This is one of a series of instructional curriculum units designed specifically to operate within a lockstep environment where all students carry out assignments simultaneously within the same topic area.

This unit provides all hardware required, together with 10 assignments of on-screen curriculum materials in an html format. These can be delivered via a LAN using our ClassAct classroom management system or via the Internet using our ClassCampus management system.

The curriculum includes continuous assessment, assessment tests and a workbook journal to create a portfolio of work during the lessons. Typical activities include hands-on investigations, problem-solving, and group projects.

Each assignment contains between one and two hours of study. An assignment typically begins with a PowerPoint presentation that provides students with background information required to complete the rest of the lesson. If used with our ClassAct SRS system, questions integrated into the PowerPoint can be tracked as each student responds on their handheld keypad.

Demonstration activities are carried out by the instructor using purpose built hardware. Students carry out hands-on activities using a software simulation of the hardware. The students also have an opportunity to verify their solutions using the hardware.

Where appropriate, research activities that include the use of multimedia explorers are also incorporated.

This instructional unit uses a unique software simulation of a robot work-cell. This enables a whole class to carry out activities in the same topic areas at the same time.

The simulator allows the student to operate a robot in a work-cell containing parts dispensers, a conveyor belt and various sensors.

The student can control the robot both manually, or by writing control programs that are run on-screen.

The simulator also includes a robot working in a Nuclear Plant.

**Activities include:**
- Manually control a robot.
- Use a flowchart to write a computer program in BASIC.
- Use the input from a sensor with the IF command in a BASIC program.
- Identify the purpose of belt drives.
- Write programs for open and closed loop control systems.
- Identify different types of sensors used in the work-cell.
- Identify economic and practical reasons why robots are used in industry.
- Write a program to control a robot using inputs from a keyboard.
- Identify how Computer Integrated Manufacturing (CIM) can be incorporated into manufacturing systems.

Performance objectives are included for our ClassAct or ClassCampus management systems to generate a comprehensive portfolio of student reports.

**Items supplied with ST240 ETP include:**
- RoboTEK II robot
- RoboTEK II work-cell
- Curriculum CD containing:
  - on-screen student learning material
  - on-screen instructor resources
- Instructor Guide (printable)

**Additional items required:**
- Computer per workstation

**Topic areas include:**
- Manual Control of a Robot
- Flowcharts and Programs
- Sensing, Decisions and Counting
- Open and Closed Loop Control
- Transportation Around the Work-cell
- Manipulating Parts
- Industrial Robots
- Computer Integrated Manufacturing
- Pre-programmed Sequences
- Problem Solving

**Order as:**
ST240 ETP

Please call LJ Create for more options.

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