



Sustainability in the North, NRM/BI0 647

3 Credits
Fall, 2025

General Information

Instructor:	Dr. Sarah Trainor	Office Location:	O'Neill 370
Email:	sftrainor@alaska.edu	Office Hours:	By appointment
Telephone:	907-474-7878	Course Type:	Hybrid - in person & zoom
Course Location:	Margaret Murie Building 230	Meeting Time:	Tu/Th 2:00-3:30
Zoom link:	Will be provided _____ _____ _____	Canvas:	https://www.uaf.edu/uaf/current/canvas.php
CRN:	NRM F647, 73508, 701, WEB ZOOM NRM F647, 76669, 901, FS982 230 - in person		
	BIOL F647, 75351, 701, WEB ZOOM BIOL F647, 76679, 901, FS982 230 - in person		

Prerequisites

Graduate standing.

Course description

Explores the basic principles of sustainability of environmental and social systems. Principles are applied across a range of scales from local communities to the globe, with an emphasis on examples in Alaska and the Arctic. Specific attention to the theory and practice of boundary spanning and knowledge co-production.

In-depth Course description

This course explores key elements of sustainability science in order to give students a strong foundation for graduate studies and for applying their graduate research to solving important real-world problems. Core elements of sustainability that will be addressed include environment/ecology, economics/employment, and ethics/equity. Central topics to be covered include: knowledge co-production; translational ecology; linking science and decision-making; the importance and challenge of cross-scale interactions and feedbacks, multiple stressors, adaptation, indicators of sustainability, evaluating sustainability outcomes and partnering with Indigenous Communities. A key theme of the course will be research on Sustainability in Alaska and the Arctic, including adaptation to climate change. The course format will include lectures and guest-lectures, but will focus on student lead discussions of required course readings and student projects. The course is designed to address sustainability from a range of trans- and inter-disciplinary perspectives. Students from a range of departments are welcome.



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Representative Course Readings/Materials

All required reading materials will be available on the Canvas platform.

Supplemental Course Readings/Materials

Fondahl, G. and Wilson, G.N. (Eds). 2017. Northern Sustainabilities: Understanding and Addressing Change in the Circumpolar World. Springer. DOI<https://doi.org/10.1007/978-3-319-46150-2>.

Petrov, A.N, BurnSilver, S., Chapin, F.S. III, Fondahl, G., Graybill, J.K., Keil, K., Nilsson, A.E., Riedlsperger, R., Schweitzer, P. 2017. Arctic Sustainability Research. Routledge.

Technology Requirements

This course will use the Canvas platform for messages, reading materials, and assignments. Canvas can be accessed at <https://www.uaf.edu/uaf/current/canvas.php>.

You will be required to have access to a working computer as well as consistent and reliable access to the internet, including the ability to respond to on-line questions, upload and download documents. If you are joining via zoom, you are expected to have a functional camera and microphone.

Email notification through Canvas may not work for a non-UAF email address. If you principally use a non-UAF email service, (such as yahoo or hotmail) go to your UAF account and forward your UAF email to that address. You are responsible for all emails sent to your UAF email account. Canvas resources, links and support information are available at the UAF website above.

Course Goals

This course is designed to give students an overview of key components of sustainability in the changing north, especially as related to their graduate research. The goal is to present core elements of sustainability: environment, economy, and equity are explored within the specific context of Alaska and the Arctic. Key theoretical frameworks are presented and solution oriented processes that can be applied to a range of sustainability issues are explored. The course culminates with a final paper in which students apply the course material directly to a specific sustainability issue of their choice.

Student Learning Outcomes

Students who are successful in this class will learn:

- How to read, review, and lead a discussion on peer-reviewed published literature
- How to prepare and deliver a professional presentation of their research
- How to listen with an open mind and open heart to diverse perspectives

By the end of this class, students will:

- Be able to synthesize interdisciplinary peer-reviewed literature related to sustainability.
- Be able to critically discuss the interdisciplinary complexities of sustainability in the Arctic.
- Be able to critically discuss linkages between science and decision-making from the perspective of sustainability.
- Understand the importance and complexities of knowledge co-production
- Reflect on the significance and role of Indigenous knowledge systems in building a sustainable future
- Build an understanding of the importance of a whole human approach to sustainability



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Instructional Methods

This course will be a combination of lecture, discussion, student presentations and guest speakers. As with all coursework, the learning from the course will be commensurate with the effort that you put forward. In other words, you will get out what you put in. This class is interactive, relying on strong student contribution. Students are expected to contribute to a respectful and productive atmosphere that encourages this joint class exploration of course themes.

This is a hybrid synchronous course. There will be simultaneous in-person and zoom meetings. Students in Fairbanks are encouraged to attend in person. Virtual participation is available in real-time via zoom.

Explanation of Student Effort

This is a 3 credit class. Per the [Academic Course & Degree Procedure Manual](#), we will meet 3 hours/week and you are expected to complete 6 hours/ week of outside work.

Course Calendar

The course schedule will be provided separately and on the Canvas platform and is subject to change. The course schedule may be adjusted to meet student enrollment, student interests, and the scheduling needs of guest lectures. Revisions to the schedule will be posted on Canvas and via email. You are responsible for following announcements on Canvas to receive these revisions.

Evaluation

***You are expected to complete all of the assigned readings and other assignments in advance of the class for which they are assigned and to come to every class prepared to participate in discussion and class activities. ***

The following grading scale will apply:

- A - 90 to 100 (A- 90-91; A+ 99-100)
- B - 80 to 89 (B- 80-81; B+ 88-89)
- C - 70 to 79 (C- 70-71; C+ 78-79)
- D - 60 to 69 (D- 60-61; D+ 68-69)
- F - < 60

You will be graded on a combination of:

- 20% - Contributions to class discussions and activities
- 20% - Homework and one page reading summary/reflection papers as assigned
- 10% - Abstract and annotated outline for final paper
- 20% - Presentation of Final Paper/Project
- 30% - Final Paper/Project

Assignments handed in after the due dates will receive reduced credit. You are expected to abide by the student code of conduct (see below) for all assignments. Additional information about assignments will be provided on canvas.

Course Policies

You are expected to abide by the following course policies.

1.) Expectations On Progress In Coursework

The deadline to drop this class is Sept. 5, 2025. You may initiate your own class withdrawal on or before that date. If a student has more than 1 unexcused absence and/or has not completed assignments, the instructor will contact them. If the student does not respond, they will be dropped from the class.

2.) Attendance, Tardiness, Class Participation, Make-up Exams

Students are expected to attend all classes. If it is necessary to miss a class, contact the instructors beforehand to inform them of your plans and request guidance on how to make up missed classroom learning. Students are encouraged to join the class remotely if on travel. Remote access is available via Zoom (details above). Missed classes will be reflected in your participation grade. If you choose to join the class remotely, you are expected to have your camera on unless you make another arrangement with the instructor.

3.) Plagiarism & Academic Integrity

Academic dishonesty applies to examinations, assignments, laboratory reports, fieldwork, practicums, creative projects, or other academic activities. Examples include, but are not limited to:

- a) presenting as their own the ideas or works of others without proper citation of sources;
- b) utilizing devices not authorized by the faculty member;
- c) using sources (including but not limited to text, images, computer code, and audio/video files) not authorized by the faculty member;
- d) providing assistance without the faculty member's permission to another student, or receiving assistance not authorized by the faculty member from anyone (with or without their knowledge);
- e) submitting work done for academic credit in previous classes, without the knowledge and advance permission of the current faculty member;
- f) acting as a substitute or utilizing a substitute;
- g) deceiving faculty members or other representatives of the university to affect a grade or to gain admission to a program or course;
- h) fabricating or misrepresenting data;
- i) possessing, buying, selling, obtaining, or using a copy of any material intended to be used as an instrument of assessment in advance of its administration;
- j) altering grade records of their own or another student's work;
- k) offering a monetary payment or other remuneration in exchange for a grade; or
- l) violating the ethical guidelines or professional standards of a given program.

For more, see [Students Rights and Responsibilities](#).

4.) Classroom Etiquette and Student Behavior Guidelines.

You are expected to treat the instructor and your classmates with respect. This course will be conducted based on shared speaking agreements. These will be reviewed on the first day of class. If you are joining via zoom, you are expected to have your camera on unless you make other arrangements with the instructor. You may raise your virtual hand and/or type in the zoom chat to communicate with the instructor.

5.) Extended Absence Policy

Extended absences are defined as missed classes or course work by students beyond what is permissible by the instructor's written course policies. Students may need to miss class and/or course work for a variety of reasons, including, but not limited to:

- bereavement
- personal illness or injury
- serious illness of a friend, family member or loved one



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- military obligations
- jury service
- other emergency or obligatory situations

For more information, go to the [Student Handbook](#) or the [Office of Rights, Compliance and Accountability](#)

6.) UAF Incomplete Grade Policy:

Your instructor follows the University of Alaska Fairbanks Incomplete Grade Policy:

"The letter "I" (Incomplete) is a temporary grade used to indicate that the student has satisfactorily completed (C- or better) the majority of work in a course but for personal reasons beyond the student's control, such as sickness, has not been able to complete the course during the regular semester. Negligence or indifference are not acceptable reasons for an "I" grade."

For more information, see [UAF Grading Policies](#)..

7.) Generative Artificial Intelligence (AI) Products

Graduate students should consult with their advisors and committees about the use of AI in their scholarship and research, as well as in the reporting of that work in their dissertations, theses, projects and papers. Any agreements (and changes in these agreements) regarding how AI can be used by the student can be documented in the reports of the advisory committee.

AI is a tool and its use is allowed in this class. However, the use of AI must be done responsibly and ethically. It should not be used to replace your own thinking and writing. Here are the specific guidelines for using AI in your assignments:

Use Real Sources:

Always ground your work in credible and authentic academic sources. AI can help you understand and work with these sources, but it should not replace them.

Cite AI Use:

If you use Generative AI to help draft or edit any part of your assignments, you must acknowledge and cite its use. Treat the AI as you would another kind of source.

Document Your Interaction:

If you use GPT-4 or a similar tool, maintain a copy of the thread used (the input you provided and the output you received). This must be available upon request to validate your work and process.

Refer to these websites for guidance on how to provide in-text citations and references for AI in your assignments: [UAF Rasmussen Library citing ChatGPT](#), [Purdue University AI guidance](#), [Brown University AI guidance](#).

Student Protections Statement

UAF embraces and grows a culture of respect, diversity, inclusion, and caring. Students at this university are protected against sexual harassment and discrimination (Title IX). Faculty members are designated as responsible employees which means they are required to report sexual misconduct. Graduate teaching assistants do not share the same reporting obligations. For more information on your rights as a student and the resources available to you to resolve problems, please go to the following site:

<https://catalog.uaf.edu/academics-regulations/students-rights-responsibilities/> .



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Disabilities Services Statement

I will work with the Office of Disability Services to provide reasonable accommodation to students with disabilities.

ASUAF advocacy statement

The Associated Students of the University of Alaska Fairbanks, the student government of UAF, offers advocacy services to students who feel they are facing issues with staff, faculty, and/or other students specifically if these issues are hindering the ability of the student to succeed in their academics or go about their lives at the university. Students who wish to utilize these services can contact the Student Advocacy Director by visiting the ASUAF office or emailing asuaf.office@alaska.edu.

Non-Discrimination Statement

The University of Alaska is an equal opportunity and equal access employer, educational institution and provider. The University of Alaska does not discriminate on the basis of race, religion, color, national origin, citizenship, age, sex, physical or mental disability, status as a protected veteran, marital status, changes in marital status, pregnancy, childbirth or related medical conditions, parenthood, sexual orientation, gender identity, political affiliation or belief, genetic information, or other legally protected status. The University's commitment to nondiscrimination applies to all applicants, faculty, staff, students, student-employees, volunteers, affiliates and contractors in a manner consistent with all applicable laws, regulations, ordinances, orders, and Board of Regents' Policies, University Regulations, and related internal processes and procedures. Contact information and complaint procedures are included on UA's statement of nondiscrimination available at <http://www.alaska.edu/nondiscrimination>. For more information, contact:

UAF Office of Rights, Compliance and Accountability
1692 Tok Lane
3rd floor, Constitution Hall
Fairbanks, AK 99775
907-474-7300
uaf-orca@alaska.edu

Student Academic Support

- **Communication Center**
 - 907-474-5470
 - uaf-speakingcenter@alaska.edu
 - Gruening 507
- **Writing Center**
 - 907-474-5314
 - uaf-writing-center@alaska.edu
 - Gruening 801
- **UAF Math Services** (math fee paying students only)
 - uaf-traccloud@alaska.edu
 - Chapman 305
- **Developmental Math Lab**
 - CTC, Room 120, 604 Barnette Street
 - Gruening 406



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- **The Debbie Moses Learning Center at CTC**
 - 907-455-2860
 - 604 Barnette St, Room 120
- **Elmer E. Rasmuson Library** (help with research)
 - 907-474-7481 (phone)
 - 907-341-4404 (text)
 - AskRasmusonLibrary@uaf.libanswers.com
 - 1732 Tanana Loop
- **Rural Student Services**
 - 907-474-7871
 - uaf-rss@alaska.edu
 - [Tutoring Services](#)
 - Main floor Brooks Building
- **Student Support Services**
 - 907-474-6844
 - trio.sss@alaska.edu
 - 514 Gruening
- **eCampus Student Services**
 - 907-479-3444
 - toll free 1-800-277-8060
 - [contact staff directly](#)
- **Veterans Resources Center**
 - 907-474-2475
 - Rm 111, Eielson Building.
- For more information and resources, please see the [Academic Advising Resource List](#)

Other Student Resources:

- **Disability Services**
 - 907-474-5655
 - uaf-disability-services@alaska.edu
 - Eielson 110
- **Student Health & Counseling** [6 free counseling sessions]
 - 907-474-7043
 - [Appointments](#)
 - Whitaker 203
- **Office of Rights, Compliance and Accountability**
 - 907-474-7300
 - uaf-orca@alaska.edu
 - 3rd Floor, Constitution Hall
- **ASUAF Student Government**
 - 907-474-7355
 - asuaf.office@alaska.edu
 - Wood Center 119
- **Academic Advising Center**
 - 907-474-6396



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- o uaf-advising@alaska.edu
- o 6th Floor Rasmuson Library

University Sponsored Off-Campus Programs and Research Activities

We want you to know that:

1. UA is an AA/EO employer and educational institution and prohibits illegal discrimination against any individual: www.alaska.edu/nondiscrimination.
2. Incidents can be reported to your university's Equity and Compliance office (listed below) or online reporting portal. University of Alaska takes immediate, effective, and appropriate action to respond to reported acts of discrimination and harassment.
3. There are supportive measures available to individuals that may have experienced discrimination.
4. University of Alaska's Board of Regents' Policy & University Regulations (UA BoR P&R) 01.02.020 Nondiscrimination and 01.04 Sex and Gender-Based Discrimination Under Title IX, go to: <http://alaska.edu/bor/policy-regulations/>.
5. UA BoR P&R apply at all university owned or operated sites, university sanctioned events, clinical sites and during all academic or research related travel that are university sponsored.

For further information on your rights and resources [visit the student placement guidelines page of the equity and compliance site](#).

Title IX

University of Alaska Board of Regents have clearly stated in BOR Policy that discrimination, harassment and violence will not be tolerated on any campus of the University of Alaska. If you believe you are experiencing discrimination or any form of harassment including sexual harassment/misconduct/assault, you are encouraged to report that behavior. If you report to a faculty member or any university employee, they must notify the UAF Title IX Coordinator about the basic facts of the incident.

Your choices for reporting include:

1. You may access confidential counseling by contacting the UAF Health & Counseling Center at 907-474-7043;
2. You may access support and file a Title IX report by completing the Title IX Report form on the [Office of Rights, Compliance and Accountability](#) website.
3. You may file a criminal complaint by contacting the University Police Department at 907-474-7721.

For more information please please contact ORCA at uaf-orca@alaska.edu or call 907-474-7300.

Any UAF employee or volunteer who reasonably suspects or observes minor abuse or maltreatment is required to report the incident. Reporting procedures are available on the UAF Protection of Minors. Violation of this policy by employees shall be reported as well.

Emergency Notification Plan

Students will receive emergency notifications via phone or email. Please check your uaonline account to confirm your emergency notification settings. for more information, please refer to the [student handbook](#). In cases where you do not have access to your devices, as your instructor, I will take responsibility to relay any emergency notifications.