

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

ED 576  
Professional Learning in Science Education:  
Writing in the Footsteps of the Muries

1 Credit, Graded P/NP  
Summer 2022

**Course Sponsor:** Alaska Geographic, Murie Science and Learning Center, Denali National Park

**Instructor:** Kim Heacox

**Educational Resource:** Paula Davis

**Primary Grading Instructor:** David Arnold

**Facilitating Instructor:** Jessica Brillhart

**Contact Information Address:** Alaska Geographic, Murie Science and Learning Center, P.O. Box 136, Denali Park, AK 99755

**Telephone:** (907) 683-6432

**Email address:** courses@alaskageographic.org

**Course Meeting Information**

**Location:** Murie Science and Learning Center, Denali National Park & Preserve entrance

**Start and End Date:** June 24, 2022 to June 26, 2022

**Class Day(s) & Time(s):** June 24th, 2022 6:30pm through June 26th, 2022 4pm, continuous residential course

**Final Project Due:** Final day of course

**Course Description:** One hundred years ago, in the summer of 1922, two half-brothers, Olaus and Adolph Murie, arrived in Mount McKinley National Park (today's Denali NP) to study caribou. Over the following decades, they would revolutionize the sciences of ecology and wildlife biology, and marry half-sisters Mardy Thomas and Louise Gillete. Together the four would become pillars of the American wilderness preservation movement. Alaska author Kim Heacox will share many examples of the Muries' writing while hiking where the Muries once hiked. The instructor will lead activities to assist students in discovering their own writing styles. There will be many opportunities for students to hone their writing skills while sharing ideas and insights with the group. Participants will consider how to integrate their learning from this fieldwork course into their teaching or educational environments.

**Intended Audience:** Teachers and other interested educators

**Enrollment Restrictions:** None

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

**Course Design:**

- a. Requires 15 contact hours and approximately 30 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 Murie Science and Learning Center course will be entirely field-based. Learning will be achieved through lectures, group discussions, field observations, and field activities. 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:

Instructor will introduce participants to the members of the Murie family and the work they did in Denali National Park, as well as their roles in wilderness preservation.

Defined Outcomes:

- 1.1 Participants will hike in the footsteps of the Muries by hiking in the same areas the Muries hiked during their time in Mt. McKinley National Park (today's Denali National Park).
- 1.2 Participants will demonstrate an understanding of the role Mt. McKinley National Park played in shaping the Muries into ground-breaking scientists/thinkers/authors/activists.
- 1.3 Participants will demonstrate an understanding of the Muries' achievements and courage.

THEORY INTO PRACTICE (APPLICATION)

2.0 Instructional Goal:

Instructor will lead participants in various writing activities in field journals.

Defined Outcomes:

- 2.1 Participants will share their individual field writings and receive constructive feedback.
- 2.2 Participants will begin to see themselves as wilderness stewards and potential activist writers/educators similar to the Muries.
- 2.3 Participants will describe how they will integrate their experiences into their teaching or educational environments.

REFLECTION ON THEORY INTO PRACTICE (REFLECTION)

3.0 Instructional Goal:

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:

Participants will review and reflect upon the scientific information covered. Participants will complete a journal, reflecting on how the information can be shared with their students.

RELATIONSHIP TO STANDARDS

4.0 Instructional Goal:

Familiarize participants with science content standards addressed by the strategies and concepts presented.

Defined Outcome:

Participants will identify the Science-Content standards applicable to their classroom.

**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 all classes as a contributing member of a learning community. Attendance at every session is mandatory.

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

Course grading will be Pass/No Pass based upon the following:

- a. Participation 50%  
Participants will be expected to actively and collegially participate in discussions, activities, and other process experiences during the seminar.
- b. Final Project - Journal completion 50%  
Participants will complete journal assignments to be turned in to MSLC field guide on the last day of class. Assignments will include thoughtful reflection based upon seminar experience and an application plan of how participants will integrate issues and content discussed into their own classroom setting.

**Quality of Work**

**Grade of "Pass"**

Passing work includes all components of the assignment and meets proficient criteria. It is focused, developed, supported, logical, and acceptable work with minimal errors. Work of this quality indicates understanding of key concepts and knowledge base.

**Grade of "No Pass"**

Work graded "No Pass" may lack key criteria/components of the task and show little or no evidence of conceptual understanding or knowledge utilization. Work may also show minimal or no organization/development and/or clear focus (may be difficult to follow) and may contain numerous errors. This grade indicates minimal or no knowledge or concept development. It may also mean that work was not attempted.

**Course Calendar/Schedule:**

- Friday 6:00 p.m. – 6:30 p.m. Greeting and check in at MSLC  
6:30 p.m. – 7:30 p.m. Introduction, orientation & overview
- Honored and excited to be back in Denali
  - Looking forward to meeting and sharing time with you
  - Denali artist-in-residence – 2014 - East Fork cabin
  - America in 1922 – set the stage for Muries' arrival to the park

7:30 p.m. – 9:00 p.m. Drive to MSLC Field Camp and settle in

Saturday

9:00 a.m. – 5:00 p.m. Exploration of Denali

9:00 am - 10:00 am

Discussion in van about America's national parks in 1922 and the lack of scientific research and science-based decision-making

10:00 am - 1:00 pm

Hike along East Fork River and discuss the Muries in the park in 1922 and what they saw, and how it would shape their careers and their journey from scientists to authors to activists.

1:00 pm - 2:00 pm

Lunch and journaling – good descriptive writing – *about the way things are* – by creating strong word pictures.

2:00 pm - 2:30 pm

Van transport to Tattler Creek – during transit discuss the growth of the National Park System and the evolution of science in the parks, and of the Muries themselves.

2:30 pm - 3:30 pm Hike up Tattler Creek

3:30 pm - 4:30 pm

Discussion and journaling – about courageous writing, and *about the way things ought to be*. Hand-out examples of activist writing.

4:30 pm - 5:30 pm Hike down Tattler Creek

5:30 pm – 6:00 pm Van transit to MSLC Field Camp

7:00 pm – 8:00 pm Dinner

Kim reads participants' journals during meal

Teacher study group meets during dinner

- Teacher study group to discuss the day's activities and how the information can be shared with students
- Identify applicable science content standards addressed by course content

8:00 pm - 9:00 pm

Kim shares highlights from journals

Sunday

9:00 a.m. – 3:30 p.m. Continued exploration of Denali

9:00 am-10:00 am

Discussion at MSLC Field Camp – How the Muries changed America: Wilderness Society, Wilderness Act, ANLICA, Presidential Medal of Freedom.

10:00 am - 11:00 am Transit to Savage River

11:00 am – 3:30 pm Hike Savage Alpine Trail

Hike from Savage River to Savage Campground - lunch and journaling at high point of trail. Journal focus: Find the Murie Within - any of us can make a difference. Kim shares a letter. The world in 2022 – what's unchanged since the Muries arrived in 1922, what has changed... and why we need courageous writers today.

3:30 p.m. – 4:00 p.m. Return drive to MSLC

**Final Project Due:** last day of course

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

Required Text/Materials:

University of Wyoming American Heritage Center. (n.d.). *The Murie Family: Protectors of America's Wildlands at the American Heritage Center on Virmuze*. Virmuze.Com. Retrieved from: <https://virmuze.com/m/uwyo-american-heritage-center/x/murie-family/>

*The Murie Legacy*. (n.d.). Teton Science Schools. Retrieved from:

<https://www.tetonscience.org/locations/murie-ranch/the-murie-legacy/>

Suggested Text/Material:

Heacox, K. (2021). *Rhythm of the Wild*. Lyons Press.

Supplemental information can be found in the following sources:

Content References:

*Behavior and Conservation of Wolves In Alaska*. (2005). Retrieved from:

[http://alaskawolves.org/Reports\\_files/Research%20Objectives-1.pdf](http://alaskawolves.org/Reports_files/Research%20Objectives-1.pdf)

Borg, B. L., & Schirokauer, D. W. (2022). The Role of Weather and Long-Term Prey Dynamics as Drivers of Wolf Population Dynamics in a Multi-Prey System. *Frontiers in Ecology and Evolution*, 10. Retrieved from: <https://doi.org/10.3389/fevo.2022.791161>

Brown, W. (2005). *The Last Treasure*. Alaska Natural History Association.

Brown, W. (1993). *Denali: Symbol of the Alaskan Wild*. Alaska Natural History Association.

Heacox, K. (2021, October 29). Idaho is going to kill 90% of the state's wolves. That's a tragedy – and bad policy. *The Guardian*. Retrieved from:

<https://www.theguardian.com/commentisfree/2021/may/12/idaho-wolves-environment-animals-policy>

Murie, A. (1990). *A Naturalist in Alaska* (Reprint ed.). University of Arizona Press.

Murie, M. E., & Beinecke, F. (2020). *Two in the Far North, Revised Edition: A Conservation Champion's Story of Life, Love, and Adventure in the Wilderness* (6th ed.). Alaska Northwest Books.

*UW Expands Access to Papers of Conservation Movement Leaders the Murie Family* | News | University of Wyoming. (2014). Uwyo.Edu. Retrieved from:  
<https://www.uwyo.edu/uw/news/2014/04/uw-expands-access-to-papers-of-conservation-movement-leaders-the-murie-family.html>

#### 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. (2016). *Content and performance standards for Alaska students*. Juneau, AK: Author. Retrieved from:  
<https://education.alaska.gov/akstandards/standards/ContentStandards.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**

**Due to the nature of this course, grades of incomplete will not be permitted.**

#### **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 Alaska Geographic and the Murie Science and Learning Center. 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).