

AEET 102 Syllabus

Principles of Alternative/Renewable Energies

Course Code: **AEET 102**

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 student-centered. It is designed to nurture students' interests 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:

Text *Energy: It's Use and the Environment*
by Hinrichs and Kleinbach 4th or Later
Edition Preferred.

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, explore, and/or pursue one or more topics/events/activities/subjects/etc. of interest and share this with the class. The class presentation should be different than the Group Project. Please submit a one page summary of your presentation and an electronic copy of your Powerpoint or other audio/visual materials. You may present more than once.

- **Projects (20%):**

Select a team project/activity and share the experience with the class. Projects/activities ideas 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 or attending an event, conference, or workshop.
- Creating a website or factsheet.

Note: you can do more than one project. Each student should share a one-page summary of their project and experiences/perspectives/reflections about working on a team.

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

These are take-home and include a mid-term (10%) and final (10%).

- **Class & ANGEL Participation (40%)**

Each student plays an important role in creating a quality learning experience. All are invited to join the dialogue, ask questions, listen, share insights, and share resources (websites, periodicals, books, fliers, events, workshops, ideas, etc).

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 own level of participation and learning...

- Are you showing up (body AND mind)?
- 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, Angel discussions, and assignments?
- Are you encouraging others to share?

- **Extra-Credit:** Available – encouraged – fun! 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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