SBST332 - Building Energy Codes in Washington State

Document Type: District Master Course Outline
Proposal Type: New Course
Requester(s): David Krull Lauren Hadley
College: South
Origination Approved: 02/27/2014 - 1:50 PM

BASIC INFORMATION
Requester(s): David Krull Lauren Hadley
College: South Seattle Community College
Division/Dept: Professional Technical
Dean: Holly Moore

COURSE INFORMATION
Proposed Course Number:
Prefix: SBST Number: 332

☐ Request a new Prefix
☐ This will be a common course

Full Title: Building Energy Codes in Washington State
Abbreviated Title: Building Codes in WA

Catalog Course Description:
 Provides an overview of building energy codes in Washington State.

Course Length: 11 Weeks  ☐ Request an Exception

Course Prerequisite(s):
Student must be enrolled in the BAS Sustainable Building Science Technology program or have instructor approval and have taken or are currently enrolled in Building Science, Building Systems and Energy Analysis and Auditing.

Topical Outline:
1. The history of energy codes and reasons for them (focus on PNW and State) (2)
2. Energy code sources, development and adoption (2)
3. Relationship of energy codes to other codes (2)
4. Structure and differences of residential and nonresidential energy codes (2)
5. Prescriptive compliance methods for residential and nonresidential codes (2)
6. Trade off compliance methods for residential and nonresidential codes (2)
7. Performance compliance for residential and nonresidential codes (2)
8. Using compliance tools for code compliance (2)
9. Lighting standards for residential and nonresidential structures (2)
10. Examples of nonresidential compliance for envelope and equipment (4)
11. Additional standards: LEED, Energy Star and Portfolio Manager (4)
12. Green, stretch and voluntary standards (2)
13. Difference between State and City of Seattle nonresidential energy codes (2)
14. Presentation of code compliance projects (3)

**COURSE CODING**

<table>
<thead>
<tr>
<th>Funding Source:</th>
<th>1...................State</th>
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<tr>
<td>Institutional Intent:</td>
<td>21...................Vocational Preparatory</td>
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This Course is a requirement for the following program(s):

(No Programs Selected)

☑ My Course Proposal is a requirement for a program not on this list

**Program Title/Description/Notes:**

BAS Sustainable Building Science Technology program

Will this course transfer to a 4-year university?  
No

Is this course designed for Limited English Proficiency?  
No

Is this course designed for Academic Disadvantaged?  
No

Does this course have a Workplace Training component?  
Yes

<table>
<thead>
<tr>
<th>CIP Code:</th>
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<tr>
<td>EPC Code:</td>
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Request Specific CIP Code  
Request Specific EPC Code

**Credits:**  
Will this course be offered as Variable Credit?  
No

**List Course Contact Hours**

- Lecture (11 Contact Hours : 1 Credit)  
  33
- Lab (22 Contact Hours : 1 Credit)  
  0
- Clinical Work (33 Contact Hours : 1 Credit)  
  0
- Other (55 Contact Hours : 1 Credit)  
  0

Total Contact Hours  
33

Total Credits  
3

**COLLEGE SUPPLEMENTAL**

**Proposed Quarter of Implementation:**  
Fall 2014

Request Provisional Exception

**Class Capacity:**  
25

**Modes of Delivery:** (Check all that apply)

☑ Fully On Campus  
☐ Fully Online  
☑ Hybrid
Class Schedule Description:
Provides an overview of building energy codes in Washington State.

Student Learning Outcomes:

**Critical Thinking and Problem-Solving**
Think critically in evaluating information, solving problems, and making decisions

**Personal Responsibility**
Uphold the highest standard of academic honesty and integrity
Respect the rights of others in the classroom, online and in all other school activities
Attend class regularly, complete assignments on time and effectively participate in classroom and online discussions, group work and other class-related projects and activities
Abide by appropriate safety rules in laboratories, shops and classroom

**Information Literacy**
Independently access, evaluate and select information from a variety of appropriate sources
Have knowledge about legal and ethical issues related to the use of information
Use information effectively and ethically for a specific purpose

Program Outcomes:

1. Systems – understand operations and systems unique to sustainable buildings.
3. Critical thinking – identify, analyze and solve problems.
4. Technical – measure, diagnose and understand building system interactions.
6. Planning and design – calculate, develop and understand codes and standards for construction of sustainable energy efficient buildings.
7. Construction – understand components that drive the process of construction.
8. Building science – demonstrate working knowledge of building science and relationships across disciplines.
9. Social value, ethics and need – create and maintain a professional environment based on values and ethics.

Course Outcomes / Objectives:
At the end of the course the student will:

1. Know the source and history of building energy codes including ACEEE rankings of WA, OR, ID and AK.
2. Understand building energy codes and their application to building operations and maintenance.
3. Be able to identify and resolve code issues.

Explain the student demand for the course and potential enrollment:
Course required for BAS Sustainable Building Science Technology program. All students will be enrolling in the course as a cohort. Course to be offered one time per academic year.

Explain why this course is being created:
- Employer demand
- Student demand
- Options for place-bound students

The SBST BAS degree program will address a critical gap in the current education system that has developed as this industry has evolved over the past five to 10 years. Traditional engineering, construction and architectural studies focus on the design of new buildings, rather than the complex and sophisticated systems that enable newly designed and retrofitted buildings to function. Individuals previously trained as facility managers do not have the level of expertise or systems knowledge to support these highly technical operations. Therefore, businesses are hiring engineers and spending months and even years retraining them to work in this capacity. Frequently these individuals do not want this type of work and leave when other more suitable opportunities present themselves. Individuals who choose to pursue a degree in the field of Sustainable Building Science Technology will not only have the specialized skills they need; they will be more stable employees.
This is to certify that the above criteria have all been met and all statements are accurate to the best of my knowledge.

Faculty involved in originating this program:

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<thead>
<tr>
<th>Print Name</th>
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<tbody>
<tr>
<td>David Krull</td>
<td>David Krull</td>
<td>1/1/0001</td>
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<tr>
<td>Lauren Hadley</td>
<td>Lauren Hadley</td>
<td>1/1/0001</td>
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Dean:

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<tbody>
<tr>
<td>Holly Moore</td>
<td>Holly Moore</td>
<td>11/25/2013</td>
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Results of SSCC Curriculum Coordinating Council Findings

Participating Faculty Response and Remarks

- [ ] Recommended for approval
- [ ] Not recommended for approval
- [x] This course has not yet reached Committee Review

Chairman, Curriculum Coordinating Council:

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Vice President for Instruction:

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<tr>
<td>Gary L Oertli</td>
<td>Gary L Oertli</td>
<td>2/27/2014</td>
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