

Lesson Plan

Mechatronics



Lesson plan - 2hrs

AIM:

Developing your PLC Programming technique.

ACTIVITY:

Learn to program a PLC, by following the step by step examples. Then once confident, try the assessment.

Suitable for

Mechatronics, or Computer Science students.

Resources needed

1. Video & LMS access (link)
2. Marking criteria and Flowchart

Skills developed

Attention to detail, time management, focus, reflection, self-belief, drive.

Learning outcomes

After completing this module, learners will be able to:

- demonstrate the basics of how to program a PLC
- explain the relationship between a physical system, and a simulated system.

Delivery modes

1. Students can go through the online materials independently – either at your facilities, if you have access to enough computers, or can go through the materials at home in their own time.
2. You can download all relevant resources, access the video demo and deliver the activity in the classroom.

Section	Timings	Key teaching points
Infrastructure & H&S checklist	1 day	Prepare for the activity by ensuring all software pre-requisites are installed, and have valid licenses (or trial licenses) activated
Introduction	10 minutes	<p>Introduce the topic and its relevance.</p> <p>Discuss the following 'Top tips':</p> <ul style="list-style-type: none"> • plan your program before you start • use flowcharts to describe the intended program functionality • use descriptive variable names, to ensure legible and easy to debug code • always use the 'assign, check, step' method.
Demonstration videos	60 minutes	<p>Play the demonstration videos and have students take notes as they watch them.</p> <p>They are also welcome to work alongside the videos, to copy along.</p>
Task brief	20 minutes	Familiarize the students with the task and flowchart, ensure they understand the requirements of the task.
Complete task	30 minutes (MAX)	Get students to create a PLC program for the sorting station.
Marking criteria	10 minutes	Students can self-assess or peer-assess their work, using the flowchart instructions.

Additional info:

Ensure all software is installed, licensed, and working, prior to the masterclass.