ATPT 130 Introduction to Process Technology
Credit Hours: 2
Scheduled hours per week
Lecture: 10
Lab: 2
Other: 0

Catalog Course Description:

Introduction to the job requirements and duties of a process technician including the physics, chemistry, equipment, safety, health and the environment for process industries.

Pre-requisites: None

Co-requisites: None

Course Learning Outcomes:

- *Develop an understanding of basic physics principles and how they apply to Process Technology Industries.*
- *Develop an understanding of fundamental chemistry, and how it applies to Process Technology Industries.*
- *Develop a basic understanding of various types of Process Industries.*
- *Develop a basic understanding of piping, valves, tanks, drums, vessels, pumps, compressors, steam turbines, motors, heat exchangers, cooling towers, fin fan heat exchangers, furnaces, boilers, distillation columns, process utilities, and process drawing reading and interpretation.*

Topics to be studied:

Industrial Processes
Equipment
Physics
Chemistry
Safety, Health, and Environmental
Quality
Team Concepts
Instrumentation

Relationship of Course to Program Learning Outcomes:	
Exhibit knowledge of OSHA General Industry requirements.	x
Articulate Total Quality Management concepts including customer service, variance, process capability, continuous improvement, corrective/preventive action, SPC basics, data collection, and control charts.	
Internalize the process instrumentation that a process technician/operator utilizes in performing job functions.	x
Use the various types of equipment in the process environment in a productive manner, and the interaction of the process operator/technician with it.	

Knowledge of equipment roles and control methods for each process system.	x
Demonstrate safety and the role played by operator in maintaining the system safely.	x
Understand and follow Block flow diagrams, P & ID drawings, Process Flow diagrams, 3D drawings, and Plot plans.	x
Use critical thinking skills, be able to see and troubleshoot problems in the process through trending and analysis of process parameters. Use critical thinking skills, be able to see and troubleshoot problems in the process through trending and analysis of process parameters.	x
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Relationship of Course to General Education Learning Outcomes:	
Composition and Rhetoric Students illustrate a fundamental understanding of the best practices of communicating in English and meet the writing standards of their college or program-based communication requirements.	
Science & Technology Students successfully apply systematic methods of analysis to the natural and physical world, understand scientific knowledge as empirical, and refer to data as a basis for conclusions.	x
Mathematics & Quantitative Skills Students effectively use quantitative techniques and the practical application of numerical, symbolic, or spatial concepts.	x
Society, Diversity, & Connections Students demonstrate understanding of and a logical ability to successfully analyze human behavior, societal and political organization, or communication.	
Human Inquiry & the Past Students interpret historical events or philosophical perspectives by identifying patterns, applying analytical reasoning, employing methods of critical inquiry, or expanding problem-solving skills.	
The Arts & Creativity Students successfully articulate and apply methods and principles of critical and creative inquiry to the production or analysis of works of art.	
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Special requirements of the course:

None

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