



### Sustainable Building Science Technology Bachelor of Applied Science, <u>an industry driven degree</u>

Innovative Workforce Solutions – May 19, 2016

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# Who is South Seattle College?

- One of three colleges in the Seattle College District
- Seattle Colleges serves the city of Seattle and offers programs to nearly 50,000 students
- The Georgetown campus is a satellite campus of South Seattle College
  - Largest apprenticeship training center in the Northwest (63 trades programs)
  - Located in the industrial area of the city
  - 3 Bachelor of Applied Science degrees
    - O Hospitality Management
    - Professional Technical Teacher Education
    - O Sustainable Building Science Technology







# Bachelor of Applied Science Degrees in Washington State







# Sustainable Building Science Technology – A Brief History

- Partnerships & Grants for Short-Term Training, beginning 2008
  - Workforce Development Council of Seattle, City of Seattle, Seattle City Light, NEEC, many more
  - O ARRA Funding
  - O Puget Sound Regional Council i6 grant
- Labor and Industry Involvement
  - O South/Georgetown have been at the table with

industry and labor in this sector for more than 8 years

- Connection to Apprenticeships in the building trades
- Developed six short-term certificate courses that provided the foundation for this degree
- Industry and college partners have voiced a need for degree program

#### SOLID FOUNDATION







## January 2013 Degree Outcomes Mapping Meeting

- More than 40 participants from industry
- o 17 Learning outcomes for the degree
  - Soft Skills writing and communication
  - Built Environment energy audits, building assessments, building systems
  - Technical Skills financial skills, data analysis, computer skills, and reports
- These learning outcomes informed the course development
  - o 16 courses
  - o 10 credits of work experience
  - 9 credits of internship
  - Capstone project







# What's different about our bachelor's degree ?



- Close relationship with industry
  - Technical Advisory Board
  - Need relevant working experience to be admitted
  - O Internship classes throughout the program
- A degree for the working professional
  - O Hybrid 80% online with Saturday class meetings 1x month
  - Can receive credit for prior learning experience
  - Articulates with apprenticeship

- O Veteran-friendly
  - O Tuition discount
  - Can receive credit for military training
  - O Veteran's support
- GREAT VALUE!
  - Less expensive than university ~\$2600/quarter
  - No out-of-state tuition hike for non-residents
  - Waivers accepted for state employees







A National Science Foundation Partnership

ATE Project Grant: Expanding Lifelong STEM Career Pathways in Sustainable Building Science Technology (1406320)

Three Year Project: August 2014 – July 2017

# **Program Demographics**

### SBST Program Gender Mix



#### **SBST Program Ethnicity Mix**







## Pathways into the Degree

- OBJECTIVE Recruit, retain and graduate students from industry, people of color, veterans, women and other career-changers.
  - Develop articulations
    - <mark>○</mark> 0 →11

Sustainable Building Science Technology Bachelors of Applied Science Degree







# **Project Activities**

OBJECTIVE – Develop innovative bachelors of applied science (BAS) curriculum in sustainable building science technology (SBST).

Use of community learning laboratories

- O Microsoft, Global Energy Management
- O Bullitt Center
- O Eastlake Building at Fred Hutchinson
- O Continuous need for industry support





### **Future Activities**

• OBJECTIVE – Grow the STEM pipeline by exposing high school students to the education and career opportunities in sustainable building science technology.

• Develop summer workshop program for high school teachers





### Supply and Demand

Framing Energy through Sustainable **Building Science Technology** 

#### Overview

The NSF Grant Summer Teacher Institute is a STEM-focused professional development experience that is specifically designed to unite district educators and industry professionals to do the following:

- Examine the relationship between energy and sustainable building science technology.
- Learn and utilize tools, such as Portfolio Manager, an interactive resource management tool that tracks and assesses energy and water use in commercial buildings.
- Participate in field trips to smart buildings.
- Discuss STEM workforce pipeline issues, and identify career opportunities and educational pathways.
- Exchange ideas that promote career readiness and postsecondary access.

#### Institute Outcomes

By the end of the experience, you should be able to do the following:

- Demonstrate an understanding of building science.
- Measure, diagnose and understand building system interactions, and summarize results in order to compare to standards or specifications.
  - Use computer programs used in building industries and quality assurance to make fact-based decisions.
- Identify industry specific solutions from analysis.
- Develop a teaching unit in sustainable building science technology
  - Apply learning in another setting

#### Commitment

- Attend 30 hours of teacher institute and share teaching unit curriculum ٠ and assessment with Institute organizers (Stipend - TBD)
- Apply learning at the STEM Summer Learning Opportunities for ٠ students at Cleveland High School - required for Cleveland High School instructors (Stipend – TBD)

#### TO REGISTER:

http://georgetown.southseattle.edu/nsf

#### July 11 – 15, 2016

Hosted by:

SOUTH SEATTLE COLLEGE One of the Seattle Colleges

#### Benefits

Earn clock hours for both institute and summer learning opportunities



#### Schedule

July 11, 2016. 9:00 a.m. - 4:00 p.m. South Seattle College, Georgetown

July 12, 2016. 9:00 a.m. - 4:00 p.m. Smart Building Center, Seattle

July 13, 2016. 9:00 a.m. - 4:00 p.m. Tour: Bullitt Center, Fred Hutchinson Cancer Research Center

July 14, 2016. 9:00 a.m. – 4:00 p.m. South Seattle College, Georgetown

July 15, 2016. 9:00 a.m. - 12:00 p.m. South Seattle College, Georgetown





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### www.southseattle.edu/programs/bas/sustainable-building-sciencetechnology

http://georgetown.southseattle.edu/nsf



