RENRG 101 Course Outline as of Fall 2024

CATALOG INFORMATION

Dept and Nbr: RENRG 101 Title: RENEWABLE ENERGY CAREERS
Full Title: Renewable Energy Industry Careers
Last Reviewed: 11/25/2019

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	2.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	2.00	Lab Scheduled	0	6	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	2.00		Contact Total	35.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00 Total Student Learning Hours: 105.00

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	

Catalog Description:
Introduction to the renewable energy industry including solar, wind, geothermal energy and their distribution. Discussion to include careers within the industry, the employment working conditions, social aspects, educational and experience requirements, and potential income opportunities.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 OR EMLS 100 (formerly ESL 100) or equivalent

Limits on Enrollment:

Schedule of Classes Information:
Description: Introduction to the renewable energy industry including solar, wind, geothermal energy and their distribution. Discussion to include careers within the industry, the employment working conditions, social aspects, educational and experience requirements, and potential income opportunities. (Grade Only)
Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 OR EMLS 100 (formerly ESL 100) or equivalent
Limits on Enrollment:
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Describe the jobs available and plan for a career in the renewable energy industry.
2. Describe the skills and education needed to pursue renewable energy industry careers.
3. Describe the basic components in a solar photovoltaic (PV) system.

Objectives:
At the conclusion of this course, the student should be able to:
1. Review careers in the renewable energy industry including the roles and responsibilities of employees.
2. Form a basic understanding of career opportunities and challenges in the renewable energy industry.
3. Create a professional resume and career map for in the renewable energy industry.
4. Explore the components and technology in a basic solar PV system.

Topics and Scope:

I. Renewable Energy Overview
   A. Solar photovoltaic (PV)
   B. Wind
   C. Geothermal
   D. Small hydroelectric
   E. Bio-mass
   F. Hydrogen fuel cells
   G. Tidal
   H. Energy storage
II. Distribution
   A. Grid services

B. Distributed generation
III. Renewable Energy Companies
A. Company structure and organization
B. Specialization and areas of expertise
1. Off-grid solar PV systems
2. Grid tie solar PV systems
3. Solar thermal
IV. Renewable Energy Industry Careers
A. Consulting
B. Design
C. Sales and marketing
D. Distribution
E. Installation
F. Manufacturing
G. Operations and maintenance
H. Structural engineering
I. Electrical engineering
J. Utility interconnection
K. Energy compliance consulting (California Title 24)
L. Policy development
M. Education and training
V. Career Maps and Resumes

Assignment:

1. Assigned readings (10-30 pages per week)
2. Weekly problem sets
3. Quizzes (5-10)
4. Midterm exam
5. Writing resumes and career map
6. Presentation of final career map and resume

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Career maps and resumes	Writing 25 - 30%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Problem sets	Problem solving 15 - 20%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Presentation of final career map and resume	Skill Demonstrations 10 - 20%

Exams: All forms of formal testing, other than skill performance exams.

Quizzes, midterm exam, final career map and resume	Exams 25 - 40%

Other: Includes any assessment tools that do not logically fit into the above categories.

Participation	Other Category 0 - 15%

Representative Textbooks and Materials:
Careers in Renewable Energy. 2nd ed. NcNamee, Gregory. PixyJack Press. 2014 (classic)
Instructor prepared materials