

ENGT 1220

Process Operations Technical I Syllabus

Course Description:

This course introduces students to the components and equipment of the process operations industry such as pumps, valves, heat exchangers, fans and blowers. This course also focuses on applied industrial mathematics and will cover introductory algebra, geometry, and trigonometry.

Fundamental Goals & Outcomes:

- *Communications*
 - Students will communicate all written and verbal work in an organized and professional manner.
- *Critical Thinking*
 - Students will be able to identify and explain the function and use of various process equipment, e.g., Gauges, Valves, Heat Exchangers, Pumps, Compressors, and Turbines.
 - Students will gain a working knowledge of heat and fluid transfer concepts.
- *Technology*
 - Students will learn basic operating principles of various process equipment technologies utilized in the industry.

Course scope and what the student can expect:

- The course will consist of a variety of lectures, research assignments, hands-on demonstrations and lab work.
- Students will be able to identify and explain the basic operational principles of various process equipment utilized in industrial processes such as:
 - Gauges: e.g., temperature, pressure, and flow.
 - Manual and automatic valves: e.g., Manual valves, AOV's, MOV's, SOV's and Cv's.
 - Heat Transfer Equipment: e.g., Heat exchangers
 - Rotating Equipment: e.g., Pumps, fans, blowers, compressors, and turbines.
- Students will also start learning to recognize and read process equipment symbology utilized in the process industry such as:
 - ISA S5.1-2009 Standard symbols used in:
 - Process Flow Diagrams (PFD)
 - Piping and Instrumentation Drawings (P&ID)

Performance expected of the student:

- Embrace that understanding process equipment operational concepts, are essential to success in the process operations industry and as a process operator.
- Be fully engaged in my learning and on time every day.
- Self-identify and utilize learning resources inside and outside of class to meet my learning goals.

- Embrace that continuous learning is intrinsic to one’s future career success.

Extra help available:

If you experience difficulties in this class, please notify us as soon as possible. If needed, we can work through the Academic Support Center to provide additional help (at no cost to the student).

Academic Integrity:

This program adheres to and will enforce the ICC Academic Integrity Policies.
<http://www.itascacc.edu/academics/college-policies/academic-integrity>

Performance and Grading Commitment:

Students can expect one or two private consultations with the instructor to discuss any performance, concerns or questions the student or instructor may have. I commit to providing a mid-semester assessment and final grade within one week of returning loaned research tools and the final submittal of deliverables.

Grading and Deliverables:

All deliverables are due on time; unexcused late submittals will receive a grade of 0%. Final course grading for Exams, Quizzes, Assignments, etc. will be based on the accumulated individual scores as a percentage of the course total available points.

Deliverable	Score	Available	Percentage
Safety, Health & Protocol Compliance	Pass	Expulsion	
Exams & Quizzes		TBD	
Research & Presentation Assignments		TBD	
Labs		TBD	
Engagement with learning & observations*		+/-20%	
Instructor Discretionary		+/-10%	

Engagement & observations include items such as but not limited to: e.g., on time, class participation, attitude, student’s initiative, attendance, quality of work, etc. ***Students are expected to schedule all nonemergency personal business outside of scheduled class time.***
Two unexcused absences will result in unrecoverable 10% reduction in grade; three unexcused absences will result in a course grade of an “F.”

Final Grading Policy:

Final Grade %	Grade
>90%	A
80-89.99%	B
70-79.99%	C
<70%	F

Disability services:

The college will make reasonable accommodations for persons with documented disabilities. Students should notify the Director of the Disability Services/Office for Students with Disabilities (located in Backes Student Center right next to the Bookstore) and their instructors of any accommodation needs as soon as possible.

Attachment: **Process Operations Workplace Expectations**

Signatures:

Student:

Date:

Instructor: *Thomas J. Raiche* 9/6/2018