| Course Description | This course explores and furthers understanding of reform over the past two decades in Pakistan and South academic readings, the role of educational policies ove be analyzed and examined against the backdrop of ve policies in the country. It will also examine how and why pe discourses have become accepted in recent years. The further consider the implications of policy reforms for pr educational organizations. The design of this course ref that reforms cannot be comprehended without consider political, economic and historical contexts in which they of | Asia. Through r the years will arious political articular policy he course will ractices within lects the view ring the social, |
| Equivalent Course(s) | BED 5303 | |
| | | |
| Course Name | Thesis | Credit Hours 3 (3. |
| Course Name Course Code | Thesis EDU 5408 | Credit Hours 3 (3, Prerequisite(s) Non |
| | | Prerequisite(s) Non knowledge and problem solving |
| Course Code | EDU 5408 The purpose of this course is to provide teachers with the k skills to integrate Action Research as a teaching and p methodology, as well as teaching students to use Actio | Prerequisite(s) Non knowledge and problem solving on Research to ng, verification, ual, teacher or s best through at by employing cludes: Problem se of objective |

- and constants 245

7.1 Master of Science and PhD

7.2.2 Master of Science in Educational Leadership and Management (MSELM)

The Master of Science in Educational Leadership and Management (MS ELM) is a 1.5 - 2 years program having two streams i.e. Course Work Based Stream and Research Based Stream. Students enrolled in the either stream of MS ELM program are required to complete a total of 30 credit hours within four (4) years.

Course Based Stream:

The following is the break-up of the 30 credit hour courses:

- 4 Compulsory Courses (12 Credit Hours)
- 6 Elective³¹ Courses (18 Credit Hours)

Research Stream:

The following is the break-up of the 30 credit hour courses:

- 4 Compulsory Courses (12 Credit Hours)
- 4 Elective³² Courses (12 Credit Hours)
- 2 Independent Research Studies (IRS) / 1 Thesis (6 Credit Hours)

| Course Code | Course Title | Page # | |
|---------------------|---|--------|--|
| | First Year | | |
| | Fall Semester | | |
| ELM 5102 | Advance Research Methods and Techniques (ARMT)-I (Qualitative) | 247 | |
| ELM 5103 | Advance Research Methods and Techniques (ARMT)-II (Quantitative) | 247 | |
| ELM 5xxx | Elective-I | 294 | |
| ELM 5xxx | Elective-II | 294 | |
| | Spring Semester | | |
| ELM 5201 | Curriculum Development and Planning | 247 | |
| ELM 5101 | Leadership and Management in Educational Contexts | 248 | |
| ELM 5xxx | Elective III | 294 | |
| ELM 5xxx | Elective IV | 294 | |
| | Second Year | | |
| | Fall Semester | | |
| ELM5xxx | 2 Independent Research Studies/Thesis I (03 credit hours) | - | |
| Spring Semester | | | |
| ELM5xxx | Thesis II (03 credit hours) | - | |
| All courses may not | be offered every year. Alternate courses may be substituted as and when needed. | | |

31- List of Electives is given in Appendix. B32- List of Electives is given in Appendix. B

246

7.2.2 Master of Science in Educational Leadership and Management (MSELM)

| Course Name | Advance Research Methods and Techniques-I (Qualitative) | Credit Hours | 3 (3,0) |
|----------------------|--|---|----------------|
| Course Code | ELM 5102 | Prerequisite(s) | None |
| | | | |
| Course Description | This course develops critical and practical understandings for ev | valuating | |
| | and conducting research from five qualitative research to (narrative research, grounded theory, phenomenology, ethn and case studies). It enables students to develop; ethic procedurally sound qualitative research proposal for qualitative research designs, collect, analyze and interpret qualitative, tex other non-traditional forms of data obtained through various to sources. | nography cally and ualitative ttual, and | |
| Equivalent Course(s) | SS 6313, SS 5229, ELM 6101 | | |
| | | | |

| Course Name | Advance Research Methods and Techniques-II (Quantitative |) Credit Hours 3 (3,0) |
|----------------------|--|---------------------------|
| Course Code | ELM 5103 | Prerequisite(s) None |
| Course Description | In this course concepts, techniques and applications of c | uantitative |
| | methods for decision making are introduced. Topic forecasting, regression analysis, analysis of variance, statistic theory, utility theory, linear programming, and waiting lines. incorporates computer software packages. | s include: al decision |
| Equivalent Course(s) | SS 5122, SS 6105, ELM 6102 | |

| Course Name | Curriculum Development and Planning | Credit Hours 3 (3,0) |
|--------------------|--|--|
| Course Code | ELM 5201 | Prerequisite(s) None |
| | | |
| Course Description | This course aims at giving participants a theoretical as we | ell as a practical |
| | insight into the principles that guide curriculum developm and analyzes in detail the main elements of a curriculu related to designing a curriculum, factors that affect curriculum development, and its implementation. More the models which have been the mainstays of curricular over the world, and builds awareness about various curr that form the backdrop of education. Besides, it impediments to curricular innovation and change, and lo ways to overcome the hurdles including consideration to development. The fair development of curricular know principles will guide the participants to critique an curriculum they practice and also plan and develop a c see the link between theory and practice. | im, basic issues the process of eover, it reviews philosophies all riculum designs considers the pok at practical for professional wledge and its ad evaluate a |

- Succession - Succession - 247

Equivalent Course(s)

None

7.2.2 Master of Science in Educational Leadership and Management (MSELM)

| Course Name | Leadership and Management in Educational Contexts | Credit Hours | 3 (3,0) |
|----------------------|---|--|---------|
| Course Code | ELM 5101 | Prerequisite(s) | None |
| Course Description | This course aims to provide students with the opportunity to a linked to effective educational leadership and manageme to improve the quality and effectiveness of school man introducing current methods of educational administration, on important issues such as cultural influence, power, of management, and other problems associated with mar teaching and learning. Participants are going to audit their skills with an ongoing reflective practice and will identify pa | explore issues int. It intends agement by with a focus conflict, time hagement of r professional | |
| Equivalent Course(s) | for personal and professional development. None | | |

7.1 Master of Science and PhD 7.2.3 Doctor of Philosophy in Educational Leadership and Management (PhD ELM)

Students enrolled in the Doctor of Philosophy in Educational Leadership and Management (PhD ELM) program are required to complete a total of 48 credit hours within eight years. The following is the break-up of the 48 credit hour courses:

- 2 Compulsory Courses (6 Credit Hours)
- 3 Electives³³ (6 Credit Hours)
- 1 Independent Research Studies (3 Credit Hours)
- 1 Dissertation (30 Credit Hours)

| Course Code | Course Title | Page # | | |
|----------------------------------|--|-------------------|--|--|
| PhD | First Year | | | |
| | Fall Semester | | | |
| ELM 6101 ELM 6102 ELM 6xxx | Advance Research Methods and Techniques-I (Qualitative) Advance Research Methods and Techniques-II (Quantitative) Elective-I | 250 250 295 | | |
| | Spring Semester | | | |
| ELM 6xxx ELM 6xxx ELM 6108 | Elective-II Elective-III Independent Research Study-I | 295 295 - | | |
| | Second Year | | | |
| Fall Semester | | | | |
| ELM 6xxx | Dissertation (Proposal) | - | | |
| | Spring Semester | | | |
| ELM 6xxx | Dissertation | - | | |
| | Third Year | | | |
| | Fall Semester | | | |
| ELM 6xxx | Dissertation | - | | |
| | Spring Semester | | | |
| ELM 6xxx | Dissertation | - | | |

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

33- List of Electives is provided in Appendix B.

7.2.3 Master of Science in Educational Leadership and Management (MSELM)

| Course Name | Advance Research Methods and Techniques-I (Qualitative) | Credit Hours | 3 (3,0) |
|----------------------|--|---|----------------|
| Course Code | ELM 6101 | Prerequisite(s |) None |
| | | | |
| Course Description | This course develops critical and practical understandings for e and conducting research from five qualitative research (narrative research, grounded theory, phenomenology, eth and case studies). It enables students to develop; ethic procedurally sound qualitative research proposal for co research designs, collect, analyze and interpret qualitative, tex other non-traditional forms of data obtained through various sources. | traditions inography cally and qualitative xtual, and | |
| Equivalent Course(s) | SS 6313, SS 5229, ELM 5102 | | |

| Course Name | Advance Research Methods and Techniques-II (Quantitative) | Credit Hours | 3 (3,0) |
|----------------------|--|-------------------------|----------------|
| Course Code | ELM 6102 | Prerequisite(s |) None |
| Course Description | In this course, concepts, techniques and applications of qu | antitativo | |
| Course Description | methods for decision making are introduced. Topics forecasting, regression analysis, analysis of variance, statistics theory, utility theory, linear programming, and waiting lines. T incorporates computer software packages. | include; al decision | |
| Equivalent Course(s) | SS 5122, SS 6105, ELM 5103 | | |

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8.0 Bachelor

8.1 Bachelor of Arts (Hons) in Business Studies (BABS)

Students enrolled in the BABS (Honors) program are required to complete 26 courses with 78 Credit Hours. Upon completion of the required courses at SZABIST, students can proceed for the Final Year to the University of South Wales to obtain their Bachelor (Honors) degree

| Course Code | Course Title | Page # | | |
|---------------------|--|----------------|--|--|
| BABS | First Year | | | |
| | Fall Semester | | | |
| BA 1101 | Introduction to Accounting | 253 | | |
| BA 1102 | Microeconomics | 253 | | |
| BA 1103 | Introduction to Computers | 253 | | |
| BA 1104 | Personal Management | 253 | | |
| BA 1206 | Oral Communication and Presentation Skills | 254 | | |
| BA 1204 | Maths for Business | 254 | | |
| | Spring Semester | | | |
| BA 1201 | Financial Accounting | 254 | | |
| BA 1202 | Macroeconomics | 255 | | |
| BA 1203 | Management Principles | 255 | | |
| BA 1105 | English Writing Skills | 255 | | |
| BA 2305 | Statistics and Mathematics for Business | 255 | | |
| BA 2312 | Human Behavior | 256 | | |
| | Summer Semester | | | |
| BA 2301 | Introduction to Business Finance | 256 | | |
| BA 2302 | Graphic Design in Multimedia Presentations | 256 | | |
| | Second Year | | | |
| | | | | |
| | Fall Semester | <i></i> | | |
| BA 2303 | Marketing Principles | 266 | | |
| BA 2304 | Managerial Accounting | 267 | | |
| BA 2306 | Introduction to Social Sciences | 267 | | |
| BA 2403 | Business Ethics | 267 | | |
| BA 3504 BA 1207 | Organizational Behavior | 268 268 | | |
| BA 1207 | Introduction to Logic | 268 | | |
| | Spring Semester | | | |
| BA 3505 | Quantitative Skills | 268 | | |
| BA 3601 | Financial Management | 259 | | |
| BA 3602 | Marketing Management | 259 | | |
| BA 4704 | Management Information Systems | 259 | | |
| BA 4721 | Advertising | 260 | | |
| BA 4801 | Law and Taxation | 260 | | |
| All courses may not | t be offered every year. Alternate courses may be substituted as and | when required. | | |

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252

| Course Name | Introduction to Accounting | Credit Hours 3 (3,0) | |
|--|--|---|--|
| ourse Code | BA 1101 | Prerequisite(s) None | |
| | This course covers the purpose and | nature of accounting forms of | |
| Course Description | This course covers the purpose and nature of accounting, forms of business enterprises, accounting information users, Generally Accepted | | |
| | Accounting Principles, accounting e | . , , | |
| | accounting cycle, ledgers and entries, | accounting for receivables, inven- | |
| | tory and depreciation. | | |
| | | | |
| quivalent Course(s) | AF 1104, EN 1103 | | |
| | | | |
| | | | |
| Course Name | Microeconomics | Credit Hours 3 (3,0) | |
| Course Code | BA 1102 | Prerequisite(s) None | |
| | 57(1102 | | |
| Course Description | Microeconomics studies how the indi | vidual parts of the economy, the | |
| | households and the firms, make decis | | |
| | This course is based on a comprehens | | |
| | product markets and resource market | | |
| | demand and supply, cost analysis and | • • | |
| | | • | |
| quivalent Course(s) | SS 1105, AF 2405, EN 1205 | | |
| | 1 | | |
| | | | |
| | | | |
| Course Name | Introduction to Computers | Credit Hours 3 (1,2) | |
| Course Code | BA 1103 | Prerequisite(s) None | |
| | | | |
| Course Description | This course introduces fundamental co | | |
| | functions and operations of the co | | |
| | identification of hardware, operatir | | |
| | programming languages, files and d | | |
| | networking basics, computer graphics | networking basics, computer graphics, computer security and controls, MS Word, MS Excel, MS Access, MS Power Point, MS Project, internet | |
| | | | |
| | | Power Point, MS Project, Internet | |
| | MS Word, MS Excel, MS Access, MS browsers, databases and e-banking. | Power Point, MS Project, Internet | |
| auivelant Course(a) | browsers, databases and e-banking. | Power Point, MS Project, internet | |
| quivalent Course(s) | | Power Point, MS Project, internet | |
| quivalent Course(s) | browsers, databases and e-banking. | Power Point, MS Project, internet | |
| quivalent Course(s) | browsers, databases and e-banking. | Power Point, MS Project, internet | |
| quivalent Course(s) Course Name | browsers, databases and e-banking. | Credit Hours 3 (3,0) | |
| Course Name | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 | | |
| | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management | Credit Hours 3 (3,0) | |
| Course Name | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management | Credit Hours 3 (3,0) Prerequisite(s) None | |
| Course Name Course Code | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management BA 1104 | Credit Hours 3 (3,0) Prerequisite(s) None ver themselves and make positive | |
| Course Name Course Code | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management BA 1104 This course teaches students to discor | Credit Hours 3 (3,0) Prerequisite(s) None ver themselves and make positive ness at work, and in personal and | |
| Course Name Course Code | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management BA 1104 This course teaches students to discor- changes to achieve greater effective | Credit Hours 3 (3,0) Prerequisite(s) None ver themselves and make positive ness at work, and in personal and rn the combination of factors such | |
| Course Name Course Code | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management BA 1104 This course teaches students to discor changes to achieve greater effective interpersonal relationship. Students lea | Credit Hours 3 (3,0) Prerequisite(s) None ver themselves and make positive ness at work, and in personal and rn the combination of factors such self-esteem, time management, | |
| Course Name Course Code | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management BA 1104 This course teaches students to discor changes to achieve greater effective interpersonal relationship. Students lea as personality, communication style, | Credit Hours 3 (3,0) Prerequisite(s) None wer themselves and make positive ness at work, and in personal and rn the combination of factors such self-esteem, time management, npact their personal effectiveness. | |
| Course Name Course Code | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management BA 1104 This course teaches students to discor changes to achieve greater effective interpersonal relationship. Students lea as personality, communication style, conflict, negotiation and others that ir | Credit Hours 3 (3,0) Prerequisite(s) None ver themselves and make positive ness at work, and in personal and m the combination of factors such self-esteem, time management, npact their personal effectiveness. es required to work effectively and | |
| Course Name Course Code | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management BA 1104 This course teaches students to discor- changes to achieve greater effective interpersonal relationship. Students lea as personality, communication style, conflict, negotiation and others that in They also learn methods, and techniqu | Credit Hours 3 (3,0) Prerequisite(s) None ver themselves and make positive ness at work, and in personal and rn the combination of factors such self-esteem, time management, npact their personal effectiveness. es required to work effectively and management, negotiation and | |
| Course Name Course Code | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management BA 1104 This course teaches students to discor- changes to achieve greater effective interpersonal relationship. Students lea as personality, communication style, conflict, negotiation and others that in They also learn methods, and techniqu confidently with others, using time | Credit Hours 3 (3,0) Prerequisite(s) None ver themselves and make positive ness at work, and in personal and rn the combination of factors such self-esteem, time management, npact their personal effectiveness. es required to work effectively and management, negotiation and | |
| Course Name Course Code | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management BA 1104 This course teaches students to discor- changes to achieve greater effective interpersonal relationship. Students lea as personality, communication style, conflict, negotiation and others that in They also learn methods, and techniqu confidently with others, using time | Credit Hours 3 (3,0) Prerequisite(s) None ver themselves and make positive ness at work, and in personal and rn the combination of factors such self-esteem, time management, npact their personal effectiveness. es required to work effectively and management, negotiation and | |
| urse Name urse Code urse Description | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management BA 1104 This course teaches students to discor- changes to achieve greater effective interpersonal relationship. Students lea as personality, communication style, conflict, negotiation and others that ir They also learn methods, and techniqu confidently with others, using time presentation skills with a positive mindse | Credit Hours 3 (3,0) Prerequisite(s) None ver themselves and make positive ness at work, and in personal and rn the combination of factors such self-esteem, time management, npact their personal effectiveness. es required to work effectively and management, negotiation and | |
| Course Name Course Code Course Description | browsers, databases and e-banking. BA 1108, BIO 1104, AF 1102, EN 1102 Personal Management BA 1104 This course teaches students to discor- changes to achieve greater effective interpersonal relationship. Students lea as personality, communication style, conflict, negotiation and others that ir They also learn methods, and techniqu confidently with others, using time presentation skills with a positive mindse | Credit Hours 3 (3,0) Prerequisite(s) None ver themselves and make positive ness at work, and in personal and rn the combination of factors such self-esteem, time management, npact their personal effectiveness. es required to work effectively and management, negotiation and | |

| Course Name | Oral Communication and Presentation Skills | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | BA 1206 | Prerequisite(s) None |
| | | |
| Course Description | In this course student' learns the principles of a g the opportunity to practice and experience is highly participative course. The course explore non-verbal communication characteristics, body-language expressions. Students an participative exercises with focus on active techniques, that aim to make them compete speech communication. | hese principles during this in detail, both verbal and and the importance of e challenged through listening and observation |
| Equivalent Course(s) | CSC 2101, ME 1101, AF 1203, EN 1106, SS 1116 | |

| Course Name | Maths for Business | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | BA 1204 | Prerequisite(s) None |
| | | |
| Course Description | The aim of this course is to prepare managerial problem through mathe covered in four parts, first part is based its solutions provide preliminary concep graphical interpretation of data, system introduction to matrix algebra, dete method to solve system of linear equat concept of linear and nonlinear function programming. The third part provide covers simple, and compound intere and future annuity calculations. The differentiation of basic functions, higher of functions, definite and indefinite integration. | ematical concepts. This course is on systems of linear equations and pt, construction of linear equations, ms of linear equations and solutions, rminants, Cramer's rule & inverse tions. The second part develops the ons and their application, and linear s mathematics for finance, which est rate computations and present last part of the course provides er order differentiation, optimization |
| Equivalent Course(s) | BIO 1107, AF 1102, EN 1101 | |

| Course Name | Financial Accounting | Credit Hours 3 (3,0) |
|----------------------|--|-------------------------|
| Course Code | BA 1201 | Prerequisite(s) BA 1101 |
| | | |
| Course Description | This course includes accounting for merchandise business, classified | |
| | This course includes accounting for merchandise business, classified balance sheet, simple and multiple income statement, design of accounting system, accounts receivable, notes receivable, inventories, cost of goods sold, liabilities, corporation and measuring cash flow statements. Also, MS Excel is used and necessary accounting software is introduced. | |
| Equivalent Course(s) | AF 1201 | |
| | | |

| Course Name | Macroeconomics Credit Hours 3 (3,0) | | | |
|------------------|---|--|--|--|
| rse Code | BA 1202 Prerequisite(s) BA 1102 | | | |
| e Description | This course introduces key economic indicators, role of government in an economy, measurement of gross domestic product, components of aggregate demand, consumption function and Keynesian multiplier, investment function, government intervention through monetary and fiscal policies, impact of government intervention on economic activity, | | | |
| | inflation and unemployment, aggreg | inflation and unemployment, aggregate supply and demand, balance of payments and trade, public finance, growth, and development. | | |
| alent Course(s) | SS 1205, AF 3505, EN 2303 | | | |
| e Name | Management Principles | Credit Hours 3 (3,0) | | |
| e Code | BA 1203 | Prerequisite(s) None | | |
| e Description | This course introduces the basic concepts of management, evolution and emergence of management thought, management function, planning concepts, decision-making, organizing, staffing, leading, controlling, and future of management and society. | | | |
| ent Course(s) | BA 5419, AF 1106, EN 1204 | | | |
| se Name | English Writing Skills | Credit Hours 3 (3,0) | | |
| e Code | BA 1105 | Prerequisite(s) None | | |
| e Description | This course covers comprehending problems and statements, developing arguments, and communicating ideas clearly and concisely. It also focuses on grammar, forms of punctuation, forms of speech, sentence and paragraph construction, composition, comprehension, writing styles, presentations, verbal communication skills, formal and informal presentations, interactive discussions, and role-playing. | | | |
| valent Course(s) | CSC 1102, MD 1122, SS 2316, BIO 111 | 1, AF 1103 | | |
| se Name | Statistics and Mathematics for Busine | Credit Hours 3 (3,0) | | |
| e Code | BA 2305 | Prerequisite(s) BA 1204 | | |
| | The course covers descriptive statisti | cal tools and mathematical methods. | | |
| se Description | Mathematical methods consist of r differentiation and optimization, | relation, and regression analysis. matrices, system of linear equations, linear programming, and simplex elation to their application in business | | |

| Course Name Course Code | Human Behavior BA 2312 | Credit Hours 3 (3,0) Prerequisite(s) None |
|----------------------------|------------------------------------|--|
| Course Description | | chological features of human behavior ons. In addition, the aspects of personal o covered. |
| Equivalent Course(s) | BA 2306, SS 2306, AF 2303, EN 1104 | |

| Course Name Course Code | Introduction to Business Finance BA 2301 | Credit Hours 3 (3,0) Prerequisite(s) BA 1201 |
|----------------------------|---|---|
| Course Description | This course covers the concepts of busines organization, overview of financial environ and interest rates, analyses of financial sto sources of short-term and long-term finance capital management, valuation of finance introduction to capital budgeting. | nment, cost markets, institutions atements, time value of money, ce, break even analysis, working |
| Equivalent Course(s) | BA 5401, AF 4703, EN 2301 | |

| Course Name | Graphic Design in Multimedia Presentations | Credit Hours 3 (1,2) |
|----------------------|---|--|
| Course Code | BA 2302 | Prerequisite(s) BA 1103 |
| | | |
| Course Description | This course introduces the computer system covers topics such as hardware and software production, basic computer operations, erg scanning techniques, archiving capabiliti multimedia department server and internet of Adobe Photoshop, and Freehand are introdu | e components for multimedia gonomics, file management, ies, and utilization of the connection. Software such as |
| Equivalent Course(s) | BA 4842 | |

| Course Name Course Code | Marketing Principles BA 2303 | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 |
|----------------------------|---|---|
| Course Description | This course introduces the basic conce | |
| | environment, planning and research, market segmentation and targeting, consumer behavior, industrial marketing, product planning, product-mix, pricing, distribution, placement, promotional mix, and marketing in global scenarios. | |
| Equivalent Course(s) | BA 5404, AF 1206, EN 2305 | |

| Course Name Course Code | Managerial Accounting BA 2304 | Credit Hours 3 (3,0) Prerequisite(s) BA 1201 |
|----------------------------|---|---|
| Course Description | This course focuses on cost allo | cation, process costing systems and |
| | spoilage. Specific topics include relevancy of revenues and costs, cost allocation decisions (joint and byproducts), process costing systems, Factory overhead applied, Standard Costing: Setting of Standards, Analysis of Variance and Controlling and Costing Material. | |
| Equivalent Course(s) | BA 2408, BA 5411, AF 2401 | |

| Course Name | Introduction to Social Sciences | Credit Hours 3 (3,0) |
|----------------------|---|----------------------|
| Course Code | BA 2306 | Prerequisite(s) None |
| | | |
| Course Description | This is an interdisciplinary course combining the perspectives of two or | |
| | This is an interdisciplinary course combining the perspectives of two or more of the social and behavioral sciences (anthropology, economics, geography, history, political science, psychology and sociology) on the central issues in social science studies. This course explores the relationship between the social and behavioral sciences being studied. It reviews the application of the scientific method, compares theory and concepts, and reviews the different perspectives of the discipline being studied. This course is broad in nature and scope and provides the basis for further study in other various social and behavioral sciences. | |
| Equivalent Course(s) | BA 2307, MD 1104, SS 2307, AF 2304, EN 1203 | |
| | | |

| Course Name Course Code | Business Ethics BA 2403 | Credit Hours 3 (3,0) Prerequisite(s) BA 1203 |
|----------------------------|--|---|
| Course Description | This course introduces con | temporary and controversial ethical issues |
| | This course introduces contemporary and controversial ethical issues faced by the business community. Topics include: moral reasoning, moral dilemmas, law and morality, equity, justice and fairness, ethical standards, and moral development. Upon completion, students would be able to demonstrate an understanding of their moral responsibilities and obligations as members of the workforce and society. | |

Catalogues 5/2 2/2

Equivalent Course(s) AF 3503, EN 2402

| Course Name | Organizational Behavior | Credit Hours 3 (3,0) |
|----------------------|---|---|
| Course Code | BA 3504 | Prerequisite(s) BA 2312 |
| | | |
| Course Description | This course covers the subject matter on interpersonal, and organizational. At the examine individual behavior and dir personality, motivation, and stress. The group and inter-group behavior, creativ also includes power, conflict, leadersh organizational level, it reviews the b organizational change and developme relationship, and career management. | e individual level, the focus is to fferences, learning, perception, group/ interpersonal level covers vity, and team decision-making. It nip, and communication. At the pasics of organizational culture, |
| Equivalent Course(s) | BBA 5207, AF 2305, EN 2306 | |

| Course Name Course Code | Introduction to Logic BA 1207 | Credit Hours 3 (3,0) Prerequisite(s) BA 1105 |
|----------------------------|--|---|
| Course Description | inferences, forms of discourse, er disagreements, rules and falla standard-form categorical syllogis | ms and testing, uniform translation, ills' Methods of scientific investigation. |
| Equivalent Course(s) | BA 1211, EN 2302 | |

| Course Name | Quantitative Skills | Credit Hours 3 (3,0) |
|----------------------|--|---|
| Course Code | BA 3505 | Prerequisite(s) BA 2305 |
| | | |
| Course Description | This course is an introduction to quantitation business students. The course consists of arithmetic techniques like: numbers, ex- proportion, averages etc. and their usage. The second part consists of algebra, equi- solving business problems. The third p geometry and combination of above graphical analysis and interpretation of the consists of data sufficiency problems rela- geometry. | several parts. First is related to ponents and roots, ratio and e in solving common problems. ations, and their applications in part comprises of coordinate parts. The fourth part covers he data. The fifth and last part |
| Equivalent Course(s) | None | |

| Course Name | Financial Management | Credit Hours 3 (3,0) |
|----------------------------|--|---|
| Course Code | BA 3601 Prerequisite(s) BA 2301 | |
| Course Description | Building upon the concepts already laid down in its pre-requisite, financial management helps students in exploring the depths of the relatively complex aspects of the financial world, with prime focus on the present value and opportunity cost of capital. This course covers topics such as nature, scope, and function of financial decision areas, objectives of financial management, financial forecasting; working capital management, valuation of stocks, valuation of fixed income securities, project cash flow analysis, capital budgeting and decision making, determination of the required rate of return via asset pricing models, dividend policy, debt policy; introduction to financial risk management, and derivatives and role of financial markets in Pakistan. | |
| Equivalent Course(s) | BA 5105, AF 4702 | |
| Course Name | Marketing Management | Credit Hours 3 (3,0) |
| Course Code | BA 3602 | Prerequisite(s) BA 2303 |
| Course Description | This course introduces the concept of customer and market-driven management. This course covers organizations' external and internal environment, strengths, weaknesses, opportunities and threats, marketing information system, buyer behavior analysis, segmenting, targeting and positioning strategies, product and pricing strategies, an in-depth study of strategy building by organizations with the help of case studies and a practical, hands-on learning experience of marketing management through close observations of marketing management at different levels in marketing channels. | |
| Equivalent Course(s) | BA 5106, AF 2403 | |
| | Management Information Stateme | |
| Course Name Course Code | Management Information Systems BA 4704 | Credit Hours 3 (3,0) Prerequisite(s) BA 1103 |
| Course Course | 57 47 04 | rierequisite(s) DA 1103 |
| Course Description | This course covers different information technology applications in business for efficient management of business operations by providing support to decision makers for strategic business decisions. The course examines various corporate frameworks for information management and their utility. | |
| | AF 2402 | |
| Equivalent Course(s) | /11 2-102 | |

Catalogue.

| Course Name | Advertising | Credit Hours 3 (3,0) |
|----------------------|---|----------------------------------|
| Course Code | BA 4721 | Prerequisite(s) BA 2303 |
| Course Description | This course introduces students to the contemporary advertising, marketing and | public relations. In this course |
| | students explore these roles in the marketplace, the elements of a successful advertisement, advertising production, and tasks accomplished by media professionals while promoting products and service businesses. | |
| Equivalent Course(s) | None | |

| Course Name Course Code | Law and Taxation BA 4801 | Credit Hours 3 (3,0) Prerequisite(s) BA 1211 |
|----------------------------|---|---|
| | | |
| Course Description | This course covers process of legislation in Pakistan, Contract Act, Law of Sale of Goods, Partnership Law and Company laws, Sales Tax, Income Tax Law and Intellectual Property Laws. This course identifies the legal rights of persons in case of nonperformance of contracts, it also identifies the taxation system as well as kinds of taxes in Pakistan. Furthermore, it identifies the intellectual property rights in Pakistan. | |
| Equivalent Course(s) | AF 3606, EN 2401 | |



8.0 Bachelor

261

8.2 LLB (University of London) International Program

The University of London – Bachelor of Laws program requires the students to complete a total of 12 modules (Standard entry route) with a minimum of 24 credit hours. The following is the break-up of the 12 Modules

- 9 Compulsory Modules (3 Credit hour each)
- 3 Optional Modules (3 credit hour each)

In addition, the modules have been listed in order of Level for the convenience of the students.

| Module Code | Module Title | Page # |
|--|---|--------------------------|
| | Level 4 | |
| LA 1010 LA 1020 LA 1031 LA 1040 | Criminal Law Public Law Legal System and Method Contract Law | 262 262 262 263 |
| | Level 5 | |
| LA 2024 LA 2001 LA 3003 | EU Law Tort Law Property Law Any One (1) Optional Module: • Administrative Law • Commercial Law | 263 263 264 |
| | Level 6 | |
| LA 3005 LA 3002 | Jurisprudence and Legal Theory Equity and Trusts Any Two (2) Optional Modules: | 265 264 |
| | Alternative Dispute Resolution Company Law Intellectual Property International Commercial Law Introduction to Islamic Law | |
| | | |
| | | |
| | | |
| | | |
| | | |

| Course Name | Criminal Law | Credit Hours 3 (3,0) |
|----------------------------|--|---|
| Course Code | LA 1010 | Credit Hours 3 (3,0) Prereguisite(s) None |
| Course Code | | |
| Course Description | This course examines general principles fatal and non-fatal offences against the against property. Attempts to commit off defences also form part of the Unive curriculum. Criminal law consists of a highl formulated legal rules but as criminal con- thus engages with broad issues of mora the tension between certainty in the law the development of criminal law will tak stage of understanding the substantive ru | person and selected offences ences, secondary liability and rsity of London criminal law y developed body of precisely duct is subject to punishment it lity and policy. Understanding and social adaptation affects se students beyond the basic |
| Equivalent Course(s) | None | |
| | Dublic Law | |
| Course Name | Public Law | Credit Hours 3 (3,0) |
| Course Code | LA 1020 | Prerequisite(s) None |
| Course Description | The UK constitution is famously 'unwritten constitutional models. Analysing key is division of powers between legislature, one key question is how far the UK lives u | sues of sovereignty and the executive and administration, |
| | membership of the European Union, and affect the overall picture of the relation k To fully engage with this subject, studen current affairs and debates about what is and reforms. | between citizen and the state. ts need to take an interest in |
| Equivalent Course(s) | affect the overall picture of the relation k To fully engage with this subject, studen current affairs and debates about what is and reforms. None | between citizen and the state. ts need to take an interest in involved in constitutional issues |
| Course Name | affect the overall picture of the relation b To fully engage with this subject, studen current affairs and debates about what is and reforms. None | between citizen and the state. ts need to take an interest in involved in constitutional issues Credit Hours 3 (3,0) |
| | affect the overall picture of the relation b To fully engage with this subject, studen current affairs and debates about what is and reforms. None Legal System and Methods LA 1031 This comprehensive introduction to the | Credit Hours 3 (3,0) Prerequisite(s) None |
| Course Name Course Code | affect the overall picture of the relation b To fully engage with this subject, studen current affairs and debates about what is and reforms. None Legal System and Methods LA 1031 | Credit Hours 3 (3,0) Prerequisite(s) None English legal system seeks to imon law approach as a legal y and politics of England and the civil and criminal court iry. A running concern of the act of the Human Rights Act on of access to justice in the civil g students into the process of has a compulsory section on |
| Course Name Course Code | affect the overall picture of the relation to To fully engage with this subject, studen current affairs and debates about what is and reforms. None Legal System and Methods LA 1031 This comprehensive introduction to the convey what is distinctive about the commethodology and as it reflects the histor Wales. It examines the sources of law, structures, the role of judges and the jucourse is the question of fairness: the import the criminal justice system and the issues courts. This course is also vital in initiating legal research and the final examination | Credit Hours 3 (3,0) Prerequisite(s) None English legal system seeks to imon law approach as a legal y and politics of England and the civil and criminal court iry. A running concern of the act of the Human Rights Act on of access to justice in the civil g students into the process of has a compulsory section on |

| ourse Name | Contract Law | Credit Hours 3 (3,0) |
|--------------------------|--|---|
| ourse Code | LA 1040 | Prerequisite(s) None |
| ourse Description | the core topics including: forma and privity, performance and l breach of contract, the emp underlying principles of English la with judicial precedents stretcl instances (but more usually of 19 number of statutory provisions, | all commercial transactions. Covering tion of contracts, capacity to contract breach of contract and remedies for phasis is on understanding the key w. This is very much a case law subject, hing back nearly 400 years in some 9 th and 20 th century origin) and a small as well as the impact of EU law. An udges may, or must, take into account s crucial. |
| quivalent Course(s) | None | |
| ourse Name | EU Law | Credit Hours 3 (3,0) |
| ourse Code | LA 2024 | Prerequisite(s) None |
| ourse Description | by one person upon another. monetary compensation or dau liability, which makes tort law co monetary compensation for per- social security payments, p compensation schemes, etc.) as may be pursued through the crin topic and other topics includes | liability for the wrongful infliction of injury The characteristic claim in tort is for mages. There is no single principle of omplex; also there are other sources of sonal injuries (such as unemployment / orivate insurance, criminal injuries s well as the fact that the same harms ninal justice system. Negligence is a key : interference with economic interest; s liability as well as defences and |
| quivalent Course(s) | None | |
| ourse Name ourse Code | Tort Law LA 2001 | Credit Hours 3 (3,0) |
| | | Prerequisite(s) None |
| ourse Description | by one person upon another. monetary compensation or dau liability, which makes tort law co monetary compensation for per- social security payments, p compensation schemes, etc.) as may be pursued through the crin topic and other topics includes | liability for the wrongful infliction of injury The characteristic claim in tort is for mages. There is no single principle of pomplex; also there are other sources of sonal injuries (such as unemployment / private insurance, criminal injuries s well as the fact that the same harms ninal justice system. Negligence is a key : interference with economic interest; s liability as well as defences and development including EU law. |

| Course Name | Property Law | Credit Hours 3 (3,0) |
|----------------------|---|--|
| Course Code | LA 3003 | Prerequisite(s) None |
| Course Description | Much of the work of solicitors turns conveyancing (buying and selling c | around property law in the form of |
| | or the relations between landlord principles of English law are portrayed context, as many of the basic conditions very different from too concept of the nature and quantu- exist in land, the principles gove | ds and tenants. Here the central ed, including the necessary historical pacepts were established in social day. Property law centres on the um of the various interests that can erning the creation, transfer and the extent that those interests are |
| Equivalent Course(s) | None | |
| Course Name | | Credit Hours 3 (3.0) |
| Course Code | Equity and Trusts LA 3002 | Credit Hours 3 (3,0) Prerequisite(s) None |
| Course code | 273002 | Telequille(5) None |
| Course Description | governing the creation and operati holding property that developed hi | ts deals with the rules and principles ion of trusts – a particular method of storically primarily to preserve family bility to taxation. The syllabus focuses |
| | the requirements for establishing c trusts; charitable trusts; implied and it | a valid trust (including express private resulting trusts; constructive trusts); |
| | the powers and obligations of transport of transport of transport of the appointment, retirement and remove | ustees under a valid trust (including val of trustees); and |
| | | |
| | 3) the remedies available when trus | tees act improperly. |

| urse Name Jurisprudence and Legal Theory Credit Hours 3 (3,0) purse Code LA 3005 Prerequisite(s) None urse Description The nature of jurisprudence: methodology, analysis, theory and the idea of definition, the relevance of language and ideology. Legal positivism and its critics: the command theory, Hart-Fuller debate, Dworkin's criticism of positivism, Kelsen (including the use of Kelsenian principles in revolution cases), Raz's theory of law. Moral theory and the law: the history of natural law, Finnis's natural law theory, liberalism and the Hart-Devlin debate, moral rights, utilitarianism and its critics, utilitarianism and the economic analysis of law. Legal reasoning: Dworkin's theory of law as integrity, Dworkin's methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
|--|
| urse DescriptionThe nature of jurisprudence: methodology, analysis, theory and the idea of definition, the relevance of language and ideology.Legal positivism and its critics: the command theory, Hart-Fuller debate, Dworkin's criticism of positivism, Kelsen (including the use of Kelsenian principles in revolution cases), Raz's theory of law.Moral theory and the law: the history of natural law, Finnis's natural law theory, liberalism and the Hart-Devlin debate, moral rights, utilitarianism and its critics, utilitarianism and the economic analysis of law.Legal reasoning: Dworkin's theory of law as integrity, Dworkin's methodology, practical reasoning, Hohfeld's analysis of legal rights.Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| of definition, the relevance of language and ideology. Legal positivism and its critics: the command theory, Hart-Fuller debate, Dworkin's criticism of positivism, Kelsen (including the use of Kelsenian principles in revolution cases), Raz's theory of law. Moral theory and the law: the history of natural law, Finnis's natural law theory, liberalism and the Hart-Devlin debate, moral rights, utilitarianism and its critics, utilitarianism and the economic analysis of law. Legal reasoning: Dworkin's theory of law as integrity, Dworkin's methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
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| Legal positivism and its critics: the command theory, Hart-Fuller debate, Dworkin's criticism of positivism, Kelsen (including the use of Kelsenian principles in revolution cases), Raz's theory of law. Moral theory and the law: the history of natural law, Finnis's natural law theory, liberalism and the Hart-Devlin debate, moral rights, utilitarianism and its critics, utilitarianism and the economic analysis of law. Legal reasoning: Dworkin's theory of law as integrity, Dworkin's methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| Dworkin's criticism of positivism, Kelsen (including the use of Kelsenian principles in revolution cases), Raz's theory of law. Moral theory and the law: the history of natural law, Finnis's natural law theory, liberalism and the Hart-Devlin debate, moral rights, utilitarianism and its critics, utilitarianism and the economic analysis of law. Legal reasoning: Dworkin's theory of law as integrity, Dworkin's methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| Dworkin's criticism of positivism, Kelsen (including the use of Kelsenian principles in revolution cases), Raz's theory of law. Moral theory and the law: the history of natural law, Finnis's natural law theory, liberalism and the Hart-Devlin debate, moral rights, utilitarianism and its critics, utilitarianism and the economic analysis of law. Legal reasoning: Dworkin's theory of law as integrity, Dworkin's methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| principles in revolution cases), Raz's theory of law. Moral theory and the law: the history of natural law, Finnis's natural law theory, liberalism and the Hart-Devlin debate, moral rights, utilitarianism and its critics, utilitarianism and the economic analysis of law. Legal reasoning: Dworkin's theory of law as integrity, Dworkin's methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| Moral theory and the law: the history of natural law, Finnis's natural law theory, liberalism and the Hart-Devlin debate, moral rights, utilitarianism and its critics, utilitarianism and the economic analysis of law. Legal reasoning: Dworkin's theory of law as integrity, Dworkin's methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
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| theory, liberalism and the Hart-Devlin debate, moral rights, utilitarianism and its critics, utilitarianism and the economic analysis of law. Legal reasoning: Dworkin's theory of law as integrity, Dworkin's methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| and its critics, utilitarianism and the economic analysis of law. Legal reasoning: Dworkin's theory of law as integrity, Dworkin's methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| Legal reasoning: Dworkin's theory of law as integrity, Dworkin's methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| methodology, practical reasoning, Hohfeld's analysis of legal rights. Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| Social theory and critical accounts of law, including the American Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| Critical Legal Studies movement, Marxist theories of law and state, feminist jurisprudence. |
| feminist jurisprudence. |
| |
| A study in depth of a toy'r procerib od by the overpringer are which there will |
| A study in depth of a text prescribed by the examiners on which there will |
| be one compulsory question in the examination. |
| |
| vivalent Course(s) None |
| |

Catalogue -2018 -2018 -

Appendi

9.0 Appendix A - Optional Courses 9.1 Management Sciences

BACHELOR OF BUSINESS ADMINISTRATION (BBA)

Optional Courses

(Compulsory Courses Optional to Offer by Campus)

| BA 3506 | Foreign Languages |
|---------|------------------------------------|
| BA 3519 | Current Affairs |
| BA 3613 | World Economy |
| BA 3614 | Business analysis and Forecasting* |
| BA 3619 | Enterprise Management |
| BA 4701 | Islamic Banking and Finance* |
| BA 4707 | Marketing Research* |
| BA 4842 | Graphic Design for Multimedia* |
| BA XXX | Professional Development |
| BA XXX | Auditing |

Catalogue

268

*Can be taken as an Elective if not offered by Campus as a compulsory course.

10.0 Appendix B - Electives 10.1 Management Sciences

BACHELOR OF BUSINESS ADMINISTRATION (BBA)

Elective Courses

Finance

- BA 4115 Derivatives
- BA 4214 Micro Finance
- BA 4218 Financial Research
- BA 4735 Islamic Banking and Finance
- BA 4719 Investment Banking
- BA 4724 Financial Modeling
- BA 4727 Dynamics of Banking
- BA 4734 International Banking
- BA 4752 Financial Reporting and Analysis
- BA 4756 Econometrics
- BA 4831 Portfolio and Investment Management
- BA 4833 Security Analysis
- BA 4834 Treasury and Funds Management
- BA 4855 Financial Risk and Analysis
- BA 4867 Business Analysis and Forecasting

Marketing

- BA 4116 Supply Chain Management
- BA 4125 Emerging Media
- BA 4126 Trade Marketing
- BA 4217 Experiential Marketing
- BA 4836 Marketing Research
- BA 4721 Advertising
- BA 4722 Brand Management
- BA 4739 Export Marketing
- BA 4815 Event Management
- BA 4816 Industrial Marketing
- BA 4821 Media Planning
- BA 4824 Sales Management
- BA 4842 Graphic Design for Multimedia
- BA 4859 Product Innovation and Design
- BA 4866 Integrated Marketing Communications

Supply Chain Management

- BA 4116 Supply Chain Management
- BA 4126 Trade Marketing
- BA 4211 Production Management
- BA 4768 Total Quality Management
- BA 4739 Export Marketing
- BA 4742 Customer Relationship Management
- BA 4764 Dynamics of Logistics and Distribution
- BA 4824 Sales Management
- BA 4844 Operations Research
- BA 4859 Product Innovation and Design
- BA 4766 Purchase Management

O. Management Sciences

Management

| BA 4116 | Supply Chain Management |
|---------|--------------------------------------|
| BA 4117 | Salary and Compensation |
| BA 4711 | Change Management |
| BA 4712 | Industrial Relations & Labor Laws |
| BA 4713 | Leadership and Motivation Techniques |
| BA 4812 | Recruitment and Selection |
| BA 4813 | Training and Development |
| BA 4815 | Event Management |

- BA 4826 Talent Management
- BA 4837 Performance Appraisal
- BA 4844 Operations Research

Information Technology

- BA 4224e-Marketing StrategiesBA 4714e-Business and e-Commerce ManagementBA 4745Information System Audit
- BA 4822 Media Production
- BA 4842 Graphic Design for Multimedia
- BA 4844 Operations Research

BACHELOR OF SCIENCE IN ENTREPRENEURSHIP — BS-ENTREPRENEURSHIP

Elective Courses

- EN 4xxx Mergers and Acquisition Legal Framework for Entrepreneurs EN 4xxx EN 4xxx Trade and Retail Management EN 4xxx Export Marketing EN 4xxx Services Marketing **Business Development** EN 4xxx Social Entrepreneurship EN 4xxx Technopreneurship EN 4xxx EN 4xxx Intrapreneurship Agribusiness Management EN 4xxx EN 4xxx Family Business Management EN 4xxx Women Entrepreneurship and Leadership EN 4xxx **Crisis Management**
- EN 4xxx Managing and Growing a Business
- EN 4xxx Creativity and Business
- EN 4xxx Applied Game Theory
- EN 4xxx Executive Leadership

270

O. Management Sciences

MASTER OF BUSINESS ADMINISTRATION - MBA

| | Elective Courses |
|---------|---------------------------------------|
| Finance | |
| BA 5131 | Advance Financial Management |
| BA 5132 | Analysis of Financial Statements |
| BA 5133 | Corporate Finance |
| BA 5134 | Derivatives |
| BA 5135 | Financial Markets and Institutions |
| BA 5137 | International Banking |
| BA 5138 | Econometrics |
| BA 5139 | Financial Risk Analysis |
| BA 5151 | International Finance |
| BA 5155 | Mergers and Acquisitions |
| BA 5175 | Banking Operations |
| BA 5179 | Commodity Pricing |
| BA 5184 | Financial Product Regulations |
| BA 5187 | Business Analysis and Forecasting |
| BA 5229 | Financial Modeling |
| BA 5231 | Islamic Banking and Finance |
| BA 5232 | Portfolio and Investment Management |
| BA 5235 | Treasury and Funds Management |
| BA 5244 | Investment Banking |
| BA 5254 | Fundamentals of Financial Engineering |
| BA 5262 | Behavioral Finance |
| BA 5273 | Prudential Regulations |
| BA 5278 | Banking Crises and Management |
| BA 5284 | Theory and Practice of Lending |
| BA 5192 | Financial Management Policy |
| BA 5294 | Venture Capital and Private Equity |
| BA 5298 | Financial Reporting and Analysis |

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MIS

- e-Commerce Strategies and Management BA 5156
- Enterprise Resource Planning BA 5163
- BA 5169
- Technology Management and Innovation Business Intelligence and Data Warehousing BA 5181
- BA 5241 E-Commerce

IO. Management Sciences

Management

| BA 5111 | Business Process Re-engineering |
|---|--|
| BA 5112 | Change Management |
| BA 5113 | Industrial Management and Labor Relations |
| BA 5116 | Industrial Relations and Labor Laws |
| BA 5136 | Business Strategy and Policy |
| BA 5152 | Event Management |
| BA 5172 | Entrepreneurial Business Strategy |
| BA 5213 | Project Management |
| BA 5295 | Crisis Management |
| BA xxx | Corporate Sustainability |
| BA 5242 | Lean Six Sigma Manufacturing |
| BA xxx | Hospitality and Tourism Management |
| BA xxx | Business Theory |
| BA 5113 BA 5116 BA 5136 BA 5136 BA 5152 BA 5172 BA 5213 BA 5295 BA xxx BA 5242 BA xxx | Industrial Management and Labor Relations Industrial Relations and Labor Laws Business Strategy and Policy Event Management Entrepreneurial Business Strategy Project Management Crisis Management Corporate Sustainability Lean Six Sigma Manufacturing Hospitality and Tourism Management |

BA xxx Business Application

Human Resource Management

- BA 5114 Leadership and Motivation Techniques
- BA 5118 Compensation Management
- BA 5117 Performance Appraisal
- BA 5159 Salary and Compensation
- BA 5164 Human Resources Information Systems
- BA 5165 Job Analysis and Design
- BA 5167 Talent Management and Succession Planning
- BA 5185 Leadership Development
- BA 5193 HR Operations and Business Partnering
- BA 5196 Conflict Resolution
- BA 5215 Recruitment and Selection
- BA 5216 Training and Development
- BA 5239 HR Policy Development
- BA 5251 Human Resource Development
- BA 5285 Performance Management
- BA 5292 HR Analytics

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272

- BA 5297 Human Capital Development and Analytics
- BA xxx Human Resource Audit
- BA xxx Contemporary Issues in Human Resource Management
- BA xxx Human Resource Management and Technology

O. Management Sciences

| Marketing | |
|---|--|
| BA 5121 BA 5122 BA 5123 BA 5124 BA 5126 BA 5127 BA 5129 BA 5127 BA 5129 BA 5171 BA 5182 BA 5186 BA 5217 BA 5224 BA 5225 BA 5224 BA 5225 BA 5226 BA 5227 BA 5228 BA 5226 BA 5227 BA 5228 BA 5226 BA 5259 BA 5264 BA 5281 BA 5286 BA 5293 BA 5299 BA 5141 BA 5xxx BA 5xxx | Advertising Brand Management Consumer Behavior Customer Relationship Management Export Marketing Global Marketing Services Marketing Strategic Advertising Trade Marketing Social Marketing Integrated Brand Communication Industrial Marketing Media Planning and Management Personal Selling Pharmaceutical Marketing Sales Management Retail Management Public Relations Integrated Marketing Communications Emerging Media Interactive Global and Regional Marketing Marketing Intelligence Digital Marketing New Product Development Process and Inn Rural Marketing Media Management Public Relations Management Marketing Practices in Pakistan Marketing Analytics |
| BA 5xxx | Packaging for Brands |
| Supply Ch | ain Management |
| BA 5191 | Advance Manufacturing and TPM in SCM |

BA 5191 Advance Manufacturing and TPM in SCM

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27 Catalopue,

- BA 5194 Supply Chain Finance
- BA 5214 Supply Chain Management
- BA 5263 Dynamics of Logistics and Distribution
- BA 5265 Operational Planning in Supply Chain
- BA 5266 Strategic Procurement in SCM
- BA 5287 Execution and Control of Operations in SCM
- BA 5291 Detailed Scheduling and Planning in SCM
- BA 5142 Materials Management
- BA 5xxx Shipping in SCM
- BA 5xxx Green Supply Chain Management
- BA 5xxx Supply Chain Operations

O. Management Sciences

MASTER OF BUSINESS ADMINISTRATION IN BANKING & FINANCE (MBA B&F)

Elective Courses

| BA 5xxx Asset Management | |
|--|------------|
| BA 5151 International Finance | |
| BA 5158 Micro and SME Finance | |
| BA 5223 Marketing of Financial Services | |
| BA 5229 Financial Modeling | |
| BA 5237 Interfeter Modeling BA 5231 Islamic Banking and Finance | |
| BA 5255 Fixed Income Securities | |
| | |
| | |
| BA 5278 Banking Crises and Management | |
| BA 5294 Venture Capital and Private Equity | |
| BA 5xxx Capital Markets | |
| BA 5xxx Commercial Banking | |
| BA 5xxx Corporate Investment and Banking | |
| BA 5xxx Corporate Restructuring and Design | |
| BA 5xxx Financial Intermediation | |
| BA 5xxx Financial Planning and Budgeting | |
| BA 5xxx Financial Systems | |
| BA 5xxx Foreign Exchange Operations and N | lanagement |
| BA 5xxx Banking Insurance | |
| BA 5xxx Information System Audit | |
| BA 5xxx Leasing Strategies and Regulations | |
| BA 5xxx Mergers and Acquisitions in Banking | |
| BA 5xxx Operations and Derivatives | |
| BA 5xxx Project Financing | |
| BA 5xxx Theory and policy of Modern Finance | Э |

MASTER IN PROJECT MANAGEMENT (MPM)

Elective Courses

| PM 5151 PM 5152 | Enterprise Resource Planning Innovation and Technology Management |
|--------------------|--|
| PM 5251 | Procurement and Contract Management |
| PM 5252 | Project Change Management |
| PM 5253 | Project Human Resource Management |
| PM 5255 | Project Change and Risk Management |
| PM5257 | Simulation for Project Management |
| PM5303 | Project Monitoring, Evaluation and Control Management |
| PM 5352 | Project Stakeholders Management |
| PM 5353 | Research Methods for Project Managers |
| PM 5354 | Leadership, Team and Communication for Project Management |
| PM 5355 | Project Communication Reporting and Presentation |

EXECUTIVE MBA

Elective Courses

Marketing

- BE 432 Services Marketing
- BE 436 Retail Management
- BE 472 Media Planning and Management
- BE 473 Advertising
- BE 474 Brand Management
- BE 484 Consumer Behavior
- BE 491 Consumer Relationship Management
- BE xxx Integrated Marketing Communication
- BE xxx Digital Marketing
- BE xxx Emerging Media
- BE xxx Experiential and Content Marketing
- BE xxx Export Marketing
- BE xxx Global Marketing

Finance

- BE 424 International Banking and Finance
- BE 481 Corporate Finance
- BE 482 Islamic Banking and Finance
- BE 483 Analysis of Financial Statements
- BE 487 Portfolio and Investment Management
- BE 488 Project Evaluation
- BE xxx Banking Operations
- BE 409 Financial Modeling
- BE 477 Treasury and Funds Management

Human Resource Management

- BE 427 Leadership and Motivational Techniques
- BE 471 Compensation Management
- BE 476 Recruitment and Selection
- BE 485 Performance Appraisal
- BE 486 Training and Development
- BE xxx Conflict Resolution
- BE xxx Crisis Management
- BE xxx HR Analytics
- BE xxx Salary and Compensation
- BE xxx Talent Management and Succession Planning

O. Management Sciences

Supply Chain Management

-Catalogue 276

| BE 428 | Supply Chain Management |
|--------|--|
| BE 493 | Dynamics of Logistics and Distribution |
| BE 494 | Operational Planning in Supply Chain |
| BE 495 | Strategic Procurement in SCM |
| BE xxx | Advance Manufacturing and TPM in SCM |
| BE xxx | Detailed Scheduling and Planning in SCM |
| BE xxx | Execution and Control of Operations in SCM |
| BE xxx | Supply Chain Finance |

MASTER OF SCIENCE IN PROJECT MANAGEMENT (MSPM)

Elective Courses

| MP 5102 | Project Management Constraints |
|---------|--|
| MP 5201 | Quality Management Tools |
| MP 5205 | Theories of Management |
| MP 5215 | Human Resource Management Communication |
| MP 5217 | Financial Decision Analysis |
| MP 5218 | Software Project Management |
| MP 5314 | Project Review, Assurance and Governance |
| MP 5317 | Supply Chain Management |
| MP 5318 | Business Analysis |
| MP 5324 | Risk Management Dynamics |
| MP 5325 | Project Simulation |
| MP xxxx | Project Scope |
| MP 5223 | Project Scheduling, Planning and Time Management |
| MP xxxx | Project Risk Management |

IO. Management Sciences

MASTER OF SCIENCE IN MANAGEMENT SCIENCES (MSMS)

Elective Courses

Finance

- MS 5237 Business Finance and Decision Making
- MS 5414 Applied Econometrics
- MS 5105 Econometrics
- MS 5113 Financial Time Series
- MS 5103 Managerial Economics
- MS 5215 Corporate Finance
- MS 5111 Derivatives and Financial Risk
- MS 5421 Capital Asset Pricing Model
- MS 5425 Empirical Asset Pricing
- MS 5218 Financial Markets
- MS 5115 Operations and Mathematical Modeling
- MS 5134 Behavioral Finance
- MS 5206 Modern Financial Applications
- MS 5217 Corporate Finance Planning and Decisions
- MS 5xxx Seminars in Finance
- MS 5xxx Mathematical Modeling in Finance

Marketing

MS 5301 Seminars in Marketing

- MS 5249 Advanced Marketing Strategies
- MS 5422 Distribution and Channel Management
- MS 5424 Strategic Brand Management
- MS 5xxx Social Psychology
- MS 5xxx Strategic Entrepreneurial Marketing
- MS 5xxx Applied Advertising

Research

- MS 5315 Research writing
- MS 5117 Qualitative Tools and Analysis
- MS 5207 Quantitative Analysis for Decision Making

Human Resource Management

- M\$ 5415 NGO Management
- MS 5101 Change Management
- MS 5102 Organizational Development
- MS 5216 Corporate Governance
- MS 5225 Leadership and Motivation Techniques
- MS 5203 Global Corporate Strategy
- MS 5211 Creative Leadership
- MS 5205 International Business Management
- MS 5423 Globalization, Governance and Growth

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-Catalogue 278

O.I Management Sciences

DOCTOR OF PHILOSOPHY IN MANAGEMENT SCIENCES (PhD-MS)

| | Elective Courses |
|--------------------------------|--|
| nance | |
| IS 6111 | Business Finance and Decision Making |
| NS 6113 | Applied Econometrics |
| IS 6202 | Econometrics |
| NS 6411 | Financial Time Series |
| IS 6423 | Managerial Economics |
| IS 6323 | Corporate Finance |
| IS 6422 | Derivatives and Financial Risk |
| IS 6315 | Capital Asset Pricing Model |
| IS 6317 | Empirical Asset Pricing |
| IS 6318 | Financial Markets |
| IS 6418 | Operations and Mathematical Modeling |
| IS 6322 | Behavioral Finance |
| IS 6319 | |
| 13 63 19 18 6421 | Modern Financial Applications Corporate Finance Planning and Decision |
| | Corporate Finance Planning and Decision |
| 1S 6xxx | Seminars in Finance |
| IS 6xxx | Strategic Finance |
| 1S 6xxx | Mathematical Modeling in Finance |
| \arketing | |
| IS 6204 | Strategic Marketing Decisions |
| IS 6215 | Seminars in Marketing |
| IS 6312 | Advanced Marketing Strategy |
| IS 6316 | Distribution and Channel Management |
| NS 6415 | Strategic Brand Management |
| 1S 6xxx | Social Psychology |
| IS 6xxx | Strategic Entrepreneurial Marketing |
| IS 6xxx | Applied Advertising |
| | |
| esearch | |
| IS 6112 | Strategic Human Resource Development |
| NS 6114 | NGO Management |
| IS 6201 | Change Management |
| IS 6211 | Organizational Development |
| IS 6311 | Corporate Governance |
| IS 6417 | Leadership and Motivation Techniques |
| IS 6314 | Global Corporate Strategy |
| NS 6412 | Creative Leadership |
| 1S 6413 | International Business Management |
| NS 6414 | Globalization, Governance and Growth |
| IS 6205 | Public Administration and Governance |
| 1S 6424 | Strategic Management |
| 1S 6416 | Negotiations and Conflict Resolution |
| 1S 6324 | Issues in Strategic Management |
| | System Thinking and Organizational Learning |
| 1S 6419 | Organizational Strategies and Electiveness |
| | |
| 15 64 19 15 6321 15 6xxx | Seminars in HRM |
| NS 6321 | |

10.2 Computer Science

BACHELORS OF SCIENCE IN COMPUTER SCIENCE (BSCS)

Elective Courses

University Electives

- CSC 4501 Business and Technology Ethics
- CSC xxxx Psychology
- CSC xxxx Sociology
- CSC 4601 Foreign Language
- CSC 4502 Design and Creativity
- CSC 4602 History of Scientific Ideas
- CSC 4503 Introduction to Accounting
- CSC 4603 Management Principle
- CSC 4504 Organizational Behavior CSC 4604 Research Report
- CSC 4505 Systems Administration

CS Electives

CSC 4802 Android Application Development CSC 4703 Applied Data Mining

- CSC 4803 Auditing Information System
- CSC 4804 Business Process Re-engineering
- CSC 4705 Control Systems
- CSC 4805 Data and Network Security
- CSC 4807 Embedded Programming
- CSC 4708 Enterprise Resource Planning
- CSC 4808 Ethical Hacking
- CSC 4709 Internet Business Models
- CSC 4809 iOS Development
- CSC 4712 IT Innovations
- CSC 4713 Managing Data-Center Projects
- CSC 4812 Mechatronics
- CSC 4813 Modeling and Simulation
- CSC 4714 Network Security and Encryption
- CSC 4815 Software Engineering-II
- CSC 4814 Software Project Management
- CSC 4716 Switching and Routing
- CSC 4816 Technopreneurship
- CSC 4717 Web Technologies-I
- CSC 4817 Web Technologies-II
- CSC 4718 Wireless and Mobile Technologies
- CSC xxxx Interaction Design
- CSC 4719 Game Development
- CSC xxxx Introduction to Cloud Computing
- CSC xxxx Software Engineering Economics
- CSC 4818 Data Science

- CSC xxxx Embedded System
- CSC xxxx Computer Graphics

10.2 Computer Science

MASTER OF SCIENCE IN COMPUTER SCIENCES (MSCS)

Elective Courses

25 Catalogue

| CS (Stream-I) | | |
|---------------|--------------------------|--|
| CSC 5xxx | Real-Time Systems | |
| CSC 5xxx | Digital Image Processing | |
| CSC 5xxx | Machine Learning | |
| CSC 5xxx | Data Mining | |
| CSC 5xxx | Operation Research | |
| CSC 5xxx | Expert System | |

CS (Stream-II)

| | , |
|----------|--|
| CSC 5xxx | Reverse Engineering |
| CSC 5xxx | Digital Forensics & Malware Analysis |
| CSC 5xxx | Advanced Resource Sharing Architecture |
| CSC 5xxx | Computer Vision |
| CSC 5xxx | Robotics |
| CSC 5xxx | Advanced Database Design |
| CSC 5xxx | Distributed Computing |
| CSC 5xxx | Systems and Network Programming |
| | |

SE (Stream-I)

- SEC 5xxx Software System Architecture
- SEC 5xxx Software System Quality
- SEC 5xxx Advanced Software Engineering

SE (Stream-II)

- SEC 5xxx Software Analysis & Testing
- SEC 5xxx Web Engineering
- SEC 5xxx Software Project Management

N&S (Stream-I)

- NSC 5xxx Advanced Computer Networks
- NSC 5xxx Network Security
- NSC 5xxx Applied Cryptography
- NSC 5xxx Information Security
- NSC 5xxx Wireless Sensor Networks

N&S (Stream-II)

NSC 5xxx Telecom Policies and Regulations NSC 5xxx Mobile Ad-hoc Networks NSC 5xxx Advanced Data Communications



-Catalogue 22

DOCTOR OF PHILOSOPHY IN COMPUTER SCIENCES (PhD CS)

| | Elective Courses |
|------------|--|
| CS (Strean | n-l) |
| CSC 5xxx | Real-Time Systems |
| CSC 5xxx | Digital Image Processing |
| CSC 5xxx | Machine Learning |
| CSC 5xxx | Data Mining |
| CSC 5xxx | Operation Research |
| CSC 5xxx | Expert System |
| CS (Stream | n-II) |
| CSC 5xxx | Reverse Engineering |
| CSC 5xxx | Digital Forensics & Malware Analysis |
| CSC 5xxx | Advanced Resource Sharing Architecture |
| CSC 5xxx | Computer Vision |
| CSC 5xxx | Robotics |
| CSC 5xxx | Advanced Database Design |
| CSC 5xxx | Distributed Computing |
| CSC 5xxx | Systems and Network Programming |
| SE (Stream | -1) |
| SEC 5xxx | Software Requirement Engineering |
| SEC 5xxx | Software System Architecture |
| SEC 5xxx | Software System Quality |
| SEC 5xxx | Advanced Software Engineering |
| SE (Stream | |
| SEC 5xxx | Software Analysis & Testing |
| SEC 5xxx | Web Engineering |
| SEC 5xxx | Software Project Management |
| N&S (Strea | |
| NSC 5xxx | Advanced Computer Networks |
| NSC 5xxx | Network Security |
| NSC 5xxx | Applied Cryptography |
| NSC 5xxx | Information Security |
| NSC 5xxx | Wireless Sensor Networks |
| N&S (Strea | |
| NSC 5xxx | Telecom Policies and Regulations |
| NSC 5xxx | Mobile Ad-hoc Networks |
| NSC 5xxx | Advanced Data Communications |
| | |
| | |
| | |

SS Catalogue

IO.3 Social Sciences

BACHELOR OF SCIENCE IN SOCIAL SCIENCES (BSSS)

Elective Courses

- SS 1154 Literature
- SS 1157 Comparative Religion
- SS 1163 Development and Politics
- SS 1254 World history
- SS 1262 Mass Media
- SS 2305 Human Geography
- SS 1263 Culture and Media in Sindh
- SS xxxx History of Ideas

All courses may not be offered every year. Alternate courses may be substituted as and when needed.

10.3 Social Sciences

MASTER OF SCIENCE IN SOCIAL SCIENCE (MSSS)

| | Elective Courses |
|------------|---|
| MS (Intern | ational Relations) |
| SS 5xxx | Dynamics of Security |
| SS 5xxx | Globalization in the 21st Century: Challenges & Opportunities |
| SS 5xxx | Role of Great Powers and International relations |
| SS 5xxx | Critical Geo-Politics |
| SS 5104 | Politics of Geo-Economics |
| SS 5111 | Democratization as a Global Process |
| SS 5212 | NGO Management |
| SS 5306 | Sacred and Secular |
| SS 5311 | Environmental Studies |
| SS 5312 | Globalization and Developing Countries |
| SS 5313 | Intellectual Property Rights and Laws |
| SS 5226 | Issues in Pakistan's Political and Constitutional History |
| SS 5321 | History of Ideas |
| SS 5206 | Political Economy in the Global Perspective |
| SS 5402 | Law and Human Rights |
| SS 5xxx | Globalization: Issues and Debates |
| SS 5xxx | Political Theory |
| SS 5xxx | History of Economic Thought in Contemporary Perspectives |
| MS (Econo | omics) |
| SS 5xxx | International Trade |
| SS 5xxx | Economic Growth and Development |
| SS 5xxx | Monetary Economics |
| SS 5xxx | Public Finance |
| SS 5xxx | Globalization in the 21st Century: Challenges & Opportunities |
| SS 5223 | Financial Time Series |
| SS 5104 | Politics of Geo-Economics |
| SS 5305 | Political Economy of Pakistan |
| SS 5214 | Public Policy Management |
| SS 5322 | Topics of Political Economy |
| SS 5206 | Political Economy in the Global Perspective |
| SS 5327 | Development Economics and Sustainability |
| SS 5312 | Globalization and Developing Countries |
| SS 5321 | History of Ideas |
| SS 5228 | Corporate Governance |
| SS 5xxx | Advanced Microeconomics |
| SS 5xxx | Advanced Macroeconomics |
| SS 5xxx | Advanced Econometrics |
| SS 5xxx | History of Economic Thought in Contemporary Perspectives |
| MS (Socio | logy) |
| SS 5xxx | Sociology of Development |
| SS 5xxx | Population Dynamics |
| CC | |

SS 5xxx Social Statistics SS 5xxx Cultural Anthropology

-Catalogue 2018



- SS 5xxx NGO Management
- SS 5xxx Gender and Human Rights
- SS 5xxx Law and Human Rights
- SS 5xxx Community Development and Social Mobilization
- SS 5xxx Gender Issues in Global Scenario
- SS 5xxx Sociology of Gender Issues
- SS 5xxx Gender, work and Economy
- SS 5xxx Women Studies
- SS 5xxx Gender Issues in Rural Development
- SS 5306 Sacred and Secular
- SS 5xxx Sociology of Sexuality
- SS 5xxx Globalization: Issues and Debates
- SS 5xxx Global Governance
- SS 5xxx Sociology of Science, Knowledge and Technology
- SS 5xxx Industrial Sociology
- SS 5xxx Immigration in Contemporary Perspectives
- SS 5xxx Sociology of Migration and Urbanization
- SS 5xxx Sustainable Development
- SS 5xxx Social Change and Development
- SS 5xxx Rethinking Global Development: New Frameworks for Understanding Poverty, Inequality and Growth in 21 Century
- SS 5xxx Community Organizing and Development
- SS 5xxx Religion and Development
- SS 5xxx Population and Development: Current Issues and Future Implications

MS (Psychology)

- SS 5xxx Applications of Contemporary Data Analysis Tools
- SS 5xxx Use, Construction and
- SS 5xxx Interpretation of Tests
- SS 5xxx School Psychology
- SS 5xxx Cross-Cultural Psychology
- SS 5xxx Community Psychology
- SS 5xxx Environmental Psychology
- SS 5xxx Gender Psychology
- SS 5xxx Consumer Behavior
- SS 5xxx Perspective in Organizational Psychology
- SS 5xxx Psychological Assessment in Organizational Psychology
- SS 5xxx Psychology of Leadership
- SS 5xxx Organizational Culture & Development
- SS 5xxx Marketing and Consumer Psychology
- SS 5xxx Organizational Conflict and Management
- SS 5xxx Assessment and Diagnosis I
- SS 5xxx Assessment and Diagnosis II
- SS 5xxx Psychotherapy and Counseling-I
- SS 5xxx Psychotherapy and Counseling-II
- SS 5xxx Psychophysiology and Psychopharmacology
- SS 5xxx Clinical Internship

10,3 Social Sciences

DOCTOR OF PHILOSOPHY IN SOCIAL SCIENCES (PhD)

Elective Courses

PhD (International Relations)

- SS 5xxx
 Dynamics of Security
 SS 5xxx
 Globalization in the 21st Century: Challenges & Opportunities
 SS 5xxx
 Role of Great Powers and International relations
- SS 5xxx Critical Geo-Politics
- SS 5104 Politics of Geo-Economics
- SS 5111 Democratization as a Global Process
- SS 5212 NGO Management
- SS 5306 Sacred and Secular
- SS 5311 Environmental Studies
- SS 5312 Globalization and Developing Countries
- SS 5313 Intellectual Property Rights and Laws
- SS 5226 Issues in Pakistan's Political and Constitutional History
- SS 5321 History of Ideas
- SS 5206 Political Economy in the Global Perspective
- SS 5402 Law and Human Rights
- SS 5xxx Globalization: Issues and Debates
- SS 5xxx Political Theory
- SS 5xxx History of Economic Thought in Contemporary Perspectives

PhD (Economics)

- SS 5xxx International Trade
- SS 5xxx Economic Growth and Development
- SS 5xxx Monetary Economics
- SS 5xxx Public Finance
- SS 5xxx Globalization in the 21st Century: Challenges & Opportunities
- SS 5223 Financial Time Series
- SS 5104 Politics of Geo-Economics
- SS 5305 Political Economy of Pakistan
- SS 5214 Public Policy Management
- SS 5322 Topics of Political Economy
- SS 5206 Political Economy in the Global Perspective
- SS 5327 Development Economics and Sustainability
- SS 5xxx Organizational Culture & Development
- SS 5xxx History of Economic Thought in Contemporary Perspective
- SS 5312 Globalization and Developing Countries
- SS 5321 History of Ideas
- SS 5228 Corporate Governance
- SS 5xxx Advanced Microeconomics
- SS 5xxx Advanced Macroeconomics
- SS 5xxx Advanced Econometrics

PhD (Sociology)

- SS 5xxx Sociology of Development
- SS 5xxx Population Dynamics
- SS 5xxx Social Statistics
- SS 5xxx Cultural Anthropology

10.3 Social Sciences

- SS 5xxx NGO Management
- SS 5xxx Gender and Human Rights
- SS 5xxx Law and Human Rights
- SS 5xxx Community Development and Social Mobilization
- SS 5xxx Gender Issues in Global Scenario
- SS 5xxx Sociology of Gender Issues
- SS 5xxx Gender, work and Economy
- SS 5xxx Women Studies
- SS 5xxx Gender Issues in Rural Development
- SS 5306 Sacred and Secular
- SS 5xxx Sociology of Sexuality
- SS 5xxx Globalization: Issues and Debates
- SS 5xxx Global Governance
- SS 5xxx Sociology of Science, Knowledge and Technology
- SS 5xxx Industrial Sociology
- SS 5xxx Immigration in Contemporary Perspectives
- SS 5xxx Sociology of Migration and Urbanization
- SS 5xxx Sustainable Development
- SS 5xxx Social Change and Development
- SS 5xxx Rethinking Global Development: New Frameworks for Understanding Poverty, Inequality and Growth in 21 Century

100 Catalogu

- SS 5xxx Community Organizing and Development
- SS 5xxx Religion and Development
- SS 5xxx Population and Development: current issues and future implications

PhD (Psychology)

- SS 5xxx Applications of Contemporary Data Analysis Tools
- SS 5xxx Use, Construction and
- SS 5xxx Interpretation of Tests
- SS 5xxx School Psychology
- SS 5xxx Cross-Cultural Psychology
- SS 5xxx Community Psychology
- SS 5xxx Environmental Psychology
- SS 5xxx Gender Psychology
- SS 5xxx Consumer Behavior
- SS 5xxx Perspective in Organizational Psychology
- SS 5xxx Psychological Assessment in Organizational Psychology
- SS 5xxx Psychology of Leadership
- SS 5xxx Organizational Culture & Development
- SS 5xxx Marketing and Consumer Psychology
- SS 5xxx Organizational Conflict and Management
- SS 5xxx Assessment and Diagnosis I
- SS 5xxx Assessment and Diagnosis II
- SS 5xxx Psychotherapy and Counseling-1
- SS 5xxx Psychotherapy and Counseling-II
- SS 5xxx Psychophysiology and Psychopharmacology
- SS 5xxx Clinical Internship

IO.4 Media Sciences

BACHELOR OF MEDIA SCIENCES (BMS)

Elective Courses

| MD 4854 | Illustration |
|---------|---------------------------------------|
| MD 4732 | Typography |
| MD 4867 | Topics in film and television |
| MD 4878 | Design for Social change |
| MD 4886 | Game design |
| MD 4883 | Urdu literature in South Asian Cinema |
| MD 4873 | Modernity in Cinema in Bengal |
| MD 4774 | Media Anthropology |
| MD 4776 | Media convergence and innovation |
| MD 4888 | Culture and Media in Sind |
| MD 4792 | Music Production and Design |
| MD 4892 | Music Theory and Performance |
| MD 4788 | Sind Studies |

MASTER OF SCIENCE IN MEDIA STUDIES (MSMD)

| | Elective Courses |
|------------|--|
| GEC Stream | m: |
| MD 5xxx | Advanced Content Research |
| MD 5xxx | Syndication – Foreign & Indigenous Content |
| MD 5xxx | Story Telling & Screenplay Writing |
| MD 5xxx | Production Management |
| MD 5xxx | Directing |
| MD 5xxx | Format Shows & Reality Shows |

- MD 5111 Media Arts and Technology
- MD 5xxx Theories of Visual Culture
- MD 5414 Theories of Communication Design

Production Stream:

MD 5xxx Camera and lights MD 5xxx Film analysis

- MD 5xxx Story telling & Screenplay Writing
- MD 5xxx Documentary making
- MD 5xxx Directing

288

- MD 5xxx Aesthetics of Films
- MD 5211 Theories of Film and Television
- MD 5311 Urban Geographies and Visual Culture

Electives will be offered depending on the availability of the resources.

O./Media Sciences

Journalism Stream:

| MD 5xxx | Global Journalism |
|---------|--------------------------------------|
| MD 5xxx | Beat Reporting |
| MD 5xxx | Investigative Journalism |
| MD 5xxx | Multi-format news reporting |
| MD 5xxx | Data Journalism |
| MD 5xxx | Fashion and Entertainment Journalism |
| MD 5xxx | Media and Post Colonialism |
| MD 5314 | Media Politics and Governance |
| MD 5315 | Issues in International Media |

MASTER OF ADVERTISING

Elective Courses

Se Catalogue

- MD 5153 Campaign Strategy
- Copywriting and Advertising Conceptualization MD 5264
- MD 5265 Digital Advertising
- MD 5xxx Advanced Integrated Marketing Communication
- MD 5352 New Media Advertising
- MD 5xxx Strategic Brand Management
- MD 5269Strategic Creative DevelopmentMD 5353Media Planning & Strategy
- MD 5xxx Consumer Engagement
- MD 5xxx Advertising Account management

Electives will be offered depending on the availability of the resources.

| 1(| 10.0 Appendix B - Elective O.S Mechatronics Engineering |
|-----------|--|
| BACI | HELOR OF ENGINEERING IN MECHATRONICS ENGINEERING (BEME) |
| | Elective Courses |
| Engineeri | ng Electives |
| | Digital Signal Processing |
| | Modeling and Simulation |
| | Digital Image Processing |
| | Digital Control Systems |
| | Embedded Systems |
| | Artificial Intelligence and Computer Vision |
| ME 4xxx | Applied Thermodynamics |
| | nent Sciences Electives |
| | Engineering Management |
| | Entrepreneurship Total Quality Management (TQM) |
| | Leadership and Motivation Techniques |
| ML 4723 | Or any other relevant course |
| Social Sc | iences Electives |
| ME 23xx | Organizational Behavior |
| | Psychology |
| | Sociology |
| ME 23xx | Foreign Languages Or any other relevant course |
| | |

-Catalogue 290 10.5 Mechatronics Engineering

MASTERS OF SCIENCE IN MECHATRONICS ENGINEERING (MSME)

Elective Courses Robotics and Industrial automation ME-5xxx Mobile Robotics ME-5xxx Cognitive Robotics ME-5xxx Machine Vision ME-5xxx Advanced Manufacturing Design Techniques ME-5xxx Adaptive Control Precision Manufacturing Systems ME-5xxx ME-5xxx Optimization of Engineering Systems ME-5xxx Computer Integrated Manufacturing ME-5xxx Micro-Manufacturing Systems and Technology ME-5xxx Rapid Prototyping, Tooling and Automation ME-5xxx Linear Control Systems ME-5xxx Industrial Control Technology Smart Electromechanical Systems ME-5xxx Micro-Electro Mechanical Systems ME-5xxx Advanced Modeling and Simulation ME-5xxx Programming of Embedded Systems ME-5xxx Linear Control Systems

- ME-5xxx Artificial Intelligence
- ME-5xxx Sensor and Sensing Technology
- ME-5xxx Optomechatronic Systems
- ME-5xxx Smart Materials and Structures
- ME-5xxx Pattern Recognition and Analysis
- ME-5xxx Digital Integrated Circuit Design

10.6 Biosciences

BACHELOR OF SCIENCE IN BIOSCIENCES (BS-Biosciences)

Elective Courses

Molecular Biology

| BIO 4721 | Advance Biochemical Techniques |
|----------|--------------------------------|
| BIO 4722 | Medical Transcription |
| BIO 4723 | Virology |
| BIO 4822 | Nanotechnology |
| BIO 4725 | Advanced Molecular Techniques |
| BIO 4726 | Applied Enzymology |
| BIO 4727 | Systems Biology |

Biotechnology

| BIO 4721 | Advance Biochemical Techniques |
|----------|--------------------------------|
| BIO 4724 | Telemedicine |
| BIO 4823 | Stem Cell Research |
| BIO 4727 | Food Biotechnology |
| BIO 4825 | Fermentation Biotechnology |
| BIO 4826 | Medical Biotechnology |
| BIO 4726 | Applied Enzymology |
| BIO 4728 | Techniques in Biotechnology |
| | |

BACHELOR OF SCIENCE IN BIOTECHNOLOGY (BS-BTC)

Elective Courses

- BTC 4xxx Medical Transcription
- BTC 4xxx Nanotechnology
- BTC 4xxx Advanced Molecular Techniques

BTC 4xxx Virology

- BTC 4xxx Systems Biology
- BTC 4xxx Advance Biochemical Techniques
- BTC 4xxx Stem cell Research
- BTC 4xxx Telemedicine
- BTC 4xxx Marine Biotechnology
- BTC 4xxx Fungal Biotechnology

10.6 Biosciences

MASTER OF SCIENCE IN BIOSCIENCES (MS-BIO)

Elective Courses

- 5xxx Applied Biotechnology
- 5xxx Environmental and Industrial Biotechnology
- 5xxx Plant Biotechnology
- 5xxx Fermentation Design and Engineering
- 5xxx Medical Biotechnology
- 5xxx Biocatalysis and Enzymology
- 5xxx Clinical Biochemistry
- 5xxx Drug Discovery and Development
- 5xxx Biocomputation
- 5xxx Cancer Biology
- 5xxx Applied Immunology
- 5xxx Techniques in Diagnostics
- 5xxx Molecular Dynamics
- 5xxx Food Sampling Techniques and Analysis
- 5xxx Food Quality Management System
- 5xxx Food Toxicology and Adulteration

DOCTOR OF PHILOSOPHY IN BIOSCIENCES (PH.D. BIO)

Elective Courses

- BIO xxxx Advances in Molecular Genetics BIO xxxx Computational and Systems Biology
- BIO xxxx Advanced Immunology
- BIO xxxx Next Generation Sequencing Techniques
- BIO xxxx Analytical Techniques for Biomolecules
- BIO xxxx Advances in Plant Biotechnology
- BIO xxxx Oncobiology
- BIO xxxx Recombinant DNA Technology
- BIO xxxx Cell Signaling Mechanisms
- BIO xxxx Biomaterials Science and Engineering
- BIO xxxx Principles of Synthetic Biology

10.7 Education

MASTERS OF ARTS IN EDUCATION (MA EDU)

Elective Courses

Teacher Education (TE)

- EDU 5xxx Affective Education
- EDU 5xxx Guidance & Counselling in Education
- EDU 5xxx Education for Sustainable Development
- EDU 5xxx Gender and Education

Early Childhood Education (ECE)

- EDU 5xxx Human Development and Learning
- EDU 5xxx Language and Literacy Experiences
- EDU 5xxx Supportive and Safe Environment
- EDU 5xxx Play and Enquiry based Learning

Educational Leadership and Management (ELM)

EDU 5xxxEffective Change Management in EducationEDU 5xxxOrganizational Development in EducationEDU 5xxxHuman Resource ManagementEDU 5xxxEntrepreneurship in Education

MASTER OF SCIENCE IN EDUCATIONAL LEADERSHIP AND MANAGEMENT (MSELM)

Elective Courses

- ELM 5xxx Sociological Issues in Education/Access/Outcomes and Quality
- ELM 5xxx Learning Effectiveness in Higher Education Contexts
- ELM 5136 Use of Technology in Education
- ELM 5xxx Education in the Context of Conflict
- ELM 5xxx Socio-Politics of Language Policy in Educational Contexts
- ELM 5133 Change Management in Education
- ELM 5134 Educational Policy and Practice
- ELM 5135 Assessment and Evaluation in Education
- ELM 5xxx Professional Development and Management in Education
- ELM 5xxx School Evaluation and Monitoring
- ELM 5131 Teacher Education
- ELM 5xxx Research Philosophy

- ELM 5xxx Finance and Resource Management
- ELM 5132 Organizational Development

DOCTOR OF PHILOSOPHY IN EDUCATIONAL LEADERSHIP AND MANAGEMENT (PhD ELM)

Elective Courses

- Source Course - 200 Course -

| ELM 6xxx ELM 6xxx | Sociological Issues in Education/Access/Outcomes and Quality Learning Effectiveness in Higher Education Contexts |
|----------------------------|---|
| ELM 6xxx | Use of Technology in Education |
| ELM 6xxx | Education in the Context of Conflict |
| ELM 6xxx | Socio-Politics of Language Policy in Educational Contexts |
| ELM 6123 | Change Management in Education |
| ELM 6124 | Educational Policy and Practice |
| ELM 6125 | Assessment and Evaluation in Education |
| ELM 6xxx | Professional Development and Management in Education |
| ELM 6xxx | School Evaluation and Monitoring |
| ELM 6121 | Teacher Education |
| ELM 6xxx | Research Philosophy |
| ELM 6xxx | Finance and Resource Management |
| E1 1 1 1 0 0 | |

ELM 6122 Organizational Development



LLB (UNIVERSITY OF LONDON)

Elective Courses

LA 3028Introduction to Islamic LawLA 3021Company LawLA 3013Commercial LawLA2029Protection of Human RightsLA 3019Family LawLA3013Public International LawLA 3008Administrative LawLA3203Law Skills PortfolioLA3024EU Law

Catalogue

11.0 Appendix C - Major Requirements 11.1 Social Sciences

BACHELOR OF SCIENCE IN SOCIAL SCIENCES (BSSS)

Major Courses

Psychology

- SS 4111 Abnormal Psychology
- SS 4112 Developmental Psychology
- SS 4134 Cognitive Psychology
- SS 4135 Educational Psychology
- SS 4234 Psychodynamics
- SS 4268 History of Psychology
- SS 4167 Child Psychology
- SS 4156 Clinical Psychology
- SS 4114 Personality Theories
- SS 4255 Counseling and Psychotherapy
- SS 4211 Psychological Testing
- SS 4236 Positive Psychology
- SS 4168 Experimental Psychology
- SS 4267 Forensic Psychology
- SS 4262 Physiological Psychology

Sociology

- SS 4269 Civil Society
- SS 4271 Peace Movements
- SS 4138 Corporate Social Responsibility
- SS 4141 Mass Media and Society
- SS 4237 Post-Colonial State and Social Development
- SS 4238 Social Entrepreneurship
- SS 4239 Social Justice
- SS 4241 Sociology of Education
- SS 4242 The Sociology of Poverty
- SS 4196 Social Theories-I
- SS 4296 Social Theories-II
- SS 4171 Class, Caste, and Ethnicity in South Asia
- SS 4172 Political Sociology
- SS 4272 Social Change in Pakistan
- SS 4169 Citizenship
- SS 4273 Urbanization
- SS 4295 Criminology
- SS 4197 The Sociology of Religion

International Relations

- SS 4275 Foreign Policy and International Politics
- SS 4274 Diplomacy, Conflict Resolution and Confidence Building Measures
- SS 4219 Peace Research
- SS 4222 Strategic Studies
- SS 4176 Globalization and Global Governance
- SS 4277 Modern Ideologies
- SS 4174 Central and West Asian Studies

11.1 Social Sciences

- SS 4175 European Studies
- SS 4177 Middle Eastern Studies
- SS 4179 Politics of Terrorism
- SS 4178 Muslim World
- SS 4276 International Institutions
- SS 4278 Political Geography
- SS 4119 Arms Control and Disarmament
- SS 4279 US and International Politics

Sindh Studies

- SS 4188 Geography and Geology of Sindh
- SS 4287 History and Politics of Sindh
- SS 4288 Irrigation System of Sindh
- SS 4185 Agriculture in Sindh
- SS 4285 Archaeology of Sindh
- SS 4186 Anthropology and Culture of Sindh
- SS 4286 Art and Architecture in Sindh
- SS 4187 Ethnomusicology of Sindh
- SS 4289 Sindh's Economy and Commerce
- SS 4292 Survey of Sindhi Literature
- SS 4189 Philosophy of Sindh
- SS 4192 Sindh's Sociology I: Education and Language Policy
- SS 4193 Sindh's Sociology II: Social Structures and Development
- SS 4194 Sindh's Sociology III: Health, Gender, and Feminism
- SS 4293 The Sindhi Diaspora
- SS 4291 Sindh's Geopolitical Exigencies
- SS 4191 Sindh's Botanical and Zoological Heritage

Economics

- SS 4139 Gender and Development
- SS 4147 Development and Planning
- SS 4181 Capabilities and Human Development
- SS 4281 Fiscal and Monetary Economics
- SS 4261 Mathematical Economics
- SS 4183 Industrial Economics
- SS 4284 Trade Economics
- SS 4128 Agriculture Economics
- SS 4182 Game Theory
- SS 4283 Labour Economics
- SS 4282 Growth

- SS 4184 Poverty and Inequality
- SS 4228 History of Economic Thoughts
- SS 4249 Pakistan Economy
- SS 4251 Sustainable Development

11.0 Appendix C - Major Requirements 11.2 Media Sciences

299

BACHELOR OF MEDIA SCIENCES (BMS)

Major Courses

Film & Television Production

MD 4726 Directing I MD 4728 Directing II MD 4781 Sound design MD 4821 Cinematography MD 4825 Screen writing MD 4872 Visual story telling MD 4868 Production practices III MD 4724 Documentary vision MD 4764 Production design MD 4765 Basic lighting MD 4829 Screen writing II MD 4789 Green Screen Keying and Composition for Production VFX MD 4889 Narrative and Social Change

Advertising Strategy & Design

- MD 4723 Advance animation
- MD 4731 Advertising Research
- MD 4739 Advertising design and concepts
- MD 4754 Creative aspects in advertising
- MD 4779 Digital brand communication
- MD 4835 Consumer Behavior
- MD 4843 Campaign strategy
- MD 4846 New Media Advertising
- MD 4847 Copy writing
- MD 4736 Integrated marketing communication
- MD 4837 Media Planning
- MD 4782 Interaction Design
- MD 4787 Digital design and publishing
- MD 4834 Advertising in Pakistan
- MD 4833 Brand Management

Journalism

- MD 4757 Feature writing I
- MD 4879 Multimedia Journalism
- MD 4864 Investigative journalism & Crisis reporting
- MD 4877 The international newsroom
- MD 4783 TV Journalism
- MD 4859 Introduction to photojournalism
- MD 4839 Reporting the news

12.0 Appendix D - Supporting Courses 12.1 Computer Sciences

BACHELORS OF SCIENCE IN COMPUTER SCIENCES (BSCS)

Supporting Courses

CSC xxxx Differential Equations CSC 1202 Multi-variate Calculus CSC xxxx Graph Theory CSC xxxx Theory of Programming Languages CSC 3203 Numerical Computing

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300

Coverage of relevant pre-requisite will be ensured while allowing any of the aforementioned courses from this category

13.0 Appendix E - Guidelines for Thesis 13.1 Media Sciences

BACHELOR OF MEDIA SCIENCES (BMS)

Guidelines for Production Thesis

Students are required to produce a short film or documentary of 10-20 minute duration. Students must take 6-7 relevant elective courses.

- Students are also required to develop a screenplay for the film. Students can use build on some exceptional projects/screenplay they developed for a course previously done. Screenplay will be developed through a process of research on situations, locations, and characters. The process must demonstrate involvement in the development of contexts, character bios, etc. Students will be required to work on screenplay in close coordination with the internal faculty and other fellow students who will guide them through critique in a weekly class. Students are required to submit all research/related work in a file along with a screenplay.
- Documentary students are required to do extensive research such as primary research, meetings with related experts, preliminary interviews, archival research, etc. All of this must be submitted in a research file.
- Students are supposed to show a grasp of different areas of production i.e. cinematography, production design, casting, editing, and sound design as a director of the project.
- Students are required to work in coordination with a team of students performing theirs roles as cinematographers, production designers, gaffers, producers, editors, sound technicians, etc. Only members of current student body – batchmates and juniors – can be a part of student's production crew. Any outside professional help will be penalized unless allowed by the advisor and the department. The advisor must approve shooting schedule and crew list. Advisor or faculty members or staff may visit shooting locations.
- Students are required to utilize the equipment available in the department. Use of some outside equipment will be permitted. Use of outside equipment will require consent and permission of the advisor.
- The advisor will review the editing process.
- Students will be required to have regular meetings with the advisor.
- DEADLINES will be strictly enforced.



BACHELOR OF MEDIA SCIENCES (BMS)

Journalism Thesis Guidelines

Journalism students should take on a substantial theme on issues related to current affairs, international relations, and/or socio-cultural issues demonstrating multimedia, feature writing, investigative reporting, incisive interviewing, editorial judgment and compelling storytelling skills. The central focus should be on taking on a relevant journalistic topic of current and/or historical nature that requires substantial research and a critical analysis of the issues involved. The project would include two components:

1. Major component of the project should be an investigative or feature piece of at least 5000 words. The piece can also be subdivided into a series of articles or features of maximum five parts of at least 1000-1500 words each.

2. Supplementary component should be multimedia elements incorporating video, stills and/or audio depending on the nature of the topic. Advisor will help decide on the number elements required for the second component.

The final thesis should be presented as a combination of written and multimedia components in an online portal specifically devoted to showcase the project.



BACHELOR OF MEDIA SCIENCES (BMS)

Guidelines for Advertising Thesis

- Students will be dealt with individually by advisors from the full-time faculty and will be free to chose their own topics, and must commit to either a strategy or design thesis at the very beginning of the semester. Students must take 6-7 relevant elective courses.
- There is a methodical, linear structure of deadlines and presentations that must be given to the advisors and students. The deadlines are :
 - a) Research,
 - b) Ideation & Concepts,
 - c) Prototypes\ Product Strategy (this covers Thesis I), and
 - d) Final Execution\Business and Marketing Strategy (Thesis II)
- Fulltime instructors will give all students a clear process and deliverables in the form of a brief for each step of the thesis and each deadline
- DEADLINES will be strictly enforced

Note:

Students must finish at least 38 courses out of 43 in order to enroll for thesis credits. Students on academic probation cannot enroll for thesis credits.

Thesis (6-credits) is offered over two semesters as Thesis I & II in the 8th (Spring) and the following summer semester respectively. Thesis I is pass/fail whereas in thesis II a grade is awarded to students. Final grade comprises 50% of advisors' grade and 50% of the average of 2-3 external jury members' grades.

S Catalogy



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