

# ADVANCE HYDROPONICS TECHNOLOGY

Excels in Hydroponics Technology and Agribusiness

A Robust Course on Advance Hydroponics Technology is an Industrial greenhouse and hydroponics training program that incorporates teaching and demonstration to provide participants with a clear understanding of controlled environment farming & hydroponics systems and business from industry leaders.





## About the Program

The objective of this course is to provide the candidate the detail knowledge & skills in Hydroponics farming to facilitate faster learning curves as a hydroponic grower or Commercial hydroponic farm.

This course aims to provide theoretical & Practical knowledge and skills in the discipline of Hydroponics Farming. This course will cover detailed knowledge about hydroponics farming, Seed selection, Nutrient management Pest and Diseases Control in hydroponics, and retails & Commercial business planning.

## Key Learning Goals

**In-Hydro Course on Advance Hydroponics Technology provides in-depth knowledge of all aspects of hydroponics.**

- Plant Science Plant Growth Requirements
- Cultivation (Greenhouse) Farming
- Introduction To hydroponics, Hydroponics Systems crops
- Hydroponics Nutrient Management
- Hydroponics Automation Control
- Agronomy, Pest diseases Management
- Hydroponics Business planning
- Question Answers Session





# Who Can Join this Course?

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Beginners, Hobbyists, progressive growers, Agripreneurs and hydroponics consultants of any age with a keen interest in New-Age Farming are most welcome in the Advance Hydroponic Technology Course.

- Ideal for **Beginners** who want to learn about hydroponics/soilless farming & understand its business prospects in India.
- **Agri-Entrepreneurs** who want to start an agribusiness.
- **Hydroponics Growers** looking for expert advice on business expansion
- **Home Gardeners** Anyone with a balcony or terrace & who wants to grow quality vegetables



## Methodology

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The program is a global standard offering that uses mixes of hydroponics farming technologies aligned to unique pedagogy which is goal-centric & action-oriented. Demonstrate Case Studies with hands-on experience and farm visits, exercise & brainstorming using adaptive probing methodology along with classroom theories and live exposure.

# About the course

## Mode/Duration

1-Days  
Classroom/Farm

## Learning Based outcomes:

Get hands-on experience in hydroponics farming with an understanding of the system, nutrient management, pest & disease in hydroponics, Cultivation farming & understand it's business prospects in India.

## Trainer:

They are delivered by a senior hydroponics professional having extensive experience of hydroponics and greenhouse farming. These practitioners are also impanelled as subject matter experts with InHydro.

## Content:

Great Content on Hydroponics farming including courseware (PPT/PDF), data, case studies articles books videos, resource library & related more.

Understand What & How ?  
All about Hydroponics

Real-Time Real Farm visit

Practical Session  
How to Hydroponics

Detailed In-Sights for Starting  
Hydroponics Business

Certification of Participation

Setup your Hydroponic farm

Expert Mentorship and  
Networking with Professionals

Grower support

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# Course structure

## Introduction to Hydroponics & Plant Growth Requirements

- Introduction to Hydroponics
- History of Hydroponics
- Global industry
- Comparison to growing in soil
- Resources and contacts
- Plant structure
- How Plants Grow
- Photosynthesis
- Light, Water and nutrients Requirements
- CO<sub>2</sub>, O<sub>2</sub>, Temperature, Humidity and other requirements

## Hydroponic Nutrient Solution

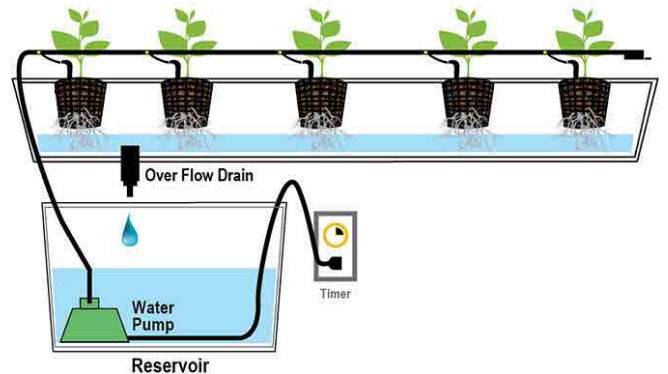
- Plant growth & nutrition requirements
- Common Nutrient ranges in Hydroponics
- Plat Structure
- Biochemistry, Biochemical Cell Processes
- Mechanisms of Nutrient uptake in various stages of Plant growth
- Photosynthesis, minerals and nutrients
- Plant nutrition – Macro & Micronutrients
- Water Quality and its impact
- PH, EC/TDS
- Various Nutrient Recipes

## Workshop On Farms

- Demo of NFT, DWC, Media Bed, Dutch Bucket System in the Farm
- Farm Activities
- Seedling Development
- Seedling and transplanting in DWC and NFT
- Balancing nutrients, EC & pH in reservoir
- Nutrient Deficiency and toxicity management
- Pest and disease Management
- Day to Day maintenance of a Hydroponic Garden

## Hydroponics Business Plan

- Commercial farm business plan
- Capex and Opex case study
- Market survey, Farm sizing, Crop Selection and management
- Vendor Management & Documentation
- References, resources and contacts



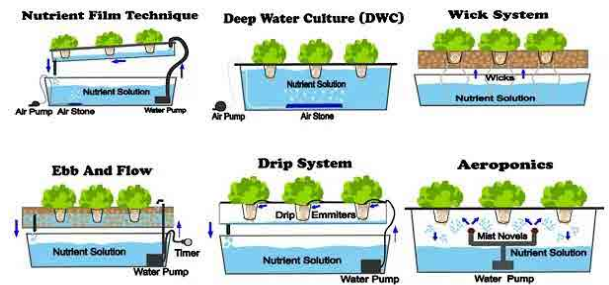
## Hydroponics Growing Media

- Growing Media
- The Perfect Grow Medium
- Type of Media
- Coco peat, Vermiculite, Perlite, rockwool, Leca etc.
- Advantages & Disadvantages of various grow mediums
- How to choose perfect medium for various system



## Hydroponics Systems

- Various Hydroponics Systems
- Hydroponics System classification criteria
- Closed and Open System Techniques.
- NFT, DWC, Dutch buckets, Aeroponics systems
- Strengths & Weaknesses of Various Systems



## Hydroponics Materials Selection & Sizing

- Food Safe Material Hydroponics
- Selection & Sizing of NFT Channels
- Selection & Sizing of reservoir tanks
- Selection & Sizing of Pumps & Motors for various Systems
- Selections of Various Tools used in Hydroponics
- Selection of Air pumps for Aeration
- Selection of Grow Lights



## Greenhouse Operation & Management

- Growing crops in greenhouses
- Horticulture management in greenhouse
- Greenhouse and other growing Structures
- Environmental Control – Heating/Cooling, Lighting/Shading
- Environmental Control – Humidity and natural ventilation
- Horticultural Lighting
- IoT automation prospects in greenhouse



## Questions & Answer Session

- Conclusion and Wrap up





# Course Certificates

Integrated Hydroponics India PVT. LTD. An initiative by SmartBrains Engineers & Technologist Pvt. Ltd. aims to create awareness about sustainable and safe practices in organic and hydroponic farming technology for commercial and Rooftop farming. SmartBrains is associated with the National Skill Development Corporation (NSDC) as the training & Certification Partner for various job training programs across various sectors Including Oil & Gas, Power, Renewable Energy, Hydrocarbon, IT, Electronics Agriculture, Hydroponics, etc. training & Certifications Programs.



## About InHydro

**Complete one stop solutions for the 21st Century Hydroponic farms greenhouses Projects.**

InHydro is the nation's leading manufacturer of food grade hydroponics Products, offers a complete solution from Technology Innovation and R&D, feasibility studies, farm design & site Planning, Project Management, Training & Consulting, Farm operation & Maintenance to agronomy support in commercial Hydroponic Farms or small home/rooftop growing setups. InHydro's Hydroponic System Experts love helping our growers in their environmental controls and design custom solutions that optimize crop turns.



**InHydro aim to provide best quality profitable and sustainable hydroponic solutions to customers world wide**





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New Age of Farming Technologies

## Integrated Hydroponics India Pvt. Ltd.

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