

**CONSTRUCTION TECHNOLOGY****Overview**

The Construction Technology program offers training in Carpentry, Electrical, Plumbing, Scaffolding, Pipeline Insulation, Pipefitting, and Welding. The degree, certificates, and endorsements within the program are designed to prepare students to enter the workforce or to provide those currently employed with the opportunity to upgrade their skill level. Ilisagvik College uses the National Center for Construction Education and Research (NCCER) curricula, which are nationally recognized for craft training. NCCER maintains a National Registry that provides transcripts, certifications and wallet cards to students who successfully complete all required course work. Check the current year schedule to find out which classes are being offered in the spring and fall semesters for that year.

**Admission Requirements and Prerequisites**

You must pass a drug test and complete an ACCUPLACER math test to be accepted into these programs. Students must be in good physical condition. Students should be able to tolerate confined spaces and heights. Students are expected to be able to read and understand task descriptions, safety manuals, and safety and warning signs. Students must also be able to give and receive oral safety warnings, instructions and task assignments. Students registering for the complete program have priority enrollment. Students are urged to apply as early as possible for this program. Enrollment is limited and the training is in heavy demand. Students who are put on the waitlist for the semester in which they applied are given preference in the following semester.

**Degree Outcomes**

In addition to apprentice and related learning courses, these programs are designed to assist the student in realizing the following outcomes:

- Apply critical thinking skills to investigate, interpret and communicate issues involving the trade, the community, and the home.
- Participate in coordinating projects and supervising others.
- Work with a team unit in a direction that aligns with stated vision, mission and values. Work within the legal, regulatory and code parameters of the trade/community.
- Seek out and engage in learning opportunities that broaden perspective, deepen understanding and increase personal fulfillment throughout life.
- Integrate Ilisagvik knowledge, values and culture into business practice.

**CDL/HEAVY TRUCK OPERATIONS****Overview**

The CDL/Heavy Truck Operations program provides training in the safe operation and practical maintenance of a Class 8 tractor-trailer combination. Students will receive certificates indicating specific competencies upon completion of program requirements.

**Degree Outcomes**

Upon completion of all requirements of the Heavy Truck Operations Certificate, students will be able to:

- Recognize safety hazards inherent in the operation of heavy equipment.
- Perform pre-trip and post-trip inspections.
- Apply knowledge concerning the service and maintenance of heavy equipment in arctic conditions.
- Maintain and perform proper shop and tool safety precautions.

**Admission Requirements and Prerequisites**

In order to be accepted into the Heavy Truck Operations program, the student must submit an application for admission, be at least 19 years old and have possessed a valid Class D driver's license for ONE YEAR prior to admission or receive instructor permission. Students must also pass a drug test required by the Alaska Department of Transportation regulations.

Students must be in good physical condition, be able to pass the vision tests associated with state driver testing, and be able to hear safety alarms and noises associated with malfunctioning equipment. Students are expected to be able to read and understand task descriptions, safety manuals, and safety and warning signs. Students must also be able to give and receive oral safety warnings, instructions and task assignments.

Successful applicants will meet general college admission requirements.

This program repeats every semester.

**HEAVY EQUIPMENT OPERATIONS****Overview**

Students will become familiar with basic operation and control system functions of heavy equipment and Standards operating procedures as well as other duties required of a heavy equipment operator. This equipment will be operated in a controlled environment for the first four weeks of instruction. The last two weeks, students operate in real-life simulation. This course includes classroom and outdoor usage of basic construction surveying techniques utilizing the

National Council for Construction Education and Research (NCCER) curriculum.

**Degree Outcomes**

Upon completion of all requirements of the Heavy Truck Operations Certificate, students will be able to:

- Recognize safety hazards inherent in the operation of heavy equipment.
- Perform pre-trip and post-trip inspections.
- Apply knowledge concerning the service and maintenance of heavy equipment in arctic conditions.
- Maintain and perform proper shop and tool safety precautions.

**Admission Requirements and Prerequisites**

Students must possess a Class B/CDL with Air Brake endorsement or receive instructor permission. Students are urged to apply as early as possible for this program. Enrollment is limited and the training is in heavy demand. Students who are put on the waitlist for the semester in which they applied will be given preference in the following semester. Successful applicants must also fulfill general college admission requirements. Students must also pass a drug test required by the Alaska Department of Transportation regulations.

This program repeats once during the summer semester.

*Note: The course requirements for Construction Technology programs are listed in alphabetical order below*

**CARPENTRY**

<b>ENDORSEMENT, CARPENTRY LEVEL I</b>		
Course Requirements		Credits
CARP 110	Carpentry, Level I	5
CARP 111	Carpentry, Level I Skills Lab	1
CTT 101	Intro to Construction Skills	3
<b>Total Credits:</b>		<b>9</b>

**CDL/HEAVY TRUCK OPERATIONS**

<b>ENDORSEMENT, CDL/HEAVY TRUCK OPERATIONS CLASS B OR C</b>		
Course Requirements		Credits
HEO 176	Entry Level Operations of Class B or C Commercial Motor Vehicles	6
<b>Total Credits:</b>		<b>6</b>

<b>ENDORSEMENT, CDL/HEAVY TRUCK OPERATIONS, UNRESTRICTED</b>		
Course Requirements		Credits
HEO 178	CDL, Written Entry Level Ops and unrestricted Test Prep	6
<b>Total Credits:</b>		<b>6</b>

**CONSTRUCTION MANAGEMENT**

<b>ENDORSEMENT, CONSTRUCTION MANAGEMENT</b>		
Course Requirements		Credits
CTT 170	Project Supervision	3
CTT 171	Communication for the Trades	3
CTT 270	Project Management	4
<b>Total Credits:</b>		<b>10</b>

**ELECTRICAL**

<b>ENDORSEMENT, ELECTRICAL LEVEL I</b>		
Course Requirements		Credits
CTT 101	Intro to Construction Skills	3
ELEC 101	Electrical, Level I Mod A-D	4
ELEC 111	Electrical, Level I Skills Lab	2
<b>Total Credits:</b>		<b>9</b>

**HEAVY EQUIPMENT OPERATIONS**

<b>ENDORSEMENT, HEAVY EQUIPMENT OPERATIONS</b>		
Course Requirements		Credits
HEO 170	Construction/Heavy Equip./Earth Moving Equip. Operations	6
<b>Total Credits:</b>		<b>6</b>

**PIPEFITTING**

<b>ENDORSEMENT, PIPEFITTING LEVEL I</b>		
Course Requirements		Credits
CTT 101	Intro to Construction Skills	3
PMB 103	Pipefitting, Level I	3
<b>Total Credits:</b>		<b>6</b>

**PIPELINE INSULATION**

<b>ENDORSEMENT, PIPELINE INSULATION I</b>		
Course Requirements		Credits
CTT 101	Intro to Construction Skills	3
CTT 104	Pipeline Insulation, Level I	3
<b>Total Credits:</b>		<b>6</b>

**PLUMBING**

**ENDORSEMENT, PLUMBING LEVEL I**

Course Requirements		Credits
CTT 101	Intro to Construction Skills	3
PMB 101	Plumbing, Level I, Mod. A-E	5
PMB 111	Plumbing I, Skills Lab	1
<b>Total Credits:</b>		<b>9</b>

**SCAFFOLDING**

**ENDORSEMENT, SCAFFOLDING LEVEL I**

Course Requirements		Credits
CTT 101	Intro to Construction Skills	3
CTT 105	Scaffolding, Level I	3
<b>Total Credits:</b>		<b>6</b>

**WELDING MATERIALS TECHNOLOGY**

**ENDORSEMENT, WELDING MATERIALS TECHNOLOGY**

Course Requirements		Credits
CTT 101	Intro to Construction Skills	3
WMT 101	Welding, Level I, Mod. A-I	9
<b>Total Credits:</b>		<b>12</b>

Students, who have successfully completed one or more of the above endorsements, may decide to continue their training and work towards the certificates and subsequently the degree. All credits taken in the lower level programs can be applied towards the next higher program.

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**CERTIFICATE I, CONSTRUCTION TECHNOLOGY**

General Education Coursework		Credits
<b>Math/Science/Technology</b>		<b>(3-4)</b>
Complete at least <b>THREE</b> credits:		
BUS 105	Business Math	3
MATH 105	College Algebra	3
MATH 107	Functions for Calculus	4
MTHC 101	Math for Carp. Mod. A-C	1-3
MTHE 101	Math for Electric., Mod. A-C	1-3
MTHP 101	Math for Plumbers, Mod. A-C	1-3
Major Coursework		Credits
<b>Certificate Core</b>		<b>(6-12)</b>
Complete at least <b>ONE</b> endorsement:		
Note: CTT 101 may only be counted one time.		
	Carpentry, Level I	9
	CDL/Heavy Truck Operations	6
	Construction Management	10
	Electrical, Level I	9
	Heavy Equipment Operations	6
	Pipefitting, Level I	6
	Pipeline Insulation, Level I	6
	Plumbing, Level I	9
	Scaffolding, Level I	6
	Welding Materials Technology	12
Electives		(0-5)
Any CARP, CTT, ELEC, HEO, PMB, WMT not taken above and/or		
IT 100	Intro to Online Learning	1
SAFE 110	40-Hour HAZWOPER	1
SAFE 119	Field Safety	2
WFDI 114	30-Hr OSHA Maritime Stand.	1
WFDI 115	30-Hr OSHA Constr. Stand.	1
WFDI 116	30-Hr OSHA Gen. Ind. Stand.	1
<b>Total Credits:</b>		<b>15</b>

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<b>CERTIFICATE II, CONSTRUCTION TECHNOLOGY</b>		
<i>General Education Coursework</i>		<i>Credits</i>
<b>Communication</b>		<b>(3)</b>
<i>Complete ONE of the following:</i>		
BUS 109	Business English	3
BUS 220	Applied Bus Communication	3
CTT 171	Communication for the Trades	3
ENGL 111	Intro to Academic Writing	3
<b>Math/Science/Technology</b>		<b>(7-11)</b>
IT 100	Intro to Online Learning	1
<i>Complete at least THREE credits:</i>		
IT 117	Intro to Personal Computers, IC3 Mod. A	1
IT 118	MS Office 2010, IC3 Mod. B	1
IT 119	Internet Use and Security, IC3 Mod. C	1
IT 130	Comp. Word Process. A,B,C	3
IT 140	Comp. Spreadsheets A,B,C	3
<i>Complete at least THREE credits:</i>		
BUS 105	Business Math	3
MATH 105	College Algebra	3
MATH 107	Functions for Calculus	4
MTHC 101	Math for Carp. Mod. A-C	1-3
MTHE 101	Math for Electric., Mod. A-C	1-3
MTHP 101	Math for Plumbers, Mod. A-C	1-3
<b>Major Coursework</b>		<b>Credits</b>
<b>Certificate Core</b>		<b>(6+)</b>
<i>Complete at least ONE endorsement:</i>		
<u>Note: CTT 101 may only be counted one time.</u>		
	Carpentry, Level I	9
	CDL/Heavy Truck Operations	6
	Construction Management	10
	Electrical, Level I	9
	Heavy Equipment Operations	6
	Pipefitting, Level I	6
	Pipeline Insulation, Level I	6
	Plumbing, Level I	9
	Scaffolding, Level I	6
	Welding Materials Technology	12
<b>Electives</b>		<b>(0-14)</b>
<u>Any CARP, CTT, ELEC, HEO, PMB, WMT not taken above and/or</u>		
SAFE 110	40-Hour HAZWOPER	1
SAFE 119	Field Safety	2
WFDI 114	30-Hr OSHA Maritime Stand.	1
WFDI 115	30-Hr OSHA Constr. Stand.	1
WFDI 116	30-Hr OSHA Gen. Ind. Stand.	1
<b>Total Credits:</b>		<b>30</b>

<b>ASSOCIATE OF APPLIED SCIENCE, CONSTRUCTION TECHNOLOGY</b>		
<i>General Education Coursework</i>		<i>Credits</i>
<b>Communication</b>		<b>(3)</b>
<i>Complete ONE of the following:</i>		
BUS 109	Business English	3
BUS 220	Applied Bus Communication	3
CTT 171	Communication for the Trades	3
ENGL 111	Intro to Academic Writing	3
<b>Math/Science/Technology</b>		<b>(7-11)</b>
IT 100	Intro to Online Learning	1
<i>Complete at least THREE credits:</i>		
IT 117	Intro to Personal Computers, IC3 Mod. A	1
IT 118	MS Office 2010, IC3 Mod. B	1
IT 119	Internet Use and Security, IC3 Mod. C	1
IT 130	Comp. Word Process. A,B,C	3
IT 140	Comp. Spreadsheets A,B,C	3
<i>Complete at least THREE credits:</i>		
BUS 105	Business Math	3
MATH 105	College Algebra	3
MATH 107	Functions for Calculus	4
MTHC 101	Math for Carp. Mod. A-C	1-3
MTHE 101	Math for Electric., Mod. A-C	1-3
MTHP 101	Math for Plumbers, Mod. A-C	1-3
<b>Humanities/Social Sciences</b>		<b>(3)</b>
<i>Complete ONE of the following:</i>		
BUS 155	Human Relations	3
BUS 239	Culture and Management	3
CCS 101	Tools for Success	3
COMM 131	Fund. of Oral Communication	3
<b>Major Coursework</b>		<b>Credits</b>
<b>Degree Core</b>		<b>(6+)</b>
<i>Complete at least ONE endorsement:</i>		
<u>Note: CTT 101 may only be counted one time.</u>		
	Carpentry, Level I	9
	CDL/Heavy Truck Operations	6
	Construction Management	10
	Electrical, Level I	9
	Heavy Equipment Operations	6
	Pipefitting, Level I	6
	Pipeline Insulation, Level I	6
	Plumbing, Level I	9
	Scaffolding, Level I	6
	Welding Materials Technology	12
<b>Electives</b>		<b>(0-41)</b>
<u>Any CARP, CTT, ELEC, HEO, PMB, WMT not taken above and/or</u>		
SAFE 110	40-Hour HAZWOPER	1
SAFE 119	Field Safety	2
WFDI 114	30-Hr OSHA Maritime Stand.	1
WFDI 115	30-Hr OSHA Constr. Stand.	1
WFDI 116	30-Hr OSHA Gen. Ind. Stand.	1
<b>Total Credits:</b>		<b>61</b>