The Wild, Wild World of Education:

Teacher Workshop in Yukon – Charley Rivers National Preserve

Explore the history of the gold rush, geology, boreal forest ecology and scientific research in the Yukon – Charley Rivers National Preserve. This hands-on course will include a four day stay in historic Coal Creek Camp, a restored mining camp off the Yukon River in the heart of the preserve. Along with park staff, participants will journey the river observing the natural and cultural history of the area, and exploring the varied river communities of life.

3 Credits, Graded P-NP

Summer 2014

Instructors:
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Course Meeting Information

Initial Orientation Meeting: (6 hours)
Tuesday, July 8th and Thursday, July 10th, 6:00 – 9:00 PM
Participants will meet at the Morris Thompson Cultural and Visitors Center for an introduction to the natural and cultural history of the preserve. They will meet national park staff and learn about on-going projects and research being carried out by the Central Alaskan Network of Inventory and Monitoring. They will also be introduced the 600 million years of geologic history recorded in the rocks within the Preserve.

Workshop: (32 hours)
4 Days (July 18 - 22) at Coal Creek Camp in Yukon-Charley Rivers National Preserve. Participants will travel on their own to Eagle, either by car or plane. They will be met on at 2:00 PM on July 18th by park staff that will provide transportation to Coal Creek Camp. The camp is located about 4 hours by boat down river from Eagle. Participants will return to Eagle by boat on the morning of July 22nd, arriving at before 10:30 AM. Travel to Fairbanks on their own.

Independent Work: (3 hours)
Participants will deepen and extend their reflections recorded in the journals they began while at Coal Creek Camp. They will work independently to create lesson plans that incorporate the knowledge and experiences they gained while in attendance at the workshop. These lesson plans will align with state curriculum standards.

**Post Workshop Meeting: (3 hours)**
- July 29th, 6:00 – 9:00 PM at the Morris Thompson Cultural and Visitor Center
- Participants will share their Reflective Journals and lesson plans with other participants.

**Intended Audience:** K-12 educators

**Enrollment Restrictions:** 15 participant maximum

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

**Link to Standards for Alaska Teachers:**
This professional development effort is rooted in the fundamentals of the standards for Alaska Teachers. It is offered to encourage and support practicing educators in attaining, maintaining or surpassing the standards that, as stated in Standards for Alaska’s Teachers, “define the skills and abilities our teachers and administrators need to possess to effectively prepare today’s students for successful lives and productive careers.” (Roger Sampson, [http://www.eed.state.ak.us/standards/pdf/teacher.pdf](http://www.eed.state.ak.us/standards/pdf/teacher.pdf))

**Course Design:**
1. Requires attendance at 6 hour orientation meeting,
2. Will require a commitment of 32 hours of active engagement while in attendance at Coal Creek Camp
3. Requires 6 hours, post-workshop (3 hours independent work and 3 hours in classroom)
4. Does not apply to any UAF certificate or degree program.
5. No UAF lab and/or materials fees beyond standard charges.
6. 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 lecture, experiential field activities, group discussions and reflective practices

**Instructional Goals and Defined Outcomes**
Participants will be introduced to the most recent and relevant science happening in Interior Alaska’s National Parks. They will improve their skills in observing, questioning, problem solving through the collection, interpretation and communication of data. They will gain the
ability to interpret and evaluate scientific information and examine the potential applications to their classrooms.
Participants will travel with park staff to view the landscape through the various lenses of biology, geology, and history. They will take a multi-disciplined look at critical issues and reflect on how these can brought back to the classroom. They will document their experiences in a multi-media manner utilizing the photography, video, and audio recording capacity of tablets and/or smart phones to create a “Reflective Journal.” They will have the opportunity to interact with park staff and ask questions pertaining to research projects, park and area history, and also about career paths in natural resources.

1. **Instructional Goals:**
The instructor(s) will:

1.1. Inform participants about the ecological processes being studied by park researchers
1.2. Inform participants about the natural and cultural history of the Yukon-Charley Rivers National Preserve
1.3. Offer course participants strategies to engage K -12 students in current ecological research and environmental stewardship activities
1.4. Provide a framework for teachers to practice inquiry-based teaching, conduct field studies using ecology field technique and incorporate research into classroom teaching
1.5. Engage participants in discussions, reflective writing and informal sharing about science instruction and how to incorporate field science into their classrooms

2. **Defined Outcomes:**
After successful course completion, students will be able to:

2.1. Identify basic concepts of boreal forest ecology
2.2. Identify basic concepts of geology as it pertains to the Yukon River
2.3. Identify key historical events that occurred in relation to the Gold Rush and the subsequent development of the area
2.4. Teach several standards-based lesson plans about boreal forest ecology and gold rush history as it pertains to the portion of the Yukon River encompassed by Yukon-Charley Rivers NP
2.5. Conduct scientific studies on issues pertaining to ecological processes with K-12 students and foster youth engagement in critical topics related to natural resource management and conservation.
2.6. Participants will gain exposure to curricula that incorporate field observations and inquiry-based science and history activities. Teachers will develop strategies on how to incorporate these curricula into their lesson plans
2.7. Participants will review and reflect on the scientific information and field methodology utilized in this course. Participants will create a “Reflective Journal” in which they will record information along with their observations, inspirations, thoughts and musings
about the cross-curricular ties they see. This journal will be multi-media in nature and will include photographs, video, Voice Threads and other types of media produced with the use of tablets, smart phones or iPads (which we can make available). The journal will be an educational resource to share with students during the coming school year.

2.8. During their evenings at Coal Creek Camp, participants will be an active part of a “Professional Learning Community” and share their thoughts as to how their experiences and the knowledge and skills they acquire during this workshop can be used to meet state and district standards at their grade level through lesson implementation.

2.9. Upon return to Fairbanks, participants will expand and deepen their reflections begun while at Coal Creek Camp. They will review state and district standards and create lesson plans that draw on the experience at Coal Creek Camp and that connect their students to that experience.

**Writing Style Requirements**
Participants writing will reflect the clarity, conciseness and creativity expected of post-baccalaureate certified 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 is required for the full course.

**Course Assignments, Assessment of Learning, and Grading System**
Course grading will be pass/no pass based upon the following. A final grade of 70% or higher is required for passing. Models or rubrics will be provided for each assignment.

a. **Participation and Collegial Support**  
   50%
   Participants will be expected to actively and collegially participate in discussion, activities and other process experiences during the seminars and group sessions

b. **Reflective Journal/Lesson Plans**  
   35%
   Participants will spend time in the classroom and in the field carrying out research and lessons based on AK standards. They will record their observations, thoughts and inspirations in a multi-media manner which will be woven together in a Reflective Journal. Participants will respond to prompts about the days’ activities and observations in a thoughtful and appropriate manner. This journal will be shared with students in the coming school year and will inform the writing of lesson plans

c. **Assessment**  
   15%
   Participants will complete pre- and post-course knowledge and attitudes surveys and participate in course evaluations.

**Tentative Course Calendar/Schedule**
Tuesday, July 8 and Thursday, July 10 6:00-9:00PM
- (2) 3 hour orientation meetings at the Morris Thompson Cultural and Visitors Center
  - Park staff will give presentations on science and research projects being carried out in the preserve.
  - Overview of natural and cultural history of the area

Friday, July 18
- Arrive in Eagle at 1:30
- Load gear and journey upriver to Coal Creek Camp
- Dinner and Orientation
- Journaling/Professional Learning Communities

Saturday, July 19
- Presentation on cultural history and gold rush in Yukon-Charley Rivers National Preserve
- Educational Tour of Coal Creek Camp
- Educational Tour of Gold Dredge
- Science of Gold Panning
- Field Work
  - Bird “Point Count” Surveys
  - Vegetation Monitoring
- Journaling/PLC in the evening at Coal Creek Camp

Sunday, July 20
- Presentation on Natural History and Geology of Yukon –Charley Rivers National Preserve
- Boat trip on the Yukon River
  - Geology – deposition, erosion, layering, compression, folding, tilting, fossils, etc)
  - Boreal forest ecology
- Field Study Methodology
  - Peregrine falcons
  - Wolves
  - Songbirds
- Journaling/PLC in the evening at Coal Creek Camp

Monday, July 21
- Return to Eagle by boat

Tuesday, July 29th, 6:00 – 9:00 PM
- 3 hour post-workshop session
  - Participants will share their lesson plans and journals.

Course Readings
From the Yukon-Charley Rivers National Preserve Website (www.nps.gov/yuch)

History & Culture

People
- The Subsistence Way of Life
- Leon Crane’s Charley River Survival Story
- The Hendricks Family at Coal Creek
- Frank Slaven and the Roadhouses of the Yukon River
- Biederman Camp and Mail Carriers on the Yukon River

Places
- Gold Rush Boomtown: Eagle City
- Log Cabin Metropolis: Circle City
- Slaven’s Roadhouse
- Woodchopper Creek
- 4th of July Mining Camp

Stories
- Industrial Mining at Coal Creek
- Drilling Rigs and the Search for Gold
- Coal Creek Steam Boiler
- What is Placer Gold Mining?
- Steam Tractor

Nature & Science

Animals
- Birds
- Mammals

Plants
- Plant Phenology
- Vegetation Structure & Composition

Environmental Factors
- Fire Regime
- Geologic Activity
- Weather

Natural Features & Ecosystems
- Geologic Formations

Suggested Reading
- Coming Into the Country, McPhee, John
- The Han: People of the River, Mishler and Simeone
- The Last Frontier, Webb, Melody
- Northcountry Challenge, Patty, Ernest
Course Policies:

Audit Policy
Auditors must complete written work.

ADA Policy
The University of Alaska Fairbanks is committed to providing equal access for students with disabilities. The Office of Disability Services implements the Americans with Disabilities Act (ADA) and insures that UAF students have equal access to the campus and course materials. We will work with the Office of Disabilities Services (203 WHIT, 474-7043) to provide reasonable accommodation to students with disabilities. If you have a physical or leaning disability, please advise us in writing of any special consideration necessary by the beginning of the class. We will do everything possible to accommodate you in accordance with the Americans with Disabilities Act.

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 Fairbanks College 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 Fairbanks College of Education students are expected to (a) demonstrate sound understanding of technology operation 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.