Systems and Control Module
for junior form Technology Education curriculum

Module Outline

I. Target Level
Secondary 2-3

II. Duration
20-25 hours

III. Aims and Objectives
The module aims at introducing students with the basic concepts of system and control technology and providing them with the opportunities to experience simple system and control projects.

At the end of the module, students should be able to:
- describe the type of system in simple terms;
- represent any systems using block diagrams;
- identify relevant technology used in a control system;
- design simple control projects according to clear system boundary and applying appropriate technology;
- be aware of modern production methods using automation systems.

IV. Deliverables – Learning Outcomes
Students are required to:
- Demonstrate the understanding of a system by carrying out a group presentation on a chosen topic;
- Build models of simulated control systems using electronic, electrical, mechanical, and pneumatic parts;
- Complete a simple project on system and control by going through the investigation, analysis, design and make cycle;
- Perform a case study in the area of production of modern products focusing on Computer Aided Manufacturing (CAM) or automation.
V. Concept Map

SYSTEM & CONTROL MODULE
Suggested for Junior Secondary Level

UNDERSTANDING
- What is a System?
  1. Definition
  2. Type
- Input-Process-Output
- Open & Close Loop

EXPLORATION
- Characteristics
- How it works?
- Examples
- Electronic / Computer
- Mechanical
- Pneumatic

PROJECT LEARNING
- Investigation
- Analysis
- Design
- System Boundary
- Sub-system
- System Integration

APPLICATION OF SYSTEM
- Types of Control System
- Control & Automation

CASE STUDY
- Production of Modern Products
- Computer Aided Manufacturing
- Automation

MODE OF LEARNING
- Area of Study
- Knowledge Breakdown
- Connection with other knowledge contexts
- Generic skills required