Process Control Learning Systems

We bring real world equipment into an educational setting for hands on training.

Intelitek’s Process Control Learning Systems are a series of self-installable industry standard equipment modules that enable flexible and rich instructional opportunities in process engineering.

The learning systems are ideal for:
- Technical schools
- Vocational schools
- Four year universities
- Training institutes (government, NGO and private).

Open career paths for these industries:
- Oil & Gas
- Chemical
- Food & Beverage
- Power & Water
- Pharmaceuticals
- Bio-medical
- Materials
- Environment

intelitek®
Dynamic Solutions, Inspired Classrooms
Introducing the JobMaster Self Assembly Process Plant (JM SAPP) systems concept

We always believe that for skill training, hands-on operational experience is critical. In particular, trainees can learn more if exposed to a real industry environment, rather than in hours of classroom theory training. However, training in live operation industry situations presents numerous constraints such as system availability, safety, timing, and risk to plant production and students.

With JM SAPP concept we have developed a training system to bring real-industrial plant experience into the classroom making the learning more alive, more realistic, more interesting, more hands-on practical and more effective, without risk to trainees and the plant.

The custom designed practical exercises follow the industrial engineering practice. Trainees develop a passion for engineering via real industrial hands-on exercises, as well as exposure to an industrial environment.

What makes our system unique?

- The SAPP model – moves students beyond just measurement and calibration to broad pedagogy in system design and configuration
- Flexible hardware – allows for the use of all industry communications protocols, Hart, Profibus and Foundation Fieldbus.
- Built from the ground up – students gain experience selecting, installing and commissioning instruments and not just monitoring and tuning an instrument panel.
- Interconnectivity – all modules can be connected together and controlled using industry PLC or DCS control.
- Curriculum – Self-paced, robust, using real-world examples and problems to be solved.
- Real industry-standard equipment – panels, pumps, piping, instruments and vessels are industrial-grade

Modules Available:

| Instrumentation & Process Controls | All in one Level, Flow, Temperature and Pressure |
| Level Process Control Trainer     | Water; Interconnectable; Optional PLC or DCS control |
| Flow Process Control Trainer      | Water; Interconnectable; Optional PLC or DCS control |
| Temperature Process Control Trainer | Air; Interconnectable; Optional PLC or DCS control |
| Pressure Process Control Trainer  | Air; Interconnectable; Optional PLC or DCS control |
| Chemical Analytical Process Control Trainer | pH, ORP, Conductivity, Dissolved Oxygen Interconnectable; Optional PLC or DCS control |
Learning topics:
- Process variables flow, level, temperature and pressure and process control working principles
- Engineering documentation such as instrument wiring diagrams, calibration datasheets, isometric drawings.
- Instrument installation, inspection and testing
- Instrument calibration, operation and maintenance.
- Plant commissioning and P.I.D. optimization using multiple methods

Skills taught in these programs prepare students for the following professions:
- Process Engineer & Operator
- Electrical Engineer & Technician
- Instrument Engineer & Technician
- Control System Engineer
- Agricultural Engineer
- Health, Safety and Environment Executive

Benefits

◊ Industry Skills Development. Using industry-standard hardware prepares students for jobs in industry without the risks or constraints such as system availability, employee safety and damaged equipment, that comes with on-the-job training.

◊ Cost-effective Hardware. The industry component hardware is self-maintained and resistant to wear. It can also be used flexibly on all communications protocols (HART, Profibus and Foundation Fieldbus) giving students a full breadth of scenarios.

◊ Workforce-ready Graduates. Through experience in all facets of process control and troubleshooting, graduates will avoid common industry problems of: wrong instrument selection, incorrect tapping point, poor instrument mounting, wrong wiring and improper configuration.

◊ Self-directed Engaged Students. The SAPP concept is flexible and innovative, allowing trainees to design and construct different process plants that enhances all aspects of their learning process. Through self-directed study, by making mistakes and realizing variable outcomes, the student is truly engaged in their learning experience.

◊ Rich Knowledge Base. SAPP construction process enables a much deeper ground-up learning experience moving beyond standard measurement studies to instrument specifications and connections; instrument selection and installation; instrument calibration and PID configuration; control system configuration; complete maintenance and troubleshooting.
“There is a big demand for process engineers. Process engineers are the main architects of the oil, gas and chemical industries. They have a lot of roles in the life cycle of a project. During the conceptual phase of a new project, process engineers contribute 80 to 90 percent of the effort. They are the drivers for the project.”

Rajeev Nanda, vice president of process engineering for Technip USA

“Industrial use of advanced process control increases rapidly, and candidates who combine process knowledge and control expertise are in high demand in industry. Control is an enabling technology, thus basic for any industry-based society. The use of advanced control is transforming industries previously regarded as low-tech into high-tech.”

NTNU-Norwegian University of Science and Technology

About Intelitek

Intelitek transforms education across the globe through comprehensive technology learning solutions. Our innovative tools and technologies empower instructors and inspire students to improve the world around them. We understand the changing needs of your career and technology classrooms and design flexible solutions that meet those needs within the framework of any budget. Our sustainable support and professional development ensure the continued success of your programs. By helping to deliver the skills needed for in demand careers, we are producing results for students, teachers, nations and economies.