

COLLEGE REGULATIONS GOVERNING AWARD OF UNDERGRADUATE DEGREES, PROGRAMMES AND COURSES OFFERED BY COLLEGES

COLLEGE OF AGRICULTURAL SCIENCES AND FISHERIES TECHNOLOGY (CoAF)

INTRODUCTION

The College of Agricultural Sciences and Fisheries Technology (CoAF) comprises five departments, namely: Aquatic Sciences and Fisheries Technology, Crop Sciences and Beekeeping Technology, Agricultural Economics and Business, Agricultural Engineering, and Food Science and Technology.

Degrees offered by the College

The College offers the following three-year undergraduate degree programmes:

- (i) Bachelor of Science in Aquatic Sciences and Fisheries (BSc ASF)
- (ii) Bachelor of Science in Beekeeping Science and Technology (BSc BST)
- (iii) Bachelor of Science in Crop Science and Technology (BSc CST)
- (iv) Bachelor of Science in Agricultural and Natural Resources Economics and Business (BSc ANEB)

The College also offers the following four-year undergraduate degree programmes:

- (i) Bachelor of Science in Agricultural Engineering and Mechanization (BSc AEM)
- (ii) Bachelor of Science in Food Science and Technology (BSc FST)

Furthermore, the College offers Aquatic Science as a Major subject in the BSc General programme hosted in the College of Natural and Applied Sciences (CoNAS). The recommended major subject combinations are:

- (i) Aquatic Science with Applied Microbiology
- (ii) Aquatic Science with Chemistry

In addition, the College has study programmes leading to the following higher degrees:

- (i) Master of Science (MSc) by thesis only and by coursework and dissertation
- (ii) Doctor of Philosophy (PhD) by thesis only and by coursework and dissertation

University wide regulations governing postgraduate degrees will apply.

Regulations Governing the Award of the BSc Degree

CoAF is running programmes under the semester system whereby the academic year is subdivided into 2 semesters of teaching each lasting 15 weeks. Each of its disciplines offers a variety of courses, including core courses, which are compulsory to students majoring in the subject, and optional courses. Each course is given a credit weighting according to the time devoted to it according to the Tanzania Commission for Universities guidelines. One credit equates to learning outcomes achieved in 10 hours of learning, which includes such activities as lectures, seminars/tutorials, assignments, independent studies and practical training.

General Regulations

CoAF general regulations governing the operation of its programmes are in line with the University level regulations. Because of multi-disciplinary nature of the programmes, both general and specific regulations have been benchmarked with regulations in other colleges.

- 1 A minimum of 360 credits must be passed for the award of a 3-year degree (BSc ASF, BSc BST, BSc CST, and BSc ANEB). Passing a course shall mean scoring a C grade or higher which is equivalent to 40% or higher.
- 2 A minimum of 480 credits must be passed for the award of a 4-year degree (BSc FST, and BSc AEM). Passing a course shall mean scoring a C grade or higher which is equivalent to scoring 40% or higher.
- 3 All students must pass the core courses in Development Studies (100 series).
- 4 Each student shall register for courses totalling at least 120 credits per academic year or for the minimum necessary to complete his/her degree programme.
- 5 In addition to core courses required for his/her programme, a student may choose as an elective any course for which he/she can meet the prerequisite/co-requisite requirements and which is compatible with the teaching timetable (subject to regulation No.4).
- 6 No student will be permitted to commence or withdraw from any course more than four weeks after the beginning of the semester.

- 7 Students may be admitted to the College of Agricultural Sciences and Fisheries Technology as transfer students in accordance with UDSM regulations on students' credit transfer.
- 8 The regulations governing the Aquatic Science Major of the BSc General programme are provided under the CoNAS regulations.

Examination Regulations

- 9 Except for Practical training/Field attachment/Industrial training courses, each course will be offered and assessed in the same semester and a grade awarded. The grade will be based on an end of course examination and a course work assessment.
- 10 Except for project/practical related courses, continuous assessment shall include at least one test per semester, among other assessment means approved by CoAF academic committee (e.g. practicals, assignments, presentations). The coursework assessment shall normally constitute 40% of the total course assessment. Coursework assessment, may however, with the approval of Senate, constitute up to 100% of the total course assessment provided that where it exceeds 40% the assignments on which it is based shall be available for scrutiny by the Independent Internal Examiner.
- 11 Monitoring of the student progress in each course will be based on the following:

11.1 Grade to marks (%) correspondence

A	=	70 – 100	C	=	40 – 49
B+	=	60 – 69	D	=	35 – 39
B	=	50 – 59	E	=	0 – 34

Grade to points correspondence

A	B+	B	C	D	E
5	4	3	2	1	0

- 11.2 Course grade multiplied by the appropriate credit weighting will be accumulated over the whole period of study and will form the basis for the assessment of the degree.
- 12 An average grade for each academic year shall be worked out by adding together, by means of weighting points, all the grades of the core and optional courses. The following points to grade correspondence shall apply in monitoring the student's progress in each academic year.

4.4 – 5.0 = A	3.5 – 4.3 = B ⁺
2.7 – 3.4 = B	2.0 – 2.6 = C
1.0 – 1.9 = D	0.0 – 0.9 = E
- 13 A student, who has passed courses totalling more than 360 credits in a three-year programme and 480 in a four-year programme, shall have one or more elective course excluded from the assessment in the degree classification. The assessment shall in this case exclude those elective courses in which the student had the worst performance
- 14 The degree classification shall be based on the best 360 and 480 credits respectively provided that regulations Nos. 1 to 4 above are fulfilled. The classification shall be as follows:

First class	4.4 – 5.0
Upper second	3.5 – 4.3
Lower second	2.7 – 3.4
Pass	2.0 – 2.6
- 15 To be allowed to continue with any degree programme in CoAF, a student must pass all the prescribed core courses in a programme and attain an overall GPA of 2.0 or above.
- 16 A student not in his/her final year of study must score at least a C average at 2.0 in all core courses in that programme to qualify for supplementary examinations.
- 17 A student who fails to attain an overall GPA of 1.8 at the end of academic year (excluding the final year) shall be discontinued from studies.
- 18 Any student who has failed a core course and does not qualify for a supplementary examination shall be discontinued.
- 19 A student not in the final year who obtains a D or an E average in all the core courses shall be discontinued.
- 20 All courses offered in the first and second year shall be compulsory in BScAEM. Supplementary Examination will be held once each year prior to the commencement of the subsequent academic year, for the core courses examined during the previous session. Any student, who has qualified to continue with his/her studies under regulation No. 17 must sit for a supplementary examination in any core courses in which he/she has failed (i.e. scored a D or E) in the examination. The highest grade awarded shall be the minimum passing grade (i.e. C).

- 21 With the approval of the College Board and Senate, certain courses may be designated as courses where coursework supplementation will not be permitted. When the coursework assessment in such a course is failed, the entire course must be repeated.
- 22 If after taking supplementary examinations a student fails to obtain a C average at 2.0 or better in all the core courses, he/she shall be discontinued from studies.
- 23 A grade scored in the supplementary examination shall constitute the final grade in the course regardless of the score in the original examination.
- 24 A student who has qualified to continue with his/her studies (under Regulations 22 and 23 above) must repeat any core course in which he/she has failed even if he/she drops the subject to which the course belongs.
- 25 A student who fails a supplementary examination in a core course in which he/she has enrolled twice within the prescribed time shall be discontinued.
- 26 A student who has failed a practical course, which cannot be supplemented, shall be allowed to proceed to the next year of study provided his/her GPA is 2.0 or higher.
- 27 Supplementary work in or repetition of elective courses will only be allowed in exceptional circumstances, normally only when those credits are needed to complete a degree programme.
- 28 A special examination in a course to be regarded as constituting a first sitting shall be given to students who for satisfactory reasons were allowed by the Principal not to take the regular examination.
- 29 Normally, special examinations will be given at the time of supplementary examinations.
- 30 A student who is required to sit for a special examination or who, for satisfactory reasons, has not completed an important portion of his/her course work, shall be awarded an 'I' ('Incomplete') grade.
- 31 A student who has been awarded an 'I' grade during any academic year is required to clear the grade during the time of supplementary examinations for that academic year. Except with the approval of the College Board, any 'I' grade not cleared at the time of the supplementary examinations automatically becomes an 'E' grade.
- 32 No student will be enrolled in a course for which he/she has not fulfilled the prerequisites. A course for which a 'D' grade or lower is obtained shall not be counted as fulfilling a prerequisite for any course unless it is a course in the same series taken during the same session.
- 33 To be allowed to repeat a course, in which an examination is a part of the assessment, a student must first sit for supplementary examination in that course.
- 34 All courses taken by a student shall be entered in the transcript.
- 35 The maximum time for which a student may remain registered CoAF is 5 years for a 3-year programme and 6 years for a 4-year programme. Any student who is required to repeat/complete certain courses in order to qualify for the award of a degree shall be deemed to have failed the programme at the end of the maximum period if any such courses have not been passed.

Practical Training

CoAF runs an eight-week practical training programme in which students engage in practical activities related to their fields of study. Normally these activities are held in various institutions outside the University. The 3-year programmes (BSc BST, BSc ASF) have two practical trainings, one coming immediately after the First Year and the other immediately after the Second Year. The 3-year programme (BSc ANEB) has one practical training at the end of the second year. The 4-year programmes (BSc FST and BSc AEM) have three practical trainings, one coming immediately after the second semester in first-year, the second immediately after the second semester in second year and the third immediately after the second semester of the third-year. The PT programme seeks:

- (i) To expose students to the various research and/or production activities being carried out in different parts of the country;
- (ii) To enable the students to apply their knowledge in practice;
- (iii) To ensure that, on leaving the University, graduates have acquired some appropriate work experience;
- (iv) To establish and maintain contact between prospective employers and the University in order to ensure that students are given the appropriate skills and knowledge for the jobs they are likely to be called upon to perform after graduation; and
- (v) To enable prospective employers and employees to become acquainted with one another in the working situation.

Regulations Governing Practical Training

- 1 Each practical training (PT) shall be assessed and the grade obtained shall count towards the final degree award. Each PT will contribute 8 credits.
- 2 Students must pass practical training before qualifying for the award of the degree.

- 3 PT assessment for BSc BST, BSc ASF, BSc FST, BSc ANEB, BSc CST, BSc CPT and BSc AMC will be based on the following four items:
 - (i) Employer's assessment: 20%-items to be graded include: skills obtained by the student, attitude towards work, personal initiatives and independence, reliability in carrying out duties and punctuality to work.
 - (ii) Student's daily log-book: 20%-the employer shall sign the document on a weekly basis. The logbook shall be submitted to the University supervisor together with the final report. The grading of the logbook shall be marked based on the following:
 - Clear description of activities, 10%
 - Description of output, 10%
 - (iii) Student's final report: 60%-divided into the following aspects; description and analysis of tasks given 10%, problem identification and scientific methods used 15%, presentation of results and data 20%, correctness of information (graphs, maps etc) 10%, summary and conclusions 5% and may do oral presentation.
- 4 PT assessment for BSc AEM will be based on the following four items:
 - (a) Employers assessment (5%); (b) Supervisor report (10%);(c) Logbook (ranges from 15 to 30% depending on the year of study); and (d) Final Report (ranges from 55 to 70% depending on the year of study).To start with, the field attachment shall adopt regulations governing Practical Training in the College of Engineering and Technology which are found in the latest UDSM Prospectus.
- 5 In order to pass, a student must obtain at least three passes out of four, one of which must be in his/her final report. The student's daily log-book and final report will be assessed by his/her University supervisor. In borderline cases these items may be used for re-assessment.
- 5.1 For a student who obtains two passes and two fails out of four, a detailed investigation will be undertaken by the College's Practical Training Committee, which will make recommendations to the Board of Examiners.
- 5.2 A student who fails PT will be required to go through and pass a supplementary training period, which will be arranged for him/her in June-September of the subsequent year after completion of University Examinations and will get a maximum of C grade.
- 5.3 A student who fails in a supplementary PT within the prescribed period shall be discontinued forthwith.
- 5.4 Students who do not go to places allocated to them for practical training without satisfactory reasons will be deemed to have failed their practical training, and will as a result be discontinued from the University.
- 5.5 Students who go to the allocated PT places but refuse to follow training programme will be deemed to have absconded and consequently shall be discontinued.
- 6 Each practical training shall be treated as a course of the succeeding academic year.
- 7 Practical training reports will be handed in for assessment before the end of the second week of the first semester.
- 8 Internal assessment shall be completed before the end of the first semester.

DEPARTMENT OF AQUATIC SCIENCES AND FISHERIES TECHNOLOGY

Bachelor of Science General-Aquatic Sciences (BSc AQS)

Code	Course Title	Credits	Semester	Core/Option
First Year				
AQ 120	Ecology of Lakes and Rivers	12	1	Core
AQ 123	Swimming and Survival in Water	-	2	Core
AQ 124	Marine Benthic Ecology	8	2	Core
AQ 121	Introduction to Fisheries Science and Technology	8	1	Core
CL 107	Communication Skills for Sciences Students	12	1	Option
WS 101	Ecology and Utilization of Natural Resources	8	2	Option
BL 111	Introductory Cell Biology and Genetics	12	1	Core
AQ 122	Introduction to Aquaculture	8	2	Core
Second Year				
AQ 200	Practical Training I	8	1	Core
AQ 224	Plankton Systematics and Ecology	12	2	Core
AQ 231	Marine Biogeochemistry	8	1	Core
AQ 232	Fish Population Dynamics and Stock Assessment	12	1	Core
AQ 234	Mangrove, Sea grass and Seaweed Ecology	12	1	Core
AQ 221	Estuarine and Wetland Ecology	12	2	Option

Code	Course Title	Credits	Semester	Core/Option
AQ 233	Physical and Geological Processes in the Oceans	8	2	Option
Third Year				
AQ 235	Coral Reef Ecosystem	8	2	Core
AQ 307	Law of the Sea and Inland Waters	8	2	Core
AQ 320	Watershed Management	8	1	Core
AQ 342	Fisheries Resource Management	12	2	Core
AQ 348	Aquatic Pollution and Control	8	1	Core
AQ 347	Aqua business	12	1	Option
AQ 399	Research Project	12	1	Option
BL 314	Biostatistics II	8	2	Option

Bachelor of Science in Aquatic Sciences and Fisheries (BScASF)

Code	Course Title	Credits	Semester	Core/Option
First Year				
AQ 120	Ecology of Lakes and Rivers	12	1	Core
AQ 121	Introduction to Fisheries Science and Technology	8	1	Core
AQ 122	Introduction to Aquaculture	12	2	Core
AQ 123	Swimming and Survival in Water	-	2	Core
AQ 124	Marine Benthic Ecology	8	2	Core
BL 111	Introductory Cell Biology and Genetics	12	1	Core
MT 111	Mathematics for Biological and Chemical Sciences	8	2	Core
ZL 121	Invertebrate Zoology	8	1	Core
ZL 122	Chordate Zoology	8	2	Core
MC 100	Fundamentals of Microbiology	12	1	Core
CH 113	Chemistry for Life Sciences Students	12	2	Core
DS 101	Perspectives of Development I	8	1	Core
DS 102	Perspectives of Development II	8	2	Core
IS 131	Introduction to Informatics and Microcomputers	8	1	Option
CL 107	Communication Skills for Science Students	12	1	Option
WS 101	Ecology and Utilisation of Natural Resources	8	2	Option
Second Year				
AQ 200	Practical Training I	8	1	Core
AQ 221	Estuarine and Wetland Ecology	12	2	Core
AQ 224	Plankton Systematics and Ecology	12	2	Core
AQ 231	Marine Biogeochemistry	8	1	Core
AQ 232	Fish Population Dynamics and Stock Assessment	12	1	Core
AQ 233	Physical and Geological Processes in the Oceans	8	2	Core
AQ 234	Mangrove, Seagrass and Seaweed Ecology	12	1	Core
AQ 235	Coral Reef Ecosystem	8	2	Core
AQ 236	Fish Taxonomy and Biology	12	1	Core
AQ 237	Fish Ecology	8	2	Core
EV 200	Environmental Science	8	1	Core
BL 234	Biostatistics I	12	2	Core
AQ 239	Biology and Ecology of Shellfish	8	2	Option
GY 245	Remote Sensing and GIS	12	2	Option
SC 215	Scientific Methods	8	2	Option
Third Year				
AQ 300	Practical Training II	8	1	Core
AQ 307	Law of the Sea and Inland Waters	8	2	Core
AQ 320	Watershed Management	8	1	Core

Code	Course Title	Credits	Semester	Core/Option
AQ 399	Aquaculture Production Systems	12	11	Core
AQ 340	Genetics, Breeding and Seed Production	12	11	
AQ 341	Feed Production Technology	8	2	Core
AQ 342	Fisheries Resource Management	12	2	Core
AQ 344	Fisheries Extension Education	8	2	Core
AQ 345	Diseases of Fish	8	1	Core
AQ 346	Fisheries Economics	8	2	Core
AQ 347	Aquabusiness	12	1	Core
AQ 348	Aquatic Pollution and Control	8	1	Core
AQ 399	Research Project	12	1	Core
AQ 331	Contemporary Topics in World Fisheries and Aquatic Sciences	8	2	Option
AQ 343	Fish Processing Technology	12	1	Option
AQ 349	Advanced Oceanography	12	1	Option
MC 209	Water Microbiology	12	1	Option
BL 314	Biostatistics II	8	2	Option
WS 311	Tourism and Recreational Management	8	2	Option

DEPARTMENT OF CROP SCIENCES AND BEEKEEPING TECHNOLOGY

Bachelor of Science in Beekeeping Science and Technology (BScBST)

Code	Course Title	Credits	Semester	Core/Option
First Year				
AP 101	Introduction to Beekeeping	8	1	Core
AP 102	Honey Bee Behaviour	8	2	Core
AP 103	Honey Production Technologies	12	2	Core
BT 130	Evolutionary Botany	12	1	Core
BT 113	Introduction to Plant Physiology	8	2	Core
CH 113	Chemistry for Life Sciences Students	12	2	Core
DS 101	Development perspectives I	8	1	Core
DS 102	Development Perspectives II	8	2	Core
FS 100	Introduction to Food Science and Technology	8	2	Core
FS101	Introduction to Food Microbiology	12	2	Core
MC 100	Fundamentals of Microbiology	12	1	Core
MT 111	Mathematics for Biological and Chemical sciences	8	1	Core
ZL 121	Invertebrate Zoology	8	1	Core
BL 111	Introductory Cell Biology and Genetics	12	1	Option
BL 113	Ecology I	8	2	Option
CH118	Basic Analytical and Physical Chemistry	12	1	Option
CL 107	Communication skills for Science Students	12	2	Option
WS 101	Ecology and Utilisation of Natural Resource	8	2	Option
Second Year				
AP 200	Practical Training I	8	1	Core
AP 201	Honeybee Anatomy and Physiology	12	1	Core
AP 202	Pollination Ecology	12	2	Core
AP 203	Beekeeping Management	12	2	Core
AP 204	Agro-Forestry	12	2	Core
AP 205	Chemistry of Bee Products	12	1	Core
BT 225	Taxonomy of Higher Plants	12	1	Core
BL 234	Biostatistics I	8	2	Core
BN 232	Food Biotechnology	12	2	Core

Code	Course Title	Credits	Semester	Core/Option
MC 206	Food Microbiology and Processing	12	1	Core
ZL 229	Insect Physiology and Pathology	8	2	Core
ZL 236	Introductory Entomology and Parasitology	12	1	Core
BT 215	Introduction to Mycology	8	2	Option
BT 217	Plant Genetics and Evolution	8	2	Option
BL 207	Immunology	8	1	Option
EV 200	Environmental Science I	8	1	Option
FS 202	Advanced Food Microbiology	12	2	Option
GY 245	Remote Sensing and GIS	12	2	Option
SC 215	Scientific Methods	8	1	Option

Third Year

AP 300	Practical Training II	8	1	Core
AP 301	Bee Products, Processing Technologies and Value Addition	12	1	Core
AP 302	Honeybee Genetics and Breeding	12	1	Core
AP 303	Legal and Policy Framework in Apiculture	12	2	Core
AP 304	Beekeeping Extension and Marketing	12	1	Core
AP 305	Bee Pests and Diseases	12	2	Core
AP 306	Apibusiness	12	1	Core
AP 307	Apicultural Economics	8	2	Core
AP 309	Beekeeping Entrepreneurship	8	2	Core
AP 399	Research Project	12	2	Core
AP 308	Environment Conservation, and Fire Ecology	12	2	Core
FS 309	Functional Foods and Nutraceuticals	12	2	Core
BL 314	Biostatistics II	8	1	Option
WS 311	Tourism and Recreational Management	8	2	Option
ZL 333	Insect Ecology	12	1	Option
ZL 334	Insect Systematics	12	2	Option
ZL 336	Entomology	12	1	Option

Bachelor of Science in Crop Science and Technology (BScCST)

First year

Code	Course Title	Credit	Semester	Core/Option
DS 101	Perspectives of Development I	8	1	Core
AG101	Introduction to Agriculture	8	1	Core
AG 102	Field Crops Production I	8	1	Core
IS 131	Introduction to Informatics and Microcomputers	8	1	Core
AG 103	Horticulture I: Principles of Horticulture Production	8	1	Core
AG 104	Urban and Peri-urban agriculture (UPA) I	8	1	Core
MT111	Mathematics for Biological and Chemical Sciences	8	1	Core
CL 107	Communication Skills for Science students	12	2	Option
AG 106	Introduction to Cell and Molecular Biology	12	2	Core
AG 107	Introduction to Plant Genetics	8	2	Core
AG 108	Introduction to Soil Science	8	2	Core
BT 113	Introduction to Plant Physiology	8	2	Core
AG 109	Agricultural Botany	8	2	Core
DS 102	Perspectives of Development II	8	2	Option
EB 103	Entrepreneurship and Innovation I	12	2	Option

Second year

Code	Course Title	Credits	Semester	Core/Option
AG 203	Plant molecular genetics	12	1	Core
AP 202	Pollination Ecology	12	1	Core
AG 204	Plant biochemistry	8	1	Core
AG205	Plant Developmental Physiology	8	1	Core
AG 206	Field Crops Production II	12	1	Core
AG 214	Experimental Design and Analysis in Crop Science	12	1	Core
AG 201	Horticulture II: Olericulture and Ornamental Horticulture	12	1	Option
AG 202	Urban and Peri-urban agriculture (UPA) II	12	1	Option
AG 207	Introduction to Precision Agriculture	8	2	Core
AG 208	Soil Fertility and Plant nutrition	12	2	Core
AG 212	Agricultural Extension and ICT	12	2	Core
AP204	Agro-forestry	12	2	Core
AG 200	Practical Training I	8	2	Core
AG 211	Agricultural Ecology	12	2	Option
AG 213	Introduction to Agricultural Meteorology	12	2	Option
AG 209	Conservation agriculture	8	2	Option

Third year

Code	Course Title	Credits	Semester	Core/Option
AG 301	Crop Breeding and Biotechnology	12	1	Core
AG 304	Seed Production Technology	8	1	Core
AG 309	Organic agriculture	8	1	Core
AG 306	Precision Agriculture Technologies	12	1	Core
FS 308	Postharvest Technology I	8	1	Core
AG 302	Horticulture III: Fruit production (Pomology and Viticulture)	12	1	Option
AG 303	Urban and Peri-urban agriculture (UPA) III	8	1	Option
EB201	Agricultural Products Marketing I	12	1	Option
AG 210	Crop Protection	12	2	Core
AG 310	Soil Water Plant Relationship	8	2	Core
AG 300	Practical Training II	8	2	Core
AG 308	Agricultural resources and farm management	8	2	Core
AG311	Agricultural value chain	8	2	Core
AG399	Research Project	12	2	Core
AG 305	Crop Production Modeling	12	2	Option
FS 402	Postharvest Technology II	8	2	Option
EB200	Agribusiness Management	12	2	Option

DEPARTMENT OF AGRICULTURAL ECONOMICS AND BUSINESS**Bachelor of Science in Agricultural and Natural Resources Economics and Business (BScANEB)**

Code	Course Title	Credits	Semester	Core/Option
First Year				
EC 116	Introductory Microeconomics I	12	1	Core
EC 117	Introductory Macroeconomics I	12	1	Core
AC 100	Principles of Accounting I	12	1	Core
EB 100	Agricultural Economics	12	1	Core
DS 101	Development Perspectives I	8	1	Core

Code	Course Title	Credits	Semester	Core/Option
EB 101	Natural resources Economics I	12	1	Core
EC 126	Introductory Microeconomics II	12	2	Core
EC 127	Introductory Macroeconomics II	12	2	Core
AC 101	Principles of Accounting II	12	2	Core
EB 103	Entrepreneurship and Innovation I	12	2	Core
DS 102	Development Perspectives II	8	2	Core
EB 102	Natural Resources Economics II	12	2	Core

Second Year

EC 216	Intermediate Microeconomics I	12	1	Core
EC 217	Intermediate Macroeconomics I	12	1	Core
EB 201	Agricultural Products Marketing I	12	1	Core
EC 218	Quantitative Methods I	12	1	Core
EC 219	Econometrics I	12	1	Core
EB 200	Agribusiness Management	12	1	Core
EC 220	Development Economics	12	2	Core
EC 228	Quantitative Methods II	12	2	Core
EC 229	Econometrics II	12	2	Core
EB 202	Agricultural Products Marketing II	12	2	Core
EB 204	Business Planning	12	2	Core
EB 203	Fishery Economics and Management	12	2	Core

Third Year

EB 303	Entrepreneurship and Innovation II	12	1	Core
EB 304	Economics of Agricultural Marketing I	12	1	Core
EB 300	Economic Management and Policy Analysis	12	1	Core
EB 301	Natural Resource Accounting	12	1	Core
EB 302	Applied Econometrics	12	1	Core
EC 372	Public Sector Economics I	12	1	Core
EB 308	Management Information Systems	12	2	Core
EB 306	Project Appraisal and Techniques	12	2	Core
EB 305	Economics of Agricultural Marketing II	12	2	Core
EC 377	Industrial Economics	12	2	Core
EB 309	Environmental Economics	12	2	Core
EC 382	Public Sector Economics II	12	2	Core

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

Bachelor of Science in Food Science and Technology (BSc FST)

Code	Course Title	Credits	Semester	Core/Option
Common Courses				
DS112	Perspectives of Development I	8	1	Core
DS113	Perspectives of Development II	8	2	Core
First Year				
MT 111	Mathematics for Biological and Chemical Sciences	8	1	Core
CH118	Basic Analytical and Physical Chemistry	12	1	Core
CH121	Chemistry Practical I	8	1	Core
MC100	Fundamentals of Microbiology	12	1	Core
BN131	Biochemistry I	12	1	Core
EE171	Introduction to Computers and Programming for Engineers	8	2	Core
FS100	Introduction to Food Science and Technology	8	2	Core
FS101	Introduction to Food Microbiology	12	2	Core
CH117	Organic Chemistry	12	2	Core

Code	Course Title	Credits	Semester	Core/Option
PH103	Applied Physics in Biology	12	2	Option
CL107	Communication skills for Science students	12	2	Option
Second Year				
MC237	Practical in Microbiology I	8	1	Core
FS200	Food Chemistry	12	1	Core
FS201	Food Engineering	12	1	Core
FS203	Food Laws	8	1	Core
BL234	Biostatistics I	12	2	Core
MC238	Practical in Microbiology II	8	2	Core
BN232	Food Biotechnology	12	2	Core
BN240	Practical in Biochemistry	8	2	Core
FS202	Advanced Food Microbiology	12	2	Core
FS205	Industrial Training I	8	2	Core
SC215	Scientific Methods	8	1	Core
EV200	Environmental Science I	8	1	Core
FS204	Food Toxicology	8	1	Option
Third Year				
FS300	Food Processing and Preservation	12	1	Core
FS301	Food Analysis and Sensory Evaluation	12	2	Core
FS302	Food Product Development and Marketing	12	1	Core
FS303	Food Safety and Quality Control	8	1	Core
FS304	Human Nutrition and Dietetics	8	1	Core
FS305	Dairy Processing technology	8	1	Core
CP379	Fermentation technology and its Applications	12	1	Core
FS306	Industrial training II	8	2	Core
FS308	Postharvest technology I	12	2	Core
FS310	Practical in Food Processing and Preservation	8	2	Core
BN338	Biosafety, Biopolicy and Bioethics	12	2	Core
FS311	Food Additives	8	2	Core
FS307	Sugar technology	8	1	Option
AP301	Bee Products, Processing Technologies and Value Addition	12	1	Option
FS309	Functional Foods and Nutraceuticals	12	2	Option
Fourth Year				
FS400	Food Packaging	12	1	Core
FS401	Extrusion technology	12	1	Core
FS402	Post-harvest technology II	12	2	Core
FS403	Food Plant Design	12	1	Core
FS406	Meat, poultry and fish processing	12	1	Core
FS412	Research Project	8	1	Core
FS407	Cereals, legumes and oilseed processing technology	12	2	Core
FS408	Current topics in food science and technology	8	2	Core
FS409	Food Business Management and Entrepreneurship	12	2	Core
FS410	Sanitation and Waste management	12	2	Core
FS413	Industrial Training III	8	2	Core
FS404	Baking Science and Technology	12	1	Option
FS411	Animal Feed technology	12	1	Option
FS405	Beverage technology	12	2	Option

DEPARTMENT OF AGRICULTURAL ENGINEERING**Bachelor of Science in Agricultural Engineering and Mechanisation**

Code	Course Title	Credits	Semester	Core/Option
First Year				
MT 161	Matrices and Basic Calculus for Non-Majors	12	1	Core
SC 121	Statics	12	1	Core
EE 171	Introduction to Computers and Programming for Engineers	8	1	Core
EE 151	Fundamentals of Electrical Engineering I	8	1	Core
ME 101	Engineering Drawing	8	1	Core
CL 111	Communication Skills for Engineers I	12	1	Core
DS 112	Development Perspectives I	12	1	Core
AM 111	Workshop Training I	4	1	Core
MT 171	One Variable Calculus and Differential Equations for Non-Majors	12	2	Core
EE 131	Fundamentals of Electronics for Engineers	12	2	Core
EE 152	Fundamentals of Electrical Engineering II	8	2	Core
ME 103	Computer Aided Drafting	8	2	Core
ME 106	Strength of Materials I	8	2	Core
DS 113	Development Perspectives II	8	2	Core
AM 112	Workshop Training II	4	2	Core
AM 101	Introduction to Agricultural Engineering	8	2	Core
Second Year				
MT 261	Several Variable Calculus for Non-Majors	12	1	Core
WR 211	Fluid Mechanics for Civil Engineers	12	1	Core
ME 206	Strength of Materials II	12	1	Core
ME 201	Design Methodology	8	1	Core
TR 111	Engineering Surveying I	8	1	Core
AM 201	Materials Technology for Agricultural Engineering	8	1	Core
AM 203	Fundamentals of Soil Science	8	1	Core
MT 271	Statistics for Mathematics Non-Majors	12	2	Core
WR 212	Open Channels Hydraulics	8	2	Core
WR 213	Hydraulics Practicals	4	2	Core
ME 226	Thermodynamics	12	2	Core
ME 208	Dynamics	8	2	Core
TR 112	Engineering Surveying II	8	2	Core
AM 202	Principles of Agronomy	12	2	Core
AM 200	Practical Training I	8	2	Core
Third Year				
AM 301	Engineering Properties of Biological Materials	8	1	Core
ME 303	Computer Aided Design	8	1	Core
AM 302	Mechatronics	8	1	Core
AM 303	Agricultural Machinery and Equipment	12	1	Core
AM 304	Agricultural Machine Elements	12	1	Core
WR 321	Engineering Hydrology	12	1	Core
ME 308	Mechanical Vibration Analysis	8	1	Option
AM 305	Design of Irrigation Systems	8	1	Option
AM 306	Crop Science and Management	8	1	Option
ME 325	Turbo-machinery	8	2	Core
ME 329	Internal Combustion Engines	8	2	Core
IE 399	Research Methods for Engineers	8	2	Core
AM 307	Manufacturing Technology for Agricultural Engineers	12	2	Core
AM 308	Design of Agro-Processing Machinery	8	2	Core

Code	Course Title	Credits	Semester	Core/Option
AM 309	Agricultural Engineering Design Project	8	2	Core
AM 300	Practical Training II	8	2	Core
ME 322	Renewable Energy Technologies	12	2	Option
AM 310	Electrical Power Systems and Machines for Non-majors	12	2	Option
AM 311	Agricultural Machinery Management	12	2	Option
AM 312	Agricultural Resource Management	12	2	Option
Fourth Year				
AM 400	Practical Training III	8	2	Core
AM 401	Mechanics of Farm Machinery	12	1	Core
AM 402	Post-harvest handling and storage of non-Perishable commodities.	8	1	Core
AM 403	Precision Agriculture Technologies	8	1	Core
AM 404	Fluid Power Systems	12	1	Core
AM 498	Final Project I	8	1	Core
ME 334	Computer Aided Manufacturing	8	1	Option
AM 405	Environmental Conservation in Agriculture	8	1	Option
IE 340	Engineering Operations Management	12	1	Option
IE 354	Engineering Project Management	12	1	Option
AM 406	Post-harvest handling and preservation of horticultural Produce	8	2	Core
AM 407	Livestock Handling Systems	8	2	Core
AM 408	Ergonomics, Safety and Maintenance	12	2	Core
ME 426	Refrigeration and Air Conditioning	8	2	Core
SC 430	General Engineering Procedures and Ethics	12	2	Core
AM 410	Aquaculture Engineering	8	2	Core
AM 499	Final Project II	12	2	Core
AM 411	Design of Small Dams	8	2	Option
IE 445	Entrepreneurship for Engineers	12	2	Option
AM 412	Financial and Human Resource Management	8	2	Option

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