ELECTRICAL RENEWABLE ENERGY SYSTEMS - MINOR

A student graduating with a bachelor’s degree from CU Boulder may also receive a minor in electrical renewable energy systems (except for students earning a BS degree in Electrical Engineering or Electrical & Computer Engineering).

As society moves away from the overwhelming dependence on fossil fuels towards more sustainable and environmentally friendlier alternatives, the need for engineers and scientists ready to take on new challenges and bring innovations to present and future energy systems is expected to grow. The objectives of the minor in electrical renewable energy systems are to address the growing interests and technical needs in renewable energy sources and efficient utilization of electrical energy. The minor provides training in applications of electrical engineering to renewable energy systems such as solar and wind beyond the training usually received by science, mathematics, applied mathematics or other engineering majors.

Requirements

Prerequisites

Prerequisites for the electrical renewable energy systems minor are two semesters of calculus and differential equations with linear algebra.

Course Requirements

This minor requires a minimum of 18 credit hours.

Students admitted to the electrical renewable energy systems minor must have a cumulative GPA of 2.700 or better. A cumulative GPA of 2.250 or better is required for courses used to satisfy the requirements of this minor. Each individual course that is counted toward this minor must be passed with a grade of D- or better (note that a C- or better grade is required in all prerequisite courses).

Required Courses and Credits

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>ECEN 2410</td>
<td>Renewable Sources and Efficient Electrical Energy Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECEN 2250</td>
<td>Introduction to Circuits and Electronics</td>
<td>3</td>
</tr>
<tr>
<td>ECEN 2260</td>
<td>Circuits as Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECEN 3250</td>
<td>Microelectronics</td>
<td>3</td>
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</table>

Upper-Division Electives

Select two of the following courses:

- ECEN 3170 Electromagnetic Energy Conversion 1
- ECEN 4167 Electromagnetic Energy Conversion 2
- ECEN 4797 Introduction to Power Electronics
- ECEN 4517 Power Electronics and Photovoltaic Power Systems Laboratory
- ECEN 4XXX Special Topics - Wind Energy & Photovoltaic Devices

Total Credit Hours 18