

Instrumentation and Project Management Essentials Course Details

Department: Land, Agriculture and Food Sciences

Presented by Magna Skills Development Institute

[Registration Link](#)

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Course Summary

The Instrumentation and Project Management Essentials course by Magna Skills combines foundational knowledge of industrial instrumentation with key project management principles. Participants will not only learn the fundamentals of sensors, control systems, and safety protocols but will also gain insights into project planning, execution, and risk management specific to instrumentation projects. This integrated approach equips participants with a well-rounded skill set for success in the field.

Course Objectives

1. **Understand Instrumentation Fundamentals:**
 - Define key terms and concepts in instrumentation.
 - Explore the basic principles behind measurement and control.
2. **Learn Instrumentation Devices and Sensors:**
 - Identify and describe common sensors and transducers used in industrial settings.
 - Understand the functioning of pressure, temperature, level, and flow sensors.
3. **Study Control Systems:**
 - Explore different types of control systems.
 - Understand the role of controllers, actuators, and final control elements in a control loop.
4. **Calibration and Maintenance:**
 - Learn the importance of calibration in maintaining instrument accuracy.
 - Understand best practices for instrument maintenance.
5. **Process Control Strategies:**
 - Explore various control strategies, including feedback and feedforward control.
 - Understand the concept of proportional, integral, and derivative (PID) control.
6. **Safety and Compliance in Instrumentation:**
 - Understand safety protocols in handling instrumentation equipment.
 - Familiarize with industry standards and regulations related to instrumentation.
7. **Project Management in Instrumentation:**
 - Introduction to project management principles.
 - Project planning, scheduling, and resource allocation.
8. **Risk Management in Instrumentation Projects:**
 - Identify potential risks in instrumentation projects.
 - Develop strategies for risk mitigation and contingency planning.
9. **Hands-On Lab Sessions:**

- Apply theoretical knowledge in practical scenarios through hands-on lab sessions.
- Gain proficiency in using common instrumentation tools and equipment.

Course Outline

Module 1: Introduction to Instrumentation

- Overview of industrial instrumentation
- Basic principles of measurement and control

Module 2: Sensors and Transducers

- Types of sensors (pressure, temperature, level, flow)
- Sensor characteristics and selection criteria

Module 3: Control Systems

- Introduction to control systems
- Components of a control loop

Module 4: Calibration and Maintenance

- Importance of calibration
- Procedures for instrument maintenance

Module 5: Process Control Strategies

- Feedback and feedforward control
- PID control

Module 6: Safety and Compliance

- Safety protocols in instrumentation
- Industry standards and regulations

Module 7: Project Management in Instrumentation

- Project initiation, planning, and execution
- Resource allocation and scheduling

Module 8: Risk Management in Instrumentation Projects

- Identification of project risks
- Mitigation and contingency planning

Module 9: Hands-On Lab Sessions

- Practical application of instrumentation concepts
- Use of common instrumentation tools and equipment



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Company Overview

Who We Are: Magna Skills is a premier training and capacity-building organization specializing in professional development for government institutions, NGOs, and the private sector.

Our Mission: To provide world-class training solutions that equip professionals with the expertise needed to excel in their careers and contribute meaningfully to their organizations.

Our Vision: To be the leading provider of professional training and development across Africa, fostering excellence, innovation, and capacity-building in public and private sectors.

Core Values

- **Excellence** – Delivering high-quality training tailored to meet the evolving needs of professionals.
- **Integrity** – Upholding the highest ethical standards in all our engagements.
- **Innovation** – Embracing new technologies and methodologies to enhance learning experiences.
- **Customer-Centric Approach** – Ensuring client satisfaction by providing relevant, practical, and impactful training.
- **Collaboration** – Partnering with industry experts and institutions to provide the best learning opportunities.

Our Training Methodology

We use a blended learning approach that includes instructor-led training, case studies, workshops, and post-training support.

Why Choose Magna Skills?

- Experienced Trainers
- Customized Training Solutions
- Interactive Learning
- Global Recognition
- Proven Track Record

Request for Training Form

Complete the form and share with Magna Skills Support Team on email info@magnaskills.com or Send Whatsapp on: +27630079022

Approval & Authorization	
Applicant Details	Course Details
First Name:	Course Name:
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Mobile:	Month:
Email:	Training Method: Online[____] Face to Face [____]
Company Name:	Duration:
Country:	Number of Staff Members:

By signing this agreement, both parties confirm their commitment to the terms outlined in this proposal.