

**EXISTING CURRICULA DATABASE
FOR
PROCESS CONTROL TECHNICIANS**

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The Data Collection Process

A broad search was conducted to identify institutions that offer instrumentation related courses with three primary sources yielding the most significant results:

- The Instrumentation, Systems and Automation Society (ISA and formerly known as the Instrument Society of America);
- Internet searches; and
- State and local education boards and advisors.

The collected data was reviewed for relevancy to the project. Hardcopy information was sorted and placed in 3-ring binders for future reference. Relevant institution data was input to a Microsoft Access database with formatted data input screens accessed from a main menu. Four hierarchical and linked tables with associated data fields were defined as follows:

- Institution – institution name, school or department name, mailing address lines with two street lines, city, state, postal code and country, web address, and a memo field for comments or notes about the institution.
- Contact – contact name, salutation, title, phone number, fax number, e-mail address, and mailing address lines if different from the institution address.
- Curriculum – curriculum name, description, degree type, program length, accreditation, and total credits and hours.
- Course – course number, title, description, pre-requisites, credits, contact hours, objectives, outline and reference material.

Content retrieval from the database information is available with SQL data queries and a pre-formatted report. The extent of data reported is adjusted by setting variables in the report query.

Data Analysis

The searches yielded an abundant set of data. Irrelevant data generated by the searches and generally related to robotics, aeronautical or heating/ventilation system instrumentation was discarded. Still, five volumes of hardcopy data was reviewed and sorted geographically with an effort to gather as much data from North America and especially Gulf Coast schools.

The number of institutions identified in the database by geographical region:

- 19 - Texas
- 89 - United States, excluding Texas
- 35 - Canada
- 15 - Other International

A full set of the database information is included in Attachment – Curriculum Report.

A small sampling of curriculums with courses and learning objectives were collected to develop and test an automated comparison tool. This tool would seek to identify differences (additions or gaps) when compared to a pre-defined standard set of objectives, comparing cognitive learning verbs and subject nouns. Although it appeared to be technically feasible, the cost/benefit could not be justified to develop this tool fully.

Summary/Recommendations

There are many schools with many related curriculums being offered for process instrument technicians to fulfill local needs. With the extensive search conducted, we did not find a uniform job-based competency list with knowledge, skills and learning objectives identified. A process to develop a standard set of core and specialty training objectives for instrument technicians should be developed.