

Vanga Teachers College

***SKILLS DEVELOPMENT
PROGRAMME***

AGRICULTURE

Course Outline

INTRODUCTION

Agriculture is the most important industry in the Solomon Islands. Most of the Solomon population lives in rural areas and rely almost entirely on produce from the gardens and sea. As the Solomon Islands continue to struggle economically, traditional and introduced methods of farming, fishing and gardening play an important role in the survival of families and communities.

With a rapid increase in population there is a competition for land and water resources. It is very important that instructors in Rural Training centers are equipped with knowledge and skills to increase awareness of sustainable resource use.

This course has been developed to help improve the productivity of rural areas. Not just for earning a living, but most importantly for managing the land and water in a sustainable way so that it can be used productively in future generations

COURSE OUTLINE

This course is designed to fill the skills and knowledge gap between what VTC students have on entering VTC, and what will be necessary to competently instruct RTC students to an appropriate level.

COURSE AIMS

The aim of the VTC Agriculture course component is to equip students with the skills and experience to teach and demonstrate methods and projects to improve village agriculture. At the end of the course, students should be able to:

- Understand how to maintain and manage soil fertility.
- Manage a variety of food crops including fruit trees, traditional and introduced plants.
- Manage various different poultry projects (including Layer and Broiler chickens, Ducks)
- Manage various different piggery projects
- Understand the importance of diversity and integrated farming systems.
- Demonstrate an understanding of the importance of Forests, and manage a timber plantation.

ASSESSMENT

Assessment is competency based.

Practical assessment will be competency based and will be carried out during each stage of the cycle. Each student will be required to complete the set practical exercises to the standard required by the instructor. Such standards will be known to the students at the start of the cycle.

A record of competency achievement will be kept for each student. The record sheet will correspond to the specific objectives listed for each term.

PIGGERY

Course Outline

- The role of Pigs in Agriculture
- Systems of keeping pigs
- Pig physiology
- Nutrition and Feeding
- Breeds of Pigs suitable for the Solomon Islands
- Breeding Pigs
- Project Planning
- Selection of Breeding Stock
- Birth and birthing problems
- Taking care of piglets
- Food types and nutrition
- Housing of pigs
- Site Selection
- Slaughtering and butchering pigs

Main aim of course:

To provide students with an understanding of raising and managing a pig project in various situations (for a small village community, a small-scale income generating project, or large commercial operation.)

Specific objectives:

Students will be expected to demonstrate competence in the following areas:

Understand the role of pigs in agriculture for income and meat.
Name the different age and sex groups of pigs.
Describe the different ways of keeping pigs.
Build, repair or maintain the leaf roof of a pig house.
Repair or build fences of a pig pen
Kill and gut a pig, and prepare for market.
Locate and describe the function of Oesophagus, stomach, liver, small intestine, large intestine, anus, kidneys and bladder.
Locate and describe the function of ovaries, fallopian tubes, uterus and vagina.
Locate and describe the function of testes, vas deferens and penis.
Castrate a young male boar properly.
Name the different breeds of pigs at Vanga.
Fed pigs correct amounts of food and water.
Measure and mix pig feed.
Design and build a creep feeding system for a sow and her piglets.

Name key points in finding a good site for starting a pig project.
Name building materials needed for building a pig house.
Check sows for oestrous cycle.
Demonstrate an understanding of the principles of controlled mating
Prepare a pen for birthing.
Name the key points in looking after small piglets.
Prepare iron rich soil for piglet pen (to prevent anemia.)
Select a breeding boar and sow to produce a good litter of piglets for market.
Name the 3 main food types required by pigs.
Calculate the food needed by a group of pigs for a week.
Calculate the cost of feeding a group of pigs for a week.

POULTRY

Course Outline

- The role of Chickens in Agriculture
- Chicken physiology
- Nutrition and Feeding
- Breeds of Chicken suitable for the Solomon's
- Layer and Broiler Management
- Breeding Chickens
- Housing Chickens
- Prevention of Stress and Disease
- Systems of keeping Chickens
- Chicken Anatomy
- Reproduction
- Chicken Behavior
- Meat Quality and Butchering
- Ducks and other Poultry

Main aim of course:

To provide students with an understanding of raising and managing a poultry project in various situations (for a small village community, a small-scale income generating project, or large commercial operation.)

Specific objectives:

Students will be expected to demonstrate competence in the following areas:

Understands role of chickens in agriculture for the production of eggs and meat.
Describe and locate the comb, wattles, beak, feathers and wings.
Explain why feathers are important for regulating body temperature.
List the characteristics of a broody hen
Feed, water and care for young chickens.
Name the 3 main food types required by chickens, and examples of each.
Measure and mix feed for layers and broilers
Calculate the food requirements of chickens.
Calculate how much water a group of adult chickens need a day.
Construct or repair water troughs. Measure how much water a trough holds.
Name 4 main chicken breeds
Identify the differences in management of Layers and Broilers.
Calculate laying percentage.
Calculate the costs of managing different types of chickens

Select a rooster and a hen to breed for producing meat chickens and explain why each was chosen.
Identify the differences between Free Range and Housed Chicken systems
Select a suitable site for building a chicken house
List the good and bad points of traditional building materials and modern building materials.
Build, repair or maintain a traditional leaf roof
Understand how to choose a type of house to raise chickens.
List 3 main types of chicken housing and in what situation each would be used
Calculate the max. number of chickens that should be housed in a given area.
Kill and dress a chicken for market.
Locate the crop, gizzard, intestines and cloaca and describe function.
Explain why small rocks can be found in the gizzard
Describe the function of the ovaries, oviduct, shell gland & testes
Explain the process of how eggs develop.
Name 3 things that may disturb egg production.
Collect, clean and present eggs for market.
Describe 3 main causes of stress to chickens
Name four main types of domestic birds that can be kept in the tropics.

INTEGRATED FARMING

Course Outline

- Soils
- Plants for the garden
- Nursery Management
- Soil Fertility and soil management
- Soil Degradation
- Making a garden
- Mulching
- Animals and farming
- Compost
- Pest And Disease Control
- Soil Management
- Introduction to Horticulture
- Plant Propagation
- Aquaculture - Telapia and Freshwater prawns
- Managing a Chicken tractor
- Human nutrition
- The digestive system
- The food we eat
- Diet -Traditional food and introduced food
- Nutrition and cooking
- Diet related illness and disease
- Garden Intercropping
- Mixed intercropping
- Relay cropping
- Row intercropping
- Alley cropping
- Strip intercropping
- Medicinal Plants

Main aim of course:

To provide students with an understanding of managing plants, animals, bees and aquatic creatures in an integrated system. To develop awareness and skills in using and managing land sustainably.

Specific objectives:

Students will be expected to demonstrate competence in the following areas:

Draw a garden plan and name different crops of the integrated farm.
Find and describe a sand, loam and clay soil.
Name the layers of soil in the garden.
Name the different parts of soil (organic and inorganic)
Describe ways to prevent soil erosion.
Name the different organic fertilizers and make compost.

Draw and describe the life cycle of an annual and perennial plant.
List examples of the 4 different crop types.
Mix nursery soil for a germination box and sew seeds.
Thin out seedlings.
Prepare soil and transplant seedlings into garden.
Water, weed and fertilize seedlings in the garden.
Feed pigs, ducks and Fish the correct feed for a day.
Make mulch for a garden bed.
Prepare and plant a garden for intercropping.
Describe the main types of intercropping.
Describe the human digestive system.
List traditional foods that are grown in the Solomon Islands.
List introduced foods grown and eaten in the Solomon Islands.
Describe the 3 main types of foods needed for healthy bodies.
Prepare a lunch meal with traditional foods, including all 3 food types.
Construct and maintain a medicine garden.
Manage a daily "chicken tractor"
Make chili, ginger and taro spray and apply to garden for pest control.
Find 3 types of pests in the garden.
Find and manage a diseased plant in the garden
Hand pick pests from the garden.
Describe why crop rotation is important for managing pests and soil fertility.
Demonstrate companion planting.
Manage a green manure crop (planting, weeding or cultivating)
Manage a garden plot with "no til" methods.
Demonstrate how to propagate by using marcotting.
Graft a fruit tree using all the correct procedures.
Collect and plant suckers.
Select suitable plants and trees for propagation.
Collect and clean plant seeds for storage.
Take cuttings from a fodder tree and plant in the garden.
Identify a male and female fish in the tilapia ponds.
Name the key principles in managing fresh water fish.
Maintain and clean Freshwater prawn pond.
Understand the importance of planning, marketing and budgeting on a farm.

FORESTRY

Course Outline

- Managing native forests
- Effects of logging to man and the environment
- Sustainable harvesting of timber
- Managing a tree nursery
- Managing and planning a timber plantation

Main aim of course:

To provide students with an understanding of the importance of forests to the environment and people of the Solomon Islands.

To understand the principles of sustainable logging and the problems associated with deforestation.

Develop skills in raising tree seedlings and managing a forest plantation. Project.

Specific objectives:

Students will be expected to demonstrate competence in the following areas:

List traditional and modern uses of forest plants.
Maintain tree nursery and care for seedlings.
Construct a nursery box
Collect and prepare tree seeds for the nursery.
Collect and prepare cuttings for the nursery.
Measure the height of a timber tree
Measure the volume of timber of a tree in the Eucalypt plantation
Draw and label the main parts of a timber tree.
Demonstrate the procedure for marking out a tree row along the contour.
Name the key points in managing a forest plantation.
Describe the meaning of Agroforestry
Plant a row of leucaena cuttings along the contour.
Describe the main parts of a topographical map.
Name and locate 15 different fruit or food trees on Vanga.

FARM PLANNING & MANAGEMENT

Course Outline

- Farm layout and planning
- Keeping farm records
- Budgeting and basic book keeping
- Ordering and purchasing
- Opening a bank account
- Marketing and selling goods
- Writing a project proposal
- Applying for a job

Main aim of course:

To provide students with an understanding of the importance of planning ahead, keeping good farm records and managing money.

Specific objectives:

Students will be expected to demonstrate competence in the following areas:

Measure 1 hectare of land
Estimate distance and calculate land area
List main points to consider when planning a farm
Assess the suitability of different sites for a range of agricultural projects
Calculate the daily water demand of livestock
List the different factors affecting water quality
Measure the flow of a stream or river
Measure the volume of a square and round tank, and a dam
Read a topographical map
Design and draw a farm plan for a land area of 5 hectares
Plan farm activities for a 5 hectare farm for 1 year
Plan a budget and keep a cashbook for the farm for 1 year
Develop a marketing plan for a small product (jam or soap)
Fill out the necessary forms to open a bank account (savings account)