

# POWER TECHNOLOGY, A.A.S.

## Diesel Emphasis

This degree is a vocational training program for men and women interested in securing employment working with various diesel engine applications such as (but not limited to):

- Charter boats
- Fishing vessels
- Tour buses
- Marine auxiliary systems
- Hydraulic systems
- Transportation vehicles
- Cold storage systems

## Fixed Plant Mechanic Emphasis

This degree is a vocational training program for men and women interested in securing employment working with various stationary machine applications such as (but not limited to):

- Above ground mines
- Underground mines
- Gravel pits and quarries
- Fish plants (flash freezing)
- Fish plants (canneries)
- Sawmills

## Juneau

### Diesel Emphasis

This degree is a vocational training program for men and women interested in securing employment working with various diesel engine applications such as (but not limited to):

- Charter boats
- Fishing vessels
- Tour buses
- Marine auxiliary systems
- Hydraulic systems
- Transportation vehicles
- Cold storage systems

Program assessment plans are posted on the Program Assessment website (<https://uas.alaska.edu/provost/academic-affairs/assessment/>).

Requirement	Hours
<b>Minimum Credit Hours</b>	<b>63</b>
Major Requirements	47

Code	Title	Credits
<b>General Education Requirements</b>		
<i>Written Communication Skills</i>		
WRTG S111	*Writing Across Contexts	3
Select one of the following:		3
WRTG S211	*Writing and the Humanities	

WRTG S212	*Writing and the Professions	
<i>Oral Communication Skills</i>		
Select one of the following:		3
COMM S111	*Fundamentals of Oral Communication <sup>1</sup>	
COMM S235	*Small Group Communication and Team Building <sup>1</sup>	
COMM S237	*Interpersonal Communication <sup>1</sup>	
COMM S241	*Public Speaking <sup>1</sup>	
<i>Computational Skills</i>		
MATH S105	Intermediate Algebra	4
<i>Other Skills</i>		
Advisor approved GER <sup>2</sup>		3-4
<b>Major Requirements</b>		
DESL S102	Lubrication, Preventative Maintenance, and Inspections	2
DESL S107	Diesel Fuel Systems	4
DESL S110	Diesel Engines	6
DESL S121	Basic Electrical Systems	3
DESL S125	Basic Hydraulics	3
DESL S130	Refrigeration and Air Conditioning	2
DESL S131	Electrical II	3
DESL S180	AC Power Generation	3
DESL S250	Heavy Duty Brakes	2
DESL S255	Heavy Duty Suspension and Alignment	2
DESL S260	Heavy Duty Power Trains	3
DESL S261	Marine Auxiliary Systems	3
DESL S262	Marine Auxiliary Systems Lab	2
DESL S263	Marine Transmissions	3
DESL S291	Internship: (Internship)	3
WELD S120	Basic Welding	3
<b>Total Credits</b>		<b>63</b>

<sup>1</sup> Grade C 2.00 or better

<sup>2</sup> Humanities, mathematics, natural sciences or social sciences course. Course must be at the 100-level or above.

## Fixed Plant Mechanic

Requirement	Hours
Minimum Credit Hours	60
General Education Requirements	16-17
Major Requirements	44

Code	Title	Credits
<b>General Education Requirements</b>		
<i>Written Communication Skills</i>		
WRTG S111	*Writing Across Contexts	3
Select one of the following:		3
WRTG S211	*Writing and the Humanities	
WRTG S212	*Writing and the Professions	
<i>Oral Communication Skills</i>		

Select one of the following:	3
COMM S111 *Fundamentals of Oral Communication <sup>1</sup>	
COMM S235 *Small Group Communication and Team Building <sup>1</sup>	
COMM S237 *Interpersonal Communication <sup>1</sup>	
COMM S241 *Public Speaking <sup>1</sup>	
<b>Computational Skills</b>	
MATH S105 Intermediate Algebra	4
<b>Other Skills</b>	
Advisor approved GER <sup>2</sup>	3-4
<b>Major Requirements</b>	
DESL S102 Lubrication, Preventative Maintenance, and Inspections	2
DESL S110 Diesel Engines	6
DESL S125 Basic Hydraulics	3
DESL S140 Construction Drawing Interpretation	3
DESL S141 Precision Measuring Tools	2
DESL S142 Piping Systems	3
DESL S143 Industrial Rigging Principles	2
DESL S144 Conveyor and Drive Systems	3
DESL S225 Advanced Hydraulics	3
DESL S260 Heavy Duty Power Trains	3
DESL S261 Marine Auxiliary Systems	3
DESL S262 Marine Auxiliary Systems Lab	2
DESL S263 Marine Transmissions	3
WELD S120 Basic Welding	3
WELD S152 Intermediate Welding	3
<b>Total Credits</b>	<b>60</b>

<sup>1</sup> Grade of C 2.00 or higher

<sup>2</sup> Humanities, mathematics, natural sciences or social sciences course at the 100-level or above

## Mine Mechanic

Requirement	Hours
<b>Minimum Credit Hours</b>	<b>61</b>
General Education Requirements	16-17
Major Requirements	45

Code	Title	Credits
<b>General Education Requirements</b>		
<i>Written Communication Skills</i>		
WRTG S111	*Writing Across Contexts	3
Select one of the following:		3
WRTG S211	*Writing and the Humanities	
WRTG S212	*Writing and the Professions	
<i>Oral Communication Skills</i>		
Select one of the following:		3
COMM S111	*Fundamentals of Oral Communication <sup>1</sup>	

COMM S235	*Small Group Communication and Team Building <sup>1</sup>	
COMM S237	*Interpersonal Communication <sup>1</sup>	
COMM S241	*Public Speaking <sup>1</sup>	
<i>Computational Skills</i>		
MATH S105	Intermediate Algebra	4
<i>Other Skills</i>		
Advisor approved GER <sup>2</sup>		3-4
<b>Major Requirements</b>		
DESL S102	Lubrication, Preventative Maintenance, and Inspections	2
DESL S107	Diesel Fuel Systems	4
DESL S110	Diesel Engines	6
DESL S121	Basic Electrical Systems	3
DESL S125	Basic Hydraulics	3
DESL S130	Refrigeration and Air Conditioning	2
DESL S131	Electrical II	3
DESL S180	AC Power Generation	3
DESL S225	Advanced Hydraulics	3
DESL S250	Heavy Duty Brakes	2
DESL S255	Heavy Duty Suspension and Alignment	2
DESL S260	Heavy Duty Power Trains	3
WELD S120	Basic Welding	3
WELD S152	Intermediate Welding	3
Advisor approved Power Technology elective		3
<b>Total Credits</b>		<b>61</b>

<sup>1</sup> Grade C 2.00 or better

<sup>2</sup> Humanities, mathematics, natural sciences or social sciences course. Course must be at the 100-level or above.

1. Comply with personal and industry safety practices specific to the diesel industry.
2. Evaluate and apply technical information and testing procedures from a variety of sources to troubleshoot diesel equipment.
3. Demonstrate proper maintenance, diagnosing, and repair of the following systems: engine, electrical, hydraulic, refrigeration, drive train, brakes, steering/suspension, marine vessel components, and AC power generation.
4. Demonstrate proper communication and documentation of work performed using trade specific language.
5. Select responsible and ethical actions as an employee by being punctual, adhering to company policies, and interacting positively and appropriately with co-workers, supervisors, and customers.
6. Apply research techniques to identify emerging heavy equipment technologies.