



Central
North
South
SVI

SBST333 - Building Controls for Energy Efficiency

Document Type: District Master Course Outline

Proposal Type: New Course

Requester(s): David Krull Lauren Hadley

College: South

Origination Approved: 02/27/2014 - 1:51 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: **333**

Request a new Prefix

This will be a common course

Full Title: Building Controls for Energy Efficiency

Abbreviated Title: Building Controls

Catalog Course Description:

Provides an overview of building components

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 Energy Auditing & Analysis.

Topical Outline:

1. Overview: Controls for Energy Efficiency, EMS & BAS (4)
2. Programming—general concepts & practices (6)
3. Onboard controls for all equipment & functions (6)
4. Central controls for all equipment & functions (4)
5. Auditing equipment, existing controls and program, & sensors (6)
6. Programming for efficiency for the whole system & sub systems (6)
7. Control audit of mid-size facility with expert (6)
8. Issues of comfort and function (3)
9. Specific equipment: Economizers, Chillers, Boilers, etc. (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 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)	44
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	 44
Total Credits	4

COLLEGE SUPPLEMENTAL

Proposed Quarter of Implementation: Fall 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 components

Student Learning Outcomes:

Communication

Read and listen actively to learn and communicate

Speak and write effectively 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

Program Outcomes:

1. Manage learning environments
2. Develop outcomes, assessments and curricula
3. Provide student instruction
4. Create and maintain a professional environment
5. Learn to adapt new technologies

Course Outcomes / Objectives:

At the end of the course the student will:

1. Understand central and equipment specific control system functions
2. Have basic skills in auditing control systems including logic and sensors
3. Understand issues in programming for energy efficiency while meeting needs for occupant control, comfort and performance
4. Have basic skills in programming EMS, DDC and BAS

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:

David Krull
Print Name

David Krull
Signature

1/1/0001
Date

Lauren Hadley
Print Name

Lauren Hadley
Signature

1/1/0001
Date

Dean:

Holly Moore
Print Name

Holly Moore
Signature

11/25/2013
Date

Results of SSCC Curriculum Coordinating Council Findings

Participating Faculty Response and Remarks

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

Chairman, Curriculum Coordinating Council:

Print Name

Signature

Date

Vice President for Instruction:

Gary L Oertli
Print Name

Gary L Oertli
Signature

2/27/2014
Date