HOLYOKE COMMUNITY COLLEGE
Format for NEW Course Proposals

In preparing a new course proposal, please fill out this form completely, including all categories.

Date: 3/23/2010

Course No. (coordinated with Registrar) SUS 102

Course Title Introduction to Sustainable Energy Resources

Transfer Compact Code, if any (A, B, C, D)

No. of Credits: 3 Contact Hours: Lecture Hours: 3 Lab Hours:

Clinical Hours: Other Hours: Studio Hours

Course Description as it would appear in catalog:

This course provides an overview of renewable energy resources including solar, wind, geothermal, biomass, tidal, wave, hydropower, and hydrogen. Students will learn basic principles of each technology and its application for both new and existing buildings, and for transportation. Students will investigate the potential of each technology to help solve current and future energy demands the society faces. Topics covered will include governmental regulations, analysis of renewable energy systems, calculation of savings, and financing options available. Prerequisites: MTH 075 with a grade of C- or better or adequate score on the math placement exam, and ENG 101 eligible or ESL 153.

Prerequisites: MTH 075 with a grade of C- or better or adequate score on the math placement exam I

STATEMENT OF PURPOSE, including, if possible, the place and function of the course in the total college curriculum and/or specific areas of study, the relation, if any, to other courses in the same or closely allied fields or disciplines, suggested students for whom the course might be particularly useful, and any other information that might be helpful to those reviewing the proposal and to future instructors of this course.

This course will be a suggested elective for students in one of the three Sustainability Studies Options. It will also be a required course for the newly developed Solar Energy Certificate Program. The course should appeal to students interested in sustainability studies, and business and engineering fields, as well as students in the market for "green jobs".

Objectives for the course: May include student-learning outcomes here.

Upon successful completion of the course, students should be able to:
1. explain the basic design principles and technologies of renewable energy systems and their benefits and limitations;
2. investigate the potentials of renewable energy technologies to help solve environmental and economic problems;
3. calculate a variety of cost and savings analyses and compare pollutant output;
4. discuss concepts and issues related to the renewable energy industry including distributed generation, regulations, politics, economics, public perception, barriers and employment opportunities.
none

Special problems likely to be encountered in teaching this course.

none

Typical methods of testing and evaluation of students in such a course.

Lecture, discussion, research papers, quizzes, exams, individual and small group projects

AUTHOR AND TITLE OF TEXTBOOKS and other instructional materials, including library acquisitions suggested for this course.

1. Renewable Energy, by Godfrey Boyle. Oxford University Press, 2004
2. Renewable Energy: Sustainable Concepts, by Roland Wengenmayr and Thomas Buhrke. Wiley-VCH Press, 2008. 3.
Renewable Energy in Power Systems by Leon Freris and David Infield. John Wiley and Sons, Ltd. 2008.

Basic outline of course content, indicating major and minor emphases.

Major	Minor
1. Overview of the energy situation including environmental, political and economic issues. 2. Solar energy: passive, active, photovoltaic 3. Wind energy. 4. Geothermal energy. 5. Biomass. 6. Tidal energy. 7. Wave energy. 8. Hydroelectric energy. 9. Hydrogen energy. 10. Green energy use in buildings. 11. Green energy use in transportation. 12. Case studies: Economic and environmental analyses of renewable energy systems. 13. Financing options available. 14. Barriers to implementation of renewable energy systems and how to overcome them. 15. Skills requirements for jobs.	All topics have equal emphasis.

Name of author or co-authors of the proposal.

Kate Maiolatesi

Describe additional resources required:

Faculty and other personnel (full-time/part-time):	Adjunct faculty may be needed.
Facilities (dedicated and/or shared:	nothing specific required.
Equipment (non-computer):	none
Other resources required:	none
Computer hardware, software, support including AV and Multimedia	none

Date:

CIO Signature

I have reviewed the course proposal and have requested transfer eligibility from area colleges.

Date:

Director of Transfer Affairs:

Date:

Registrar

Semester and year New Course will be implemented:

Signature of Dean of Originating Division - signifying approval by the Division.

Vote: Date: Signature Field

Signature of Dean(s) of Other Divisions, whose students would be directly affected by the proposal, signifying the concurrence of their division, (Indicate n/a if this does not apply.)

Vote: Date: Signature Field

Signature of Curriculum Committee Chair - signifying approval of the Committee.

Vote: Date: Signature Field

Signature of Senate President - signifying approval of the Senate.

Vote: Date: Signature Field