

PROGRAM PROPOSAL FORM

- Preliminary Approval** – Check here when using this form for preliminary approval of a program proposal, and respond to the items in general terms.
- Final Approval** – Check here when completing this form after the Vice President for Instruction has given preliminary approval to a program proposal. For final approval, complete information must be provided for each item.

Program Name:	<u>Sustainable Building Practices</u>	Program Code:
Division and Department:	<u>VOTech/Construction Technology</u>	<u>CTSBP</u>
Type of Award:	<input type="checkbox"/> AA <input type="checkbox"/> AS <input type="checkbox"/> AAS <input checked="" type="checkbox"/> Cert. <input type="checkbox"/> Adv. Cert. <input type="checkbox"/> Post-Assoc. Cert. <input type="checkbox"/> Cert. of Comp.	CIP Code:
Effective Term/Year:	<u>Fall 2012</u>	<u>46.0415</u>
Initiator:	<u>Cristy Lindemann</u>	
Program Features Program's purpose and its goals. Criteria for entry into the program, along with projected enrollment figures. Connection to other WCC programs, as well as accrediting agencies or professional organizations. Special features of the program.	<p>Energy efficiency and green technology have become part of the mainstream of our society. Home and commercial building purchasers and remodelers are beginning to demand that sustainability be included in their existing structures and the buildings they construct. Every magazine, newspaper, and television network has a green tie to it. Most people believe that automobiles and their industry is the largest consumer of energy and supplies, but that is not the case. The building industry, new construction, remodeling and building operation, is the biggest consumer of energy and supplies. For this reason, we feel it is important to have classes that instruct our students on how they can change the ways buildings use energy and supplies, and the means and methods required to replace and restore inadequate equipment and building materials.</p> <p>Enrollment options to new and returning students. The certificate will be beneficial to those that want to study construction technology to further their skills as well as those who are interested only in sustainable building practices. Projected enrollment for the first year is 40 to 50 students.</p> <p>The certificate combines courses in HVAC, Electric, Construction and Earth Science, in order for the students to have first an understanding of why we need sustainable building practices and secondly to put theories learned to practice in the HVAC, Electric and Construction labs as well as off-site. The certificate will cover both Green Advantage and Building performance Institute information for certifications that are nationally recognized, that will allow students to take testing if they choose.</p>	

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fall 2012
 Office of Curriculum & Assessment

<p>Need</p> <p>Need for the program with evidence to support the stated need.</p>	<p>Currently, changes in the building environment have been such that remodeling and replacing the old with new more efficient products and equipment are on the upswing. Part of this is due to programs like MICHIGAN SAVES, which is a state organization that will make energy efficient upgrades more affordable for all types of Michigan energy consumers. We can also see the request from the federal government with the HOME STAR program, which will boost the need for energy efficient products and installations. For these facts, we believe a cross curriculum program that is offered not only to Electrical, HVAC and Construction students but also open to those looking to understand the future of building practices, will be beneficial to WCC students as well as the future job growth in Washtenaw County</p> <p>Economists expect Michigan to add 61,500 green jobs in 2012. A recent Gallup survey of state job markets ranks Michigan first in the nation for job creation when identifying green jobs. Green jobs are now an established part of the design and construction workforce and are only likely to grow in this decade, according to a new study from McGraw-Hill Construction. The study found that 35 percent of architects, engineers and contractors – representing about 661,000 jobs – work in the renewable energy industry. That share is expected to rise of the next three years, with 45 percent of all design and construction jobs projected to be green by 2014.</p> <p>From the USGBC, by the year 2013, their study estimates that green building will support nearly 8 million jobs across occupations ranging from construction managers and carpenters to truck drivers and cost estimators. USGBC also supports job creation and economic activity. LEED-related spending has already generated 15,000 jobs since 2000 and by 2013 this study forecasts that an addition 230,000 jobs will be created. Finally, from the American Solar Energy Society, as many as 37 million jobs can be generated by the renewable energy and energy efficiency industries in the U.S. by 2030 – more than 17% of all anticipated U.S. employment.</p>	
<p>Program Outcomes/Assessment</p> <p>State the knowledge to be gained, skills to be learned, and attitudes to be developed by students in the program.</p> <p>Include assessment methods that will be used to determine the effectiveness of the program.</p>	<p><u>Outcomes</u></p> <ol style="list-style-type: none"> 1. Identify and apply sustainable building theories and techniques. 2. Identify proper testing techniques for determining a building's inefficiency. 3. Identify repairs and/or replacements for building systems using sustainable building theory and techniques. 	<p><u>Assessment method</u></p> <ol style="list-style-type: none"> 1. Testing 2. Lab project 3. Test and project

Please return completed form to the Office of Curriculum & Assessment and email an electronic copy to sjohn@wccnet.edu for posting on the website.

<p>Curriculum</p> <p>List the courses in the program as they should appear in the catalog. List minimum credits required. Include any notes that should appear below the course list.</p>	<p>ENV 101 Environmental Science I – 4 cr. CON 180 Introduction to green Building – 3 cr. ELE 106 Renewable Energy Technology – 3 cr. HVA 201* Energy Audits – 4 cr. CON 247 Sustainable Building Practices – 4 cr.</p> <p>Total: 17 credit hours * Students in this program will be given prerequisite overrides for HVA 201</p>
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Budget		START-UP COSTS	ONGOING COSTS
	Specify program costs in the following areas, per academic year:	Faculty	\$.
Training/Travel		\$ 3000.00	\$ 1000.00
Materials/Resources		\$3000.00	\$ 1000.00
Facilities/Equipment		\$3000.00	\$ 1000.00
Other		\$1500.00	\$ 500.00
TOTALS:		\$ 10500.00	\$ 3500.00
Program Description for Catalog and Web site	In this program, students will be introduced to the theory of building sustainability. Through review of the history of the green movement, students will develop an understanding of why it has become a critical part of our way of life. Following an overview of the impact of non-sustainable practices on the planet, students will be introduced to both clean energy practices and the Building Performance Institute's requirements for procedures used in building weatherization. Students will apply theory and skills to projects in the lab and off-site environments.		
Program Information	<p>Accreditation/Licensure -</p> <p>Advisors - Les Pullins, Dale Petty, Cristy Lindemann</p> <p>Advisory Committee - Doug Selby, Meadowlark Builders, Amanda Edmonds Growing Hope, more TBD</p> <p>Admission requirements – College level 3 math, College level reading and writing</p> <p>Articulation agreements – none at this time</p> <p>Continuing eligibility requirements – none</p>		

Assessment plan:

Program outcomes to be assessed	Assessment tool	When assessment will take place	Courses/other populations	Number students to be assessed
Identify and apply sustainable building theories and techniques.	Test	Fall 2015	All	All
Identify proper testing techniques for determining a building's inefficiency.	Lab Project	Fall 2015	All	All
Identify repairs and/or replacements for building systems using sustainable building theory and techniques.	Test and Project	Fall 2015	All	All

Scoring and analysis plan:

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally developed rubric, external evaluation, other). Attach the rubric.

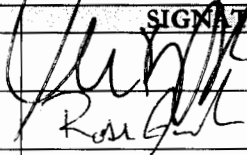
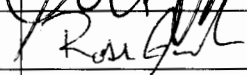
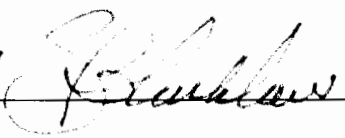
Tests will be scored using an answer key; projects will be scored using a rubric.

2. Indicate the standard of success to be used for this assessment.

80% of students will score 80% or higher

3. Indicate who will score and analyze the data.

Department chairs and faculty.

REVIEWER	PRINT NAME	SIGNATURE	DATE
Department Chair/Area Director	Cristy Lindemann		1.27.12
Dean	Ross Gordon		1/27/12
Vice President for Instruction <input type="checkbox"/> Approved for Development <input type="checkbox"/> Final Approval	STUART BLACKMAN		2/17/12
President			
Board Approval			

Program Information Report

**Sustainable Building Practices (CTSBP)
Certificate**

Program Effective Term: Fall 2012

In this program, students will be introduced to the theory of building sustainability. Through review of the history of the green movement, students will develop an understanding of why it has become a critical part of our way of life. Following an overview of the impact of non-sustainable practices on the planet, students will be introduced to both clean energy practices and the Building Performance Institute's requirement for procedures used in building weatherization. Students will apply theory and skills to projects in the lab and off-site environments.

Program Admission Requirements:

Students must have an Academic Math Level of 3.

CON 180	Introduction to Green Building	3
CON 247	Sustainable Building Practices	4
ELE 106	Renewable Energy Technology	3
ENV 101	Environmental Science I	4
HVA 201	Energy Audits*	4

Minimum Credits Required for the Program: **18**

Notes:

**Students in this program will be given prerequisite overrides for HVA 201.*