The Structure of the Bachelor Degree Programmes in the Faculty of Agriculture, University of Jaffna

4.1. The Objective of the Degree Programme

The objective of the study programme of Agriculture is to produce skilled agricultural graduates embedded with problem solving capacity, ability to work in a team, innovative and creative capacity with entrepreneurial skill in agricultural enterprises leading to sustainable development.

4.2. Intended learning Outcomes of the Degree Programme

On completion of the B.Sc. (Agric.) the graduates should:

- Possess knowledge and management skills to be a professional in agricultural disciplines
- Be acquired analytical and technical skills needed for research and development
- Be able to plan, design, conduct and report experiments
- Have been motivated towards self-learning and team work
- Be able to organize their activities and complete the task on time
- Be acquainted with importance of environmental safety and sustainable farming systems
- Be innovative and apply the concepts in learning and analysis of agricultural systems in a holistic manner
- Have the ethics, professionalism, quantitative, oral and written communication skills to work effectively in agricultural careers
- Be confident towards self employment
- Be able to work in multi-cultural society
- Be socially responsible and capable of working with farming community

4.3. Credit Unit

A credit unit is the numeric value assigned to a course, which indicates its relative weight within the degree programme. The credit value of a course is denoted by a single digit. One credit unit is equal to either 15 hours of lectures or 30 hours of practical/ tutorials/ assignments or 60 hours of field based learning activities/ industrial training.

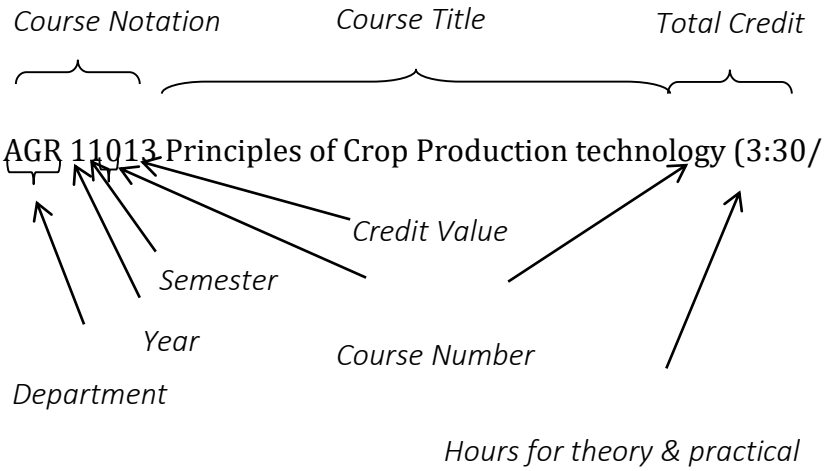
4.4. Course Notation

First three alphabets of the course code denote the department or auxiliary or common core courses. Inter-disciplinary course will be jointly denoted by alphabets representing the departments concerned. Courses with an additional alphabet "S" refer respective departmental specialization courses.

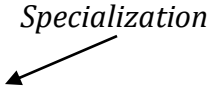
AGR	Agronomy
ANS	Animal Science
AGB	Agricultural Biology
ACH	Agricultural Chemistry
AEN	Agricultural Engineering
AEC	Agricultural Economics
ACC	Auxiliary Core Course
CCC	Common Core Course

The first digit of the five digit number code denotes the year, second digit denotes the semester, third and fourth digits indicate the subject number and the last digit denotes the credits of the particular subject.

- AGR 11013 Principle of Crop Production Technology denotes,



In AGRS 32012 Crop Physiology the additional alphabet "S" denotes,



AGRS 32012 Weed Management (2:23/15)

4.5. The Structure of the Degree Programme

B.Sc. (Agric.) degree is a four year programme comprising eight semesters. Each semester has 15 weeks of academic work. Each course is taught and assessed within the particular semester. The total credit unit of the degree programme is 128. The curriculum comprises core courses, auxiliary courses and specialization courses. The medium of instruction is English.

4.6. Length of the Degree Programme

The degree should be completed within 8 years from the year of registration.

4.7. Attendance

A student shall be eligible for the end semester examination only if he/she possesses 80% attendance in both theory and practical classes. However if any appeal received from respective students, a committee representing all six departments will study and decide the eligibility and the decision will be placed for the recommendation of the faculty board and to the approval of the senate.

4.8. Specialization

The students will enter into specialization from third year second semester onwards. A student will not be allowed to continue the programme from the third year second semester if he/she possesses less than C grade for more than two courses. The number of specialization courses will be six (12 credits), out of which two courses will be compulsory and offered in third year second semester. Other four specialization courses will be optional and offered during fourth year first semester. A Student can opt for a maximum of two optional specialization courses from other Departments. AGR 41012 Experimental Design and AGR 41022 Computer Application for Bio-statistics will be compulsory for all students.

4.9. Examination and Evaluation

Examinations consist of either theory or practical or combination of both will be based on the course structure. Theory component consists of continuous assessments and end-semester examination. The final grade comprises 30 percent from continuous evaluation and 70 percent from end semester examination.

Marks for the practical of a course will be calculated proportionately to the credit value distributed to the theory and practical components. However a maximum of 40 percent will be the ceiling for the practical component for the calculation of the final grade.

Final grade of a practical course comprises 30% from continuous assessment and 70% from final examination/s.

4.10. Student research project

During the second semester of the fourth year, all students will be involved in research project and finally student will submit a dissertation. On completion of the projects students shall be requested to present their research project in a seminar session. The dissertation will be evaluated in the following manner.

Presentation	- 30% (Three Member Panel)
Report	- 70% (Three Member Panel)

4.11. Industrial Training

Each student will be assigned to an agro-based industry based on his/her specialization discipline for four weeks during the end semester vacation of third year second semester. On completion of the training the students will share their experience through a presentation and by submitting a report. The presentation and report will be evaluated.

4.12. Experiential Learning

During the first semester of the fourth year, all students will be involved in experiential learning. Each student has to work with a host farmer for a semester. During this course of study student assess the available resources, resource allocation, technology adopted, production systems, Cost of production and constraints faced by farmers in crops and livestock production. Finally the student will prepare the report and present it for evaluation. This course will be evaluated in the following manner.

Midterm Presentation	- 15% (Two Member Panel)
Final Presentation	- 35% (Three Member Panel)
Report	- 50% (Two member panel)

4.13. Assessment Structure

Theory:

Components of Examination		**Marks**
Continuous Assessment		30
Announced Quiz	*10*	
Mid Semester Exam	*15*	
Term paper	*05*	
End Semester Examination		70
Total		**100**

Practical:

Components	**Marks**
Lap practical Spots Written paper Oral Lap Practical Reports Field Practical Reports Field Assignments Field Trip Reports Study visits Reports	Component/s and percentage of each component for computation of the final marks will be decided based on the nature of the course.
Total	**100**

4.14. Pass Mark of a Course

A student must obtain minimum of C grade in all courses (compulsory, common core courses and specialization courses) for both practical and theory components separately to qualify for the award of the degree. The auxiliary courses will not carry credit value for the calculation of the Cumulative Grade Point Average (CGPA). But a student must obtain minimum of C grade in all auxiliary courses for the award of degree. A student who obtains a grade below B for a course will be allowed to upgrade up to the level of B by sitting both practical and theory components of a course at the next available attempt.

4.15. Repeating a Course

A student will be allowed to repeat a course only three times in consecutive attempts and the maximum grade for a repeated course will be B.

4.16. Grade and Grade Point Values

The proposed grades, grade point values and marks allotted are given below,

Grade	Grade Point Value (GPV)	Marks
A+	4.00	≥ 85
A	4.00	80 - 84
A-	3.70	75 - 79
B+	3.30	70 - 74
B	3.00	65 - 69
B-	2.70	60 - 64
C+	2.30	55 - 59
C	2.00	50 - 54
C-	1.70	45 - 49
D+	1.30	40 - 44
D	1.00	35 - 39
E	0.00	<30

4.17. Calculation of Grade Point Average (*GPA*)

An aggregate index will be calculated as a weighted average of the grade and the number of course credit units for each semester. This aggregate index will be referred to as Grade Point Average (*GPA*) and will be computed using equation 1.

$$GPA = \frac{\sum G_i C_i}{\sum C_i} \quad \text{..... Equation 1}$$

Where *Gi* and C_i represent the grade point value and the credit unit of the i^{th} course, respectively.

4.18. Calculation of the Cumulative Grade Point Average(*CGPA*)

The final GPA obtained by a student on completion of all required courses will be referred to as Cumulative Grade Point Average (*CGPA*) and will be computed using equation 2. Equal weightage will be given to all semesters for the calculation of the *CGPA*. The *CGPA* will be rounded to two digits.

$$CGPA = \frac{\sum (GPA_i \, X \, \sum C_i)}{128} \quad \text{..... Equation 2}$$

Where GPA_i represents the Grade Point Average (*GPA*) of a semester obtained by a student and $\sum C_i$ is the total credit values for the course offered during the respective semester.

4.19. Cut-off levels of CGPA for Awarding Classes/ Passes

The recommended Cumulative Grade point Average (*CGPA*) values for awarding classes/passes are,

CGPA	**Class/Pass**
≥3.70	First Class
3.30 - 3.69	Second Upper
3.00 – 3.29	Second Lower
2.00 – 2.99	Pass

4.20. The Outline of the Degree Programme

Semester	Name of the Semester	Series	Courses Offered	Credits
1	First Year First	11000	Core Courses	14
2	First Year Second	12000	Core Courses	18
3	Second Year First	21000	Core Courses	19
4	Second Year	22000	Core Courses	20
5	Third Year First	31000	Core Courses	20
6	Third Year Second Semester	32000	Core Courses	14
			Specialization	04
7	Fourth Year First Semester	41000	Core Courses	05
			Specialization	08
8	Fourth Year	42000	Research Project	08
			Total	**130**

First Year First Semester - Core Courses (11000):

No.	Code	Title	Credits
1.	AGR 11013	Principles of Crop Production Technology	3:30/30
2.	ANS 11012	Principles of Animal Production	2:23/15
3.	AGB 11012	Cell Biology and Crop Botany	2:15/30
4.	ACH 11012	Soil and Environment	2:15/30
5.	AEN 11022	Applied Hydrology & Engineering Drawings	2:15/30
6.	AEC 11022	Principles of Microeconomics	2:30/00
7.	ACC 11012	Computer Literacy and Basic Application	2:15/30
8.	ACC11022 (AEN / AEC)	Basic Mathematics	2:30/00
9.	ACC 11032	English I	2:30/00
10.	ACC 11041 (ACH / AGB)	Laboratory Techniques	1:00/30
Total			**13**

First Year Second Semester - Core Courses (12000):

No.	Code	Title	Credits
1.	AGR 12013	Production Technology of Cereal Crops	3:30/30
2.	ANS 12012	Anatomy and Physiology of Farm Animals	2:23/15
3.	AGB 12012	Plant Physiology and Environmental Biology	3:30/30
4.	ACH 12013	Soil Properties and Processes	3:30/30
5.	AEN 12023	Principles of Farm machinery	3:30/30
6.	AEC 11032	Principles of Macroeconomics	2:30/00
7.	AEC 12042	Agricultural Extension and Communication	2:15/30
8.	ACC 12012	English II	2:30/00
9.	ACC 12021	Social Harmony	1:00/30
1.	AGR 12013	Production Technology of Cereal Crops	3:30/30
Total			**18**

Second Year First Semester - Core Courses (21000):

No.	Code	Title	Credits
1.	AGR 21012	Vegetable Production Technology	2:20/20
2.	AGR21022	Plant Propagation Techniques	2:20/20
3.	ANS 21012	Applied Animal Nutrition	2:23/15
4.	ANS 21021	Forage Production and Conservation	1:08/15
5.	AGB 21012	Economic Entomology	2:15/30
6.	ACH 21013	Biochemistry and Nutrition	3:30/30
7.	AEN 21023	Water Resource Engineering	3:30/30
8.	AEC 21032	Intermediate Microeconomics	2:30/30
9.	AEC 21042	Natural Resource and Development Economics	2:23/15
1.	AGR 21012	Vegetable Production Technology	2:20/20
Total			**19**

Second Year Second Semester - Core Courses (22000):

No.	Code	Title	Credits
1.	AGR 22012	Field Crop Production Technology	2:20/20
2.	AGR 22022	Orchard and Floricultural Production	2:20/20
3.	ANS 22012	Livestock Breeding and Health Management of Farm Animals	2:15/30
4.	ANS 22023	Ruminant Management	3:23/45
5.	AGB 22012	Basic Microbiology and Phytopathology	3:30/30
6.	ACH 22012	Food Product Quality and Processing	2:20/20
7.	ACH 22021	Soil Classification and Soils of Sri Lanka	1:12/06
8.	AEN 22023	Land Surveying and Irrigation	3:30/30
9.	AEC 22022	Agric Business Management and Business Accounting	2:15/30
10.	ACC 22011	Career Guidance and Skill Development	1:00/30
Total			***20***

Third Year First Semester - Core Courses (31000):

No.	Code	Title	Credits
1.	AGR 31013	Management of Plantation and Export Crops	3:35/20
2.	AGR 31022	Statistical Methods	2:23/15
3.	ANS 31013	Management of Non Ruminants	3:23/45
4.	ANS 31021	Aquaculture Technology	1:08/15
5.	AGB 31012	Plant Protection	3:30/30
6.	AGB 31022	Agricultural Biotechnology	2:30/00
7.	ACH 31012	Soil Fertility and Plant Nutrition	2:15/30
8.	AEN 31013	Post Harvest Engineering	3:30/30
9.	AEC 31022	Agricultural Marketing	2:23/15
10.	ACC 31011	Bioethics	1:15/00
Total			**21**

Third Year Second Semester - Core Courses (32000):

No.	Code	Title	Credits
1.	AGR 32012	Cropping Systems and Agroforestry	2:23/15
2.	ANS 32012	Animal Product Processing Technology	2:15/30
3.	AGB 32012	Genetics and Plant Breeding	2:23/15
4.	ACH 32013	Food Technology	3:35/20
5.	ACH 32021	Soil and Pollution Management	1:15/00
6.	AEN 32012	Environmental Engineering	2:23/15
7.	AEC 32022	Introduction to Econometrics	2:23/15
8.	ACC 32012	Organizational and Disaster Management	2:30/00
9.	ACC 32021	Industrial Training	1: 00/60
Total			14

Third Year Second Semester - Specialization Courses (32000):

No.	Code	Title	Credits
Department of Agronomy			
10.	AGRS 32012	Crop physiology	2: 23/15
11.	AGRS 32022	Weed Management	2: 23/15
Department of Animal Science			
10.	ANSS 32012	Sustainable Animal Breeding	2: 23/15
11.	ANSS 32022	Fish Production and Technology	2: 23/15
Department of Agricultural Biology			
10.	AGBS 32012	Agricultural Acarology	2: 23/15
11.	AGBS 32022	Nematology	2:23/15
Department of Agricultural Chemistry			
Soil Science			
10.	ACHS 32012	Soil Physics for Sustainable Agriculture	2: 23/15
11.	ACHS 32022	Soil Chemistry	2: 23/15
Food Science			
10.	ACHS 32032	Food Chemistry	2:23/15
11.	ACHS 32042	Food Microbiology	2:23/15
Department of Agricultural Engineering			
10.	AENS 32012	Irrigation and Water Management	2:23/15
11.	AENS 32022	Post Harvest Technology and Machinery Management	2:23/15
Department of Agricultural Economics			
10.	AECS 32012	Agricultural Policy Analysis	2:30/00
11.	AECS 32022	Intermediate Micro and Macro Economics	2:30/00
Total			**14**

Fourth Year First Semester – Core Courses (41000):

	Code	Title	Credits
1.	AGRS 41012	Experimental Design	2:30/00
2.	AGRS 41022	Computer Application in Biostatistics	2:15/30
3.	CCC 41011	Experiential Learning	1:00/60
4.	ACC 41011	Scientific Writing	1:15/00
Total			**05**

Fourth Year First Semester – Specialization Courses (41000):

Department of Agronomy

No.	Code	Title	Credits
1.	AGRS 41012	Experimental Design	2:30/00
2.	AGRS 41022	Computer Application for Biostatistics	2:15/30
3.	AGRS 41032	Rice Production Technology	2:23/15
4.	AGRS 41042	Commercial Orchard Crop Production	2:23/15
5.	AGRS 41052	Commercial Nursery Management	2:23/15
6.	AGRS 41062	Seed Production Technology	2:23/15
7.	AGRS 41072	Floriculture and Landscaping	2:23/15

Department of Animal Science

	Code	Title	Credits
1.	ANS 41012	Dairy Production and Technology	2: 23/15
2.	ANS 41022	Meat Production and Technology	2: 23/15
3.	ANS 41032	Reproductive Physiology	2: 23/15
4.	ANS 41042	Animal By-product Technology	2: 23/15
5.	ANS 41052	Wild life of Economic Importance	2: 23/15
6.	ANS 41062	Animal Biotechnology	2: 30/00
7.	ANS 41072	Lactation Physiology	2:30/00
8.	ANS 41082	Ruminant Nutrition	2:23/15
9.	ANS 41092	Monogastric Nutrition	2:23/15
10.	ANS 41102	Integrated Animal Production Systems	2:23/15

Department of Agricultural Biology

No.	Code	Title	Credits
1.	AGBS 41012	Integrated Pest Management	2:30/00
2.	AGBS 41022	Soil Borne Pathogens	2:23/15
3.	AGBS 41032	Biological Control of Pests	2:23/15
4.	AGBS 41042	Vermitechnology and Biowaste	2:23/15
5.	AGBS 41052	Invertebrate Pathology	2:23/15
6.	AGBS 41062	Microbial Inoculants in Agriculture	2:23/15
7.	AGBS 41072	Plant Tissue Culture	2:30/00
8.	AGBS 41082	Vertebrate Pest Management	2:23/15
9.	AGBS 41092	Apiculture	2:23/15
10.	AGBS 41102	Mushroom Cultivation	2:23/15
11.	AGBS 41112	Genetic Engineering	2:30/00
12.	AGBS 41122	Transgenics in Crop Improvement	2:30/00
13.	AGBS 41132	Plant Biotechnology	2:30/00

Department of Agricultural Chemistry

No.	Code	Title	Credits
Soil Science			
1.	ACHS 41012	Land Evaluation and GIS Applications	(2: 15/30)
2.	ACHS 41022	Soil and Plant Analytical Techniques	(2: 23/15)
3.	ACHS 41032	Land degradation Management and GIS Applications	(2: 15/30)
4.	ACHS 41042	Land Resources and Environmental issues	(2: 30/00)
5.	ACHS/AGBS 41012	Soil Biology and Fertility	(2: 23/15)
Food Science			
6.	ACHS 41052	Food Preservation Technology	(2:30/00)
7.	ACHS 41062	Food Analysis	(2:20/20)
8.	ACHS 41072	Food Processing	(2:23/15)
9.	ACHS 41082	Food and Nutrition	(2: 30/00)
10.	ACHS 41109	Food Product Development	(2: 00/60)

Department of Agricultural Engineering

	Code	Title	Credits
1.	AENS 41012	Energy, Environment and Waste Management	2:23/15
2.	AENS 41022	Food Processing Engineering	2:23/15
3.	AENS 41032	Hydrological Modeling of Rainfall and Runoff	2:30/00
4.	AENS 41042	Machinery and Structural Design	2:15/30

Department of Agricultural Economics

	Code	Title	Credits
1.	AECS 41012	Econometrics and Mathematical Programming	2:30/00
2.	AECS 41022	International Trade and Monitory Economics	2:30/00
3.	AECS 41032	Introduction to Management Science and Linear Programming	2:30/00
4.	AECS 41042	Project Monitoring and Evaluation	2:30/00
5.	AECS 41052	Rural Economics and Farm Household Models	2:30/00
6.	AECS 41062	Marine Resource Economics and Bio Economic Modeling	2:30/00

Total	***8***

Fourth Year Second Semester (42000)

	Code	Title	Credits
1.	CCC 42016	Research Project	8