

Career Opportunities After B.Sc.

B.Sc. graduates have a prosperous career opportunity at different government, non-government, private and public organizations in the relevant areas. Employment areas for B.Sc. graduates includes, but not limited to, educational and research institutes, hospitals, chemical industry, environment management and conservation, testing laboratories, surveys, manufacture industries, forest and wildlife services, Conservation biologist, consultancy services as scientist, research officer, scientific assistant, teachers, chemist, enumerators, researchers, data analyst, consultant, research manager, technician etc. Further, B.Sc. is mandatory for doing M.Sc. program and for higher studies in the various related subject.

B.Sc. in Mathematics and Statistics orient to Data analyst in various sectors such as scientific research analysis, market research analysis, statistician and consultant of research methodology etc.

B.Sc. in Chemistry orients to develop career in Industrial Chemistry, Chemical Engineering, Polymer Science, Clinical Chemistry, Natural Products, Pharmaceutical Industry, Metallurgical Science, Material Science and Nano-technology etc.

B.Sc. in Physics is orient to develop career in nuclear medicine, Astronomy, Bio-physics, Material Science and Nano-technology

B.Sc. in Zoology/Botany orients to develop career in Biodiversity Research, Wildlife Biology, Biotechnology/ Bioinformatics, Conservation Biology, Embryology, Medical Zoology, Ecology, Physiology, Plant Pathology, Horticulture, Neurobiology, Taxonomy, Genetic Engineering, Zoo Keeping and National Park Management, Entomology, Museum Curator at Natural History Museum etc.

Contact Us for Further Information

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Graduate School of Science and Technology Mid-West University



Bachelor of Science (B.Sc.)
Botany, Chemistry, Mathematics, Physics, Statistics
& Zoology

Introduction

Mid-West University, Graduate School of Science and Technology (MU-GSST) offers academic programs for undergraduate and graduate levels to build skilled, high quality and competent human resources indifferent disciplines of science and technology. The MU-GSST, through its three central departments (Biological and Chemical Sciences, Computer Science and Information Technology, Physical and Mathematical Sciences) and a constituent campus (Bageshwari Multiple Campus Kohalpur), is currently offering B.Sc. in Botany, Chemistry, Computer Science & Information Technology- CSIT, Environmental Science, Mathematics, Physics, Statistics, Zoology and Bachelor of Information Technology (BIT). B.Sc. and BIT are four-year (8 semesters) courses that provides the students with adequate theoretical and practical knowledge. As per the mission of the Graduate School, it has been putting the academic and research-based activities into action.

The Central Departments of MU-GSST has essential laboratory facilities on Physics, Chemistry, Biology, and IT, and a Library with adequate references for supporting the teaching and learning processes. The MU-GSST also provide opportunities of exposing its students to the experts of various fields as visiting faculty. The curriculum of each program is built on an integrated and interdisciplinary model that combines research, practice, and teaching. The programs are designed to develop skillful and responsible human resource for addressing the societal problems through intervention of Science, Technology, and Innovation.

Mission

To promote academic excellence by creating and expanding a scientific culture in the society for the improvement of the quality of life of people.

Vision

The Graduate School considers itself as an agent of socio-cultural transformation and powerful engine for economic growth, innovation and sustainable development of the country and the world that the University serves.

Eligibility

Applicant should have at least second division or C-Grade in all subjects at +2/PCL in Science, or equivalent from a recognized institution.

Admission Procedure

Application form and information brochure shall be provided on request at the Dean's Office, or at the concerned central department/campus. After scrutinizing the applications, the eligible candidates are informed to appear in an entrance examination. The date of entrance examination will be communicated to the applicants by the central department/campus. The candidates shall be admitted on the merit basis. The subjects and weightage of the Entrance Examination will be,

Physical Group	Physics (25%)	Mathematics (25%)	Chemistry (25%)	English (25%)
Bio-Group	Zoology (25%)	Botany (25%)	Chemistry (25%)	English (25%)

Course Structure

A. B.Sc. Physical Group (Chemistry, Mathematics, Physics, Statistics)

Subject
Year I/Part I (Semester-I)
Mechanics (PHY411)
Physics Practical (PHY412)
Calculus I (MTH413)
Problems in Calculus I (MTH414)
Fundamentals of Chemistry I/Descriptive Statistics (CHE/STA415)
Basic Chemistry Lab I/Application of Descriptive Statistics (CHE/STA416)
Year I/Part II (Semester-II)
Thermal Physics (PHY421)
Physics Practical (PHY422)
Calculus II (MTH423)
Problems in Calculus II (MTH424)
Fundamentals of Chemistry II/Probability Theory (CHE/STA425)
Basic Chemistry Lab II/Probability Experiments (CHE/STA426)
Year II/Part I (Semester-III)
Oscillations, Waves and Acoustics (PHY431)
Physics Practical (PHY432)
Calculus III (MTH433)
Problems in Calculus III (MTH434)
Fundamentals of Chemistry III/Probability Distribution (CHE/STA435)
Basic Chemistry Lab III/Fitting Probability curves (CHE/STA436)
Year II/Part II (Semester-IV)
Electromagnetism (PHY441)
Physics Practical (PHY442)
Linear Algebra I (MTH443)
Problems in Linear Algebra I (MTH444)
Fundamentals of Chemistry IV/Inferential Statistics (CHE/STA445)
Basic Chemistry Lab IV/Estimation and Testing of Hypothesis (CHE/STA446)

Year III/Part I (Semester-V)
Optics/Advanced Chemistry I/Linear Algebra II/Bayesian Inference and Decision Theory (PHY/CHE/MTH/STA451)
Physics Practical /Advanced Chemistry Lab I/Problems in Linear Algebra II/Sampling Distribution (PHY/CHE/MTH/STA452)
Atomic and Molecular Physics/Advanced Chemistry/Real Analysis I/Operation Research (PHY/CHE/MTH/STA453)
Physics Practical /Advanced Chemistry Lab II/Problems in Real Analysis I/Statistical Programming (PHY/CHE/MTH/STA454)
Biostatistics/Biophysics/Actuarial Science (ELC455)
Computational Science (COM456)
Year III/Part II (Semester-VI)
Electronics/Advanced Chemistry III/Discrete Mathematics/Experimental Design (PHY/CHE/MTH/STA461)
Physics Practical/Advanced Chemistry Lab III/Problems in Discrete Mathematics/Statistical Modeling (PHY/CHE/MTH/STA462)
Solid State Physics /Advanced Chemistry IV/Real Analysis II/Economic Statistics (PHY/CHE/MTH/STA463)
Physics Practical /Advanced Chemistry Lab IV/Problems in Real Analysis II/Statistical Modeling Applications (PHY/CHE/MTH/STA464)
Research Methodology (RES465)
Term paper Writing (TRM466)
Year IV/Part I (Semester-VII)
Classical Mechanics and Relativity/ Applied Chemistry I/Modern Algebra I/Demography and Vital Statistics (PHY/CHE/MTH/STA471)
Physics Practical/ Applied Chemistry Lab I/Practical for Modern Algebra I/Survival Analysis and Biostatistics (PHY/CHE/MTH/STA472)
Nuclear and Particle Physics/ Applied Chemistry II/Ordinary Differential Equations/ Data Management System (PHY/CHE/MTH/STA473)
Physics Practical / Applied Chemistry Lab II/Problems in Ordinary Differential Equations (Practicals) (PHY/CHE/MTH/STA474)
Scientific Communication (SCT475)
Project Proposal and Writing Presentation (PRO476)
Year IV/Part II (Semester-VIII)
Quantum Mechanics/Applied Chemistry III/Modern Algebra II/Multivariate Analysis (PHY/CHE/MTH/STA481)
Physics Practical/ Applied Chemistry Lab III/Problems in Modern Algebra II/Multivariate Statistical Application (PHY/CHE/MTH/STA482)
Mathematical Physics/Environmental Chemistry/Advanced Calculus I/Geostatistics (PHY/CHE/MTH/STA483)
Physics Practical/Environmental Chemistry Lab/Problems in Advanced Calculus/Survey Sampling (PHY/CHE/MTH/STA484)
Project Work (PRO485)

B. B.Sc. Biological Group (Botany, Chemistry, Zoology)

Subject
Year I/Part I (Semester-I)
Cryptogams (BOT411)
Cryptogams Practical (BOT412)
Taxonomy and Non-Chordata (ZOO413)
Lower Non-Chordata Practical (ZOO414)
Fundamentals of Chemistry I (CHE415)
Basic Chemistry Lab I (CHE416)
Year I/Part II (Semester-II)
Phanerogams (BOT421)
Phanerogams Practical (BOT422)
Higher Non-Chordata and Hemichordata (ZOO423)
Higher Non-Chordata and Hemichordata Practical (ZOO424)
Fundamentals of Chemistry II (CHE425)
Basic Chemistry Lab II (CHE426)
Year II/Part I (Semester-III)
Ecology, Evolution and Paleobotany (BOT431)
Ecology, Evolution and Paleobotany Practical (BOT432)
Chordata (Poikilotherms) (ZOO433)
Chordata (Poikilotherms) Practical (ZOO434)
Fundamentals of Chemistry III (CHE435)
Basic Chemistry Lab III (CHE436)
Year II/Part II (Semester-IV)
Physiology and Biochemistry (BOT441)
Physiology and Biochemistry Practical (BOT442)
Chordata (Homeotherms) (ZOO443)
Chordata (Homeotherms) Practical (ZOO444)
Fundamentals of Chemistry IV (CHE445)
Basic Chemistry Lab IV (CHE446)
Year III/Part I (Semester-V)
Anatomy and Embryology/Evolutionary and Developmental Biology/ Advanced Chemistry I (BOT/ZOO/CHE451)
Anatomy and Embryology Practical/ Development Biology Practical/Advanced Chemistry Lab I (BOT/ZOO/CHE452)
Cytogenetics and Plant Breeding/ Cell biology, Genetics and Molecular biology/ Advanced Chemistry II (BOT/ZOO/CHE453)
Cytogenetics and Plant Breeding Practical/ Cell biology, Genetics and Molecular biology Practical/Advanced Chemistry Lab II (BOT/ZOO/CHE454)

Biostatistics/Biophysics/Actuarial science (ELC455)
Computational Science (COM456)
Year III/Part II (Semester-VI)
Ethnobotany and Economic Botany/ Comparative Anatomy and Physiology/ Advanced Chemistry III (BOT/ZOO/CHE461)
Ethnobotany and Economic Botany Practical/ Comparative Anatomy and Physiology Practical/ Advanced Chemistry Lab III (BOT/ZOO/CHE462)
Microbiology/ Endocrinology and Biochemistry/ Advanced Chemistry IV (BOT/ZOO/CHE463)
Microbiology Practical/Biochemistry Practical / Advanced Chemistry Lab IV (BOT/ZOO/CHE464)
Research Methodology (RES465)
Term Paper Writing (TRM466)
Year IV/Part I (Semester-VII)
Conservation Biology/Application of Zoology/ Applied Chemistry I (BOT/ZOO/CHE471)
Conservation Biology Practical/Application of Zoology Practical/Applied Chemistry Lab I (BOT/ZOO/CHE472)
Environmental Management/Ecology and Environmental Biology/ Applied Chemistry II (BOT/ZOO/CHE473)
Environmental Management Practical/Ecology and Environmental Biology Practical/ Applied Chemistry Lab II (BOT/ZOO/CHE474)
Scientific Communication (SCT475)
Project Proposal Writing and Presentation (PRO476)
Year IV/Part II (Semester-VIII)
Plant Biotechnology/Applied and Economic Zoology/ Applied Chemistry III (BOT/ZOO/CHE481)
Plant Biotechnology Practical/Applied and Economic Zoology Practical/Applied Chemistry Lab III (BOT/ZOO/CHE482)
Horticulture or Plant Pathology/ Biodiversity Conservation/Environmental Chemistry (BOT/ZOO/CHE483)
Horticulture or Plant Pathology Practical/ Biodiversity Conservation Practical/ Environmental Chemistry Lab (BOT/ZOO/CHE484)
Project Work (PRO485)
Total Credit Hour of B.Sc. : 120; Each semester includes 15 credit hours

