

Eastern Illinois University
NEW/REVISED COURSE PROPOSAL FORMAT
(Approved by CAA on 4/13/06 and CGS on 4/18/06, Effective Fall 2006)

This format is to be used for all courses submitted to the Council on Academic Affairs and/or the Council on Graduate Studies. (See <http://www.eiu.edu/~eiucaa/Directions.pdf> for directions on completing this form.)

Please check one: ☒ New course ☐ Revised course

PART I: CATALOG DESCRIPTION

1. **Course prefix and number, such as ART 1000:** AET 4873
2. **Title (may not exceed 30 characters, including spaces):** Trends in Energy
3. **Long title, if any (may not exceed 100 characters, including spaces):** Current Trends in Energy Technology
4. **Class hours per week, lab hours per week, and credit [e.g., (3-0-3)]:** 3-0-3
5. **Term(s) to be offered:** ☐ Fall ☐ Spring ☐ Summer ☒ On demand
6. **Initial term of offering:** ☐ Fall ☒ Spring ☐ Summer Year: 2013
7. **Course description (not to exceed four lines):** A comparative study of the trends, analyses, and policies of alternative energy technologies as applied to the availability of the technology and how it can be incorporated into commercial, residential, industrial, and other processes.
8. **Registration restrictions:**
 - a. **Identify any equivalent courses** None
 - b. **Prerequisite(s),** None
 - c. **Who can waive the prerequisite(s)?**

☐ No one ☒ Chair ☐ Instructor ☐ Advisor ☐ Other (Please specify)
 - d. **Co-requisites** (course(s) which MUST be taken concurrently with this one): None
 - e. **Repeat status:** ☒ Course may not be repeated.
☐ Course may be repeated to a maximum of _____ hours or _____ times.
 - f. **Degree, college, major(s), level, or class** to which registration in the course is restricted, if any: None
 - g. **Degree, college, major(s), level, or class** to be excluded from the course, if any: None
9. **Special course attributes** [cultural diversity, general education (indicate component), honors, remedial, writing centered or writing intensive] None
10. **Grading methods** (check all that apply): ☒ Standard letter ☐ C/NC ☐ Audit ☐ ABC/NC ("Standard letter"—i.e., ABCDF—is assumed to be the default grading method unless the course description indicates otherwise.)
11. **Instructional delivery method:** ☒ lecture ☐ lab ☐ lecture/lab combined ☐ independent study/research
☐ internship ☐ performance ☐ practicum or clinical ☐ study abroad ☐ other

PART II: ASSURANCE OF STUDENT LEARNING

1. List the student learning objectives of this course:

After successfully completing this course, the student will be able to:

1. Describe the future of fossil fuels such as coal and petroleum as well as nuclear fission.
2. Interpret the trends in the development and characteristics of renewable energy sources including wind, tidal, biomass, solar, hydroelectric, and geothermal.
3. Analyze the characteristics of presently recognized energy sources such as nuclear fusion, hydrogen fuel cells, methane hydrates, and others.
4. Formulate and evaluate the efficacy of present energy sources.
5. Formulate and evaluate possibilities for future energy sources and resources.

Identify the assignments/activities the instructor will use to determine how well students attained the learning objectives:

Midterm, research papers, comprehensive final, graduate level position papers.

2. Explain how the instructor will determine students' grades for the course:

Objectives	Midterm	Research Papers	Final	Graduate Position Papers
1	X		X	X
2	X		X	X
3	X		X	X
4		X	X	X
5		X	X	X

3. For technology-delivered and other nontraditional-delivered courses/sections, address the following

Not a technology-delivered and other nontraditional-delivered course

4. For courses numbered 4750-4999, specify additional or more stringent requirements for students enrolling for graduate credit. These include:

Graduate students taking this course will develop and write position papers on identified energy topic areas. These papers would focus on trends, technology, environment, and other types of issues. Students will argue for or against a specific position and justify why it is necessary for economic, social, or political national or global reasons. These papers will be presented to the class as well as in public forums.

5. If applicable, indicate whether this course is writing-active, writing-intensive, or writing-centered, and describe how the course satisfies the criteria for the type of writing course identified. (See Appendix *.)

Not a writing intensive course

PART III: OUTLINE OF THE COURSE

Provide a week-by-week outline of the course's content. Specify units of time (e.g., for a 3-0-3 course, 45 fifty-minute class periods over 15 weeks) for each major topic in the outline. Provide clear and sufficient details about content and procedures so that possible questions of overlap with other courses can be addressed. For technology-delivered or other nontraditional-delivered courses/sections, explain how the course content "units" are sufficiently equivalent to the traditional on-campus semester hour units of time described above.

Weeks	Topics
1.5	Future of oil, natural gas, coal, and nuclear fission.
1.5	Present status of wind energy.
1	Tidal currents and waves generation levels.
1.5	Renewable energy levels from biomass.
1.5	Solar power generation and its future.
1	History and development of hydroelectric power and its future.
1	History and use of geothermal energy and its future.
1	Nuclear modular and fusion reactors as future energy sources.
1	Fuel cells and their level of usage as batteries in transportation.
1	Methane hydrates as a renewable energy fuel.
0.5	Conservation and zero emission as "new" energy sources.
2.5	Future fuels and energy sources.
15	Total

PART IV: PURPOSE AND NEED

1. Explain the department's rationale for developing and proposing the course.

Since graduates of the School of Technology programs typically become technical managers who need to be aware of future trends that would affect the field in which they are employed. A trends course provides the information and techniques to help them know where their field came from to where it is going in the future. This is especially true for the energy field.

2. Justify the level of the course and course prerequisites, co-requisites, or registration restrictions.

A trends course should be senior level because it is based upon knowledge of the field. The need to be aware of the development of a field is necessary to be able to explore the future trends. Previous courses can provide background that starts the process of acquiring an awareness of the field being studied in this course.

3. If the course is similar to an existing course or courses, justify its development and offering.

This course content is not similar to any other course content.

4. Impact on Program(s):

- a. For undergraduate programs, specify whether this course will be required for a major or minor or used as an approved elective.

This course will be a core course in the proposed concentration in Alternative Energy and Sustainability in the Applied Engineering and Technology program.

If the proposed course changes a major, minor, or certificate program in or outside of the department, you must submit a separate proposal requesting that change along with the course proposal. Provide a copy of the existing program in the current catalog with the requested changes noted.

PART V: IMPLEMENTATION

1. Faculty member(s) to whom the course may be assigned: Rigoberto Chinchilla, Sam Guccione, Jim McKirahan, and other qualified faculty in the School of Technology.

2. Additional costs to students: No additional cost to students.

Include those for supplemental packets, hardware/software, or any other additional instructional, technical, or technological requirements. (Course fees must be approved by the President's Council.)

3. Text and supplementary materials to be used (Include publication dates):

Letcher, T. (2008). *Future energy*. Burlington, MA: Elsevier.

Web magazine resources such as "Journal of Energy Resources Technology", "Journal of Energy Engineering".

Web sites for energy organizations such as Department of Energy, National Energy Technology Laboratory, National Renewable Energy Laboratory, International Energy Agency, International Renewable Energy Agency, and others.

PART VI: COMMUNITY COLLEGE TRANSFER

If the proposed course is a 1000- or 2000-level course, state either, "A community college course may be judged equivalent to this course" OR "A community college course will not be judged equivalent to this course." A community college course will not be judged equivalent to a 3000- or 4000-level course but may be accepted as a substitute; however, upper-division credit will not be awarded.

A community college course will not be judged equivalent to this course.

PART VII: APPROVALS

Date approved by the department or school: October 21, 2010

Date approved by the college curriculum committee:

Date approved by the Honors Council (*if this is an honors course*):

Date approved by CAA:

CGS:

*In **writing-active courses**, frequent, brief writing activities and assignments are required. Such activities -- some of which are to be graded -- might include five-minute in-class writing assignments, journal keeping, lab reports, essay examinations, short papers, longer papers, or a variety of other writing-to-learn activities of the instructor's invention. Writing assignments and activities in writing-active courses are designed primarily to assist students in mastering course content, secondarily to strengthen students' writing skills. In **writing-intensive courses**, several writing assignments and writing activities are required. These assignments and activities, which are to be spread over the course of the semester, serve the dual purpose of strengthening writing skills and deepening understanding of course content. At least one writing assignment is to be revised by the student after it has been read and commented on by the instructor. In writing-intensive courses, students' writing should constitute no less than 35% of the final course grade. In **writing-centered courses** (English 1001G, English 1002G, and their honors equivalents), students learn the principles and the process of writing in all of its stages, from inception to completion. The quality of students' writing is the principal determinant of the course grade. The minimum writing requirement is 20 pages (5,000 words).

Student Success Center

<http://www.eiu.edu/~success/>

581-6696



<http://www.eiu.edu/~counsctr/>

581-3413

Career Services

<http://www.eiu.edu/~careers/>

581-2412

Disability Services

<http://www.eiu.edu/~disablty/>

581-6583