

Introduction to Sustainable Energy – ENVI F220 and SC20700

ENVI F220 | University of Alaska Fairbanks - Bristol Bay Campus 3 credits

Spring 2021 - ONLINE

Instructor Information

Name: Mark Masteller

Email and Phone: mamasteller@alaska.edu, 907-414-0198

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

Course Meeting Information

Dates: January 12-April 29, 2021 **Day and Time:** Tuesday & Thursday, 3:40-5:10pm

Class Location: Distance-delivery, online behind your own computer, using Blackboard Collaborate Ultra

Course Description

Introduction to societal problems and solutions related to energy use and production. Problems discussed are mainly related to the extent of sustainability of current energy practices. Solutions discussed cover both energy efficiency and renewable energy. Includes current energy use, principles of energy conservation and efficiency, sustainable energy resources, technologies, storage and hardware options, regulations, applicable codes, and career pathways.

Course Prerequisite/Co-requisites: Algebra or other Math (DEVM F105 or CTT F106 or TTCH F131), or permission of instructor.

Recommended courses: ENVI F101, ENVI F120 Home Energy Basics.

Required Text and Learning Materials: Kemp, W. H. (2009) The renewable energy handbook. Aztext Press. ISBN-13: 978-1505383614. **Other class materials:** provided by instructor electronically via Blackboard.

Student Learning Outcomes: In this class, learning requires partnership. For each hour spent in class, plan to spend at least two hours studying outside of class each week. At the end of this course, if you actively engage in class, study outside of class, complete assignments and prepare for exams, you will be able to:

- Recognize basic science concepts related to energy.
- Perform basic analysis of energy systems (electricity, space heating, transportation)
- Explain problems and issues associated with current energy-use practices
- Discuss economic aspects of sustainable energy
- Describe possible solutions to current energy problems
- Distinguish between energy efficiency and renewable energy approaches to fossil fuel use reduction
- Review literature and compile information related to sustainable energy
- Demonstrate presentation skills regarding sustainable energy
- Apply the knowledge gained in the course to small real-life energy management issues

Instructional Methods

Blackboard Collaborate / teleconference lectures and seminar sessions are closely integrated with homework exercises and independent projects. Email and Blackboard are used for off-class communication, sharing material, and exams.

Blackboard

Blackboard will be used for announcements and posting of your grades.

Course Policies

1. Both UAF and APU require students to conduct themselves honestly and responsibly, and to respect the rights of others. Behaviors that distract attention from lecture or class activities will not be tolerated. Students are expected to comply with the UAF Student Code of Conduct:
<https://uaf.edu/deanofstudents/student-code-of-conduct/>
2. You are encouraged to attend and actively participate in all sessions.
3. You are encouraged to discuss homework questions with your peers, but you are not allowed to copy.
4. **Late assignments will not be accepted without prior approval of instructor.**
5. Student presentations must be delivered when scheduled.
6. The instructor reserves the right to amend this course outline as needed.

Evaluation

Grading will be based upon a percentage of the total points earned for homework, exams, attendance, and extra credit. This class is graded on an A-F scale. Final grades will be determined as follows:

Attendance and participation.....10%

Students are expected to attend and actively participate in all classroom sessions

Homework and Quizzes30%

Both will consist of problems and questions related to recently covered material in lectures (see course schedule for lecture topics). Homework will be assigned as needed and due at the beginning of class the following week. Quizzes may happen at any time.

Independent Project30%

Every student is required to spend 10-20 hours on an independent project dealing with a real-life energy management issue related to energy conservation/efficiency and/or renewable energy, submit a 3-5 page report, and deliver a 10-15 minute presentation.

Mid-term and Final Exams – each

15%.....30%

Each will be open book, open notes and will cover all material to that point in the semester.

Grading Policy

Letter Grades

A+ 96.7 – 100%	B+ 86.7 – 90.0%	C+ 76.7 – 80.0%	D+ 66.7 – 70.0%
A 93.3 – 96.7%	B 83.3 – 86.7%	C 73.3 – 76.7%	D 63.3 – 66.7%
A- 90.0 – 93.3%	B- 80.0 – 83.3%	C- 70.0 – 73.3%	D- 60.0 – 63.3%
			F Below 60%

Assignments and Course Schedule

See Course Schedule. The instructor reserves the right to change the assignment requirements and exam dates depending upon class progress. Assignment due dates are shown on the course schedule, and late assignments will be marked down 10% for each week they are late (unless approved by the instructor).

Attendance

Regular attendance is necessary for success at the collegiate level. You are expected to actively participate in all classroom sessions. Make sure that you are prompt and that you stay for the scheduled class time. Experience has shown that due to the time constraints of this course your grade will be jeopardized if you are absent from class.

Support and Disability Services:

University of Alaska Fairbanks
Bristol Bay Campus – Student Services
PO Box 1070
Dillingham, Alaska 99576

Phone: 907-842-5109
Toll-free: 800-478-5109
Fax: 907-842-5692

Students can also go to the UAF website <http://www.uaf.edu> or to the College of Rural and Community Development website <http://www.uaf.edu/rural/> or to Bristol Bay Campus website <http://www.uaf.edu/bbc/index.html>.

UAF Disability Services for Distance Students

UAF has a Disability Services office that operates in conjunction with the College of Rural and Community Development (CRCD) campuses and UAF's Center for Distance Education (CDE). Disability Services, a part of UAF's Center for Health and Counseling, provides academic accommodations to enrolled students who are identified as being eligible for these services. If you believe you are eligible, please visit <http://www.uaf.edu/chc/disability.html> on the web or contact a student affairs staff person at your nearest local campus. You can also contact Disability Services on the Fairbanks Campus at (907) 474-7043, fydso@uaf.edu

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/>

COVID-related 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.