

ACEP Utility Student Internship
ENVI F160: Internship in Environmental Studies
(CRN 51515)
University of Alaska Fairbanks (UAF) | Bristol Bay Campus
Summer 2021 2 credits

Instructor Information

Name: Eric Goddard

Co-instructors/partners: Patty Eagan (ACEP) (pmeagan@alaska.edu) and Heike Merkel (ACEP) (hmerkel@alaska.edu)

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Office Location and Hours: Call or email for an appointment.

Course Meeting Information

Dates: May 17 – August 6, 2021 (See handbook for details and manual for internship requirements)

Day and Time: Monday - Friday; 8:00am to 5:00pm (5/17 – 8/6/21); As announced per internship requirements (see Internship Handbook)

Class Location: Online, synchronous class using Zoom Meetings and Google Drive for posting/submitting assignments, announcements, and grades.

Course Description

Alaska has many unique energy challenges and landscapes creating a model backdrop for microgrid energy utility observation, design, and analysis integrating traditional and renewable energies. This class is a continuing education opportunity following the Alaska Energy Utility Lecture Series and Microgrid Boot Camp (ACEP/UAF/ASU collaboration). Returning students learned the dynamic operations, management, technology, software, applications, financial, and employment challenges in Alaska's rural and urban electric utilities from a variety of lecturers with various backgrounds and perspectives.

The ACEP Utility Student Internship is a collaborative effort between the Alaska Center for Energy and Power (ACEP), Bristol Bay Campus (UAF) and Alaskan utilities. The course meetings and internships will be online as necessary due to COVID-19 distancing requirements and remote location workstations. Students will perform work and training designed to introduce them to various microgrid energy systems and the challenges facing them. The Internship itself is a work-study, hands-on educational opportunity where the student gets real world experience in the energy sector. This role can take a variety of shapes and formats. Students can work in mechanical/electrical engineering, technological, economic, and research support, and/or all of the above in order to gain competency and achieve credit for this course. To fulfill internship requirements, students must have at least 40 hours per credit (80 total for 2 credits) including supervised work, scheduled meetings, assignments, research, check-ins, and other requirements as announced (see Internship Handbook & Manual). The course will be delivered/coordinated online in a synchronous format through Zoom Meeting, conference calls, and Google Drive (as needed for assignments).

Course Prerequisite/Co-requisites: Students are required to successfully complete the Microgrid Boot Camp (CRN 53124).

Required Text and Learning Materials: No required text – Materials will be provided by the internship mentors and instructors and will be made available through email and Google Drive as needed.

Student Learning Objectives and Outcomes: In this class, learning requires partnership and teamwork. At the end of this course, if you actively engage in work responsibilities, complete assignments, meet/check-in as necessary, and journal, you will be able to:

1. Gain advanced practical knowledge and understanding of energy issues in Alaska through work/research project tasks.
2. Apply knowledge gained through education to project and internship requirements.
3. Communicate new perspectives/knowledge gained to project partners, utility mentors and community stakeholders, so that the work accomplished might aid them in planning and advancement of energy strategies in regards to energy efficiency, data management and analysis, new emerging technologies and project designs, workforce development and advances in energy research.

4. Gain “soft” skills necessary for successful career development, e.g. setting goals, managing stress, and conflict resolution.
5. Throughout their internship, students should be able to build further upon their knowledge stemming from previous related courses and further:
 - a. Understand the basic technical, financial, regulatory, and social/human aspects of electric energy grids.
 - b. Describe the various energy sources (traditional, alternative and renewable) Alaska utilities currently use, the electrical loads a utility must satisfy, and the daily and seasonal changes in energy demand.
 - c. Consider the challenges and opportunities faced by utilities when implementing energy efficiency measures or integrating renewable energy systems into existing (diesel) systems.
 - d. Understand the optimization of a microgrid using reasonable assumptions and input parameters and the importance of data collection to plan for the future.
 - e. Understand the impact of relatively large energy users, such as water/wastewater utilities, schools and other community buildings, and industrial loads like fish processing plants, on a small electric utility.
 - f. Describe job and career opportunities related to rural and urban electric utilities.

Instructional Methods

This course is a 40 hour/week work internship and may include homework, team work assignments, research and additional reading at sponsor, partner, and/or instructors’ discretion. A journal or work log will be required to keep instructors and mentors/sponsors apprised of their daily/weekly progress. Weekly meetings or check-ins will be required between students and instructors to ensure resolution of any challenges, questions, and maintaining credit requirement continuity.

Grading

This class is graded on a Pass-Fail scale. Grading will be based upon a percentage of the total points earned for quizzes, homework and attendance. You must achieve a score of 70% or better to pass. Your grade will be determined as follows:

Attendance and participation20%

Students are expected to attend all work and class sessions, check-in as necessary and actively participate with mentor/employer

Weekly Progress Report and Meeting Minutes (Progress Report is to be completed prior to weekly meeting)35%

Homework or deliverables assigned as needed.

Final Report/Vodcast/ePortfolio45%

Assignments and Course Schedule

The instructor reserves the right to change the assignment requirements depending upon class progress. Assignment due dates are shown on the course schedule.

Course Policies

Classroom Rules

1. Students are expected to comply with the UAF Student Code of Conduct: <https://uaf.edu/deanofstudents/student-code-of-conduct/>
2. Be respectful with cell phone personal use during work and meetings.
3. Be on time. Late entrances disrupt others and are generally not tolerated to maintain employment or course requirements. You are expected to work 40 hours/week. Work hours to be arranged with your supervisor/mentor.
4. Please respect the requirements of employers and UAF/ACEP instructors. Behaviors that distract attention from meetings will not be tolerated. Conduct that unreasonably interferes with the learning environment or that violates the rights of others is prohibited by the standards and guidelines collectively described as the UA Student Code of Conduct.
5. Do not share links with anyone outside of the class.
6. This course has a virtual meeting format. Please do not allow unnecessary distractions from home residents, pets, etc. during sessions.

7. This course also may have essential in-person requirements. Remember, interns are a face of UAF and should conduct themselves accordingly. Please conduct yourself in a professional manner at all times both on and off the job at your community location
8. Confidential Information should be maintained according to the policies of your employer. Discuss confidential information guidelines with your internship mentor/sponsor.

Attendance

Regular attendance is necessary for success at the collegiate level and in the workplace. You are expected to actively participate in all planned sessions, meetings and work. Make sure that you are prompt and that you stay for the scheduled time. Experience has shown that your grade will be jeopardized if you are absent from class or work.

Google Drive

Assignments (i.e. the final journal) will be submitted by email to Patty Eagan (pmeagan@alaska.edu) which will then be uploaded to Google Drive for final review. Please review the academic integrity section of this syllabus regarding items submitted to Google Drive.

Zoom Meeting

Zoom will be used for lectures, presentations, group activities, and discussions.

University Policies and Services

Academic Integrity

Academic integrity is a basic principle that requires that students only take credit for ideas and efforts that are their own. Cheating, plagiarism, and other forms of academic dishonesty are defined as the submission of materials in assignments, examinations, or other academic work that is based on sources prohibited by the faculty member. Substantial portions of academic work that a student has submitted for a course may not be resubmitted for credit in another course without the knowledge and advance permission of the instructor. For more information, refer to the UAF Student Code of Conduct: <https://uaf.edu/deanofstudents/student-code-of-conduct/>

Student Protections and Services

Every qualified student is welcome in my classroom. As needed, I am happy to work with you, disability services, veterans' services, rural student services, etc. to find reasonable accommodations. Students at this university are protected against sexual harassment and discrimination (Title IX, <https://uaf.edu/titleix/>), and minors have additional protections. As required, if I notice or am informed of certain types of misconduct, then I am required to report it to the appropriate authorities. For more information on your rights as a student and the resources available to you to resolve problems, please go the following site: www.uaf.edu/handbook/.

Support Services

Students have been advised of the UAF's Writing Center. In addition, each instructor is available before, during, and after the seminar dates to provide academic support to each student, as needed.

- Office of Information Technology 907-450 8300 (1-800-478-8226)
Their website can be found at www.alaska.edu/oit/index.xml or email: helpdesk@alaska.edu
- Off-campus library 907-474-7482 (1-800-478-5348) <http://library.uaf.edu/offcampus>
- UAF Writing Center 907 474 5314 or email for an appointment at uaf-writing-center@alaska.edu
Their website can be found at <http://www.uaf.edu/english/writing-center/>
- UAF Bookstore 907 474 7348 or email uaf@bkstr.com <https://www.bkstr.com/alaskafairbanksstore>

Rural Student Services: Responding to student needs by providing quality services to Native and rural students who expend positive effort in the pursuit of higher education and its opportunities. Please see: <https://uaf.edu/ruralss/>. Additional student support services can be found here: <https://www.uaf.edu/ruralss/tutoring-services/>.

Bristol Bay Campus: Advising, tutoring, registration, financial aid, and other student services may be offered through the Bristol Bay Campus. Call 907-842-5109 to learn more.

UAF Help Desk: Go to <https://alaska.edu/oit/> to see about current network outages and news. Reach the Help Desk at: helpdesk@alaska.edu or 907-450-8300 (in the Fairbanks area) or 1-800-478-8226 (outside of Fairbanks).

Effective Communication Resources:

- UAF Speaking Center (907-474-5470, speak@uaf.edu, Gruening 507)
- Writing Center (907-474-5314, uaf-writing-center@alaska.edu, Gruening 8th floor)
- UAF Math Services, uafmathstatlab@gmail.com, Chapman 305 (for math fee paying students only)
- Debbie Moses Learning Center at CTC (907-455-2860, 604 Barnette St, Room 120).
- Developmental Math Lab, Gruening Building, Rm 406

For more information and resources, please see the academic advising resource list:
https://www.uaf.edu/advising/lr/SKM_364e19011717281.pdf

Veteran and Military Support Services: UAF is committed to all veterans and military students—active duty, reserve, guard, separated and retired—as well as their dependents who are exploring UAF's academic opportunities. Staff members in Financial Aid, Admissions, Career Services, Veterans' Services and the Veterans' Resource Center are here to help you with any challenges you encounter while working while in or transitioning from a military to an academic environment. Please contact the Veterans Resources Center, 907-474-2475, <https://uaf.edu/veterans/> in room 111 in the Eielson Building.

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: <https://www.uaf.edu/handbook/> or in cases where you do not have access to your devices, as your instructor, I will take responsibility to relay any emergency notifications.

COVID-19, Addition and Policy: Students should keep up-to-date on the university's policies, practices, and mandates related to COVID-19 by regularly checking this website: <https://sites.google.com/alaska.edu/coronavirus/uaf/uaf-students?authuser=0>. Further, students are expected to adhere to the university's policies, practices, and mandates and are subject to disciplinary actions if they do not comply.