

COX 4210	Industrial Psychology	5
Purchasing and Supplies Management Option:		
COX 4101	Ugandan Economy	2
COX 4201	Project Work	2
COX 4202	Strategic Management	4
COX 4211	Supply Organization and Structure	5
COX 4212	Inventory and Stores Management	5

Local Government Finance Option:		
COX 4101	Ugandan Economy	2
COX 4201	Project Work	2
COX 4202	Strategic Management	4
COX 4213	Public Sector Accounting	5
COX 4214	Public Sector Project Management	5

BACHELOR OF SCIENCE (EXTERNAL)

Introduction

A special feature of the four-year Bachelor of Science (external) degree programme is its flexibility which permits candidates to attain higher academic qualifications, improve their skills and job security without the necessity to leave their places of work for long periods of time. The course content has been designed for people wishing to take science subjects such as Biology, Chemistry, Mathematics, and Physics as a Major or Minor.

This programme would also benefit particularly the Advanced Level leavers, who possess minimum University entry academic requirements and more so those who cannot afford full time programmes and would rather work and study by the distance education scheme. In addition there are many diploma holders in science based subjects in various sectors. All these would benefit greatly from this programme by improving their skills and by getting higher qualifications.

Objectives

The general objectives for this programme are:

- i) To produce sufficiently trained scientists with knowledge and skills to meet the current and future human resource needs.
- ii) To create interest in learning and applying science at all levels of learning.

The specific objectives are:

- To produce well trained science teachers through the Bsc. (External) degree programme.
- To provide practical scientific skills to the students

- To generate awareness of the role of science towards development, scientific research, economic and cultural environmental management.
- To build a cadre of well trained scientists who will contribute to the development of the country.

Target group

- Grade V science teachers
- “A” level leavers
- Technicians and other scientists who want to improve on their knowledge and skills (Technical Diplomas).

General regulations

Studies and examinations for the degree of Bsc. (External) shall be governed by the general regulations of the University as applied by the Faculty of Science and the Department of Distance Education.

Duration

The duration of the course will be eight (8) semesters (4 years). The minimum number of credit units (CU) required to graduate will be 108, leading to the award of a Bachelor of Science degree of Makerere University. Each semester is equivalent to seventeen (17) weeks, 15 of which are for lectures and 2 are for examinations.

Semester structure

Each semester shall comprise:

- Orientation, registration and face to face (2 weeks)
- Face to face and examinations (4 weeks)
- Self-study (11 weeks)

Curriculum

a) Study materials

Study materials will be provided to distance learners by the course organizers.

b) Face-to-face

There are two residential sessions of two weeks each per semester in which the practical components of the course are handled. Further, tutorials are organised during these sessions. There are also face-to-face sessions organized at regional centres, namely; Mbarara, Lira, Mbale and Makerere University, Mengo Senior Secondary School, Teso College Aloit, Ngetta National Teachers' College, Mary Hill High School, Muni National Teachers' College, Kabale National Teachers' College.

In each semester there are core courses and electives. The normal load is at least 12 CU per semester. Students should have major and minor subjects. Each of the science subject has a different course load for those taking it as a major and those taking it as a minor as indicated in the programme structure.

PROGRAMME STRUCTURE

BIOLOGY AS A MAJOR SUBJECT

Course structure

Year I: Semester I (Core Courses)CU		
BCX 1151	Cell & Molecular Biology	2
ZOX 1101	Lower Invertebrates and Microscopy	4
ZOX 1152	Animal Diversity and Classification	2
ZOX 1153	Non-protistan Invertebrates: Structure and Function	2
CSX 1101	Computer Literacy	4
BOX 1101	Growth and Development of Flowering Plants	2
BOX 1102	Plant Form, Structure and Classification of Lower and Higher Plants	3
ECX 1101	Introductory Microeconomics	3
STX 1101	Descriptive Statistics	2
STX 1102	Official Statistics	2
Semester II		

ZOX 1202	Reproductive and Development Biology	3
ZOX 1251	Vertebrates I: Evolution	2
ZOX 1252	Reproduction and Developmental Biology	2
ZOX 1253	Introductory Physics for Biologists	2
BOX 1201	Introductory Microbiology	2
BOX 1202	Elementary Genetics	2
BOX 1251	Plant Form Structure and Classification of Lower Plants	2
CSX 1201	Computer Programming I	4
ECX 1101	Introductory Microeconomics	3
ECX 1202	Principles of Development Economics	3
ECX 1202	Introduction to Mathematics and Statistics for Economists	3
STX 1201	Time Series Analysis and Index Numbers	3
STX 1202	Probability Theory I	3
Year II: Semester I		
ZOX 2101	Vertebrates Origin, Evolution and Characteristics	2
ZOX 2151	Vertebrates II: Structure and Function	2
ZOX 2152	Biogeography	2
ZOX 2153	Environmental Physics	3
ZOX 2154	History and Philosophy of Science	2
BOX 2101	Basic Ecology	3
BOX 2102	Introduction to Plant Functions	2
BOX 2151	Plant Form, Structure and Classification of Higher Plants	2
BOX 2152	Elementary Genetics	2
BOX 2163	Introductory Microbiology	2
CSX 2101	Computer Architecture I	3
CSX 2102	Systems Programming I	4
ECX 2101	Introductory Macroeconomics	3
ECX 2102	Quantitative Methods	3
STX 2101	Statistical Inference I	2
STX 2102	Statistical Organisation	2
Semester II		
BOX 2201	Plant Taxonomy, Diversity and Evolution (Dicots)	3
BOX 2202	Plant Taxonomy, Diversity and Evolution (Monocots)	3
BOX 2203	Plant Taxonomy, Diversity and Evolution (Algae)	3
BOX 2251	Basic Ecology	3

BOX 2252	Higher Plant Taxonomy (Dicots)	2
BOX 2253	Introduction to Biometry	3
BOX 2254	Environmental Education	2
BOX 2255	Tree Nursery Management	2
ZOX 2201	Vertebrates (Structure and Function)	4
ZOX 2202	Basic Entomology	3
ZOX 2251	Basic Parasitology and Entomology	2
ZOX 2252	Human Ecology	2
CSX 2201	Database Management Systems I	3
CSX 2202	Data Structures and Algorithms	4
CSX 2203	Complexity and Computability	3
CSX 2204	Systems Programming II	4
ECX 2201	Microeconomics	3
ECX 2202	Econometrics	3
ECX 2203	Industrial Economics	3
ECX 2204	Marketing and Co-operatives	3
ECX 2205	Political Economy	3
STX 2201	Probability Theory II	3
STX 2202	Linear Models	2
Year III: Semester I		
ZOX 3101	Basic Ecology	3
ZOX 3102	Evoluntary Biology	3
ZOX 3103	Biogeography	2
ZOX 3104	Introduction to Microbiology and Biotechnology	2
ZOX 3151	Hydrobiology	2
ZOX 3152	Water Pollution and Waste Management	2
ZOX 3153	Applied Ecology	2
BOX 3101	Taxonomy and Diversity of Fungi	3
BOX 3102	Basic Bacteriology and Virology	3
BOX 3103	Plant Physiology	3
BOX 3151	Soil Ecology	3
BOX 3152	Introduction to Seed Biology	2
BOX 3153	Plant Taxonomy, Diversity and Evolution of Monocots	2
BOX 3154	Management of Living Plant Collections	2
BCX 3101	Cell Biology	3
CSX 3101	Operating Systems	4
CSX 3102	Computer Networking I	4
CSX 3103	Database Management Systems II	4
CSX 3104	Computer Programming II	4

ECX 3101	Mathematical Economics	3
ECX 3102	Macroeconomics	3
ECX 3103	Managerial Economics	3
ECX 3104	Resource Economics	3
ECX 3105	Political Economy	3
STX 3101	Sampling Theory	2
STX 3102	Time Series Analysis	3
STX 3103	Statistical Inference II	3
Semester III		
BOX 3251	Mechanism Evolution and Specification	2
BOX 3252	Advanced Genetics	
BOX 3253	Biostatistics	2
BOX 3254	Advanced Plant Taxonomy	2
ZOX 3251	Animal Physiology	2
ZOX 3252	Computer Applications	2
ZOX 3253	Fisheries Biology	1
ZOX 3254	Aquaculture	2
ZOX 3255	Climatology	2
BOX 3202	Introductory Crop Improvement and Plant Genetic Resources	3
BOX 3203	Plant Biochemistry	3
ZOX 3201	Basic Parasitology	3
ZOX 3202	Research Methods and Communication Skills	2
ZOX 3203	Comparative Physiology and Histology	3
CSX 3201	Computer Architecture II	3
CSX 3202	Systems Programming III	4
CSX 3203	Computer Networking II	4
ECX 3201	Research Methodology	3
ECX 3202	Intermediate Microeconomics	3
ECX 3203	Public Sector Economics	3
ECX 3204	Transport Economics	3
ECX 3205	Farm Management and Production Economics	3
ECX 3206	Government Business Relations	3
STX 3201	Introduction to Generalized Linear	2
STX 3202	Research Methods	2
STX 3203	Regression Analysis	3
Year IV: Semester I		
BOX 4101	Crop Weed Biology	3
BOX 4151	Weed Biology	2

BOX 4152	Microbiology and Plant Pathology	2
BOX 4153	Research Methods and Data Collection	2
BOX 4154	Evolution and Improvement of Cultivated Plants	2
ZOX 4151	Animal Behaviour	4
ZOX 4152	Applied Antomology	2
ZOX 4153	Applied Parasitology	2
ZOX 4154	Neurophysiology and Comparative Endocrinology	1
ETX 4151	Introduction to Ethnobotany	2
BOX 4102	Environmental Science and Energy Relations of Plants	4
BOX 4103	Field Attachment	5
ZOX 4101	Research Projects	3
ZOX 4102	Hydrobiology	4
ZOX 4103	Human Ecology	2
ZOX 4104	Commercial Entomology	2
CSX 4101	Software Engineering	4
CSX 4102	User Interface Design	4
CSX 4103	Management Information Systems	4
CSX 4104	Systems Programming UV	4
ECX 4101	Development Economics	3
ECX 4102	Intermediate Macroeconomics	3
ECX 4103	Labour Economics	3
ECX 4104	Health Economics	3
ECX 4105	International Economics	3
ECX 4106	Monetary Economics	3
STX 4101	Operations Research I	2
STX 4102	Multivariate Analysis	2
STX 4103	Industrial Statistical Modeling	2
Semester II		
ETX 4251	Natural Resource Management	2
BOX 4207	Plant Physiology	4
BOX 4251	Plant Physiology	2
ZOX 4202	Field Course	3
ZOX 4251	Immunology	2
ZOX 4252	Field Course	2
BOX 4202	Research Projecr	4
BOX 4252	Biodiversity	2
BOX 4253	Research Project	3
BOX 4254	Land use Planning and Land Management	2
ZOX 4253	Wildlife Ecology	2

BOX 4201	Crop Improvement Methods and Plant Biotechnology	4
BOX 4203	Genetics	4
BOX 4204	Microbiology and Plant Pathology	4
BOX 4205	Wildlife and Natural Resources Ecology	4
BOX 4206	Advanced Plant Taxonomy	4
BOX 4255	Environment Impact Assessment	2
ZOX 4201	Animal Behaviour	4
ZOX 4203	Aquaculture	3
ZOX 4204	Applied Parasitology	3
ZOX 4205	Fisheries Biology	3
ZOX 4206	Integrated Pest and Vector Management	3
ZOX 4207	Applied Ecology	3
ZOX 4208	Biostatistics	3
CSX 4201	Systems Analysis and Design I	4
CSX 4202	Project	5
ECX 4201	Project Planning and Management	3
ECX 4202	Economic Planning and Policy	3
ECX 4203	International Finance	3
ECX 4204	Environmental Economics	3
ECX 4205	Transport Economics	3
STX 4201	Design and Analysis of Experiments	2
STX 4202	Econometric Methods	4
STX 4203	Biostatistics	3

Old information		
Electives (Not more than one Course)		CU
ZOO 4103	Human Ecology	2
ZOO 2154	History & Philosophy of Science	2
Semester II		
SEB 2253	Introduction to Biometry	3
SEB 1253	Introductory Physics for Biologists	2
SEC 121	Basic Organic Chemistry	2
SEC 111	Basic Inorganic Chemistry	2
SEB 102	Practical	2
Electives (Not more than one Course)		
SEP 116	Environmental Physics	2
ZOO 209	Biogeography	2
Year II: Semester I		
BOX 1251	Plant form, Structure, and Classification of Lower Plants	2

BOX 1252	Plant form, Structure and Classification of Higher Plants	2
ZOX 3101	Basic Ecology	1
PHX 3255	Computer applications	2
BOT 105	Elementary Genetics	2
SEB 201	Practical	2
Electives (not more than one)		
BOT 305	Microbiology & Plant Pathology	2
BOT 304	Genetics	2
Semester II		
SEB 221	Vertebrates I: Evolution	2
ZOO 201	Vertebrates II: Structure & Function	2
SEP 150	Electricity & Magnetism	2
SEC 112	Basic Physical Chemistry	2
SEB 202	Practical	2
Electives (not more than one)		
SEB 118	Biodiversity	2
SEB 224	Environmental Education	2
Year II: Semester I		
ETBOT 101	Introduction to Ethnobotany	2
BOT 201	Higher Plant Taxonomy (Dicots)	2
BOT 109	Introductory Microbiology	2
SEB 314	Field Course	2
SEB 301	Practical	2
Elective (Not more than one course)		
SEB 315	Management of Collections of Living Plants	2
SEB 316	Water pollution & Waste Management	2
SEB 317	Climatology	2
SEP 223	Environmental Physics	2
Semester II		
BOT 202	Plant Taxonomy (Monocots)	2
BOT 206	Mechanisms of Evolution & Speciation	2
SEB 323	Introduction to Seed Biology	2
BOT 313	Research Methods & Data Collection	2
SEB 325	Research Project	3
SEB 302	Practical	2
Electives (Not more than One course)		
ZOO 106	Reproduction and Developmental Biology	1
BOT 310	Evolution&Improvement Cultivated Plants I	1

ZOO 314	Fisheries Biology	1
SEB 329	Tree Nursery Management	1
ZOO 310	Neurophysiology	1
Year IV: Semester I		
ZOO 202	Basic Parasitology & Entomology	2
ZOO 311	Aquaculture	2
ZOO 203	Applied Ecology	2
BOT 207	Plant Physiology	2
SEB 401	Practical	2
Electives (Not more than one Course)		
BOT 307	Advanced Plant Taxonomy	2
ZOO 313	Applied Entomology	2
Semester II		
ZOX 4201	Animal behaviour	2
BOT 104	Natural Resource Management & Conservation	2
ZOX 4251	Immunology	2
ZOX 4102	Hydrobiology	2
BOX 4151	Weed Biology	2
SEB 402	Practical	2
Electives (Not more than one)		
ZOX 4204	Applied Parasitology	2
BOX 4254	Land use Planning & Land Management	2
ZOX 4253	Wildlife Ecology	2

BIOLOGY AS A MINOR SUBJECT

Year I: Semester I (core courses)		
BOX 1152	Cell & Molecular Biology	2
ZOX 1152	Animal Diversity & Classification	2
ZOX 1153	Non-protistan Invertebrates: Structure and Function	2
BOT 1101	Growth and Development of Flowering plants	2
SEB 101	Practical	2
Electives (Not more than one Course)		
BOT 202	Plant Taxonomy (Monocots)	2
ZOO 210	Human Ecology	2
Semester II (Cores only. No electives)		
ZOO 315	History & Philosophy of Science	2
SEB 118	Biodiversity	2
SEB 119	Environment impact Assessment	2
BOT 301	Plant & Energy Relations	2
SEB 102	Practical	1

Year II: Semester I		
BOT 102	Plant form, Structure, and Classification of Lower Plants	2
BOT 105	Elementary Genetics	2
BOT 107	Basic Ecology	1
SEB 201	Practical	2
Electives (not more than one)		
BOT 304	Genetics	2
BOT 305	Microbiology & Plant Pathology	2
Semester II		
SEB 221	Vertebrates I: Evolution	2
ZOO 201	Vertebrates II: Structure & Function	2
SEC 112	Basic Physical Chemistry	2
SEB 202	Practical	2
Electives (Not more than one)		
ZOO 209	Biogeography	2
SEB 224	Environmental Education	2
Year II: Semester I		
ETBOT 101	Introduction to Ethnobotany	2
BOT 109	Introductory Microbiology	2
BOT 201	Higher Plant Taxonomy (Dicots)	2
SEB 314	Field Course	2
SEB 301	Practical	2
Elective (Not more than one course)		
SEB 315	Management of Collections of Living Plants	2
SEB 316	Water pollution & Waste Management	2
SEB 317	Climatology	2
SEP 223	Environmental Physics	2
SEP 319	Environmental impact Assessment	2
Semester II		
BOT 202	Plant Taxonomy (Monocots)	2
BOT 206	Mechanisms of Evolution & Speciation	2
ZOO 206	Reproduction & Developmental Biology	2
SEB 323	Introduction to Seed Biology	2
BOT 313	Research Methods & Data Collection	2
SEB 325	Research Project	3
SEB 302	Practical	2
Year IV: Semester I		

ZOO 202	Basic Parasitology & Entomology	2
ZOO 311	Aquaculture	2
BOT 208	Biostatistics	2
SEB 324	Natural Resource Management & Conservation	2
BOT 207	Plant Physiology	2
SEB 401	Practical	2
Semester II		
ZOO 309	Animal behavior	2
ZOO 302	Wildlife Ecology	2
ZOO 307	Immunology	2
ZOO 305	Hydrobiology	2
BOT 303	Weed Biology	2
SEB 402	Practical	2

Note:

To qualify for a Biology major student must pass ALL core courses in the major and 8 electives by the end of the programme.

To qualify for Biology minor a student must pass ALL core courses in the minor and 4 electives by the end of the programme.

CHEMISTRY AS A MAJOR SUBJECT

Year I: Semester I (Core Courses)		
CHX 1101	Basic Inorganic Chemistry	3
CHX 1102	Basic Physical Chemistry	3
Semester II (Core courses)		
CHX 1251	Basic Organic Chemistry	5
CHX 1252	Computers in Chemistry	2
Year II: Semester I (Core Courses)		
CHX 2151	Periodicity I & II	3
CHX 2152	Thermodynamics I	3
Semester II (Core Courses)		
CHX 2251	Environmental Chemistry	3
CHX 2252	Kinetics I	1
CHX 2253	Polyfunctional aliphatics/ Aromatics	3
Electives		
SEC 224	Chemistry methods	2
Year III: Semester I (Core Courses)		
CHX 3151	Thermodynamics II & III	3
CHX 3152	Analytical Chemistry I	3
Electives		
CHX 3153	Statistical Thermodynamics	1

Semester II (Core Courses)		
CHX 3251	Reaction Kinetics II & III	3
CHX 3252	Electrochemistry	3
CHX 3253	Structure & Bonding	3
Electives		
SEC 324		
Year IV: Semester I (Core Courses)		
CHX 4151	Structure determination and organic Spectroscopy	2
CHX 4155	Reactant	2
CHX 4152	Analytical Chemistry II & Surface Chemistry	2
Electives (Core Courses)		
CHX 4153	Aromatics II	2
CHX 4154	Alicyclic chemistry	2
Semester II (Core Courses)		
CHX 4251	Transition metals chemistry	3
CHX 4252	Natural Products	3
CHX 4253	Heterocyclic Chemistry	3
Electives (Not more than one)		
CHX 4254	Organometallics	1
CHX 4255	Applied Organic Chemistry	2

CHEMISTRY AS A MINOR SUBJECT

For chemistry as a minor, students are free to choose courses from a wide range given above as long as they do all semester I and II courses. The Department of Chemistry recommends the following:

- All basic chemistry courses (100 series) for a total of 13 CU.
- A selection of courses (200 series) for a total of 6 CU.
- A selection of courses (300 series) for a total of 2 CU
- A selection of courses (400 series) for a total of 2 CU.
- A minimum of 23 CUs as specified above.

MATHEMATICS AS A MAJOR SUBJECT

Year I: Semester I (Core)		
MTX 1101	Calculus I	3
MTX 1102	Linear Algebra I	3
MTX 1151	Elements of Probability & Statistics	3
Semester II (Core)		

MTX 1201	Calculus II	3
MTH 1251	Vector Calculus	3
MTH 1202	Elements of Probability and Statistics	3
MTH 1252	Classical Mechanics	3
Year II: Semester I (Core)		
MTX 2101	Real Analysis I	3
MTX 2102	Discrete Mathematics	3
MTX 2103	Linear Programming	3
MTX 2151	Differential Equation I	3
Electives		
MTX 2102	Discrete Mathematics	3
MTX 2103	Linear Programming	3
Semester II (Core)		
MTX 2201	Complex Variables I	3
MTX 2202	Differential Equations I	3
MTX 2203	Classic Mechanics I	3
MTX 2204	Dynamics Systems	3
MTX 2251	Numerical Analysis I	3
Electives		
MTX 2252	Population Dynamics	3
MTX 2251	Numerical Analysis I	3
Year III: Semester I (Core)		
MTX 3101	Probability Theory	3
MTH 3102	Linear Algebra II	3
MTH 3103	Number Analysis	3
MTX 3151	Number Theory	3
Electives		
MTX 3104	Stochastic Processes	3
Semester II (Core)		
MTX 3201	Abstract Algebra I	3
MTX 3202	Statistical Inference I	3
Electives		
MTX 3203	Advanced Statistics	3
MTX 3204	Classical Mechanics II	3
Year IV: Semester I (Core)		
MTX 4101	Functional Analysis	3
MTX 4102	Numerical Analysis II	3
MTX 4103	Biomathematics	3
Electives		
MTX 4151	Further Linear Programming	3
MTX 4103	Number Theory	3

Semester II (Core)		
MTX 4201	Real Analysis II	3
MTX 4202	Differential Equations II	3
Electives		
MTX 4203	Topology I	3
MTX 4251	Abstract Algebra II	3

MATHEMATICS AS A MINOR SUBJECT

Year I: Semester I (Core)		
MTX 1151	Elements of Probability & Statistics	3
MTX 1101	Calculus I	3
Semester II (Core)		
MTH 1102	Linear Algebra I	3
MTH 1201	Calculus II	3
Year II: Semester I (Electives)		
MTX 1251	Vector Calculus	3
MTX 2203	Classical Mechanics I	3
MTX 2101	Real Analysis I	3
Semester II (Electives)		
MTX 3201	Abstract Algebra I	3
MTX 3101	Probability Theory	3
MTX 2202	Differential Equations I	3
Year II: Semester I (Electives)		
MTX 2201	Complex Variables	3
MTX 2251	Numerical Analysis	3
Semester II (Electives)		
MTX 2252	Population Dynamics	3
MTX 2103	Linear Programming	3
MTX 3102	Linear algebra II	3
Year IV: Semester I (Electives)		
MTX 3202	Real Analysis II	3
MTX 4202	Differential Equation II	3
MTX 4203	Topography I	3
Semester II (Electives)		
MTX 4101	Functional Analysis	3
MTX 4203	Topology I	3
MTX 3203	Advanced Statistics	3

Note:

- (i) To qualify for a Major in Mathematics a student must pass.

- ALL Core Courses and at least 4 electives by the end of the programme**
- (ii) Majoring Students are free to take extra courses in Mathematics to make up their programme requirements but **should not exceed 72 CU** in Mathematics.
- (iii) To qualify for a minor in Mathematics students must pass **ALL Core courses in the minor programme and at least 4 electives** by the end of the programme.
- (iv) Minorng Students are free to take courses up to **36 CU** in Mathematics.

PHYSICS AS A MAJOR SUBJECT

Year I: Semester I (Core)		
MTX 1101	Calculus I	3
MTH 1150	Elements of Mathematics	3
MTX 1151	Elements of probability & Statistics	3
PHX 1101	Physics Practical	2
PHX 1102	Classical Mechanics I	3
PHX 1203	Electricity	
Semester II (Core)		
MTX 1201	Calculus II	3
PHX 1201	Physics Practical	2
PHX 1201	Properties of Matter	2
PHX 1252	Properties of Matter	3
PHX 1253	Heat & Thermodynamics	3
MTX 1251	Vector Calculus	3
PHX 1201	Physics Practical	2
Year II: Semester I (Core)		
PHX 2152	Electricity & Magnetism I	3
PHX 2153	Atomic Physics	3
PHX 2154	Waves & Optics	3
PHX 2155	Environmental Physics	3
PHX 2156	Geophysics	2
PHX 2101	Practical	2
One Elective from 200 series		
Semester II (Core)		
PHX 2251	Introduction to Computers	4
PHX 2202	Classical Mechanics II	3
PHX 2203	Solid State Physics I	2
PHX 2204	Evolution of Physics	2
PHX 2205	Elements of Astronomy and Astrophysics	2

PHX 2206	Elements of Environmental Physics	2
PHX 2252	Electronics I	3
PHX 2253	History of Physics	3
PHX 2201	Practical	2
One Elective from 200 series		2
Year III: Semester I (Core)		
PHX 3101	Practical	2
PHX 3102	Electromagnetism	2
PHX 3103	Introduction to Computers	2
PHX 3104	Industrial Training	3
PHX 3105	Geophysics	2
PHY 3106	Fluid Physics	2
PHX 3107	Solar Energy	2
PHX 3108	Acoustics	2
PHX 3151	Electricity & Magnetism II	3
PHX 3152	Solid State Physics I	3
PHX 3153	Quantum Mechanics I	3
PHX 3154	Renewable Energy	2
One Elective from 200 series		3
Semester II (Core)		
PHX 3201	Practical	2
PHX 3202	Waves and Optics	3
PHX 3203	Quantum Mechanics I	3
PHX 3205	Electronics	3
PHX 3206	Agricultural Physics	2
PHX 3251	Statistical Mechanics	3
PHX 3204	Geophysics II	2
PHX 3252	Electronics II	2
PHX 3255	Computer Applications	4
PHX 3201	Practical	2
One Elective from 300 series		3
Year IV: Semester I (Core)		
PHX 4101	Physics Practical	2
PHX 4102	Electronics and Instrumentation	2
PHX 4104	Statistical Mechanics	3
PHX 4103	Solid State Physics II	3
PHX 4152	Quantum Mechanics II	3
PHX 4153	Nuclear Physics	3
PHX 4101	Practical	2
One Elective from 300 series		3

Semester II (Core)		
PHX 4201	Quantum Mechanics II	2
PHX 4202	Project	5
PHX 4203	Nuclear Physics	3
PHX 4205	Micro Waves and Fibre Optics	2
PHX 4206	Industrial Physics	3
PHX 4251	Electricity & Magnetism III	2
One Elective from 300 series		3
Electives 200 Series:		
PHX 2253	History of Physics	3
PHX 2156	Geophysics I	2
PHX 2155	Environmental Physics	3
PHX 3154	Renewable Energy	2
Electives 300 series:		
PHX 3204	Geophysics II	2
PHX 3254	Materials Science	3
PHX 4154	Microwaves	3
PHX 4155	Fibre Optics	3
PHX 4254	Quantum Mechanics III	3
PHX 4253	Advanced electronics	3

PHYSICS AS A MINOR SUBJECT

Year I: Semester I		
PHX 1102	Classical Mechanics I	3
Semester II		
PHX 4252	Properties of Matter	3
PHX 1253	Heat & Thermodynamics	3
Year II: Semester I		
PHX 2152	Electricity & Magnetism I	3
PHX 2153	Atomic Physics	3
PHX 2154	Waves & Optics	3
Semester II		
PHX 2251	Introduction to Computers	3
PHX 2202	Classical Mechanics II	3
PHX 2252	Electronics I	3
Year III: Semester I		
PHX 3151	Electric & Magnetism II	3
PHX 3152	Solid State Physics	3
Elective from 200 series		3
Semester II		
PHX 4153	Nuclear Physics	3
And One Elective from 300 series		3