# Training Course on Robotic Harvesting and Post-Harvest Automation Solutions

Professional Development Training Course Outline

| | | | |
|---|---|---|---|
| **Category** | Agriculture | **Duration** | 5 Days |
| **Base Fee** | $1,500 USD | **Delivery Mode** | Online / On-site Hybrid |

## Course Introduction

The rise of agricultural robotics is revolutionizing the way we approach crop harvesting and post-harvest handling. Training Course on Robotic Harvesting and Post-Harvest Automation Solutions provides participants with in-depth knowledge of the latest innovations in agri-tech, including AI-driven machinery, autonomous systems, precision agriculture, and automated grading, sorting, and packaging systems. With increasing labor shortages, rising global food demands, and the need for sustainable farming, robotic solutions are no longer futuristic—they are essential tools for modern agriculture.

This hands-on course empowers agribusiness professionals, researchers, and technology developers with critical insights and practical skills to deploy robotic automation for harvesting, quality control, and logistics. It emphasizes real-world applications through case studies, practical demonstrations, and emerging trends in smart farming, machine vision, sensor integration, and data-driven post-harvest systems. Participants will explore how automation improves efficiency, reduces waste, and enhances product consistency from field to market.

## Programme Curriculum

**Training Course on Robotic Harvesting and Post-Harvest Automation Solutions**

**Introduction**

The rise of agricultural robotics is revolutionizing the way we approach crop harvesting and post-harvest handling. Training Course on Robotic Harvesting and Post-Harvest Automation Solutions provides participants with in-depth knowledge of the latest innovations in agri-tech, including AI-driven machinery, autonomous systems, precision agriculture, and automated grading, sorting, and packaging systems. With increasing labor shortages, rising global food demands, and the need for sustainable farming, robotic solutions are no longer futuristic—they are essential tools for modern agriculture.

This hands-on course empowers agribusiness professionals, researchers, and technology developers with critical insights and practical skills to deploy robotic automation for harvesting, quality control, and logistics. It emphasizes real-world applications through case studies, practical demonstrations, and emerging trends in smart farming, machine vision, sensor integration, and data-driven post-harvest systems. Participants will explore how automation improves efficiency, reduces waste, and enhances product consistency from field to market.

**Course Objectives**

1. Understand the fundamentals of robotic harvesting technologies in smart agriculture.
2. Identify AI-powered sensors and computer vision applications for crop detection.
3. Analyze autonomous harvesting equipment for different crop types.
4. Learn about robotics for soft fruit and vegetable harvesting.
5. Explore machine learning models for post-harvest quality assessment.
6. Investigate automation in sorting, grading, and packing processes.
7. Examine IoT integration for real-time post-harvest monitoring.
8. Apply robotic innovations in greenhouse and vertical farming environments.
9. Evaluate the ROI and operational efficiency of automated systems.
10. Understand safety, ethics, and labor impacts of agri-automation.
11. Design strategies for adopting robotics in smallholder farms.
12. Monitor predictive maintenance for robotic harvesters.
13. Develop future-ready post-harvest solutions with sustainability goals.

**Target Audiences**

1. Agronomists and Crop Scientists
2. Agricultural Engineers
3. Farm Equipment Manufacturers
4. Agri-Tech Entrepreneurs
5. Post-Harvest Managers
6. Smart Farming Solution Providers
7. Academic Researchers in Agri-Robotics
8. Government & NGO Agricultural Officers

**Curse Duration:** 5 days

**Course Modules**

**Module 1: Introduction to Robotic Harvesting**

- Overview of agricultural automation trends
- History and evolution of robotic harvesting
- Types of robots used in crop harvesting
- Importance of AI and IoT in automation
- Safety and environmental considerations
- **Case Study: FFRobotics' Robotic Fruit Picker in Israel**

**Module 2: Crop Detection & AI-Based Vision Systems**

- Basics of computer vision in agriculture
- Deep learning for crop maturity recognition
- Image processing algorithms and tools
- Sensor technologies for fruit/vegetable detection
- Accuracy challenges in unstructured environments
- **Case Study: Blue River Technology’s LettuceBot AI System**

**Module 3: Autonomous Harvesting Equipment**

- Types of autonomous harvesters (tractors, drones)
- Path planning and navigation systems
- Automation for soft vs. hard crop harvesting
- Energy efficiency and battery life concerns
- Interoperability with other farm equipment
- **Case Study: Agrobot's Strawberry Harvesting System in California**

**Module 4: Robotic Systems for Post-Harvest Handling**

- Robotics in sorting and grading
- Use of hyperspectral imaging for quality control
- Packaging automation with robotic arms
- Conveyor systems and smart logistics
- Integration with inventory management
- **Case Study: TOMRA's Optical Sorting in Potato Industry**

**Module 5: Automation in Greenhouses and Vertical Farms**

- Role of robots in controlled-environment agriculture
- Automated transplanting and seeding systems
- Vertical farming with robotic shelf movers
- LED sensors and climate control integration
- Maintenance and robotic uptime efficiency
- **Case Study: Iron Ox Autonomous Greenhouse Farm**

**Module 6: ROI, Challenges, and Adoption Strategies**

- Cost-benefit analysis for robotic investment
- Financing and funding opportunities
- Barriers to adoption in small-scale farming
- Training farmers and workforce transition
- Legal and ethical implications
- **Case Study: FarmWise Autonomous Weed Control Implementation**

**Training Methodology**

- Interactive classroom sessions with multimedia support
- Live demonstrations and field trials of robotic systems
- Hands-on workshops with real-time sensor and AI tools
- Expert guest lectures and panel discussions
- Case study analysis and group assignments
- Post-course assessments and certification

**Register as a group from 3 participants for a Discount**

**Send us an email: info@fineskilltrainingcenter.org or call** *+254769199797*

***Certification***

*Upon successful completion of this training, participants will be issued with a globally- recognized certificate.*

***Tailor-Made Course***

*We also offer tailor-made courses based on your needs.*

**Key Notes**

**a.** The participant must be conversant with English.

**b.** Upon completion of training the participant will be issued with an Authorized Training Certificate

**c.** Course duration is flexible and the contents can be modified to fit any number of days.

**d.** The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

**e.** One-year post-training support Consultation and Coaching provided after the course.

**f.** Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

## Upcoming Scheduled Sessions

| Start Date | End Date | Location | Price |
|---|---|---|---|
| **23 Nov 2026** | 27 Nov 2026 | Online | $1,000 |
| **23 Nov 2026** | 27 Nov 2026 | Physical | $1,500 |
| **23 Nov 2026** | 27 Nov 2026 | Physical | $3,000 |
| **23 Nov 2026** | 27 Nov 2026 | Physical | $3,000 |
| **23 Nov 2026** | 27 Nov 2026 | Physical | $6,000 |
| **23 Nov 2026** | 27 Nov 2026 | Physical | $4,500 |
| **23 Nov 2026** | 27 Nov 2026 | Physical | $6,000 |
| **23 Nov 2026** | 27 Nov 2026 | Physical | $6,000 |

Ready to enroll or request a customized program? Book online or contact us:

**Register Online Now**

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com