



**Course:** **Agricultural Science 101 - A Practical Introduction to Tropical Crop Science and Farming Principles**

**Contact Hours:** **24**

**Pre-requisite:** **N/A**

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### **Abstract**

This course is designed for persons new to crop farming or considering starting a crop farm, but requires a formal introduction to plant science. At the end of this course, participants will be able to understand the fundamental principles and science of plant biology and physiology, pest and disease management, soil & irrigation science, and pesticide management. An overview and breakdown of agricultural incentives programs\policies and how to access them will also be discussed.

### **Target Audience**

- Persons new to crop farming

### **Learning Outcomes**

On completion of this course, learners will be able to:

1. Understand the fundamental principles and science of plant biology and physiology
2. Understand pest and disease management, soil & irrigation science, and pesticide management
3. Gain knowledge on breakdown of agricultural incentives programs\policies and how to access them

## Course Content

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- 1. Week 1 - Introduction to Agricultural Crop Science & Biology**
  - Anatomy and physiology of Plants
  - The Science of Photosynthesis
  - Pollination
  - Plant Propagation and Nursery Management
  
- 2. Week 2 - Introduction to Soil Science and Soil Types/Series**
  - Soil Behaviour and Management (Chemistry, Physics, and Microbial)
  - Soil Fertility (Compost & Vermicompost making and Manure application)
  - Practical – Nursery Management (Seedlings)
  - Practical – Calculating Bulk Density and Water Holding Capacity & Preparing Compost Bin
  
- 3. Week 3 - Integrated Pest Management (IPM)**
  - Common pests in Tropical crop production
  - Pest Diagnosis Skills
  - Traditional and Non- Traditional Pest Management Methods
  
- 4. Week 4 - Plant Fertility & Production**
  - Understanding Fertilizer Management and Plant Nutrient Requirements
  - Enhancing Crop Performance
  - Fertilizer Application Methodology
  - Functions and purpose of Commercial Products and its impact on consumer Health
  
- 5. Week 5 - Good Agricultural Practices (GAP), Irrigation System & Trellising**
  - Overview of the Trinidad and Tobago GAP standard 2020
  - Overview of water management and microbial testing, irrigation systems and functions & Water Harvesting/ Treatment
  - Different types of plant support systems and Materials
  
- 6. Week 6 - Practical**
  - Trellis Design
  - Water Quality Testing
  - Mixing Fertilizers/Pesticides and Using a Spray Can
  - Overview of Hydroponic Farming
  
- 7. Week 7 – Harvesting & Produce Handling**
  - Introduction to Post-Harvest Technology and Fresh Produce Handling
  - Overview of Value addition, basic processing technology and packaging
  
- 8. Week 8 - Recording Keeping Systems, Agriculture Incentives and Resources**
  - Cultivation planning and design.
  - Budgeting & Planning
  - Recording Keeping systems and Food Recall
  - Understanding the Agricultural Incentive Program