

Industrial Process Operator A.A.S.

Program Requirements

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Minimum Requirements for Industrial Process Operator A.A.S.: 60 credits

Students must earn a C grade or better in each program-required course.

Students must earn a C- grade or better in all other courses.

Code	Title	Credits
General University Requirements		
Complete the general university requirements. (https://catalog.uaf.edu/associates/#gurassociatedegreestext)		
A.A.S. Degree Requirements		
Complete the A.A.S. degree requirements. (https://catalog.uaf.edu/associates/#AASrequirementstext)		15
Industrial Process Operator Program Requirements		
<i>Physical Science</i>		
Complete one of the following:		4
PHYS F102X	Energy and Society	
PHYS F115X	Physical Sciences	
PHYS F123X	College Physics I	
PHYS F124X	College Physics II	
or 4 credits of program coordinator-approved natural science courses		
<i>Chemistry</i>		
Complete one of the following:		4
CHEM F100X	Chemistry in Complex Systems	
CHEM F103X	Introduction to General Chemistry	
CHEM F104X	Introduction to Organic Chemistry and Biochemistry	
CHEM F105X	General Chemistry I	
CHEM F106X	General Chemistry II	
CHEM F111X	Introduction to Environmental Chemistry of the Arctic	
or 4 credits of program coordinator-approved natural science courses		
Complete the following:		
PRT F101	Introduction to Process Technology	3
PRT F110	Introduction to Occupational Safety, Health and Environmental Awareness	3
PRT F130	Process Technology I: Equipment	4
PRT F140	Industrial Process Instrumentation I	3
PRT F144	Industrial Process Instrumentation II	3
PRT F230	Process Technology II: Systems	4
PRT F231	Process Technology III: Operations	4
PRT F250	Process Troubleshooting	3

PRT F255	Quality Concepts for the Process Industry	1
Complete 9 credits from the following or program coordinator-approved courses:		9
AMIT F129	Surface Mine Safety	
AMIT F130	Surface Mining Operations	
AMIT F135	Introduction to Mining Systems and Equipment	
AMIT F145	Introduction to Mineral Beneficiation	
CIOS F150	Computer Business Applications	
ELT F101	Basic Electronics: DC Physics	
ELT F102	Basic Electronics: AC Physics	
ELT F246	Electronic Industrial Instrumentation	
PRT F120	Water Quality Management for Process Industries	
PRT F160	Oil and Gas Exploration and Production I	
PRT F240	Industrial Process Instrumentation III	
PRT F248	Valve Maintenance and Instrumentation	
PRT F275	Process Technology Internship	

Total Credits **60**

Roadmaps

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Roadmaps are recommended semester-by-semester plans of study for programs and assume full-time enrollment unless otherwise noted.

- This roadmap should be used in conjunction with regular academic advising appointments. All students are encouraged to meet with their advisor or mentor each semester.
- Some courses and milestones must be completed in the semester listed to ensure timely graduation.
- Transfer credit may change the roadmap.
- Requirements, course availability and sequencing are subject to change.
- Courses with (*) are recommended.

First Year

Fall	Credits Spring	Credits
MATH F105(*) ¹⁰	3 PRT F130 ²⁰	4
PRT F101 ²⁰	3 PRT F140 ²⁰	3
PRT F110 ²⁰	3 Degree Requirement - Communication	3
WRTG F111X	3 Degree Requirement - Human Relations	3
Degree Requirement - Communication	3 Program Elective	3
15		16

Second Year

Fall	Credits Spring	Credits
PRT F144 ²⁰	3 PRT F231 ²⁰	4
PRT F230 ²⁰	4 PRT F250 ²⁰	3
PRT F255 ²⁰	1 Program Elective	3

Program Elective	3 Program Elective - Physical Science	4
Program Elective - Chemistry	4	
15		14

Total Credits 60**Footnote Definitions**

General Education Requirements	Degree Requirements	Program & Other Requirements
1–Communication	8–Alaska Native-themed	20–Program Requirement
2–Arts	9–Communication	21–Capstone Requirement
3–Humanities	10–Computation	22–Concentration Course
4–Social Sciences	11–Ethics	23–General Elective
5–Additional Arts, Humanities or Social Sciences	12–Humanities	24–Minor Course
6–Mathematics	13–Human Relations	25–Upper Division
7–Natural Sciences	14–Humanities or Social Sciences	26–Program Elective
	15–Library & Information Research	
	16–Mathematics	
	17–Natural Sciences	
	18–Other	
	19–Social Sciences	

Learning Outcomes

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Learning Outcomes are measurable statements that describe knowledge or skills achieved by students upon completion of the program.

Students graduating from this program will be able to:

- Understand the importance of maintaining a safe workplace. In addition, the graduate will understand that a process must be operated in compliance with regulatory requirements and within engineering limits. Upon completion of the program, they will be able to create or follow safe operating procedures for basic process units.
- Demonstrate an ability to start up process equipment, shut down process equipment, monitor process equipment, and identify and correct abnormal operating conditions.
- Maintain accurate and meaningful records of process events. They will be able to interpret event records to determine any changes required for safe operation of a process.
- Read and correctly interpret P&ID drawings for basic processes.
- Demonstrate knowledge of process equipment such as piping, valves, vessels, tanks, heat exchangers, pumps, compressors, and boilers and heaters.