



## Certificate RENEWABLE ENERGY

This program will provide you with the information and practical experience necessary to design and build or install various types of renewable energy systems. It emphasizes conservation and efficiency as the first step in any renewable energy endeavor through a study of historical, modern, and emerging technologies and materials. As a graduate, you will be capable of being employed with construction firms, renewable energy firms, alternative technology firms, design and planning firms, or of being self-employed as a specialized subcontractor. You will be capable of designing and building your own off-the-grid homes and vehicles.

**GENERAL EDUCATION (10-13 crs)**

**COMPLETED**

**Planned Timeline  
(By Semester)**

**Communications (3 crs)**

ENG 108 Basic English I (3) or a higher level English course  
*Pre-requisite: ENG 106 or adequate score on the Course Placement Evaluation*

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**Math/Computers/Laboratory Sciences (3-4 crs)**

MATH 102 Basic Algebra (4) or a higher level math course  
*Pre-requisite: MATH 100 or adequate score on the Course Placement Evaluation*

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**PROGRAM REQUIREMENTS (26 crs)**

**General:** Complete 9 crs from the following:

ES 100 Introduction to Environmental Science (3)

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*Pre-requisite: Permission of Instructor*

ES 224 Environmental and Community Planning (3)

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ES 126 Introduction to Waste Management (3)

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RE 103 Renewable Energy Introduction and Overview (3)

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*Pre-requisites: ENG 108, MATH 100*

RE 104 Architecture 2030 and the 2010 Imperative (3)

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*Pre-requisites: ENG 108, MATH 100*

**Solar Heating:** Complete 5 crs from the following:

ADOB 107 Passive Solar Heating (2)

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RE 108 Active Solar Heating (3)

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*Recommended Co-requisite: RE 108L*

RE 108L Solar Energy Lab (2)

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*Recommended Co-requisite: RE 108 or ADOB 107*

PLB 110 Intro to Solar Heating Plumbing (1)

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PLB 110L Intro to Solar Heating Plumbing Lab (2)

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**Renewable Electric and Electronics:** Complete 8 crs from the following:

ELEC 100 Introduction to Solar Electricity (1)

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ELEC 110L Introduction to Solar Electricity Lab (2)

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ELEC 140 Electrical Theory I (3)

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ELEC 190 Solar and Wind Systems in the Electric Code (2)

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*Recommended Co-requisite: RE 207 or 208*

RE 160 Renewable Electric Power Systems (3)

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*Pre-requisite: MATH 130*

RE 207 Wind Electric System Design and Installation (4)

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*Pre-requisites: ENG 108, MATH 100, RE 103, and ECET 160; Recommended Co-requisite: ELEC 190*

RE 208 Photovoltaic System Design and Installation (4)

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*Pre-requisites: ENG 108, MATH 100, RE 103, and ECET 160; Recommended Co-requisite: ELEC 190*

**Renewable Vehicle Power:** Complete 2 crs from the following:

RE 140 Electric Vehicle Conversion: Nuts and Bolts (2)

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RE/A TEC 144 Bio-Diesel Fuel Production and Engine Requirements (3)

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*Pre-requisites: ENG 108, MATH 100, RE 103*

RE/A TEC 146 Bio-Hybrid Fuel Production and Engine Requirements (3)

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*Pre-requisites: ENG 108, MATH 100, RE 103*

**Geothermal, Biomass, and Emerging Heat and Power:** Complete 2 crs from the following:

RE 127 Geothermal Systems for Heat and Power (4)

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*Pre-requisite: RE 103*

RE 128 Biomass Systems for Heat, Power, and Cogeneration (4)

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*Pre-requisite: RE 103*

RE 129 Trends and Emerging Energy Sources (2)

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*Pre-requisite: RE 103*

**TOTAL CREDIT HOURS 32-44**

# Educational Planning Form (Semester)

Name \_\_\_\_\_ Date \_\_\_\_\_  
Major \_\_\_\_\_ Student ID \_\_\_\_\_

| <b>Fall Semester</b> | <b>Spring Semester</b> | <b>Summer</b>      |
|----------------------|------------------------|--------------------|
|                      |                        |                    |
| <b>Total Units</b>   | <b>Total Units</b>     | <b>Total Units</b> |
| <b>Fall Semester</b> | <b>Spring Semester</b> | <b>Summer</b>      |
|                      |                        |                    |
| <b>Total Units</b>   | <b>Total Units</b>     | <b>Total Units</b> |
| <b>Fall Semester</b> | <b>Spring Semester</b> | <b>Summer</b>      |
|                      |                        |                    |
| <b>Total Units</b>   | <b>Total Units</b>     | <b>Total Units</b> |

**Advisor's Signature** \_\_\_\_\_

**Student Signature** \_\_\_\_\_