

Course: **A Master Class in Sustainable Hydroponic Farming for Commercial Production**

Contact Hours: **18**

Pre-requisite: **None**

Course Description

Hydroponic Farming is the growing of plants in a soilless substrate using nutrient-rich water in a controlled environment. This farming method has been globally adopted as one of the most efficient mechanisms of growing food safely. Hydroponics can be done in small spaces and can raise income for small business ventures. Due to the tropical conditions experiences in the Caribbean, crops are susceptible to harsh environmental conditions like drought and heavy rainfall increase favourable conditions for pests and diseases. At the end of this course, students will be able to start their own modern hydroponic farm/business using the drip-to-waste, NFT and DWF hydroponic system, greenhouse construction and organic Integrated Pest Management (IPM).

Target Audience:

- Individuals who are interested in hydroponics, growing healthier crops and nutritious food.
- Home growers and small business start-ups
- Persons seeking formal training and expertise
- Agro- entrepreneurs

Learning Outcomes:

- To understand the principles of plant health and agronomy
- To understand plant fertility and hydroponic fertilizer blends and application methodology
- To have a general understanding of the different types of hydroponic systems and builds
- To design and build basic shade/greenhouses and fully automated irrigation systems
- To understand the scientific approach to IPM stratifies and Organic Agriculture

Course Content

Course Outline

Module 1 – Introduction to Hydroponic Farming (Classroom)

- Define Hydroponic Farming
- System Designs, function, and tropical climate suitability
- DIY Hydroponic set-up

Module 2 - Building A budget Hydroponic Drip-to-Waste System (Practical)

- System description and components
- Management and tips
- Construction of System

Module 3 – Hydroponic Fertilizer Blending and Application (Classroom)

- Science and Technology of Hydroponic Fertilizer
- Steps in mixing fertilizer
- Plant Fertility

Module 4 – Hydroponic System Management & Record keeping (Practical)

- Proper Handling of Spray devices
- Record Keeping and Daily Operation Planning
- Sanitation

Module 5 – Integrated Pest Management & Good Agricultural Practices (Classroom)

- Introduction to prevent, control, and eradicate major pests and diseases safely.
- Pest Life cycles, vulnerabilities, and organic practices
- Fundamental Science for Post-Harvest Management
- Food Safety and Best Practices

Module 6 – Starting A small Farm Business & Modern Marketing (Classroom/practical)

- Requirements for starting a small farm business in Trinidad and Tobago
- Support systems and government incentives
- Creating a Brand
- The era of Social Media Marketing