EXAMINATIONS COUNCIL
OF ESWATINI

AGRICULTURAL TECHNOLOGY SYLLABUS

Subject Code: 5920
For Examination in 2025 - 2026

Eswatini Prevocational
Certificate of Secondary Education

EPCSE

What has changed in the EPCSE Agricultural Technology 5920 for 2025 to 2026

The 2021 to 2023 syllabus has been revised. There were changes which were made in the syllabus.

You are advised to read the whole syllabus before planning your teaching programme.

Changes made.

Paper 3

1. The content of the proposal (number of words) have been reduced to **600-800.**
2. The content of the write-up of the whole project (number of words) have also been reduced to **2300-2800.**
3. All write-ups (**proposal and project write-up**) should be submitted as a hard copy booklet.

Content:

Subtopics which were removed.

1. C1.1.1 (d) farmhouses

2. C1.2.4 (c) characteristics of broilers **(d)** feeding

3. C1.3.2 (a) site

4. C1.4.6 (b) application of goat mating process

5. C1.4.7 (b) application of goat mating process

6. C1.4.10 (b) application of goat management practices

7. C1.4.19 (a. b .c) manage a flock of goats

8. C2.1.14 (c) Using a knapsack sprayer

9. C2.3.3 (b) fruit harvesting process application

10. C3.3.2 (a. b, c) tape, stopcock, ball-valve

11. C4.1.1 and C4.1.2 were merged

12. Section 6.0 Aquaculture has also been removed

CONTENTS

ESWATINI PREVOCATIONAL EDUCATION PROGRAMME

Broad Guidelines

The Ministry of Education and Training is committed to strengthen and reform the Prevocational Education Programme (National Technical and Vocational Education and Training and Skills Development Policy, 2010) in order to provide equitable access for all students of appropriate age to quality secondary education (Form 4 and 5). This programme and its assessment system prepares the students for:

- their role in the socio-economic life of Eswatini and the world of work, and
- further vocational, technical and tertiary education

Eswatini National Education and Training Policy Directives

The Eswatini Prevocational Education Programme in Form 4 and Form 5 offers all students important learning opportunities regardless of their particular chosen programme area. Students in the programme will:

- develop skills that can be applied now and in their future activities;
- refine career-planning skills;
- improve entrepreneurial potential;
- acquire technology-related competence;
- enhance employability opportunities;
- demonstrate increased self-confidence and independence;
- apply and reinforce competencies developed in other study areas.

The National Curriculum for Form 4 and Form 5

Students are exposed to learning experiences that catalyse the development of basic competencies in all programme areas. These competences include:

- Managing learning
- Independent learning
- Managing resources
- Problem solving and innovation
- Effective communication
- Working with others
- Responsibility
- Critical thinking
- Technology application

To enhance the development of these skills, students must enrol for the **five academic** core subjects, **two prevocational** core subjects and **one prevocational** elective chosen from four subjects.

Academic Core	**Prevocational Core**	**Prevocational Elective**
• SiSwati • English Language • Mathematics • Sciences • Religious Education	• Entrepreneurship • Information and Communication Technology	• Agricultural Technology • Business Accounting • Food and Textiles Technology • Technical Studies

AGRICULTURAL TECHNOLOGY

The Eswatini Prevocational Certificate of Secondary Education (EPCSE) is designed as a two-year course for examination in Form 5. The syllabus is designed to meet the requirements of the Prevocational curriculum guidelines. Assessment guidelines provide a detailed structure to the curriculum and explain how assessment should be developed and carried out as an integral part of practical classroom teaching and learning.

Prevocational Agricultural Technology is a subject that will, through the use of student-centred teaching approaches, allow the students of various abilities to make use of the existing knowledge, and initiative to solve day-to-day problems and construct new ones so as to build understanding of crop and animal production, as well as processing and marketing of agricultural products. The Agricultural Technology curriculum will allow students to apply Entrepreneurial and information Communication Technology to develop necessary knowledge and attitudes.

The Agricultural product design and production process provides an opportunity to develop practical skills and knowledge in planning, designing and production of useful products. Agriculture Technology is designed to provide students with a foundation in teaching and learning of Agriculture. The Agriculture syllabus will adhere to scientific and environmental principles of farming. Students will thus develop a wide range of skills emanating from existing agricultural problems and socio-economic issues.

The main sections are:

- Assessment
- Syllabus content
- Grade descriptors
- Appendices

RATIONALE

The Agriculture Technology syllabus and its assessment system prepares the students for their role in the socio-economic life in Eswatini. It is a course of study that can establish the pathway for further education, self-employment and gainful employment in the field of farming.

The Agriculture programme is intended to demonstrate the basic concepts of agriculture skills to the candidates. It will help candidates to apply agriculture knowledge, skills and attitudes acquired to solve problems in their everyday lives that may be environmental, social, and/ or economic. The subject will help candidates to change their mind-set about working for themselves and give them an understanding of the importance of good working habits and develop positive work attitudes. It will help students to be creative in starting and organising an enterprise and be able to further their education. Agriculture contributes directly to the development of skills that include:

- Critical and creative thinking
- Information and communication technology
- Numeracy
- Problem solving
- Self-management and competitiveness
- Social and cooperative skills

AIMS

The aims of the syllabuses are the same for all students. These aims are set out below and describe the education purposes of the course in Agricultural Technology examination. They are not listed in order of priority

The aims are to enable students to:

1. promote awareness of the impact of environmental issues on agriculture production;
2. develop agriculture skills needed to enhance their ability to make career choices;
3. develop agricultural technical skills to enable the student to produce a product;
4. promote active participation in community development with relation to farming;
5. develop initiative, creativity, self-reliance, resourcefulness in life;
6. demonstrate efficient planning, implementation and management of small holding in a school farm;
7. develop technical skills to produce a product.

PRIOR KNOWLEDGE

The programme is designed for students who have successfully completed Eswatini Junior Secondary education or equivalent.

PROGRESSION

The Prevocational Agricultural Technology qualification enables candidates to progress directly to gainful employment, self-employment or further education.

TEACHING HOURS

The size of the qualification is described in terms of Guided Learning Hours (GLH) and Total Qualification Time (TQT). The TQT is 180 hours and GLH is 130 hours over 2 a two-year period. GLH is teacher student contact hours which includes time spent on teaching, supervising and invigilating. TQT includes GLH, summative assessments and unsupervised learning activities.

SUPPORT DOCUMENT

A wide range of materials and resources are available to support teachers in Eswatini schools. The resources suit a variety of teaching methods in the local context. Through targeted training forums, teachers can access the expert advice they need for teaching this syllabus.

RECOMMENDED TEXTBOOKS

1. Macmillan Agriculture for Southern Africa
2. O Level Agriculture
3. East African Agriculture
4. Modern Agriculture for Swaziland series from Oxford University Press
5. Online resources.

EXAM PREPARATION RESOURCES

Examination report, syllabuses, past papers and specimen papers are available on ECESWA website www.examscouncil.org.sz

TRAINING

ECESWA offers training in assessment to ensure that teachers have the relevant knowledge and skills to conduct assessment of learning.

SPECIAL REQUIREMENTS

Livestock houses, garden/ field, and an apiary are essential for this programme. Centres should have the enough livestock for the learners to get the expected practice.

ASSESSMENT

This section details the assessment objectives, the specification grid, description of the papers, scheme of assessment and weighting of papers.

The assessment for the PREVOC Agriculture Technology follows the Depth of Knowledge (DoK) model developed by Norman Webb. This model is preferred over others because it is applied to learning expectations and aligns itself well with the assessment of the Prevocational objectives.

The DoK model is more applicable to the assessment of prevocational tasks and cognitive demands as it categorises the tasks according to the complexity of thinking required to successfully complete them. It extends beyond **what** is done to **how** it is done.

ASSESSMENT OBJECTIVES

The Assessment Objectives (AO) in Prevocational Agricultural Technology are categorised as follows:

AO1 Recall and reproduction

AO2 Skills and concepts

AO3 Strategic thinking

AO4 Extended thinking

A brief description of each Assessment Objective follows:

AO1 Recall and reproduction

Involves recall of information and/or rote application of simple procedures. Students are required to demonstrate routine responses e.g. recall a formula, facts, principles, perform routine tasks etc.

These are some of the verbs which may be used:

arrange, define, draw, copy, identify, list, label, illustrate, match, measure, quote, state recognise, etc.

AO2 Skills and concepts

This level involves some mental processing beyond simply recalling or reproducing a response. It requires two or more steps in processing of texts or parts of texts. Students will be required to make observations, basic analysis or interpretation of information.

These are some of the verbs which may be used:

apply, categorise, determine, describe, classify, collect, display, compare, distinguish, estimate, draw, identify, infer, interpret, organise, predict, relate, sketch, show, solve, summarise, calculate, tabulate etc.

AO3 Strategic thinking

This level requires a deep knowledge involving more demanding reasoning, planning, using evidence and higher mental processing. It also involves a development of a plan or a sequence of steps. Students are required to justify their interpretations. Items include making interpretations, citing evidence,

analysing the use of elements of a solution and proposing elements of solutions. Involves a higher level of thinking than the above 2 levels.

These are some of the verbs which may be used:

explain, assess, cite, draw, discuss, develop, differentiate, draw, formulate, hypothesize, investigate, revise, use, solve, justify, investigate etc.

AO4 Extended thinking

Requires complex reasoning. Students are required to use extended or integrated higher order thinking processes such as critical and creative thinking, reflection and adjustment of plans overtime.

These are some of the verbs which may be used:

analyse, compose, connect, create, critique, defend, design, evaluate, judge, propose, prove, support, synthesise, etc.

NB: The verbs listed (AO1 - AO4) are meant to enhance understanding of the DoK model. However, the command words that will be used in this syllabus are stated in Appendix 3

SPECIFICATION GRID

The approximate weightings allocated to each of the Assessment Objectives are summarised in the table below.

Assessment Objectives	Weighting (%)
(AO1) Recall and reproduction	30
(AO2) Skills and concepts	28
(AO3) Strategic thinking	26
(AO4) Extended thinking	16

Weighting of Papers

The assessment objectives are weighted to give an indication of their relative importance. The percentages are not intended to provide a precise statement of the number of marks allocated to particular objectives.

The table below shows the further percentage breakdown of the assessment objectives for each examination paper.

Paper	Assessment Objectives				Total
	Recall and reproduction (%)	Skills and concepts (%)	Strategic thinking (%)	Extended thinking (%)	
1	20% (32 marks)	5% (8 marks)			**25%**
2	10% (29 marks)	15% (42 marks)	10% (29 marks)		**35%**
3		8% (20 marks) 0.4% (1 mark)	14% (35 marks) 0.8% (2 marks)	16% (40 marks) 0.8% (2 marks)	**40%**
Total	**30%**	**28%**	**25%**	**17%**	**100%**

NB: Paper 3 is for the assessment objectives AO2, AO3 and AO4. The 2% (5 marks) is for degree of supervision from the teacher.

SCHEME OF ASSESSMENT

The examination consists of three papers: Paper 1, 2 and 3. Paper 1 consists of multiple-choice questions, Paper 2 consist of short, structured and extended questions and Paper 3 is a project. All three papers are compulsory. Candidates in this syllabus are eligible for grades A* to G.

In this curriculum, students will engage with ICT applications when developing design ideas and researching information to support project work.

The prescribed software for this examination is the Plan - A – Head Vegetable Management software.

Description of papers

Paper 1
This is a theory paper comprising of 40 multiple choice questions worth 40 marks assessing objectives AO1 and AO2. Duration is 1 hour. This paper contributes **25%** of the overall mark.

Paper 2
This is a theory paper consisting of short structured and extended questions worth 100 marks assessing objectives AO1, AO2 and AO3. Duration is 2 hours. This paper contributes **35%** of the overall marks.
This paper is divided into two sections: (sections **A** and **B)**
Section A (60 marks): This section consists of short structured questions assessing objectives AO1 and AO2.
Section B (40 marks): This section consists of extended questions of which candidates must answer **two** from three questions. Questions in this paper will test assessment objectives AO2 and AO3.

The theory papers contribute 60% towards the final syllabus mark.

Paper 3

This paper requires students to complete a school-based project and marks are allocated in **three** stages which are: a written proposal, product development and evaluation. This paper is worth 100 marks assessing objectives AO2, AO3 and AO4. The Project will be assessed by the subject teacher and the external Examiner over the duration of the project. The duration of the project is 26 hours from February to October. The candidate's work consists of a portfolio of evidence of the school-based assessment covering the three stages.

The role of the teacher will be to supervise the project. The teacher will award marks based solely on the degree of supervision (e.g. close or minimal supervision) using an assessment criterion in appendix1. The overall mark of the Project (Paper 3) is 100 marks where 95 marks are awarded by the external Examiner and 5 marks are awarded by the teacher (95+5=100). **The formula for scaling=** $\frac{X}{25} \times 5$**.**
The teacher's assessment will contribute 2% towards the overall mark of the qualification.

The project will be externally assessed by an Examiner who will be appointed by ECESWA. The External Examiner will be a specialist in the subject area and will not be a classroom teacher. The External Examiner will assess each stage of the project using a confidential assessment criterion developed by ECESWA. The external examiner assessment's will contribute 38% towards the overall mark of the project.

The project (Paper 3) will contribute 40% towards the overall syllabus mark.

Centres will submit candidates' proposals to ECESWA by 31st March each year for external assessment.

The project (Paper 3) contribute 40% towards the overall syllabus mark.

Contents of a Portfolio

The portfolio must include sufficient evidence, e.g. photographs, diaries and write-ups of all the stages of the project and any other relevant information to prove originality.
The portfolio must include the candidate's name, Centre name and candidate's number for identification purposes

GUIDELINES FOR PROJECT

The assessment that will contribute to the final exam will begin in Form 5. Information on the assessment will be sent by ECESWA at the beginning of the first term. Thereafter, candidates will begin the first stage of the project.

Features of project

- Theme
- Duration (should be enduring but doable within the given time frame)
- Scope (specifications e.g. a cabbage rather than vegetables)
- Feasibility (practicality)
- Usability (functional, not a model)
- Relevance (of contemporary value addresses a social need)
- Report presentation (Font size, pagination, font type, margins, number of words and reference style)

Candidates should prepare a proposal for their project. Each candidate will do individual report write-up. There will be no group work for this syllabus.

The Project will be assessed in **three** (3) stages as follows:

Stage 1- Proposal worth 15 marks

- Written presentation (15 marks)

The proposal should include:

- Introduction – background and purpose of the project
- Problem statement – identification of a need (gap)
- Justification – why this project?
- Methodology – procedure (outline of the steps) to follow to achieve the end-product
- Time frame – anticipated completion dates for each stage of project
- References – list of sources of information

Each candidate will produce a proposal of between 600-800 words under the guidance of the supervisor. After the approval by the supervisor, candidates may continue with the project. The proposal will be submitted to ECESWA in hard copy by **31st March** each year.

Stage 2 – Product Development stage worth 70 marks

This stage comprise of the following:

- Preparation/layout (10 marks)
- Implementation (50 marks)
- Product realisation (10 marks)

This stage will include:

- Research on the product – description of the product informed by research
- Specification plan – processes of the production
- Implementation – product development
- Product realisation – the produce

Stage 3 - Evaluation of the product (fit for purpose) **worth 10 marks**

- Evaluate product against a set standard. (5 marks)
- Evaluation of write-up (5 marks)

Write-up format and submission mode for the different stages of the project

Font: Arial 12pts, single line spacing, pagination: bottom centre, margins: top and left margin 3cm bottom and right 2.54 cm, number of words: 2300-2800, reference style: American Psychology Association (APA).

All write-ups should be submitted as a hard copy booklet.

Submission dates

- **Proposal** – by **31st March** of each calendar year
- **Portfolio** – by **31st October** of each calendar year

CURRICULUM CONTENT

Appropriate teaching time for Agricultural technology syllabus should be equivalent to five (5) periods of forty (40) minutes each per week for fifty-two (52) weeks over the two-year period.

The abbreviations i.e. and e.g. have contextual meaning in this syllabus. Content which follows an i.e. must be taught and content which follows an e.g. indicates that students must know and be able to use as examples.

1.0 Animal Production and Health		
General Objectives	Content (C)	Outcome (O)
At the end of the programme students can:	Students will learn about:	Students learn to:
1.1 demonstrate knowledge, understanding and application skills of raising layers	C1.1.1 factors considered when siting a poultry house i.e. (a) proximity (b) drainage (c) trees (d) water source (e) accessibility (f) direction of wind/sun	O1.1.1.1 list factors to consider when siting a poultry house O1.1.1.2 site a poultry house O1.1.1.3 explain the important factors in site selection of a poultry house O1.1.1.4 discuss with justification the positioning of a poultry house O1.1.1.5 evaluate a site for a poultry house
	C1.1.2 features of a good layers' house i.e. (a) floor (b) footbath (c) wall (d) roof	O1.1.2.1 identify the features of a layers' house O1.1.2.2 explain the features of a good layers' house O1.1.2.3 construct a footbath
	C1.1.3 preparation for the arrival of POL hens i.e. (a) determining space requirement (b) cleaning and disinfecting the house (c) cleaning and disinfecting the equipment (d) testing the equipment (e) providing adequate litter (f) preparing relevant records (g) providing feed and fresh clean water	O1.1.3.1 explain the procedure followed when preparing a poultry house O1.1.3.2 explain the importance of the activities followed when preparing a poultry house O1.1.3.3 prepare a poultry house for the arrival of POL hens: O1.1.3.4 follow cleaning and disinfecting procedures of a poultry house
	C1.1.4 tools and equipment used in managing layers	O1.1.4.1 list the tools and equipment used when managing layers O1.1.4.2 use relevant tools and equipment in managing layers O1.1.4.3 explain the use of the

		tools and equipment used in managing layers
	C1.1.5 management practices for a flock of layers i.e. (a) daily feeding (b) litter management (c) culling of unproductive hens (d) egg collection (e) egg handling i.e. (i) cleaning (ii) grading (iii) packaging (iv) storage (f) record keeping i.e. egg collection, culls and deaths, health records,	O1.1.5.1 state and describe management practices for a flock of layers O1.1.5.2 apply management practices for management of layers O1.1.5.3 follow proper litter management practices O1.1.5.4 follow proper egg collection procedures O1.1.5.5 use proper egg handling procedures O1.1.5.6 keep proper poultry records
	C1.1.6 laying percentage trends of layers (a) calculating the laying percentage (b) interpreting laying percentage graph (c) determining profitable laying percentage	O1.1.6.1 calculate the laying percentage of a flock layers O1.1.6.2 state and explain suitable laying percentage for layers O1.1.6.3 interpret a laying percentage graph O1.1.6.4 determine a profitable laying percentage
	C1.1.7 factors affecting laying in chickens i.e. (a) food and water (b) health (c) stress (d) weather (e) poor layers (f) day length	O1.1.7.1 state the factors affecting laying O1.1.7.2 explain how the factors affect laying O1.1.7.3 discuss the factors affecting laying in chickens
	C1.1.8 identifying good/poor layers i.e. (a) comb (b) vent (c) pubic bones (d) eyes (e) skin (f) body (g) plumage (h) moulting	O1.1.8.1 identify and describe the signs of a good/poor layer
	C1.1.9 identifying a healthy or a sick chicken i.e. (a) comb (b) feathers (c) feeding (d) activeness (e) alertness.	O1.1.9.1 Identify and describe signs of a healthy chicken O1.1.9.2 differentiate between a healthy and a sick chicken

	C1.1.10 poultry diseases characteristics and their control i.e. (a) Newcastle (b) coccidiosis, (c) chronic respiratory disease (d) fowl pox	O1.1.10.1 identify and describe common poultry diseases O1.1.10.2 state and describe the characteristics of the common poultry diseases O1.1.10.3 classify the diseases under bacterial, viral and parasitic diseases O1.1.10.4 explain control measures of the common poultry diseases
	C1.1.11 prevention of poultry diseases	O1.1.11.1 explain the prevention methods of poultry diseases O1.1.11.2 prevent poultry diseases
1.2 demonstrate knowledge, understanding and application skills of broiler production	C1.2.1 stocking rate for broilers	O1.2.1.1 explain stocking rate for broilers O1.2.1.2 raise broilers at the correct stocking rate
	C1.2.2 preparation of the poultry house for the arrival of day-old broiler chicks i.e. (a) clean (b) disinfect (c) footbath preparation (d) choose and prepare brood area (i) spread litter (ii) provide heating equipment (iii) provide feeding equipment	O1.2.2.1 state and describe the procedure of preparing for arrival of day-old chicks O1.2.2.2 state the appropriate heating equipment for chicks
	C1.2.3 tools and equipment for broiler management	O1.2.3.1 identify the tools and equipment needed in broiler management O1.2.3.2 use relevant tools and equipment for broiler management
	C1.2.4 the growth stages of a broiler i.e. (i) egg laying (ii) incubation (ii) brooding (iii) growing period (iv) adult period	O1.2.4.1 state and discuss the different stages of growth of broilers
	C1.2.5 management practices for a batch of broilers from day-old to slaughter i.e. (a) temperature regulation (b) litter management (c) feeding i.e. feed types	O1.2.5.1 state and explain broiler management practices. O1.2.5.2 manage a batch of broilers from day-old until slaughter age

	and feed rate (d) disease prevention and control (e) weighing (f) record keeping i.e.deaths, health, feed (g) killing and dressing	
1.3 demonstrate knowledge, understanding and application skills of pig management	C1.3.1 commercial pig breeds i.e. (a) Common breeds in Eswatini (i) large white (ii) landrace, (iii) duroc (b) characteristics (i) litter size (ii) body size (iii) colour	O1.3.1.1 identify and state common pig breeds in Eswatini O1.3.1.2 state and describe the characteristics of the different breeds of pigs
	C1.3.2 features of a suitable pig house i.e. (a) floor (b) roof (c) walls	O1.3.2.1 state and describe the features of a suitable pig house O1.3.2.2 evaluate a pig house for suitability
	C1.3.3 breeding stock of pigs i.e. (a) animals for breeding (i) gilt (ii) boar (b) characteristics (i) gilt (ii) boar (c) selection	O1.3.3.1 state and discuss the breeding stock of pigs O1.3.3.2 discuss the characteristics of a good breeding stock O1.3.3.3 select appropriate breeding stock for pigs
	C1.3.4 management practices of breeding stock i.e. (a) feeding (b) flushing (c) detecting signs of heat (d) mating, (e) gestation (f) disease control (g) record keeping i.e. health, breeding, litter, feed, wean	O1.3.4.1 state and explain pig management practices. O1.3.4.2 manage a breeding stock of pigs
	C1.3.5 diseases and parasites in pigs i.e. (a) diseases i.e.: (i) coccidiosis (ii) swine fever (b) parasites. i.e. : (i) lice (ii) roundworms (c) prevention and control methods (i) cleaning (ii) disinfecting (iii) vaccination	O1.3.5.1 identify and explain diseases and parasites in pigs O1.3.5.2 state and discuss prevention and control methods of diseases and parasites in pigs O1.3.5.3 prevent and control diseases and parasites in pigs

	(iv) use of clean feeding equipment (v) use of fresh feed	
	C1.3.6 preparation of a farrowing pen (a) cleaning and disinfecting (b) providing a source of heat (c) providing bedding material	O1.3.6.1 state and explain the preparation of a farrowing pen O1.3.6.2 prepare a farrowing pen
	C1.3.7 management of a sow before and during farrowing i.e. (a) treating sows against parasites (b) feeding the sow according to the length of the gestation period (c) cleaning sows in readiness for farrowing (d) providing clean bedding (e) injecting sow after farrowing with penicillin (intramuscular). (f) Increasing the amount of feed for the sow. (g) treating the sow for agalatia	O1.3.7.1 state, describe and explain sow management practices O1.3.7.2 manage a sow before and during farrowing
	C1.3.8 management of piglets from farrowing up to selling of fatteners i.e. (a) iron injection (b) needle teeth clipping (c) tail docking (d) castration (e) provide creep feed (f) deworming (g) weaning	O1.3.8.1 state, describe and explain piglet management practices O1.3.8.2 manage piglets from farrowing to selling
1.4 demonstrate knowledge, understanding and application skills of goat production	C1.4.1 importance of goats (social and economic)	O1.4.1.1 explain the social and economic importance of goats
	C1.4.2 breeds of goat's i.e.: (a) Eswatini goat (meat) (b) angora goat (wool) (c) saanen goat (milk) (d) boer goats (dual)	O1.4.2.1 identify and describe breeds of goats O1.4.2.2 classify breeds of goats according to purpose
	C1.4.3 breeding plan for a flock of goats i.e.: (a) importance (b) development (c) execution	O1.4.3.1 explain the importance of a breeding plan in goats O1.4.3.2 develop a breeding plan for a flock of goats

	C1.4.4 breeding systems in goats i.e. (a) different systems (i) out-breeding/ out-crossing (ii) cross breeding (iii) in-breeding (b) advantages and disadvantages	O1.4.4.1 state and explain the breeding systems in goats O1.4.4.2 compare the different breeding systems
	C1.4.5 breeding stock i.e. (a) animals for breeding (i) nanny (ii) billy (b) characteristics of a good breeding stock (i) nanny (ii) billy (c) selection	O1.4.5.1 identify and explain characteristics of a good breeding stock O1.4.5.2 select appropriate breeding stock for goats
	C1.4.6 goat mating process i.e.: (a) (i) steaming up (ii) signs of heat (iii) mating	O1.4.6.1 state and describe the mating process in goats O1.4.6.2 apply the mating process in goats
	C1.4.7 management of a pregnant nanny i.e. (a) practices (i) feeding (ii) test mating (iii) drying off	O1.4.7.1 state and describe the management of a pregnant nanny O1.4.7.2 manage a pregnant nanny
	C1.4.8 signs of kidding in goats i.e. (a) restlessness (b) enlargement of vulva (c) mucous discharge from vulva	O1.4.8.1 identify and describe signs of kidding in goats.
	C 1.4.9 kidding process in goats i.e. (a) goat laydown (b) mucous discharge (c) front legs first with head in between	O1.4.9.1 state and describe the kidding process in goats.
	C1.4.10 management of kids i.e. practices (a) disbudding (b) dehorning (c) castration (d) hoof trimming (e) deworming (f) vaccination (g) identification	O1.4.10.1 state and explain the management practices in kids O1.4.10.2 manage kids
	C1.4.11 rearing kids. i.e. (a) methods (i) natural (ii) hand rearing (b) advantages and disadvantages	O1.4.11.1 state and explain kid rearing methods O1.4.11.2 distinguish between natural and hand rearing methods

	(i) natural (ii) hand rearing	O1.4.11.3 discuss advantages and disadvantages of methods of rearing kids
	C1.4.12 feeding and equipment (a) types of feed/ration (i) hay (ii) silage (iii) concentrates (iv) fodder crops (b) feeding equipment (i) hay rack (ii) water trough (iii) goat feeder	O1.4.12.1 identify and describe types of goats feed and equipment O1.4.12.2 compare the nutritional value of the types of feed. O1.4.12.3 feed goats
	C1.4.13 methods of controlling goats (a) types (i) fencing (ii) herding (iii) tethering (b) advantages and disadvantages	O1.4.13.1 identify and describe different methods of controlling goats O1.4.13.2 state and discuss the advantages and disadvantages of the methods of controlling goats
	C1.4.14 identifying a healthy and a sick goat (a) appetite (b) temperature (c) coat (d) movement (e) dung	O1.4.14.1 identify and describe signs of a healthy and sick goat
	C1.4.15 bloating in goats: (a) causes i.e. (i) sudden change in diet (ii) bulk consumption of dry grain (iii) indigestion (b) clinical signs (i) enlargement of the stomach (ii) difficulty in breathing (iii) signs of colic (restlessness) (c) treatment (i) massage the stomach (ii) administer bloat medicine (iii) intubation (iv) trocar treatment	O1.4.15.1 state and explain causes of bloating in goats O1.4.15.2 state and describe clinical signs of bloating O1.4.15.3 state, describe and discuss treatment methods of bloating

	C1.4.16 diseases and parasites in goats: (a) diseases i.e.: (i) foot rot (ii) pneumonia (iii) pulpy kidney (iv) heartwater (b) parasites. i.e.: (i) liver fluke (ii) ticks (iii) roundworms (iv) tapworms (c) prevention methods (i) cleaning (ii) disinfecting (iii) vaccination (iv) use of clean feeding equipment (v) use of fresh feed (vi) keep goats in dry conditions (c) control of diseases C1.4.17 ways of injecting goats (a) subcutaneously (b) intra-muscular, (c) intra-venous. C 1.4.18 health and safety precautions in goat production (a) housing i.e. (i) rough floor (ii) repairs (iii) cleanliness (iv) ventilation (b) chemical usage	O1.4.16.1 identify and explain diseases and parasites in goats O1.4.16.2 state and discuss prevention and control methods of diseases and parasites in goats O1.4.16.3 prevent and control diseases and parasites in goats O1.4.17.1 state and discuss the different methods for administering injection in goats O1.4.17.2 administer injection in goats O1.4.18.1 explain health and safety precautions in goat production

2.0 Crop Production		
At the end of the programme students can:	Students will learn about:	Students learn to:
2.1 demonstrate knowledge, understanding and application skills of vegetable production	C2.1.1 characteristics of a garden site i.e.: (a) topography (b) soil (c) water source (d) protection (e) accessibility	O2.1.1.1 state and discuss the factors to consider when siting a garden O2.1.1.2 site a garden O2.1.1.3 evaluate the garden site
	C2.1.2 vegetables groups i.e.: (a) leafy: e.g. cabbage, lettuce (b) root: beetroot, carrots (c) bulb: garlic, onion (d) fruit: tomato, green, paper (e) legumes: peas, green beans	O2.1.2.1 state and describe vegetables groups
	C2.1.3 crop rotation in vegetable production i.e.: (a) definition (b) design a crop rotation programme (c) advantages and disadvantages	O2.1.3.1 state and explain crop rotation in vegetable production O2.1.3.2 explain the role of crop rotation in soil fertility, pest and disease control O2.1.3.3 state and discuss the advantages and disadvantages of a crop rotation programme O2.1.3.4 design and apply a crop rotation programme in a garden
	C2.1.4 compost preparation i.e.: (a) procedure (i) collect material (ii) mark site (iii) fork soil (iv) pile layers (v) water layers (vi) stir pile/ turn layer (b) preparing a compost	O2.1.4.1 state and describe the procedure for compost preparation O2.1.4.2 apply the procedure for compost preparation

	C2.1.5 methods of planting vegetables i.e.: (a) direct (b) indirect	O2.1.5.1 state and describe the methods of planting vegetables O2.1.5.2 plant vegetables directly and indirectly
	C2.1.6 seedbed and seed tray preparation for seedlings i.e.: (a) preparation process (i) soil cultivation or selection and preparation of trays (ii) fine tilt/ good soil for tray (iii) soil fertilisation (b) advantages and disadvantages (c) seedbed and seed tray preparation	O2.1.6.1 state and describe the process of preparing a seedbed and seed tray O2.1.6.2 state and discuss the advantages and disadvantages of a seedbed and seed tray O2.1.6.3 prepare a seedbed and seed tray for growing seedlings
	C2.1.7 seedlings transplanting (a) transplanting process i.e.: (i) seedling hardening (ii) seedling hole or station preparation (iii) hole or station watering (iv) seedling picking (v) seedling firming (vi) seedling watering (vii) seedling shading (b) transplanting seedlings	O2.1.7.1 state and describe the transplanting process of seedlings O2.1.7.2 apply transplanting process to transplant seedlings
	C2.1.8 fertiliser application (a) methods i.e.: (i) broadcasting (ii) drilling (iii) fertigation (b) application of fertiliser (c) advantages and disadvantages of application methods	O2.1.8.1 state and describe fertiliser application methods O2.1.8.2 state and discuss the advantages and disadvantages of the fertiliser application methods O2.1.8.3 apply the methods of fertiliser application
	C2.1.9 vegetables management (a) practices i.e.: (i) replace transplants (ii) weeding (iii) watering (iv) mulching (v) thinning (vii) topdressing (viii) record keeping	O2.1.9.1 state and describe vegetable management practices O2.1.9.2 manage vegetables
	C2.1.10 irrigating methods. i.e.: (a) types (i) furrow (ii) drip (iii) basin (iv) sprinkler	O2.1.10.1 state and describe types of irrigation methods O2.1.10.2 discuss the advantages and disadvantages of the irrigation methods

	(b) advantages and disadvantages of irrigation methods	O2.1.10.3 irrigate vegetables
	C2.1.11 common pests and diseases of vegetables i.e.: (a) common pests i.e. (i) aphids (ii) cutworms (b) diseases. i.e.: (i) fusarium wilt (ii) early/ late blight (iii) leaf rot (c) signs (d) prevention (e) treatment	O2.1.11.1 identify and describe signs of common pests and diseases in vegetables O2.1.11.2 discuss prevention and control of common pests and diseases O2.1.11.3 control common pests and diseases in vegetables
	C2.1.12 pest and disease control methods in vegetable production i.e. (a) (i) biological, (ii) cultural (iii) chemical (iv) integrated (b) application of the method (c) advantages and disadvantages of the methods	O2.1.12.1 state and describe the methods of pest and disease control in vegetable production O2.1.12.2 state and discuss the advantages and disadvantages of the methods of pest and disease control. O2.1.12.3 apply the methods of pest and disease control in vegetable production
	C2.1.13 safety precautions when using pesticides	O2.1.13.1 state safety precautions when using pesticides O2.1.13.2 observe safety precautions when using pesticides
	C2.1.14 knapsack sprayer, i.e.: (a) parts (i) pump (ii) nozzle (iii) valve (iv) wand (v) shut off (vi) tank (b) calibration technique	O2.1.14.1 state and describe parts of a knapsack sprayer O2.1.14.2 apply calibration techniques O2.1.14.3 use a knapsack sprayer
2.2 demonstrate knowledge understanding and application of field crop production	C2.2.1 field crops production.ie. (a) common field crops in Eswatini e.g. (i) maize (ii) beans (iii) sorghum (iv) sweet potatoes (v) Irish potatoes (b) factors considered when planting field crops i.e.: (i) variety (ii) climatic conditions	O2.2.1.1 state field crops commonly grown in Eswatini O2.2.1.2 state and explain factors considered when planting field crops O2.2.1.3 state and explain field crop farming systems O2.2.1.4 discuss advantages and disadvantages of field crop farming systems

	(iii) time of planting (iv) soil type (v) planting depth (c) field crops farming systems i.e. (i) types (1) crop rotation (2) mono-cropping (3) intercropping (ii) advantages and disadvantages of farming systems (d) plant nutrients, their functions, deficiency symptoms and over use i.e.: (i) macro nutrients (1) nitrogen (2) phosphorus (3) potassium (ii) micro nutrients (1) zinc (2) boron (3) molybdenum) (iii) functions of nutrients (iv) deficiency and overuse symptoms	O2.2.1.5 state and explain the role of macro and micro nutrients in plants O2.2.1.6 discuss functions and deficiency symptoms of macro and micro nutrients in plants
	C2.2.2 considerations in crop production (beans/Irish potatoes /maize). i.e.: (a) choice of suitable cultivars (b) soil preparation (c) planting time (d) methods of sowing (broadcasting, interval and inter-planting), (e) soil fertiliser (i) types of fertiliser (ii) methods of application (ii) rate of application (f) crop planting (i) spacing (ii) seed rate (g) prevention and control of common pests and diseases. i.e.: (i) cutworm (ii) stalk borer (iii) maize streak virus (iv) CMR beetle (v) halo blight (vi) rust (h) weeding (i) crop maturity, (j) harvesting and storage (k) record - keeping.	O2.2.2.1 state and discuss considerations in the production of field crops O2.2.2.2 grow beans/ Irish potatoes/ maize

2.3 demonstrate knowledge, understanding and application skills of fruit production	C2.3.1 fruit production. i.e.: (a) problems limiting fruit production in Eswatini i.e.: (i) climatic conditions (ii) availability of fruit trees (iii) soil types (iv) availability of water (v) production skills (b) orchard establishment process. i.e.: (i) environmental conditions (temperature, rainfall) (ii) site selection (iii) fence area (c) vegetative fruit tree propagation (i) methods. i.e.: (1) T-budding (2) grafting (ii) process of fruit tree propagation (1) T – budding (cultivar and rootstock identification. scion cutting, rootstock T-cutting, sealer application, scion introduction, tying) (2) grafting (cultivar and rootstock identification. cultivar and rootstock cutting, tree sealer application, scion to rootstock introduction, tying) (iii) application of vegetative fruit tree propagation methods (d) fruit tree transplanting process i.e.: refer to seedling transplanting (i) mark planting stations (ii) prepare planting hole (iii) plant tree seedling (e) fruit tree management practices. i.e. (i) watering (ii) weeding (iii) fertilising (iv) pruning (v) pest and disease control C2.3.2 fruit trees irrigation methods (a) basin (b) drip (c) furrow	O2.3.1.1 state and discuss common problems limiting fruit production in Eswatini O2.3.1.2 state and discuss the orchard establishment process O2.3.1.3 apply orchard establishment process to establish an orchard O2.3.1.4 state and describe the fruit tree propagation process O2.3.1.5 state and describe the transplanting process of fruit trees O2.3.1.6 apply transplanting process to transplant fruit trees O2.3.1.7 state and describe fruit tree management practices O2.3.1.8 apply management practices to manage fruit trees O2.3.1.9 state and describe fruit tree management practices O2.3.1.10 apply management practices to manage fruit trees. O2.3.1.11 state and describe the vegetative fruit tree propagation methods O2.3.1.12 apply vegetative fruit tree propagation methods O2.3.2.1 state and describe types of fruit tree irrigation methods O2.3.2.2 discuss the advantages and disadvantages of

		fruit tree irrigation methods O2.3.2.3 apply fruit tree irrigation methods
	C2.3.3 harvesting of fruits i.e.: (a) weather consideration (b) picking (c) handling (d) sorting (e) packing	O2.3.3.1 state and describe the fruit harvesting procedures O2.3.3.2 apply fruit harvesting procedures
	C2.3.4 fruits processing i.e.: (a) selection of fruits (b) sorting and washing (c) juice extraction/ slices/ segments	O2.3.4.1 state and describe the fruit processing process
3.0 Land Use And Mechanisation		
At the end of the programme Students can:	Students will learn about:	Students learn to:
3.1 demonstrate knowledge and understanding of environmental conservation	C3.1.1 farming practices that conserve the environment i.e. (a) contour ploughing (b) contour banks (c) terracing (d) cover cropping (e) minimum tillage (f) rotational grazing (g) correct stocking rate	O3.1.1.1 Identify farming practices that conserve the environment in soil erosion O3.1.1.2 describe farming practices that conserve the environment O3.1.1.3 apply farming practices to conserve the environment
	C3.1.2 farming practices that contribute to soil erosion (a) extensive cultivation (b) cultivation down the slope (c) excessive irrigation (d) overgrazing	O3.1.2.1 identify soil erosion O3.1.2.2. state and describe the farming practices that contribute to soil erosion
	C3.1.3 effects of soil erosion. (a) shortage of crop land (b) reduced soil fertility (c) reduced crop production	O3.1.3.1 explain the effects of soil erosion on crop production
	C3.1.4 prevention and control of soil erosion. i.e.: (a) plant across the slope (b) plant cover crops (c) tie ridging (d) healing a donga	O3.1.4.1 state ways of preventing and controlling soil erosion O3.1.4.2 prevent and control soil erosion.
	C3.1.5 farming practices that contribute to soil pollution and mitigation. i.e.:	O3.1.5.1 state and discuss farming practices that contribute to soil pollution

	(a) farm practices (i) liming (ii) fertilizer application (iii) herbicide application (b) strategies to mitigate pollution (i) minimum tillage (ii) minimise usage of herbicide (iii) use of organic fertilizer	and strategies to mitigate pollution
	C3.1.6 fire-break i.e.: (a) importance of fire breaks (b) width of fire breaks	O3.1.6.1 construct fire breaks O3.1.6.2 explain the importance of a fire-break
	C3.1.7 role of agroforestry in Eswatini. i.e.: (a) job opportunities (b) economic growth (c) prevent erosion (d) water conservation (e) reduce global warming (f) habitant (plant and animals)	O3.1.7.1 describe agroforestry O3.1.7.2 discuss the role of agroforestry in soil and water conservation

3.2 demonstrate knowledge, understanding and application skills of fencing	C3.2.1 materials for fencing post i.e.: (a) wood (b) metal (c) steel (d) concrete posts C3.2.2 types of fencing post i.e.: (a) corner posts (b) standard posts (c) droppers (d) struts/ bracing C3.2.3 types of fences i.e.: (a) barbed wire (b) veld-span (c) diamond mesh (d) live fencing C3.2.4 fence construction (a) position corners (b) dig holes (c) place post (d) firming post (e) put straight lines of wire (f) strengthen corner post (g) place intermediate post (h) put fence (i) stretch fence (j) place droppers	O3.2.1.1 Identify different fencing material O3.2.1.2 compare the different materials used for fencing: O3.2.2.1 construct and maintain a fence structure O3.2.2.2 explain the role of corner posts, standard posts, droppers and struts in fence construction. O3.2.3.1 identify different types of fences O3.2.3.2 compare the types of fences suitable for different purposes O3.2.4.1 state and describe the construction of fence O3.2.4.2 construct a fence
3.3 demonstrate knowledge, understanding and application skills of plumbing	C3.3.1 basic plumbing skills i.e.: (a) pipe fitting (i) connector (ii) reducer (iii) elbow (iv) T connector (b) connect a simple pipe lines C3.3.2 dismantle and assemble a tap, stop cock and ball valve C3.3.3 minor repairs in plumbing i.e.: (a) fixing a leaking tap (b) fixing leaking pipes	O3.3.1.1 state and describe function of pipe fitting O3.3.1.2 connect a simple pipe line O3.3.2.1 dismantle and assemble a tap, stop cock, ball valve O3.3.2.2 describe how a leaking tape can be fixed O3.3.3.1 describe minor repairs in plumbing O3.3.3.2 carry out minor repairs in plumbing

3.4 demonstrate knowledge, understanding and application skills of farm tools and implements	C3.4.1 farm tools and their functions i.e.: (a) spade (b) fork (c) rake (d) hoe	O3.4.1.1 state and explain the functions of the different farm tools
	C3.4.2 farm implements and their functions i.e.: (a) disc plough (b) mouldboard plough (c) disc harrows (d) planters	O3.4.2.1 state and explain the functions of farm implements
	C3.4.3 advantages and disadvantages of using tractor drawn implements	O3.4.3.1 discuss advantages and disadvantages of using tractor drawn implements
	C3.4.4 safety precautions in a farm. i.e.: (a) correct use of tools (b) follow regulations (c) dress appropriately (d) be sober minded (e) wear strong shoes	O3.4.4.1 state safety precautions when using farm tools O3.4.4.2 observe safety precautions when using tools
4.0 Landscaping and Ornamental Horticulture		
At the end of the programme Students can:	Students learn about:	Students will to:
4.1 demonstrate knowledge understanding and application skills of basic landscape and turf management	C4.1.1 classification of plants used in Eswatini landscape i.e.: (a) trees e.g. palms, jacaranda (b) shrubs e.g. roses, sheenas gold (c) ground covers e.g. blue star creeper, lady mantle (d) vines e.g. sweet pea, star jasmine. (e) flowers e.g. bougainvillea's lillies (f) turf grasses e.g. kikuyu, buffalo	O4.1.1.1 identify suitable plants for Eswatini landscape O4.1.1.2 classify plants according to their characteristics and uses in landscaping O4.1.1.3 use different types of plants suitable for Eswatini landscapes
	C4.1.2 landscaping tools and equipment. i.e.: (a) hand tools (i) hand fork (ii) slasher (iii) spade (iv) secateurs (v) rake (vi) pruning shear (b) powered equipment (i) mower (ii) blower (iii) edger	O4.1.2.1 identify hand and powered equipment used in landscape and turf care services O4.1.2.2 use hand and powered equipment in landscaping and turf care services

	(iv) trimmer	
	C4.1.3 materials used in landscaping (a) organic (i) bark (ii) grass (iii) wood chips (iv) plants (trees and shrubs) (b) inorganic (i) quarry stone (ii) pebbles (iii) gravel (iv) paving (v) water	O4.1.3.1 use organic and inorganic materials in landscaping O4.1.3.2 describe organic and inorganic material in landscaping
	C4.1.4 establishment and management of lawn i.e.: (a) land preparation (b) planting using seeds/ turf (c) irrigation (d) weeding (e) fertilise (f) spiking (g) scarification (h) mowing	O4.1.4.1 prepare land for lawn establishment O4.1.4.2 establish and manage a lawn O4.1.4.3 discuss the procedure for lawn establishment O4.1.4.4 explain management practices carried out in lawns
	C4.1.5 management of trees, shrubs and ground cover plants i.e. (a) pruning (b) watering (c) deadheading (d) fertilising	O4.1.5.1 state and discuss the management activities of trees, shrubs and ground cover plants O4.1.5.2 manage trees, shrubs and ground cover plants
	C4.1.6 common pests and controls in lawns and flowers i.e.: (a) pests (i) red spider mites (ii) termites (iii) aphids (iv) moles (b) controls i.e.: (i) spray Oleum mineral oil (ii) spray with Gamma-BHC (iii) malasol (iv) use traps/fumigants	O4.1.6.1 identify common pests of lawn and flowers O4.1.6.2 explain how the common pests affect the lawn O4.1.6.3 control common pests in lawns and flowers
	C4.1.7 features of ornamental gardens i.e.: (a) roads (b) paths and walkways (c) edgings (d) lawn (e) standards (f) hedges (g) topiaries (h) rockery (i) garden adornments	O4.1.7.1 identify features of ornamental gardens O4.1.7.2 discuss features of ornamental gardens O4.1.7.3 explain the importance of paths and walkways in gardens O4.1.7.4 select plants suitable for topiaries

	(j) conservatory C4.1.8 ornamental garden designs i.e.: (a) formal gardens (b) informal gardens	 O4.1.9.1 identify ornamental garden designs O4.1.9.2 design an ornamental garden (formal and informal gardens)
4.2 demonstrate knowledge, understanding and application skills of nursery / greenhouse crops	C4.2.1 nursery/greenhouse i.e.: (a) importance (b) advantages and disadvantages of a greenhouse C4.2.2 plants suitable for specific applications i.e.: (a) potted (i) areca palms, (ii) boston ferns (b) bench-grown (i) lillies, (ii) african violet C4.2.3 potting procedure i.e.: (a) select pot (b) add compost (c) add fine sand (d) press mixture (e) plant the seedling (f) water the seedling C4.2.4 seed dormancy and its importance including scarification, stratification C4.2.5 soil mixture for greenhouse plants i.e.: (a) loam (b) manure (b) sand (d) decomposed leaves C4.2.6 plant propagation in nurseries i.e.: (a) sexual method (b) asexual method C4.2.7 planting nursery plants in a polythene seed tray i.e.: (a) line tray with pebbles (b) add soil (c) piercing drainage holes	O4.2.1.1 state advantages and disadvantages of a greenhouse O4.2.1.2 describe the importance of a nursery and greenhouse O4.2.2.1 identify suitable plants to be grown for specific applications O4.2.2.2 use vegetables, ornamentals and fruit crops for potting and bench-growth O4.2.3.1 describe the potting procedure O4.2.3.2 pot plants O4.2.4.1 explain seed dormancy O4.2.4.2 explain the importance of seed dormancy O4.2.4.3 differentiate between scarification and stratification O4.2.5.1 mix soil for greenhouse plants O4.2.5.2 sterilise soil by heating or solar treatment O4.2.5.3 distinguish between soil sterilisation by heating and solar treatment O4.2.6.1 propagate plants in nurseries O4.2.6.2 use sexual and asexual method of propagation O4.2.7.1 plant nursery plants in a polythene seed tray O4.2.7.2 explain the process of planting in a polythene seed tray

	(d) choose plants with short roots (e) insert root balls in soils	
	C4.2.8 management of plants in greenhouse/ nursery i.e.: (a) selecting mulch material (b) watering (c) fertilising (d) pruning	O4.2.7.1 state and discuss the management of plants in greenhouse/nursery O4.2.7.2 manage plants in a greenhouse/ nursery
4.3 demonstrate knowledge understanding and application skills of basic floral design	C4.3.1 floriculture and its importance (a) human pleasure (b) comfort (c) food (d) beauty	O4.3.1.1 explain floriculture O4.3.1.2 explain the importance of floriculture
	C4.3.2 management of indoor plants i.e.: (a) watering (b) fertilization (c) exposure to sun (d provision of temperature (e) repotting	O4.3.2.1 state and discuss the management activities of indoor plants O4.3.2.2 manage indoor plants
	C4.3.3 planting roses i.e.: (a) propagation methods (b) planting (c) watering (d) hardening-off (e) pruning (f) dead heading (g) pest and disease control	O4.3.3.1 state and describe the process of planting roses O4.3.3.2 produce rose plants
	C4.3.4 cut flowers and greenery commonly used in floral design i.e.: (a) rose (b) lilies (c) carnations (d) fern	O4.3.4.1 state cut flowers and greenery commonly used in floral design
	C4.3.5 preparing cut flowers for marketing i.e.: (a) harvest flowers early (b) condition them (c) strip some leaves (d) put them in water (e) wrap stem with newspaper (f) do not crush stem	O4.3.5.1 state and describe preparations of cut flowers for marketing O4.3.5.2 prepare cut flowers for marketing
	C4.3.6 handling fresh cut flowers i.e.: (a) use clean vase (b) use good quality water (c) cut stem at an angle	O4.3.6.1 state and explain the handling of fresh cut flowers O4.3.6.2 handle fresh cut flowers
	C4.3.7 materials used in floral design i.e.: (a) tape	O4.3.7.1 state the materials used in floral design.

	(b) wire (c) adhesive ribbon (d) oasis (e) containers	
	C4.3.8 basic principles of constructing floral arrangements i.e.: (a) colour harmony (b) composition (c) balance and symmetry (d) proportion and scale	C4.3.8.1 state and describe basic principles of floral arrangement
	C4.3.9 construction of a simple floral arrangement i.e.: (a) boutonniere (b) corsage (c) bud vase (d) rose bowl	O4.3.9.1 state and describe the construction of a simple floral arrangement O4.3.9.2 design and construct a simple floral arrangement for specific occasions using principles of floral arrangement.
5.0 Apiculture		
At the end of the programme Students can:	Students learn about	Students will learn to:
5.1 demonstrate knowledge, understanding and application skills of establishment of a bee colony	C5.1.1 apiculture and its importance	O5.1.1.1 explain apiculture O5.1.1.2 explain the importance of apiculture
	C5.1.2 economic and environmental importance of honey bees (a) income (b) job creation (c) pollination (d) medicine	O5.1.2.1 state and discuss economic and environmental importance of honey bees
	C5.1.3 problems associated with bee keeping in Eswatini i.e.: (a) competitive plants (b) pesticides (c) irrigated crops (d) climatic condition	O5.1.3.1 state and discuss problems associated with bee keeping in Eswatini
	C5.1.4 selecting site for an apiary i.e.: (a) water source (b) melliferous plants (c) fenced area (d) wind break (e) good drainage (f) proximity to farm (g) accessibility	O5.1.4.1 state and discuss the characteristics of an apiary site O5.1.4.2 select a site for an apiary
	C5.1.5 bee hives and trap boxes i.e.: (a) Swazi Top bar hive (b) traditional hive (c) trap boxes (d) Langstroth hive	O5.1.5.1 state and describe bee hives and trap box components.

	C5.1.6 tools, equipment and clothing in apiculture i.e.: (a) trap box (b) uncapping fork (c) smoker (d) bee brush (e) knife (f) bee jacket (g) veil (h) wear veil (i) wear bee suit (j) bee keeping cloves (k) wear rubber boots	O5.1.6.1 state the tools, equipment and clothing in apiculture O5.1.6.2 use protective clothing in apiculture
	C5.1.7 classification of castes of a colony and their functions i.e.: (a) workers (b) drones (c) queen	O5.1.7.1 state and discuss castes of a colony and their functions
	C5.1.8 activities of worker i.e.: (a) collect pollen and nectar (b) nurture and feed bee larvae (c) process incoming nectar (d) feed queen/drone/larvae (f) making and capping honey (g) house keeping (h) make wax	O5.1.8.1 explain activities of a worker bee O5.1.8.2 discuss importance of workers activities in honey production
	C5.1.9 safety precautions when handling bees (a) use protective clothing (b) work with bees early or late in the day (c) smoke bees	O5.1.9.1 state the safety precautions when handling bees O5.1.9.2 observe safety precautions when handling bees
	C5.1.10 establishment of honeybee colony (a) trapping (b) transporting (c) transfer of honeybees	O5.1.10.1 state and explain the procedure for honey bee colony establishment O5.1.10.2 trap, transport and transfer honey bees
	C5.1.11 communication in honeybees i.e.: (a) round dance (b) wag tail dance (c) pheromones	O5.1.11.1 state and describe the different honey bee dances O5.1.11.2 recognise communication in honey bees
5.2 demonstrate knowledge, understanding and application of management of bee colonies	C5.2.1 management of honey bees to ensure sufficient honey production i.e.: (a) stimulative (b) supplementary (c) manipulative	O5.2.1.1 state and explain the management practices for sufficient honey production O5.2.1.2 manage honey bees to ensure sufficient honey production

	C5.2.2 causes of swarming and absconding in honey bees (a) swarming (i) overcrowding (ii) plenty food (b) absconding (i) scarcity of feed (ii) weather conditions (iii) harvesting (iv) unsuitable hive	O5.2.2.1 state and discuss causes of swarming in honeybees. O5.2.2.2 state and discuss causes of absconding in honey bees
	C5.2.3 hive management i.e.: (a) hive inspection (b) colony splitting (c) uniting a colony	O5.2.3.1 state and discuss the steps involved in managing a hive O5.2.3.2 manage a hive
	C5.2.4 pests and diseases in a honeybee colony. i.e.: Diseases (a) nosema (b) American foulbrood Pests (a) banded bee pirate mite (b) bee beetle (c) ants (d) wax moth	O5.2.4.1 recognise and control pest and diseases in a honeybee colony. O5.2.4.2 explain the characteristics of the different bee pest and diseases
5.3 demonstrate knowledge, understanding and application of harvesting, processing and marketing bee products	C5.3.1 honey harvesting i.e.: (a) check if honey is ripe (b) knock on the top bars (c) remove empty bars (d) smoke in the open (e) lift second top bar (f) smoke the hive (g) harvest (h) close hive	O5.3.1.1 prepare for honey harvesting O5.3.1.2 explain the procedure followed in honey harvesting O5.3.1.3 harvest honey
	C5.3.2 honey extraction i.e.: (a) put bucket with combs in the sun (b) sort comb (c) extract the honey (d) filter the honey (e) settle the honey (f) skim honey	O5.3.2.1 discuss procedure for honey extraction O5.3.2.2 extract honey
	C5.3.3 rendering beeswax i.e.: (a) cooking (b) solar (c) boiling	O5.3.3.1 state and discuss the beeswax rendering methods O5.3.3.2 render beeswax by cooking/solar/ boiling
	C5.3.4 honey storage i.e.: (a) bottle the honey (b) label the honey bottles (c) store in clean dry place	O5.3.4.1 state and describe the process of storage of honey O5.3.4.2 apply the honey storage process

	C5.3.5 processing beeswax (a) melt wax (b) clean and filter (c) capping C5.3.6 products from beeswax i.e.: (a) lip balm (b) face and body moisturiser (c) hand cream (d) wax for wood or candle	O5.3.5.1 state and describe the procedure of processing beeswax O5.3.5.2 process beeswax to different products C5.3.7.1 state and describe the products of beeswax

COMPETENCIES

At the completion of the programme, candidates must:

- Demonstrate a sound knowledge and understanding of crop and livestock husbandry techniques and systems needed to support them, some of which are outside everyday experiences;
- Have good grasp of terms and definitions and be able to contrast and compare related ideas;
- Be able to apply general principles of crop and livestock husbandry to given situations and to be able to abstract general principles from given examples.
- Identify a range of needs and opportunities and analyse, design and evaluate the most appropriate ways of addressing these needs in landscaping;
- Be able to discuss methods of analysing agriculture related problems and challenges and solve them competently using research based approaches;
- Be able to use competently a broad range of software packages to successfully complete a wide variety of practical work-related tasks including production, irrigation and harvesting.
- Demonstrate knowledge and understanding of the use of agricultural tools, equipment, implements and machinery in agriculture production; and in processing of agriculture products;
- Identify some career needs and opportunities in agriculture and analyse them to exploit new business opportunities;
- Demonstrate a clear sense of audience, confidence and purpose in their presentations;
- Respond to needs and opportunities and evaluate ways of addressing these using information systems
- Manipulate crop and livestock husbandry practices and systems to maximise production and profit;
- Appreciate the contribution of agriculture to food security, employment opportunities, foreign exchange and world trade, economic growth and development.

GRADE DESCRIPTORS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been attained by candidates awarded particular grades. The candidate will be awarded grades A* to G. The grade awarded will depend on the extent to which the candidate has met the assessment objectives overall and may conceal weakness in one aspect of the examination which is balanced by above-average performance on some other.

A* indicates highest standard achieved and G is the lowest. 'Ungraded' means that the candidate's performance did not meet the standard required for grade G. 'Ungraded' is reported on the statement of the results but not on the certificate. In specific circumstances your candidates may see one of the following letters on their statement of results:

- Q (result pending)
- X (no result)
- Y (to be issued)

The criteria for the standard of achievement likely to have been attained by candidates awarded grades A, C, E and G are shown below.

A Grade A candidate should be able to:

- Demonstrate authoritative, deep and holistic understanding on all learning outcomes.
- Express the synthesis of ideas or application in a clear and logical manner.
- Demonstrate an ability to conduct research, organise time and show a variety of skills in the practical paper.
- Apply technical vocabulary and terminology accurately
- Make clear and critically reasoned judgements and communicate them in an accurate and logical manner.
- Complete tasks without supervision

A Grade C candidate should be able to:

- Demonstrate some understanding on all learning outcomes
- Express the synthesis of ideas and application with clarity
- Demonstrate an average ability to conduct research, organise time and display ordinary skills in the practical paper.
- Apply technical vocabulary and terminology partially
- Make average reasoned judgements and communicate them in a moderate and logical manner.
- Complete tasks without some supervision

A Grade E candidate should be able to:

- Demonstrate some understanding of learning outcomes
- Express the synthesis of ideas and application with little clarity
- Demonstrate a limited ability to conduct research, organise time and show minimal skills in the practical paper.
- Show limited ability to apply technical vocabulary and terminology
- Make unfavourable judgements and communicate them in a substandard manner.

- Complete tasks with considerable supervision

A GRADE G candidate should be able to:

- Demonstrate partial understanding of some learning outcomes
- Express the synthesis of ideas and application with limited knowledge
- Demonstrate very low ability to conduct research, organise time and display limited skills in the practical paper.
- Fail to apply technical vocabulary and terminology
- Fail to make and communicate reasoned judgements
- Complete task with close supervision

Appendix 1: MARK GUIDE FOR PROJECT SUPERVISION (TEACHER ASSESSMENT CRITERIA

Paper 3 Practical Project (Area of Specialisation - Agriculture)

Introduction

This will be a Project based Paper worth 100 marks. The paper will contribute **40%** of the overall mark.

There will be a Portfolio of evidence of school-based assessment on planning and different stages of development of the project which will be internally supervised and assessed on site by external Examiners. The overall mark of the Project (Paper 3) is 100 marks where 95 marks are awarded by the Examiner and 5 marks are awarded by the teacher (95+5=100). **The formula for scaling= $\frac{X}{25} \times 5$.**
The Project will be assessed by the subject teacher and the external Examiner over the duration of the project. The external Examiner will assess each stage of the project using a confidential assessment criteria developed by ECESWA whilst the teacher's assessment will be on the degree of supervision (e.g. close or minimal supervision) of the candidate. The teacher's assessment will contribute 2% towards the weighting of the paper.

The use of software is compulsory.

The Paper 3 project should be assessed according to the criteria format stated below.

Stage 1: Proposal

Marking Guide	• **Guidance**	**Marks**
Follows written or verbal instructions independently. Completed a quality proposal independently. Completed proposal on time with some support and guidance.	Award 5 marks for working mainly independently Award 4 marks for working with some support and guidance	5/4
Follows written or verbal instructions with average guidance. Completed proposal on time with average guidance. Needed above average guidance to put up a quality proposal.	Award 3 marks for average guidance Award 2 marks for above average guidance	3/2
Follows written or verbal instructions with fair guidance. Required fair guidance to complete the proposal. Needed maximum guidance to put up the proposal.	Award 1 mark for fair guidance Award 0 mark for maximum guidance	1/0

Stage 2: Product Development

A. Preparation and layout

Marking Guide	Guidance	Marks
Prepares land independently. Organizes relevant tools and materials with some support and guidance.	Award 5 marks for working mainly independently Award 4 marks for working with some support and guidance	5/4
Prepares land with average guidance. Organizes relevant tools and materials with above average guidance.	Award 3 marks for average guidance Award 2 marks for above average guidance	3/2
Prepares land with fair guidance. Organizes relevant tools and materials with maximum guidance.	Award 1 mark for fair guidance Award 0 mark for maximum guidance	1/0

B. Implementation

Marking Guide	Guidance	Marks
Follows practical procedures independently. Manages maize independently. Follows safety precautions with some support and guidance.	Award 5 marks for working mainly independently Award 4 marks for working with some support and guidance	5/4
Follows out practical procedures with average guidance. Manages maize with average guidance. Follows safety precautions with above average guidance.	Award 3 marks for average guidance Award 2 marks for above average guidance	3/2
Follows out practical procedures with fair guidance. Manages maize with fair guidance. Follows safety precautions with maximum guidance.	Award 1 mark for fair guidance Award 0 mark for maximum guidance	1/0

C. Product Realization

Marking Guide	Guidance	Marks
Expected product population achieved independently. Project completed on time with some support and guidance.	Award 5 marks for working mainly independently Award 4 marks for working with some support and guidance	5/4
Expected product population achieved with average guidance Project completed on time with above average guidance	Award 3 marks for average guidance Award 2 marks for above average guidance	3/2
Expected product population achieved with fair guidance. Project completed on time with maximum guidance.	Award 1 mark for fair guidance Award 0 mark for maximum guidance	1/0

STAGE 3: Product Evaluation

Marking Guide	Guidance	Marks
Produce the final product Independently. Produce written work Independently. Adhering to product specification with some support and guidance.	Award 5 marks for working mainly independently Award 4 marks for working with some support and guidance	5/4
Produce the final product with average guidance Produce written work with average guidance. Adhering to product specification with above average guidance.	Award 3 marks for average guidance Award 2 marks for above average guidance	3/2
Produce the final product with fair guidance. Produce written work with fair guidance. Adhering to product specification with maximum guidance.	Award 1 mark for fair guidance Award 0 mark for maximum guidance	1/0

Appendix 2: GLOSSARY OF TERMS

The meanings given here apply to the word in the context of this syllabus and not necessarily to any other context.

Agalacia: absence or failure of secretion of milk by mammals.

Agroforestry: a management system in which trees are grown among crops for conservation and efficient use of resources.

Apiary: place where beehives are kept.

Apiculture: maintenance of honeybee colonies in hive by humans.

Aquaculture fish farming.

Bee hives: any wooden box in which honeybees live.

Boar: uncastrated male pig.

Brood: offspring produced by the colony (eggs and larvae).

Brooder: heating equipment for chicks or piglets.

Budding: a vegetative propagation method in which a bud of one plant is joined to the stem of a root stock to form a new plant.

Cell: hexagonal structures that form the bee comb which are used for brood rearing, honey and pollen storage.

Colostrum: the first milk produced by the mother which contains antibodies.

Comb: group of cells in a hive which are used for brood rearing, honey and pollen storage.

Fanning: rapid beating of wings by worker bees near the entrance so that air can move through the hive

Farrowing: the process of giving birth by a female pig

Fatteners: pigs raised for pork from 0-4 months

Fire-break: a cultivated or burnt strip that prevents fire from escaping

Floriculture: a discipline of horticulture concerned with the cultivation of flowering and ornamental plants.

Flushing: the process of increasing feed ration two weeks before servicing an animal.

Gilt: a young female swine, generally under 12 months of age, which has not yet farrowed.

Grafting: a vegetative propagation method in which a scion of one plant is joined to a root stock of another plant to form a new plant.

Implements: device that is larger than tools and requires greater power than manpower to operate them.

Layer: a bird or chicken raised for commercial egg production.

Litter: a group of young animals born to an animal at one time.

a loose material provided to soften and insulate a hard floor.

Melliferous : plants which produce substance that can be collected by insects and turned into honey.

Robbing: when honeybees steal the honey from other colonies.

Steaming-up: the process of increasing feed ration during the late stages of pregnancy.

Tool: refers to hand-operated devices used to perform various tasks on the farm.

Weaner: a young pig recently separated from the sow.

Worker: female bee that has reproductive organs under-developed; it is the smallest and the most occurring member of the colony.

Appendix 3: COMMAND WORD

It is hoped that the command words will prove helpful to candidates as a guide i.e., it is neither exhaustive nor definitive. The command words have been deliberately kept brief with respect to the number of terms included but also to the descriptions of their meanings. Candidates should appreciate that the meaning of a term must depend, in part, on its context.

ANALYSE explain the whole, breaking down into components and examine each component in details; draw conclusions and explore the conclusions in details

APPLY using concepts or prior knowledge to explain or extract information. To select/ device an approach among many alternatives to solve a problem. Conduct a project that specifies a problem, identify solution parts, solve the problem and report results.

ARRANGE to put/ organise things in a neat, attractive or required order

ASSESS to consider several options or arguments in a concept and weigh them up so as to come with your own judgement. It involves t**o** draw a conclusion about your judgements and hence their effectiveness or validity in understanding of the concepts. Make an informed judgement/ decision; to be written in one or two paragraphs

CALCULATE used when a numerical answer is required. In general, working should be shown, especially where two or more steps are involved.

CATEGORISE to put things into groups with the same features.

CLASSIFY arrange things in classes or categories according to shared characteristics and/ feature.

COLLECT AND DISPLAY gathering a set of items and show their relevance to the context being discussed.

COMPARE identify similarities and/ or differences between two objects'

COMPLETE add missing information to a table or diagram

CONNECT to bring something together so that a real or notional link is established.

CREATE to build, assemble, or produce an object or idea.

CRITIQUE to evaluate the theory or practice in detailed and analytical manner**.**

DEDUCE Used in a similar way to "Predict" except that some supporting statement is required. (e.g., reference to a law, principle, or the necessary reasoning is to be included in the answer).

DEFINE (the term(s)) is intended literally, only a formal statement or equivalent paraphrase being required.

DESCRIBE requires a candidate to give a step by step written statement of what happens during a particular process, (using diagrams where appropriate). It is often used with reference to data or information given in a graph, table or diagram

DESIGN create or develop a detailed plan/ drawing of work/ object.

DETERMINE often implies that the quantity concerned cannot be measured directly but is obtained by calculation, substituting measured or known values of other quantities into a standard formula.

DEVELOP to synthesise information within one source or text.

DIFFERENTIATE Candidate are required to show or find the difference between things that are compared.

DISCUSS Requires the candidate to give a critical account of the points involved in the topics.

DISTINGUISH identify similarities and differences in terms of characteristics, patterns or other features.

DRAW CONCLUSIONS using information that is implied to make meaning out of what is not clearly stated.

DRAW OR SKETCH In diagrams, sketch implies that simple, freehand drawing is acceptable; nevertheless, care should be taken over proportions and the clear exposition of important details.

ORGANISE arrange elements in order to provide an in depth account and convey a clear logical sequence.

ESTIMATE Implies a reasoned order of magnitude statement or calculation of the quantity concerned, making such simplifying assumptions as may be necessary about points of principle and about the values of quantities not otherwise included in the question.

EVALUATE consider several options or arguments and come to a conclusion about their importance, success or worth.

EXAMINE make clear the details/ meaning of, look in particular at reasons, cause and effects, account for ; give reasons; justify.

EXPLAIN May imply reasoning or some reference to theory, depending on the context. It is another way of asking candidates to give reasons for. The candidate needs to leave the Examiner in no doubt why something happens.

FIND Is a general term that may variously be interpreted as “Calculate”, “Measure”, “Determine”, etc.

FORMULATE to develop all the details of a plan or proposal of doing the work.

GIVE A reason or reasons is another way of asking candidates to explain why something happens or giving examples.

IDENTIFY recognise items on diagrams or pictures and recognise things, issues or activities that can develop. Give all basic facts which relate to the topic

ILLUSTRATE to show the meaning or truth of something more clearly, especially by giving examples.

INTERPRET determining features of the graph or aggregating data in the graph. Make the clear meaning of something or implication.

LABEL to name a part or component in a diagram using a particular word or phrase.

LIST Requires a number of points, generally each of one word, with no elaboration. Where a given number of points is specified this should not be exceeded.

MATCH identify corresponding features in a diagram or table or other pictorial.

MEASURE Implies that the quantity concerned can be directly obtained from a suitable measuring instrument (e.g., length, using a rule, or mass, using a balance).

ORGANISE to arrange objects/ patterns/ set of data in chronological order.

OUTLINE Implies brevity or enlisting points (i.e., restricting the answer to giving essentials).

PREDICT Implies that the candidate is not expected to produce the required answer by recall but by making a logical connection between other pieces of information. Such information may be wholly given in the question or may depend on answers extracted in an earlier part of the question. Predict also implies a concise answer with no supporting statement required.

PROVE to show relevance of a concept under discussion by confirming that it has some relationship to the point of reference.

RELATE to indicate similarities and connections between two things or concepts that are being discussed.

SELECT choose the appropriate approach or model among many alternatives to solve a given problem.

SHOW identifying relations between items in a similar or different set up.

SOLVE finding a solution or explanation to a theoretical or mathematical problem.

STATE Implies a concise answer with little or no supporting argument (e.g., a numerical answer that can readily be obtained 'by inspection').

SUGGEST Used in two main contexts (i.e., either to imply that there is no unique answer 'unknown'), or to imply that candidates are expected to apply their general knowledge to a 'novel' situation, one that may be formally 'not in the syllabus'.

SUMMARISE present principal points without detail.

SUPPORT to provide evidence or give own suggestion or judgement pertaining to a certain concept

TABULATE present information or data in a table

USE using given information or data from a table or figure or text as given**.**

WHAT "What do you understand by"/"What is meant by*"* (the term (s) ...) normally implies that a definition should be given, together with some relevant comment on the significance or context of the term(s) concerned, especially where two or more terms are included in the question. The amount of supplementary comment intended should be interpreted in the light of the indicated mark value.

Appendix 4: ROLE OF EXTERNAL EXAMINER

In competence-based assessments, the role of external Examiner is essential. A very close monitoring is essential in view of ensuring that reliability and comparability of standards can be maintained to the levels of external examinations, through external moderation.

It is the role of ECESWA to ensure the reliability, credibility and validity of awards by appointing external Examiners to monitor the standard of all assessments being carried out at centres.

External Examiners will be sent out by ECESWA to assess the Practical Examination (Project) soon after it has been sent to centres. Centres will be notified of the dates, for each subject area.

It is essential for the success of this exercise that there is regular and open communication between the centre and the visiting assessor and that a good working relationship is established.

The main duties of the external Examiner are to approve, monitor and evaluate practical examination assessments.

External Examiners will ensure that: proper procedures have been followed by examining centres' assessment records and observing practical assessments taking place; practical exam assessments have been correctly administered; all candidates who have met the required standard are recorded as successful.

Appendix 5: Declaration Form

A: Student

I……confirm that the material is all my own work. I have not copied or based my work on any samples or exemplars to which I have had access. Any work taken from another source has been appropriately referenced and acknowledge. I am not submitting previously submitted work.

Signature:…….. Date……

B: Teacher

I……verify that I have supervised sufficient work to enable me to say with confidence that this is the candidate's own work. The work has been fully checked and these checks included looking for: copying from any samples/exemplar materials; copying from other students; the possibility of a third person preparing the work; resubmission of previously submitted work.

Supervisor Name: ……..

Supervisor Signature: …… Date……

Appendix 6

AGRICULTURE TECHNOLOGY (5920) OCTOBER/ NOVEMBER 2025-2026
Paper 3 – Teacher Summary Assessment Sheet.

Name of School: _____ Centre Number: _____ Year: _____

The overall mark for Paper 3 is (95+5=100) where 95 marks are awarded by the Examiner and 5 marks by the Teacher. Scaling formula: $\frac{X}{25} \times 5$

NB: In case of a decimal after scaling, the marks should be rounded down.

Candidate's		Stage 1	Stage 2			Stage 3		
		Proposal	Development Stage			Evaluation		
Exam Number	Name	Written 5	Layout 5	Implementation 5	Realisation 5	Evaluation 5	Total Mark 25	Scaling Marks 5

Teacher's Name _____ Date: _____ Contact Number (s) _____

Examiners Name _____ Date: _____ Contact Number (s) _____

Appendix 7

AGRICULTURE TECHNOLOGY (5920) OCTOBER/ NOVEMBER 2025-2026
Paper 3 - Summary Assessment Sheet.

Name of School: _____ Centre Number: _____ Year: _____

Candidate's		Stage 1	Stage 2			Stage 3		Final Grade (out of 100)
		Proposal	Development Stage			Evaluation	Supervision	
Number	Name	Written 15	Layout 10	Implementation 50	Realisation 10	Evaluation 10	Teacher supervision 5	

Teacher's Name _____ Date: _____ Contact Number (s) _____

Examiners Name _____ Date: _____ Contact Number (s) _____