# BARTON COMMUNITY COLLEGE

**COURSE SYLLABUS**

**JULY 2002**

## GENERAL COURSE INFORMATION

Course Number: LIFE 1426

Course Title: Renewable Energy Sources

Credit Hours: 3

Division and Discipline: Career/Technical Education Division

Course Description: This Course provides a comprehensive overview of renewable energies, including solar energy, wind power, hydropower, biomass, and alternative fuels. Students will be taught the principles of basic solar design, solar hot water, pool and space heating and solar cooling. Students will learn how to assess the viability of wind power, hydropower or biomass system for a given location. Students will also learn about the impact of government regulations on the use of renewable and fossil fuel energies. Students will analyze these renewable energy systems and will calculate savings factors; backup energy needs, financing options, and economic analyses.

### CLASSROOM POLICY

Students and faculty of Barton Community College constitute a special community engaged in the process of education. The college assumes that its students and faculty will demonstrate a code of personal honor, which is based upon courtesy, integrity, common sense, and respect for others both within and outside the classroom. There will be no eating in the classroom.

The college reserves the right to suspend a student for conduct, which is determined to the college’s educational endeavors as outlined in the college catalog.

Plagiarism on any academic endeavors at Barton Community College will not be tolerated. Learn the rules of and avoid instances of intentional or unintentional plagiarism.

Anyone seeking an accommodation under provisions of the Americans with Disabilities Act should notify the instructor and the BCCC enrollment specialist.

**Student grievance procedure:** Barton Community College policy is to secure, at the lowest possible level, equitable solutions to problems which may arise during the conduct of our academic programs. Student academic concerns that cannot be resolved with the course instructor should be directed to John Truitt, Executive Director Technical Education or Bill Nash, Dean Technical Education. 1-785-238-8550 or email truittj@bartonccc.edu or nashw@barton.cc.ks.us

## COURSE AS VIEWED IN TOTAL CURRICULUM

The student will investigate the potentials of renewable energy technologies to help solve environmental and economic problems within society.

## ASSESSMENT OF STUDENT LEARNING/COURSE OUTCOMES

Barton Community College is committed to the assessment of student learning and to quality education. Assessment activities provide a means to develop an understanding of how students learn, what they know, and what they can do with their knowledge. Results from these various activities guide Barton, as a learning college, in finding ways to improve student learning.

1. Develop an understanding of current renewable energy technologies and how they interrelate with conventional fossil fuel energy production.
2. Investigate the potentials of renewable energy technologies to help solve environmental and economic problems.
3. Develop an understanding of cost savings, comparative energy output and environmental analyses of renewable energy systems.

## COMPETENCIES

Upon completion of this course, students will be able to:

1. Classify and describe the different types of renewable energy systems.
2. Solar energy
3. Wind power
4. Hydropower
5. Renewable energy fuel cells
6. Biomass
7. Assess renewable energy systems for their:
8. Environmental impacts
9. Economic impacts
10. Explain the economics of combining energy conservation and renewable energy projects.
11. Explain the effect of government regulations, politics, and corporate development on the renewable energies industry.
12. Design and evaluate a solar, wind or hybrid system for its cost effectiveness and efficiency.
13. Identify renewable/sustainable energy technologies for residential applications.

## INSTRUCTOR EXPECTATION OF STUDENTS IN CLASS

## TEXT AND SUPPLEMENTARY MATERIALS USED IN THE COURSE

## METHODS OF INSTRUCTION AND EVALUATION

## ATTENDANCE REQUIREMENTS

## COURSE OUTLINE