

AEET 102 Syllabus

Course Code: AEET 102 Title: Principles of Alternative/Renewable Energies

I. COURSE DESCRIPTION:

AEET 102 is an introduction to alternative energy. A broad range of alternatives and technologies will be covered including wind, solar, bio-based fuels, energy efficiency, as well as technologies such as alternative-fueled vehicles, sustainable development, and related topics. Incentives, policies, terminology, and other related topics will be explored.

The course is designed to nurture students' interest in and understanding of this exciting and rapidly changing field. Projects and research will be geared toward the student interests and needs, current issues, and community service. Field trips will be held and guest speakers will visit the classroom.

II. INSTRUCTIONAL MATERIALS:

Suggested Text *Energy: It's Use and the Environment*
by Hinrichs and Kleinbach and class handouts and websites.

Equipment/Software (required of the student): E-mail/computer. Computer and e-mail access is required; Microsoft PowerPoint and Word; Web browser (Internet Explorer, FireFox, etc.); Angel account. If you have problems accessing a computer, please ask about options!

III. STUDENT LEARNING OUTCOMES (Department Specified):

Based upon established textbook or other resource standards, industry standards, and/or professional practices, the successful student will be able to:

- Identify and evaluate basic sources of alternative energies
- Identify and track the development of alternative energies
- Identify key operational components of geothermal, wind, solar, biomass and fuel cell technologies
- Define current use of traditional and alternative energies
- Identify career paths in energy technology
- Describe the functions of an energy specialist and energy engineer
- Identify the relationships between energy, infrastructure, architecture, land planning and building construction

IV. METHODS OF INSTRUCTION

Dialogue, individual and team learning, field trips, self-directed learning, lecture (instructor and guest speakers), student reports, Internet., service learning, community-oriented.

V. METHODS OF EVALUATING ACHIEVEMENT/ PROGRESS

- **Class presentation (20%)**

Students are invited to research (individually and/or in teams) topics of interest and share their learning with the class. This can include a report on an alternative form of energy, technology, workshop, and/or conference.

- **Projects (20%):**

Select an individual or team project/activity and share the experience with the class. Projects/activities can include (*but are not limited to*):

- Building an energy-related or resource-conserving device
- Writing letters to politicians or local leaders
- Organizing a learning opportunity for the class.
- Doing an energy or sustainability audit or project for a nonprofit agency, local business, or your neighbor
- Volunteering for an event, conference, or workshop.
- Creating a website or factsheet.

- **Quizzes and Tests (20%)**

This may include a mid-term (10%) and final (10%).

- **Class participation (40%)**

Students are invited to participate in and contribute to a quality, collaborative learning experience -- joining the dialogue, asking questions, listening, sharing insights, recapping news stories, and suggesting resources (websites, periodicals, books, fliers, events, workshops, etc.). In addition, worksheets and writing assignments will be given. A high level of engagement is desired, while recognizing that each has their own preferred learning interests, speaking/writing abilities, and teaching styles. An effort is made to create a safe and comfortable learning environment. All are encouraged to help honor and support this safe and friendly atmosphere.

To help evaluate your level of participation and learning...

- Are you listening *deeply*?
- Are you asking questions?
- Are you voicing your perspectives?
- Are you aware of your interests?
- Are you sharing your learning with others?
- Are you responding to e-mails?
- Do you feel safe in asking questions and sharing ideas?
- Are you encouraging others to share?

- **Extra-Credit:** Available and encouraged. Please arrange with instructor.

Form more information, visit www.re-news.net/energy See the LCC Catalog and AEET Lead Faculty for more info on LCC practices, course content and sequencing, transfer potential, and academic integrity.

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