# Building Energy Systems Minor

The students seeking Minor in Building Energy Systems must satisfy the degree requirements for an ME, MET, CE, CET, EE or Arch degree plus the following courses to obtain a Minor in Building Energy Systems. Montana State University, Bozeman, proposes to offer a non-teaching minor in building energy systems called the Building Energy Systems Minor. This minor provides a suite of courses from a wide variety of disciplines, which are relevant to the built environment. This minor requires a minimum of 23 credits comprised of 8 credits of required core coursework and 15 credits of elective coursework chosen from each of the 5 categories.

## Core Coursework

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ARCH 231CS</td>
<td>Issues in Sustainability</td>
</tr>
<tr>
<td>EGEN 324</td>
<td>Applied Thermodynamics</td>
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<tr>
<td>or EMEC 321</td>
<td>Thermodynamics II</td>
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<tr>
<td>ETME 327</td>
<td>Commercial Building Energy Assessment Lab</td>
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<tr>
<td>ETME 424</td>
<td>Thermal Processes Lab</td>
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## Integrated Building Design

3-5 credits

Choose one from the following:

- ETME 423 Principles of HVAC II
- ARCH 450 Community Design Center

## Power Systems

3-4 credits

Choose one from the following:

- EELE 250 Circuits, Devices and Motors
- EELE 354 Electric Power Applications
- EELE 355 Energy Conversion Devices
- EELE 408 Photovoltaic Systems
- EELE 455 Alternative Energy Power Gen
- EELE 454 Power Systems Analysis
- ETME 470 Renewable Energy Applications

## Environmental Controls/HVAC

3-4 credits

Choose one from the following:

- ARCH 331 Environmental Controls I
- ARCH 332 Environmental Controls II
- ETME 422 Principles of HVAC I
- ETME 425 Building Systems

## Building Construction/Design

3-4 credits

Choose one from the following:

- ARCH 241 Building Construction I
- ARCH 340 Building Construction II
- ECIV 308 Construction Practice
- ECIV 320 Geotechnical Engineering

## Building Information Modeling

2-3 credits

Choose one from the following:

- ARCH 363 Architectural Graphics III
- ECIV 309 Building Information Modeling in Construction
- ETME 309 Building Information Modeling in MEP