

University of Alaska Anchorage  
School of Education  
3211 Providence Drive  
Anchorage, Alaska 99508-8269

**ED 580 Professional Learning in Science Education:  
Exploring Prince William Sound**

**3 Credits, Graded A-F**

**Summer 2023**

**Course Sponsor:** U.S. Forest Service, Discovery Southeast, Alaska Geographic,  
Alaska Sea Kayakers, Lazy Otter Charters

**Instructor:** Tim Lydon (US Forest Service)

**Contact Information**

**Address:** Alaska Geographic  
421 W 1<sup>st</sup> Ave Ste 250  
Anchorage, AK 99501

**Telephone:** 907.771.8466

**Email address:** education@akgeo.org

**Course Meeting Information**

**Location:** June 6: 4pm Orientation at the 421 W 1<sup>st</sup> Ave Ste 250  
Anchorage, AK 99501  
June 7-12: Kayak expedition in Prince William Sound.

**Start and End Date:** June 6 - August 15, 2023

**Class Day(s) & Time(s):** June 6th, 4pm through June 12th, 6 pm continuous residential  
course

**Final Project Due:** August 15, 2023

**Course Description:**

*Exploring Prince William Sound* is a six-day course that takes place in the scenic heart of Prince William Sound. The overarching goal is to help educators think of new ways to bring the natural world into classrooms. While camping and traveling by sea kayak in Prince William Sound, participants will explore the area's human and natural history, with the human relationship to nature as a central theme. Topics we'll explore include Chugach Native history, early Euro-American activities, evolution of the Chugach National Forest, application of the 1964 Wilderness Act to Alaska, the 1989 Exxon Valdez oil spill, and the local effects of global climate change, along with local flora, fauna and glaciers. Immersed in wilderness travel and themes, participants will discuss new ways to incorporate the natural world into teaching methods.

**Intended Audience:** All K-12 educators

**Enrollment Restrictions:** Students should have moderate physical ability and the willingness to paddle, walk and camp in cool, wet weather.

**Course Prerequisite/Co-requisites:** None

**Course Design:**

- a. Requires 45 contact hours and approximately 90 hours of engaged learning.
- b. Does not apply to any UAA certificate or degree program.
- c. No UAA lab and/or materials fees beyond standard charges.
- d. This course is based upon the collegial sharing, collaboration, and support of the participants and facilitator as a community of learners. Course activities will include common readings and group discussions, collective learning processes, peer coaching/mentoring, and reflective practices.

**Instructional Goals and Defined Outcomes:**

RESEARCH BASED THEORY/PRINCIPLES/PRACTICES/TRENDS (CONTENT)

1.0 Instructional Goal:

- 1.1 Use experiential learning about the human and natural history of Prince William Sound to help teachers incorporate nature-based education into their classrooms. Teachers will create new lesson plans that reflect course objectives.

Defined Outcome:

- 1.1a Participants will understand basics of south-central Alaskan natural history, with a focus on temperate rain forest, wildlife, and glaciers;
- 1.1b Participants will understand general human history of Prince William Sound, including Chugach culture, early Euro-American activities, creation of the Chugach National Forest, 1964 earthquake, 1989 Exxon Valdez oil spill, and the unfolding impacts of global climate change.
- 1.1c Participants will consider the link between today's environmental issues and the current movement toward more nature-based education, using the ongoing ecological impacts/resiliency of the Exxon Valdez oil spill and global climate change as examples.
- 1.1d Participants will understand how the congressionally designated Wilderness Study Area in Prince William Sound fits into the broader goals of public lands management. They will understand the importance of the public lands in addressing climate change and connecting youth to the natural world.
- 1.1e Participants will be able to look at a landscape as a whole and identify important ecological roles between humans, wildlife and natural systems.
- 1.1f Participants will understand the ethics of wilderness travel, including appropriate interactions between humans and wildlife and controlling impacts to wilderness systems.
- 1.1g Participants will explore ways to bring the natural world, the public lands, and ecological issues such as climate change into their classrooms to inspire a connection to nature by a younger generation.

## THEORY INTO PRACTICE (APPLICATION)

### 2.0 Instructional Goal:

- 2.1 Reawaken the desire to use nature-based experiences and management challenges as teaching aides to implement curriculum requirements in math, science, language arts, political science and more. Examples from PWS include 1989 oil spill, wilderness management, and climate change.
- 2.2 Inspire teachers to instruct students about the magic of wild places and the important lesson that protection of those places starts at home.
- 2.3 Provide a foundation for Leave No Trace practices and ethics and proficiency in basic sea kayak skills.

### Defined Outcome:

- 2.1a Participants will analyze a variety of nature-based education materials, activities, and teaching techniques for their own application.
- 2.2a Participants will develop skills in Leave No Trace practices and bear-safe camping and safe travel by sea kayak.

## REFLECTION ON THEORY INTO PRACTICE (REFLECTION)

### 3.0 Instructional Goal:

- 3.1 Engage participants in discussions, reflective journaling and informal sharing about science instruction and how to incorporate gained knowledge and experience into their classrooms.

### Defined Outcome:

- 3.1a Participants will review and reflect upon the scientific information covered during the day. Participants will write a journal entry each day, reflecting on how the information can be shared with their students.

## RELATIONSHIP TO STANDARDS

### 4.0 Instructional Goal:

Familiarize participants with district, state, and national educational standards addressed by the strategies and concepts of nature based education that are presented.

### Defined Outcome:

Participants will identify educational standards met through nature-based lesson plans.

### **Writing Style Requirements:**

Participants' writing will reflect the clarity, conciseness, and creativity expected of post-baccalaureate certificated educators.

### **Attendance and Make-up Policy:**

Participants are expected to actively and collegially participate in the orientation and field trip in its entirety.

### **Course Assignments, Assessment of Learning, and Grading System:**

Course grading will be A-F based upon the following. Models and rubrics will be provided for each assignment.

- a. Participation and Collegial Support 25%

Participants are expected to actively and collegially participate in discussions, activities, and other process experiences during the seminars and group sessions.

- b. Reflective Journal 25%  
Participants will complete a thoughtful, reflection in journal format of the course experience(s), discussions, applications, and readings.
- c. Final Project 50%  
Participants will develop two classroom lesson plans *or* one classroom lesson plan and one digital/visual presentation (i.e., iMovie, book) applying concepts and theory discussed during the course.

### Quality of Work

Assignments, projects, papers, presentations, etc. will be graded for quality as follows:

“A” work goes beyond the assignment in originality, scholarship or critical thinking; excellent in all aspects.

“B” work is complete, comprehensive, and well prepared; clearly indicates that considerable time and intellectual effort was expended in preparing the assignment.

“C” work is average; completed as requested, on time, and in appropriate format.

“D” work is below average; incomplete or chronically late; in inappropriate format; does not meet course standards, shows limited effort and understanding.

“F” indicates that the student has not met the guidelines for “A-D” work.

### Course Calendar/Schedule:

June 6 4 PM – 6 PM, Orientation at Alaska Geographic office, Anchorage, Alaska.

- Introduce course objectives and expectations. Safety presentations by instructor and guide. Equipment evaluation and discussion. Lodging and meals not included for this night.

*Note: the events of the next 4 days depend upon weather, tides and other factors.*

June 7 6:30 AM – 8 PM, Establish camp and introduce sea kayaking.

- Travel by van to Whittier, Alaska (90 minutes from Anchorage), then by boat to a remote location in western Prince William Sound (2 hours). Establish camp on a wilderness beach and introduce sea kayaking. Introduce natural history of the area and experiential learning discussion with personal definitions of wilderness.

June 8 8 AM – 8 PM, Explore Prince William Sound

- Easy day of paddling and walking. Dependent on weather and timing, the group will go for a short kayak excursion and/or rain forest hike. The objective is to experience the natural and human history of the area. We will look for whales, sea lions, and seals on the water, and mink, otters, bears and other wildlife on land. We will discuss local human history, from Chugach people to gold rushes, and how its imprint on the land fits with the definitions of wilderness discussed the previous day.

- June 9 8 AM – 8 PM, Explore Prince William Sound
- In the morning, the group will share quotes and stories about American conservationists such as Henry David Thoreau, John Muir, Alaska Native leaders, and others, learning how their ideas on wilderness fit with our own. Afterward, we'll have a moderate day of paddling and exploring. Afternoon discussions will focus on the history and meaning of Chugach National Forest and congressionally designated Wilderness Study Area in Prince William Sound.
- June 10 8 AM – 8 PM, Explore Prince William Sound
- In the morning, the group will learn about the 1989 Exxon Valdez oil spill and its effect on the ecology of Prince William Sound. Discussion will include various examples of both resiliency and ongoing damage. We'll share readings of personal oil spill experiences from the book, *The Spill* and learn about citizen response in the form of RCAC history. Short kayak excursions to explore glaciers and icebergs.
- June 11 8 AM – 8 PM, Explore Prince William Sound
- Morning discussion about how global climate change is affecting the ecology of Prince William Sound, with a special focus on glaciers. The nearby glaciers are undergoing significant retreat. The rest of the day will be spent exploring by kayak and foot. Climate change will be the theme for the day as the group investigates local impacts and the challenges of addressing climate change in the classroom. In the evening, the group will begin discussing how nature-based education can enhance modern teaching methods and connect young people to places like Prince William Sound.
- June 12 8 AM-5 PM Wrap-up and Return to Anchorage
- Morning discussion about lesson plans, ideas for the classrooms, reflections on the last six days. Break camp mid-day. Return by boat to Whittier and by van to Girdwood to Anchorage by 6 PM.

**Final project due:** August 15, 2023

**Related Professional Organizations:**

None

**Course Texts, Readings, Handouts, and Library Reserve:**

Required Text/Materials:

none

Content References:

*Exxon Valdez education materials from PWS RCAC.*

*The Spill, Personal Stories from the Exxon Valdez Disaster.* PWS Regional Citizens Advisory Council. 2009.

*Last Child in the Woods.* Richard Louv. (2008). Algonquin Books.

*A History of Prince William Sound Alaska.* Jim and Nancy Lethcoe. (2001). Prince William Sound Books.

*Travels in Alaska.* John Muir. Mariner Books.

*The Future of the Wild, Radical Conservation for a Crowded World.* Johathan Adams. 2007. Beacon Press.

*Wilderness and the American Mind*. Roderick Nash. (2001). Yale University Press.

*Plants of the Pacific Northwest Coast*. Pojar, J and A. MacKinnon. (1994). BC Ministry of Forests and Lone Pine publishing.

*Sea Kayaking skills*. Leave No Trace Inc. (2002). Skills & Ethics Series, Boulder, CO.

*Driven Wild*. Paul Sutter. (2002). University of Washington Press.

*The Idea of Wilderness*. Max Oeschlaeger. (1991). Yale University Press.

*The Enduring Wilderness*. Doug Scott. (2004). Fulcrum Publishing.

*From Conquest to Conservation*. Dombeck, Wood, Williams. (2003). Island Press.

*A Sand County Almanac*, Aldo Leopold. (1949). Oxford University Press.

*A Wilderness Original, the Life of Bob Marshall*. James M. Glover. (1986).

*The Mountaineers; Wilderness Forever; Howard Zahniser and the Path to the Wilderness Act*, Mark Harvey. (2006). University of Washington Press.

*The Future of the Wild, Radical Conservation for a Crowded World*. Johathan Adams. (2007). Beacon Press.

#### Standards References:

Alaska Comprehensive Center. (2012). *Guide to Implementing the Alaska Cultural Standards for Educators*. Juneau, AK: Alaska Department of Education and Early Development. Retrieved from: <https://education.alaska.gov/standards/cultural> and <https://www.asdn.org/wp-content/uploads/Implementing-AK-cultural-standards-1.pdf>

Alaska Native Knowledge Network. (1998). *Alaska standards for culturally responsive schools*. Fairbanks, AK: University of Alaska Press. Retrieved from: <http://www.ankn.uaf.edu/publications/culturalstandards.pdf>

National Research Council, the National Science Teachers Association, the American Association for the Advancement of Science, and Achieve. (2013). *The next generation science standards*. Retrieved from <http://www.nextgenscience.org/next-generation-science-standards>.

State of Alaska Department of Education and Early Development. (2019). *Content and performance standards for Alaska students*. Juneau, AK: Author. Retrieved from: [https://education.alaska.gov/akstandards/standards/Content and Performance Standards edited.pdf](https://education.alaska.gov/akstandards/standards/Content_and_Performance_Standards_edited.pdf)

State of Alaska Department of Education and Early Development. (2019). *K-12 Science Standards for Alaska*. Juneau, AK. Author. Retrieved from: <https://education.alaska.gov/akstandards/science/science-standards-for-alaska.pdf?v=1>

State of Alaska Department of Education and Early Development. (2012). *Alaska English/Language Arts and Math Standards*. Juneau, AK: Author. Retrieved from: [https://education.alaska.gov/akstandards/standards/ELA\\_and\\_Math.pdf](https://education.alaska.gov/akstandards/standards/ELA_and_Math.pdf)

**Informed by the School of Education Vision, Mission, and Conceptual Framework:**

We believe that the preparation and support of professional educators is the shared responsibility of the University of Alaska Anchorage and our partners, and that our programs must evolve dynamically in response to unique community needs, research, and continuous program assessment. This PACE course is designed to meet a professional development need in response to our partner school districts and professional organizations. The course fits within the mission of the UAA School of Education as we encourage lifelong learning to meet the challenges of a rapidly changing world.

**Link to Alaska Educator Content and Performance Standards:**

This professional development is rooted in the fundamentals of Alaska’s standards for teachers, administrators, and beginning teachers in Alaska’s Administrative Code, 4 AAC 04.200. It is offered to encourage and support practicing educators attain, maintain, or surpass the standards for effectively preparing today’s students for successful lives and productive careers. (<https://education.alaska.gov/standards/other-standards>)

**Learning Forward Standards for Professional Learning:**

This course is further informed by the Learning Forward Standards for Professional Learning which outline the “characteristics of professional learning that leads to effective teaching practices, supportive leadership, and improved student results.” As explicit in the standards, “professional learning is for educators to develop the knowledge, skills, practices and dispositions they need to help student perform at a higher levels.” (<https://standards.learningforward.org>)

**Course Policies:**

**Incomplete Grades**

An “I” (Incomplete) is a temporary grade. It is used to indicate that a student has made satisfactory progress in the majority of the work in a course, but for unavoidable absences or other conditions beyond the control of the student, has not been able to complete the course. The Incomplete Grade Contract, a signed contract form between the student and the course instructor that stipulates the assignment(s) required to finish the course, is required and must be completed and filed with PACE before an “I” grade is assigned. Course work must be completed by a date specified in the contract, not to exceed one year. Upon completion of the required course work, the course instructor must submit a change of grade form accompanied by a copy of the incomplete grade contract to the PACE Office. If course work is not completed within one year or if the terms specified on the Incomplete Grade Contract are not met, the student may be assigned a failing grade (F or NP, depending on the grading basis of the course). If course work is not completed within one year and the instructor does not submit a change of grade at that time, the “I” will become a permanent grade and it will be necessary for the student to re-register to obtain credit for the course.

**ADA Policy**

The provision of equal opportunities for students who experience disabilities is a campus-wide responsibility and commitment. Disabilities Support Services (DSS) is the designated UAA department responsible for coordinating academic support services for students who experience disabilities. To access support services, students must contact DSS (786-4530 or 786-4536 TTY) and provide current disability documentation that supports the requested services. Disability support services are mandated by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. Additional information may be accessed at the DSS Office in RH 105 or on-line at [www.uaa.alaska.edu/dss](http://www.uaa.alaska.edu/dss).

### **Academic Dishonesty Policy**

Academic integrity is a basic principle that requires all students to take credit only for the ideas and efforts that are their own. Cheating plagiarism, and other forms of academic dishonesty are defined as the submission of materials in assignments, exams, or other academic work that is based on sources prohibited by the faculty member. Academic dishonesty is defined further in the “student Code of Conduct.” In addition to any adverse academic action that may result from the academically dishonest behavior, the University specifically reserves the right to address and sanction the conduct involved through student judicial review procedures and the Academic Dispute Resolution Procedure specified in the University catalog.

### **Professional and Ethical Behavior**

University of Alaska Anchorage School of Education students are expected to abide by the State of Alaska Code of Ethics of the Education Profession and professional teaching standards as they concern students, the public, and the profession. The standards, adopted by the Professional Teaching Practices Commission, govern all members of the teaching profession. A violation of the code of ethics and professional teaching standards are grounds for revocation or suspension of teaching certification.

### **Technology Integration**

University of Alaska Anchorage School of Education students are expected to (a) demonstrate sound understanding of technology operations and concepts; (b) plan and design effective learning environments and experiences supported by technology; (c) implement curriculum plans that include technology applications in methods and strategies to maximize student learning; (d) facilitate a variety of effective assessment and evaluation strategies; (e) use technology to enhance productivity and professional practice; and (f) understand the social, ethical, and human issues surrounding use of technology in PreK-12 schools and apply those principles in practice.

### **Course Safety and Risk**

This course is sponsored by the U.S Forest Service and Alaska Geographic. The University of Alaska Anchorage provides the credit option for interested participants. This course takes place entirely outdoors and within a remote area of Alaska. Field courses, such as this, do have inherent risks. These risks will be outlined in the Alaska Geographic Acknowledgement of Risk form and by the course instructors. The Acknowledgement of Risk form will be provided at the time of registration and a signed copy is required in order to attend.

### **Non-Discrimination Policy**

The University of Alaska is an affirmative action/equal opportunity employer and educational institution. 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, including against sex discrimination, applies to students, employees, and applicants for admission and employment. Contact information, applicable laws, and complaint procedures are included on UA's statement of nondiscrimination available at [www.alaska.edu/nondiscrimination](http://www.alaska.edu/nondiscrimination).