SBST331 - Financing Energy Efficiency and Renewable Energy

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: 331

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

Full Title: Financing Energy Efficiency and Renewable Energy
Abbreviated Title: Financing Upgrades

Catalog Course Description: Provides an overview of energy economics

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 must have taken Energy Auditing and Analysis.

Topical Outline:

1. Introduction to energy economics (2)
2. Perspectives on energy efficiency—customer versus utility (2)
3. Measures of benefit—rate of return and cost/benefit ratio, discount rates (2)
4. Life cycle cost (2)
5. Investment planning—putting it all together (2)
6. Total resource cost calculation (2)
7. Utility least cost planning (2)
8. The Regional Power Plan and Initiative 937 (2)
9. Utility incentive programs and customer decision making (2)
10. Tax incentives—deductions, credits and customer decision making (2)
11. Evaluating and prioritizing energy efficiency options (2)
COURSE CODING

Funding Source: 1..................State
Institutional Intent: 21.................Vocational Preparatory

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

CIP Code: 03.0198  □ Request Specific CIP Code
EPC Code: 177  □ Request Specific EPC Code

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

List Course Contact Hours
- Lecture (11 Contact Hours : 1 Credit)  22
- 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  22
Total Credits  2

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
☐ Other  Explanation:

Class Schedule Description:
Provides an overview of energy economics.

**Student Learning Outcomes:**

**Computation**
Use arithmetic and other basic mathematical operations as required by program of study

Apply quantitative skills for academic, and career purposes

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

**Technology**
Select and use appropriate technological tools for academic, and career tasks

**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.
2. Analysis – analyze, define and validate systems.
3. Critical thinking – identify, analyze and solve problems.
5. Technical – measure, diagnose and understand building system interactions.
7. Building science – demonstrate working knowledge of building science and relationships across disciplines.
9. Computer skills – demonstrate ability to use commonly available instruments and interpret findings in audits and reports.
10. Social value, ethics and need – create and maintain a professional environment based on values
and ethics.

11. Data management – use computer programs used in building industries and quality assurance to make fact based decisions.

Course Outcomes / Objectives:

At the end of the course the student will:

1. Understand economic concepts such as rate of return, cost/benefit and life cycle cost
2. Understand how rate of return, cost/benefit and life cycle cost are calculated
3. Understand concepts of cost-effectiveness from customer and utility perspectives
4. Understand the availability and structure of utility incentive and subsidies programs
5. Understand the potential availability of tax incentives

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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<td>David Krull</td>
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Dean:

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<td>Holly Moore</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:

Gary L Oertli

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