FACULTY COMMITTEE ON GRADUATE EDUCATION, CONTINUING EDUCATION AND SPECIAL PROGRAMS

GRADUATE COURSE PROPOSAL FORM

Contact Name: Allisyn Miller, Admin Coordinator Email: akmiller1@cofc.edu Phone: 843-937-9596

Department Name: HISPV Graduate Program name: Graduate Program in Historic Preservation (HISPV)

Course Prefix, Number, and Title: HISPV 828, Case Studies in Preservation Engineering

I. CATEGORY OF REVIEW (Check all that apply)

NEW COURSE

☐ New Course
(attach syllabus*)

CHANGE COURSE

☐ Change Number (IV, VII, VIII, IX)
☐ Change Title (IV, VII, VIII, IX)
☐ Change Credits/Contact hours (II, IV, VII, IX)
☐ Prerequisite Change (IV, VII, VIII, IX)
☐ Edit Description (III, IV, VII, VIII, IX)

DELETE COURSE

☐ Delete Course (IV, VII, IX)

☐ Approve for Cross-listing (attach Graduate Permission to Cross-list Form)

Date (Semester/Year) the course will first be offered, course changes or deletion will go into effect:

NEW COURSE:

*ATTACH THE SYLLABUS FOR A NEW GRADUATE COURSE to include:

- Course description and objectives
- Method of teaching (e.g., lecture, seminar, on-line, hybrid)
- Required and optional texts and materials
- Graduate School Grading Scale
- Assignments, student learning outcomes and assessment components
- Policies to include attendance, Honor Code, American Disabilities Act statement
- Tentative course schedule with specific topics

September 2011
Page 1
List prerequisites and / or other restrictions below

*Prev: Enrollment in MSHP/HSPV program, HP 8190/HSPV 819*

Will this course be added to the Degree Requirements?

a) □ Yes  ☒ No

b) If yes, explain

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**II. NUMBER OF CREDITS and CONTACT HOURS per week**

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Lab</th>
<th>Seminar</th>
<th>Ind. Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Contact Hours</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Credit Hours 3

Is this course repeatable? □ yes  □ no If so, how many credit hours may the student earn in this course?

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**III. CATALOG DESCRIPTION** Limit to 50 words *EXACTLY* as you want it to appear in the catalog; include prerequisites, co-requisites, and other restrictions. If changing course description, please include both old and new course descriptions.

Introduction to structural engineering, loads on structures, and structural elements in buildings. Examines behavior and deterioration of primary structural materials in historic structures. Students visit real world examples of major engineering issues in existing structures to determine how conclusions are reached and how recommendations are made concerning the structure.

*Prev: Enrollment in MSHP/HSPV program, HP 8190/HSPV 819*
IV. RATIONALE / JUSTIFICATION: If course change – please indicate the course change details. If course change or deletion—please provide reasons for change(s) to or deletion of a course. If a new course—briefly address the goals/objectives for the course and the relationship to the strategic plan.

This new course is being proposed for inclusion in MSHP curriculum to (1) provide venue for current faculty teaching and research interests, (2) create vehicle through which advanced graduate students can pursue research opportunities that address local and regional research requests, and (3) ensure that the MSHP curriculum is consonant with broad current trends in historic preservation scholarship.

Understanding how historic building materials respond to geological and environmental forces is fundamental to diagnosing the symptoms of structural failure and preparing structural interventions.

V. STUDENT LEARNING OUTCOMES and ASSESSMENT

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Method and Performance Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>What will students know and be able to do when they complete the course?</td>
<td>How will each outcome be measured? Who will be assessed, when, and how often? How well should students be able to do on the assessment?</td>
</tr>
<tr>
<td>1. Demonstrate understanding of physical properties and performance characteristics of historic building materials.</td>
<td>1. Successful performance in on-site evaluations of basic abilities to describe physical properties and performance of historic building materials. 2. Successful presentation of oral summary of materials incorporated in buildings selected for field study.</td>
</tr>
<tr>
<td>2. Demonstrate ability to ascertain, measure, assess, and describe symptoms of structural failure.</td>
<td>Successful completion of historic structures conditions report, a semester-long project.</td>
</tr>
<tr>
<td>3. Demonstrate ability to measure and calculate loads supported by and transmitted by historic buildings.</td>
<td>Successful completion of historic structures conditions report, a semester-long project.</td>
</tr>
<tr>
<td>4. Demonstrate ability to convey on-site finding accurately and succinctly.</td>
<td>Successful completion of historic structures conditions report, a semester-long project.</td>
</tr>
</tbody>
</table>
How does this course align with the student learning outcomes articulated for the major, program, or general education? What program-level outcome or outcomes does it support? Is the content or skill introduced, reinforced, or demonstrated in this course?

The Student Learning Outcomes outlined above articulate directly with the MSHP program’s primary pedagogical goals and with the learning objectives adopted by it and approved by the College:

**Overarching Goal:** To prepare future preservationists to employ a broad range of approaches and strategies useful for managing the built environment.

**Broad Learning Outcomes:**

1. Students will demonstrate familiarity with and understanding of the history and theory that informs the practice of Historic Preservation in the United States.
2. Students will recognize and describe historic styles, materials and construction systems that have characterized American architecture.
3. Students will develop research and documentation skills in relation to historic structures and landscapes.
4. Students will accumulate, assemble and evaluate physical and historical data related to the built environment.
5. Students will write well.

VII. IMPACT ON EXISTING PROGRAMS and COURSES: Please briefly document the impact and expected changes of this new/changed/deleted course on other departments, programs and courses; if deleting a course—list all departments and programs that include the course; if adding/changing a course—explain any overlap with existing courses in the same or different departments; if adding or deleting a course that will be part of a joint program identify the partner institution.
NO IMPACT on other College of Charleston courses. Revisions are internal only to the HSPV program and are necessary to be in line with Clemson standards for this joint program.

VIII. COSTS ASSOCIATED WITH THE ACTION REQUESTED: List all of the new costs or cost savings, (including new faculty/staff requests, library or equipment, etc.) associated with the action requested. New courses requiring additional resources will need special justification.

NO COSTS ASSOCIATED WITH ACTION REQUESTED.
IX. APPROVAL AND SIGNATURES

Signature of Program Director: [Signature] Date: 2.18.14

Signature of Department Chair: [Signature] Date: 2.18.14

Signature of Additional Chair*: [Signature] Date: 

Signature of Schools’ Dean: [Signature] Date: 2/19/14

Signature of Additional Schools’ Dean*: [Signature] Date: 

Signature of the Provost: [Signature] Date: 3/31/14

Signature of Budget Director/Business Affairs Office: [Signature] Date: 2-26-14

*For interdisciplinary courses

Return form to the Graduate School Office for Further Processing

Signature of Chair of the Faculty Committee on Graduate Education, Continuing Education & Special Programs: [Signature] Date: 3/24/2014

Signature of Chair of the Graduate Council: [Signature] Date: 3/14/14

Signature of Faculty Senate Secretary: 

Date: 

Date Approved by Faculty Senate: 

September 2011
Tuesday, January 14, 2014

Students in Case Studies in Preservation Engineering (lecture)

Introduction

This case studies class starts with an introduction to the concepts of structural engineering, particularly loads on structures, structural elements in buildings and stresses in those elements. It then briefly covers the behavior (and deterioration) of several specific materials, particularly focusing on soil, masonry, timber, iron and steel and concrete, the primary structural materials in historic and in more recent existing structures. Finally, the course takes the students through a number of real world examples of major engineering issues in existing, mostly historic, structures.

In looking at specific case studies, students are given the symptoms of distress in a structure and are shown how more information is gathered, how conclusions are reached and how recommendations are made concerning the structure. In most of the cases, students will visit the structures themselves and will see the structural issues first hand.

Professor

The course is led by Craig M. Bennett, Jr. a structural engineer who specializes in existing buildings, especially historic structures. Bennett is a founding principal of 4SE (2002) and Bennett Preservation Engineering (2012), both Charleston based structural engineering firms.

Bennett will be available on an as needed basis and primarily by appointment. Please contact him by e-mail (please use the e-mail address below rather than the school e-mail address) at any time or by phone between Noon and 1:00 PM, between 6:00 and 9:00 PM and on weekends. Evenings and weekends, please use either a home number or the mobile number.
Policies

Attendance is expected at all classes, including field trips. While students will be offered the opportunity to go into parts of buildings where access is difficult, no one will be required to climb into attics, crawl in crawl spaces or ascend scaffolds and there will be no penalty for not doing so. Students are required to wear close-shoes on all field trips. Some field trips will require hard hats. Most will require closed toe shoes. Some require climbing vertical ladders, hence skirts are inappropriate. Cameras are generally a welcome addition to field trips, but students absolutely must be aware of their surroundings when using them... stepping backwards is not an option on most job sites. Taking a small flashlight and a notepad on field trips is a good idea. Finally you will have to sign a release to enter most interesting areas of buildings.

Readings will be assigned from the *Preservation Technology Primer: Readings from the APT Bulletin* and from the National Park Service’s *Preservation Briefs*. Ownership of the first text is not required, as all of the readings are available in the APT Bulletin online, but since the book is a compilation of the very best articles from the first 40 years of the Bulletin, ownership is recommended for those who expect to actually be involved in preservation beyond this course. The book is available both locally and from the Association for Preservation Technology, International. The National Park Service’s *Preservation Briefs*, are available on the Web.

Grading will be consistent with school policies. Grades will be based to some degree on class participation, and additionally on performance on one test, on two presentations and on a paper. The quality of the work on the paper is the primary determinant of your final grade. Note: You might go back and reread that sentence.

**GRADING POLICY:** Clemson University grades on a system of A, B, C, D, and F without pluses and minuses.

A--Excellent Indicates work of a very high quality, the highest grade given.

B--Good Indicates work that is above average though not of the highest quality.

C--Fair Indicates work of average to weak quality, the lowest passing grade.

F--Failed

Both Clemson and the CofC have asked all profs to publicize the school’s honor codes, incorporating them into the initial course outline. Here they are:

**CLEMSON UNIVERSITY ACADEMIC INTEGRITY:** As members of the Clemson University Community, we have inherited Thomas Green Clemson’s vision of this institution as a high seminary of learning. Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating or stealing in any form.

**CLEMSON UNIVERSITY DISABILITY ACCESS:** It is University policy to provide on a flexible and individual basis reasonable accommodations for students with disabilities. Students are encouraged to contact Student Disability Services to discuss their individual needs for accommodation.
College of Charleston Honor Code and Academic Integrity

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student’s actions are related more to a misunderstanding will handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student’s file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student’s transcript for two years after which the student may petition for the X to be expunged. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration—working together without permission— is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others’ exams, fabricating data, and giving unauthorized assistance.

Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

Students can find the complete Honor Code and all related processes in the Student Handbook at http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php

Prerequisites

Students will not be required to have any engineering background and will not be required to use calculus or other higher math, but ability to use fifth grade arithmetic will be an asset. Familiarity with the most basic areas of high school geometry won’t hurt, nor would it be a bad idea to be able to use AutoCAD LT or some other simple drafting program, Photoshop Elements and PowerPoint. The ability to write and express one’s self clearly is important in everything one does in life and this class is no exception.

Very Tentative Course Outline - Subject to change on a regular basis

Tue Jan 14 - Introduction: Policies and Overview
- Students
- Slide show covering some of the projects and subjects we’ll study this term
- First walkabout, if time allows

Tue Jan 21 - A Common Vocabulary: A Comprehensible Engineering Lecture
- Loads on structures
- Structural elements in buildings
- Stress, strain, elastic and plastic behavior

Tue Jan 28 - Materials
- Soil, masonry, timber, iron and steel, concrete
- Stresses, strains and behavior of these materials

Tue Sep 10 - Masonry:
- Behavior
- Deterioration
- St. Michael’s Episcopal Church (visit)
- The Fireproof Building (visit)

Tue Sep 17 - Concrete:
- Introduction to Behavior
- Deterioration
- The City of Charleston Seawalls (visit)

Tue Sep 24 - Test; Projects; Reports; Site work

Tue Oct 1 - Masonry and Iron/Steel:
- Independent Presbyterian Church, Savannah
- Randolph Hall, Towell Library, Porter’s Lodge, the Cistern (visit)
- Grace Episcopal Church (visit)

Tue Oct 8 - Wood:
- Behavior
- Deterioration
- Simple structural engineering

Tue Oct 15 - (spring break)

Tue Oct 22 - Wood:
- The Cathedral Church of St. Luke and St. Paul (visit: climbing)

Tue Oct 29 - Preliminary presentation of projects

Tue Nov 5 - Wood:
- Summer Salt or a Charleston Single House (visit)

Tue Nov 12 - Concrete and veneer brick:
- More advanced behavior
- The Walton Research Building at MUSC (visit)
Tue Nov 19  - Presentations of projects

Tue Nov 26  - Presentations of projects (note: Thanksgiving holiday begins the next day)

Tue Dec 3   - Final report due

Craig M. Bennett, Jr., PE
Bennett Preservation Engineering PC