SBST402 - Lighting

Document Type: District Master Course Outline
Proposal Type: New Course
Requester(s): David Krull, Lauren Hadley
College: South
Origination Approved: 02/27/2014 - 1:40 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: 402
Request a new Prefix
This will be a common course

Full Title: Lighting
Abbreviated Title: Lighting

Catalog Course Description: Provides an overview of building lighting systems.

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 Building Energy Codes.

Topical Outline:

1. Purpose of lighting and a brief history of lighting 3
2. Language of lighting, acronyms, and basic calculations 3
3. Lighting quality and applications 3
4. Lighting equipment 4
5. Daylighting 3
6. Lighting controls 4
7. Codes, laws and regulations affecting lighting 2
8. Energy savings strategies 2
9. Lighting system maintenance 3
10. Keeping up/finding help 1
11. Planning an upgrade 2
12. Lab: six hours of basic audit and recommendations 3
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
EPC Code: 177

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:  NA
Spring 2014

☑ Request Provisional Exception

Class Capacity:  30

Modes of Delivery: (Check all that apply)
☑ Fully On Campus
☑ Fully Online
☑ Hybrid
☑ Other  
Explanation:
Class Schedule Description:
Provides an overview of building lighting systems.

Student Learning Outcomes:

Communication
Read and listen actively to learn and communicate

Speak and write effectively for academic, and career purposes

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

Apply quantitative skills for academic, and career purposes

Human Relations
Use social interactive skills to work in groups effectively

Have knowledge of the diverse cultures represented in our multicultural society

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:
Lighting (District MCO)

1. Systems – understand operations and systems unique to sustainable buildings.
2. Analysis – analyze, define and validate systems.
4. Communications – utilize effective communication techniques to facilitate all aspects of sustainable building management.
5. Critical thinking – identify, analyze and solve problems.
6. Technical – measure, diagnose and understand building system interactions.
8. Planning and design – calculate, develop and understand codes and standards for construction of sustainable energy efficient buildings.
9. Construction – understand components that drive the process of construction.
10. Building science – demonstrate working knowledge of building science and relationships across disciplines.
12. Computer skills – demonstrate ability to use commonly available instruments and interpret findings in audits and reports.
13. Social value, ethics and need – create and maintain a professional environment based on values and ethics.
14. 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. Be able to operate lighting systems effectively, safely, legally and economically while pleasing a variety of people
2. Understand how systems work, interact with other systems, in particular with heating and cooling, and how they are controlled
3. Know which resources to access to answer questions and provide information on new options
4. Know the basics of lighting audits
5. Know when and how to hire an expert consultant

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:
Statement of need

- 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.

What challenges, if any, do you foresee in offering this course:

none
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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<tbody>
<tr>
<td>David Krull</td>
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<td>Lauren Hadley</td>
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Dean:

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<tr>
<td>Holly Moore</td>
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<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>
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