

# COMMUNITY BASED SCIENCE

## A.S. Degree, Occupational Endorsements, Certificate, Minor

### College of Rural and Community Development

Community Based Science Department (<https://www.uaf.edu/rural/academics/departments/>)  
907-474-7143

## ASSOCIATE OF SCIENCE

The Associate of Science degree represents the completion of a broad-based course of study with an emphasis on the sciences. This degree may serve as a stepping-stone to a science-related baccalaureate program. You may earn only one A.S. degree.

Minimum Requirements for Associate of Science Degree: 60 credits

Learn more about the associate of science degree (<https://www.uaf.edu/academics/programs/associates/associate-of-science.php>), including an overview of the program, career opportunities and more.

### Examples of how electives can be formed into specific areas of study

Code	Title	Credits
<b>Energy Science</b>		
ENVI F101X	Introduction to Environmental Science	4
PHYS F102X	Energy and Society	4
<b>Photovoltaic</b>		
CTT F100	Construction Technology Core	3
CTT F160	Photovoltaic Systems I	5
CTT F161	Photovoltaic Systems II	5
<b>Biomass</b>		
CTT F100	Construction Technology Core	3
CTT F250	Current Topics in Construction Trades	2
ENVI F120	Home Energy Basics	1
<b>Wind</b>		
CTT F100	Construction Technology Core	3
CTT F250	Current Topics in Construction Trades	1-3
ENVI F120	Home Energy Basics	1
<b>Energy-Efficient Construction</b>		
CTT F100	Construction Technology Core	3
CT S201 ( <a href="https://catalog.uas.alaska.edu/search/?search=CT+S201">https://catalog.uas.alaska.edu/search/?search=CT+S201</a> )	Cold Climate Construction <sup>1</sup>	3
<b>Other</b>		
Other areas of study related to sustainable energy		

## OCCUPATIONAL ENDORSEMENT, ETHNOBOTANY

The coursework for the ethnobotany occupational endorsement program was developed with input from the students, Elders and stakeholders who participated in the ethnobotany certificate program and provides a strong interdisciplinary foundation for understanding what students are seeking from ethnobotany coursework to enhance their opportunities both in the

workplace and for professional development. Currently, no other program exists in Alaska that prepares students with a basic understanding of botany and cultural uses of plants, including the skills required to collect plants in the field, conduct interviews using culturally and scientifically appropriate methods and provide hands-on opportunities to research, implement and report (online, orally and in writing) on student-designed projects.

Minimum Requirements for Ethnobotany Occupational Endorsement: 17 credits

Learn more about the ethnobotany occupational endorsement (<https://www.uaf.edu/academics/programs/occupational-endorsements/ethnobotany.php>), including an overview of the program, career opportunities and more.

## OCCUPATIONAL ENDORSEMENT, HIGH LATITUDE RANGE MANAGEMENT

The high latitude range management occupational endorsement program combines academic and Indigenous knowledge at the local, national and international levels to offer courses that help prepare students for entry-level jobs in the field of natural resources and livestock production, including reindeer husbandry. The program operates in cooperation with regional communities and organizations with involvement from statewide industry representatives and educators as part of the program's commitment to responding to the unique needs of rural Alaska communities, particularly with respect to local resources. The Sámi Education Institute of Finland manages the international BEBO organization, which promotes the languages and cultures of reindeer herding peoples in the Arctic and extends cooperation specifically to the HLRM program.

Minimum Requirements for High Latitude Range Management Occupational Endorsement: 13 credits

## OCCUPATIONAL ENDORSEMENT, RURAL SURFACE WATER QUALITY TESTING

This program provides education and training to conduct water quality monitoring and assessment by developing and following a Quality Assurance Project Plan. Coursework focuses on issues related to rural Alaska communities and provides basic academic preparation for entry-level water quality technician careers. Students gain a foundation of knowledge that prepares them to continue into a science- and engineering-related certificate, associate or bachelor's program.

Minimum Requirements for Rural Surface Water Quality Testing Occupational Endorsement: 9 credits

## OCCUPATIONAL ENDORSEMENT, RURAL WASTE MANAGEMENT SPILL RESPONSE

The occupational endorsement in rural waste management and spill response provides education and training on how to handle the management of municipal waste. Emphasis is placed upon providing students with the skills and experience necessary to implement solutions to challenging solid waste stream issues facing rural waste managers. The program introduces students to best practices in waste management that are in compliance with state and federal governmental regulations. Exceptional focus is placed on workplace safety and students are assessed on proficiency in operational safety and safety planning. Upon

completion of the occupational endorsement, students will be prepared to help protect rural communities from many of the environmental risks associated with waste disposal by safely managing municipal solid and hazardous waste streams.

Minimum Requirements for Rural Waste Management Spill Response Occupational Endorsement: 10 credits

## OCCUPATIONAL ENDORSEMENT, SUSTAINABLE ENERGY

Providing education and training in energy efficiency and renewable energy, the sustainable energy occupational endorsement addresses many of the energy issues that influence Alaska communities and provides the basic academic preparation for entry-level sustainable energy careers. It also serves as a stepping stone into a science- and engineering-related certificate, associate or bachelor's program.

The program is structured as 6 credits of foundation knowledge and a minimum of 6 credit electives that allow students (in consultation with their advisor) to specialize in specific areas of sustainable energy. Some examples of how the electives can be formed into specific areas of study follow. Applicants must be 16 years old to be admitted.

Minimum Requirements for Sustainable Energy Occupational Endorsement: 12 credits

Learn more about the sustainable energy occupational endorsement (<https://www.uaf.edu/academics/programs/occupational-endorsements/sustainable-energy.php>), including an overview of the program, career opportunities and more.

## CERTIFICATE, HIGH LATITUDE RANGE MANAGEMENT

An HLRM program certificate represents the completion of 31 credits delivered via hands-on applied field, laboratory and classroom sessions, with supplementary virtual instruction. The curriculum consists of the inventory and monitoring of Northern animal and plant populations, domesticated ungulate husbandry and health, research and report writing, and the opportunity to formulate a reindeer business plan specific to community development needs. Indigenous knowledge and the application of the scientific method will be used to stimulate learning and to better prepare students for entry-level natural resource jobs or to become reindeer entrepreneurs.

Admission is open to all, especially those employed by or interested in employment with tribal, state or federal agencies or other local entities in rural Alaska that provide natural resource management services.

Students should have a high school diploma or GED and an interest in science-related fields. It is strongly recommended that students seeking admission to this program have completed two high school lab-based science courses, preferably in biology, chemistry or physics.

The HLRM certificate may serve as a bridge to a variety of natural science associate and baccalaureate programs.

Minimum Requirements for High Latitude Range Management Certificate: 31 credits

Learn more about the h (<https://www.uaf.edu/academics/programs/certificates/high-latitude-range-management.php>)igh latitude range management certificate (<https://www.uaf.edu/academics/programs/>

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<sup>1</sup> CT S201 is offered by the University of Alaska Southeast.

## Programs Degree

- Associate of Science (<https://catalog.uaf.edu/associates/associate-of-science/>)

## Occupational Endorsements

- O.E.C., Ethnobotany (<https://catalog.uaf.edu/endorsements/ethnobotany/>)
- O.E.C., High Latitude Range Management (<https://catalog.uaf.edu/endorsements/high-latitude-range-management/>)
- O.E.C., Rural Surface Water Quality Testing (<https://catalog.uaf.edu/endorsements/rural-surface-water-quality-testing/>)
- O.E.C., Rural Waste Management and Spill Response (<https://catalog.uaf.edu/endorsements/rural-waste-management-spill-response/>)
- O.E.C., Sustainable Energy (<https://catalog.uaf.edu/endorsements/sustainable-energy/>)

## Certificate

- Certificate, High Latitude Range Management (<https://catalog.uaf.edu/certificates/high-latitude-range-management/>)

## Minor

- Minor, Ethnobotany (<https://catalog.uaf.edu/minors/ethnobotany/>)