Instructor Information

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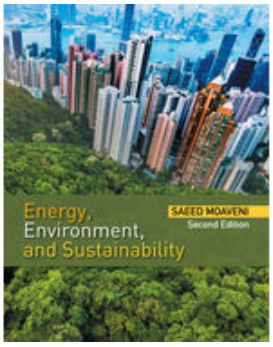
Office Hours: By Appointment

Class Time and Location: ONLINE with virtual lectures



Required Textbook:
Energy, Environment, and Sustainability 2nd Edition.
Author(s): Saeed Moaveni
Publisher: Cengage Learning
ISBN-10: 0357676076; ISBN-13: 9780357676073

Reference *(Not Required to Purchase)***:**

Energy Technology: Power and Transportation (current edition) by Ralph C. Bohn & Angus J. MacDonald. Published by Glencoe – McGraw-Hill (1992)

Energy and the Environment: Choices and Challenges in a Changing World by Reza Toossi. Published by: Global Digital Press (3rd edition)

There will also be additional reading material assigned in the form of handouts that contain industry related information. Students will be responsible for that information on tests and quizzes.

Course Description

The objectives of this course are to provide the student with an opportunity to acquire basic knowledge and understanding in the areas of energy, power, and transportation technology. This course will focus on several issues related to those topics. At the completion of this course, students will understand some of the characteristics of energy sources and resources, energy use, energy conversions, energy conservation, and the impact of energy use on the environment and our daily lives. They will gain an understanding of how power is derived from energy sources, how power is measured and determine how and where that power is used in our technological world. Students will gain an understanding of power, energy, and transportation through research, reading, and classroom discussions.

This course also includes a laboratory component, during which student's complete practical exercises designed to further enhance learning by putting theoretical knowledge into action. Students will gain an understanding of power transmission, conversion, and electrical energy in lab exercises utilizing group and individual exercises.

THIS SYLLABUS MAY CHANGE AT ANYTIME

Student Learning Outcomes

This course is designed to meet one or more of the following Student Learning Outcomes:

1. Students will demonstrate an understanding of the impact of energy, technology, and sustainability on society.
2. Students will demonstrate the ability to develop meaningful questions about energy, resources, society, and sustainability that address higher levels of cognition.
3. Students will demonstrate an understanding of the underlying principles, and social implications of, implementing new technologies to address issues of energy and resource scarcity and environmental sustainability.
4. Conduct basic laboratory experiments utilizing standard observational strategies.

Core Curriculum Requirement

1. **Critical Thinking.** Students will develop critical thinking skills to include creative thinking, innovation, inquiry, and analysis, evaluation, and synthesis of information.
2. **Empirical & Quantitative Skills.** Students will develop empirical and quantitative skills to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusion

Marketable Skills

1. Students will demonstrate knowledge of project management, project planning, scheduling, and estimating.
2. Students will demonstrate knowledge of industry safety practices.
3. Students will understand and implement lean philosophies to improve efficiency and eliminate waste.
4. **Students will demonstrate the ability to communicate information and ideas verbally and in writing so others will understand.**

Course Objectives

Upon completion of this course the student will be able to:

- Demonstrate an understanding of the following topics by correctly answering various styles of questions presented on worksheets and tests and completing a variety of lab and written exercises.
- Define Types and Characteristics of Energy
- Types and availability of resources.
- How and where energy is used.
- Power theory and measurement, including efficiency.
- Renewable forms of energy.
- Solar, Wind, and other renewable energy sources.
- Fossil fuels.
- Nuclear Energy.
- Internal and External combustion engines.
- Fluid power, including hydraulic and pneumatic.
- Energy and power conversion, including Laws of Thermodynamics.
- Energy conservation principles.
- Social, Economic, and Environmental impacts of energy use.
- Sustainability

This class is intended to be a learning experience, and your participation is required for you to be successful. As such the class structure, lesson topics, and overall learning environment will emphasize more than just knowledge comprehension.

SRSU Accessibility Services Statement

SRSU Disability Services. Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Alpine students seeking accessibility/accommodations services must contact Mary Schwartze Grisham, M.Ed., LPC, SRSU's Accessibility Services Coordinator at 432-837-8203 (please leave a message and we'll get back to you as soon as we can during working hours), or email counseling@sulross.edu. Our office is located on the first floor of Ferguson Hall (Suite 112), and our mailing address is P.O. Box C-122, SUI Ross State University, Alpine. Texas, 79832.

Library Information

The Bryan Wildenthal Memorial Library in Alpine offers FREE resources and services to the entire SRSU community. Access and borrow books, articles, and more by visiting the library's website, library.sulross.edu/. Off-campus access requires logging in with your LobolD and password. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or by phone (432-837-8123).

No matter where you are based, public libraries and many academic and special libraries welcome the general public into their spaces for study. SRSU TexShare Cardholders can access additional services and resources at various libraries across Texas. Learn more about the TexShare program by visiting library.sulross.edu/find-and-borrow/texshare/ or ask a librarian by emailing srsulibrary@sulross.edu.

New for Fall 2023: Mike Fernandez, SRSU Librarian, is based in Eagle Pass (Building D-129) to offer specialized library services to students, faculty, and staff. Utilize free services such as InterLibrary Loan (ILL) and ScanIt to get materials delivered to you at home or via email.

SRSU Distance Education Statement

Students enrolled in distance education courses have equal access to the university's academic support services, such as library resources, online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website. Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires secure login. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website. Directions for filing a student complaint are located in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website.

Attendance - Student Expectations

Attendance (regular participation in the online classroom) is essential for maintaining the best learning environment. Learning occurs in relationship not only between student and course materials, but, just as importantly, peer to peer, professor to student, and student to professor. Participation in this course via the Internet is the responsibility of the student. Students receiving benefits from government agencies must adhere to policies stipulated by the specific agency.

NOTE: This Internet class demands that the student be self-motivated and self-disciplined. You are responsible to keep up with the schedule, assignments, and exams. I will be contacting you throughout the semester by email, and Blackboard which is always available.

What You Should Understand About Internet Classes

1. Be realistic about the amount of time required to do the coursework.
2. On-line is NOT easier!
3. Schedule class time just as if you were attending class on-campus
4. Turn in your work ON TIME
5. Participate actively in the class
6. ***Use e-mail and the discussion boards to communicate often with your instructor & classmates***
7. Log onto the class at least 5 times a week
8. Do NOT fall behind in your assignments
9. ASK for help when you need help

Distance Education Non-Participation Statement

Policies in effect for on-campus, traditional classroom instruction courses also apply to students enrolled in distance education courses, including Web-based and ITV courses. The University allows a maximum of 20% absences in a course before an instructor may drop a student for excessive absences. In Web courses, this policy is interpreted as not participating for more than 3 weeks in a long semester, 1 week in a summer session, or 3 days in the midwinter session.

Any student dropped for non-participation will receive an "F" in the course dropped.
Inactivity may include the following:

- not logging on to the course not submitting assignments
- not participating in scheduled activities
- not communicating with the instructor by phone or email, and/or
- not following the instructor's participation guidelines stated in the syllabus

Any student who has not logged on to this course or submitted any assignments by February 1, 2024 will be considered to have exceeded the University's policy on "excessive absences" and may be automatically dropped from the course. Blackboard statistics track the logins made and document the sections of the course accessed. These statistics will be used by your professor as a factor in documenting your participation in the course.

Your professor will use Blackboard statistics to document logins to the course and assignments accessed.

Classroom Climate of Respect

Importantly, this class will foster free expression, critical investigation, and the open discussion of ideas. This means that all of us must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, we must all learn how to probe, oppose, and disagree without resorting to tactics of intimidation, harassment, or personal attack. No one is entitled to harass, belittle, or discriminate against another on the basis of race, religion, ethnicity, age, gender, national origin, or sexual preference. Still, we will not be silenced by the difficulty of fruitfully discussing politically sensitive issues.

Supportive Statement

I aim to create a learning environment for my students that supports various perspectives and experiences. I understand that the recent pandemic, economic disparity, and health concerns, or even unexpected life events may impact the conditions necessary for you to succeed. My commitment is to be there for you and help you meet the learning objectives of this course. I do this to demonstrate my commitment to you and to the mission of Sul Ross State University to create a supportive environment and care for the whole student as part of the Sul Ross Familia. If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you.

Class Structure

The course is 100% (Totally/Fully) online. Strategies include Reading resources (papers); lectures with assignment instructions and use of the discussion board through Blackboard; written assessments at midterm and final; use of the Internet; and e-mails among students and between individual students and the professor. ***Students are responsible for completing all assigned work.***

Discussion Participation

Discussion topics are set up for each module; you are expected to contribute to each discussion by posting a comment and replying to at least 2 other posts. Five points can be earned for each discussion following the guidelines below. Spelling and grammar count.

Time Commitment

You will be expected to log on to the course site 5-6 times per week. You are also expected to participate in all assigned activities including discussions in the course. Students should be prepared to spend at least 4-6 hours per week outside of class on assignments that will include: Homework, Reading Assignments, Lab work and studying for tests and quizzes.

Assignments

All assignments are to be submitted via Blackboard. No late work will be accepted without proper documentation or prior approval by the instructor.

Course Communication: The official e-mail communications channel for this course is the Sul Ross State University e-mail account (yourname@sulross.edu) of each student and professor. For the purposes of this course, no other e-mail account is acceptable.

Due dates: All assignments and projects will be given due dates which must be met. All assignments will be due by 11:59 pm on the assigned day. Assignments and projects will not be accepted if they are turned in late without approval. **Late assignments will lose ten points per calendar day**. Students are responsible for meeting the deadlines even if classes are missed.

Grading: All work will be graded on specific criteria using the following guidelines. Any worksheets will be graded on a points-per-answer basis. Any sketches and drawings assigned will be graded on a 100-point (percentage) scale. Criteria for grading will include accuracy of content, appropriateness of content for assignment, presentation, and clarity. Projects in the lab will be graded on accuracy, neatness, content, adherence to standards, adherence to assignment, and workmanship. Graded items will be broken into specific categories and presented on grade sheets given at the time the assignments are given.

Grading Policy

Final grades will be determined by totals in these areas:

- 15% quizzes
- 25% final exam (comprehensive)
- 30% assignments: homework, lab work, and discussion participation
- 30% final project (group or individual project)

In the event one of the above categories is not completed during the course that percentage will automatically be divided between the other categories at the same level. All assignment points will be converted to percentages for individual assignment letter grades.

A=100-90;
B=89-80;
C=79-70;
D=69-60;
F=59-0

Grades will be earned on the basis that "C" is average work, "B" is above average work, and "A" is well above average work. Barring any unusual circumstances there will be ***NO INCOMPLETES*** given at the end of this semester.

Academic Integrity

Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. Students should submit work that is their own and avoid the temptation to engage in behaviors that violate academic integrity, such as turning in work as original that was used in whole or part for another course and/or professor; turning in another person's work as one's own; copying from professional works or internet sites without citation; collaborating on a course assignment, examination, or quiz when collaboration is forbidden. Students should also avoid using open AI sources unless permission is expressly given for an assignment or course. Violations of academic integrity can result in failing assignments, failing a class, and/or more serious university consequences. These behaviors also erode the value of college degrees and higher education overall.

All students are expected to complete their own work at all times. Any dishonest conduct will be promptly rewarded with an immediate "F".

Plagiarism

A student guilty of plagiarism and/or cheating will receive a grade of "F" in the course involved and the grade will be so recorded on the transcript. Students giving and receiving assistance in any unauthorized manner during an examination will subject themselves to this cheating policy. A pattern of cheating will result in suspension.

Lab Time

As with all the Industrial Technology classes there will be a substantial amount of lab work to be done. Normally 6 hours outside of scheduled class time each week for researching, reading, and general homework is expected for college level work. All required research, lab work, and practice will be completed independently. Since this is an online class, students will be required to video/record their lab projects and upload to Blackboard.

Supplies

There are some expendable supplies you will need for the class such as pencils (lead), erasers, and paper. You will also need some basic household items to perform the lab exercises.

Quizzes

You will not be given advance notice of quizzes. They will be primarily written in nature. There will be no make-up quizzes.

Tests/Exams

All exams will be given on the announced date.

The exams will cover material from class lecture and assigned readings. It is your responsibility to complete the exam when scheduled. Tests will be either administered through Blackboard using various styles of questions covering terminology, equipment, processes, and other items discussed. Participation during tests is mandatory; no makeup tests will be given.

Midterm Exam

There will be no midterm exam given.

Final Exam

The final exam will be during the week of May 3-8, 2024. The specific date and time will be announced during the semester. The exam will include written, practical, and analytical portions, and will be comprehensive of the entire semester. Do not make any other plans for that day and time.