



### **Background Information**

Provide a detailed description of the proposed modification, including its nature and purpose and centrality to institutional mission. (1500 characters)

To come into compliance with the curriculum requirements of the American Council for Construction Education to maintain full accredited status, Clemson University's Construction Science and Management department proposes the following modifications to its current Bachelor of Science in Construction Science and Management program:

Delete the following courses: CSM 1500 Construction Problem Solving and CSM 3030 - Soils and Foundations. Under the new ACCE Curriculum Accreditation requirements, much of subject matter covered in these courses is no longer required. The balance of the material that will remain required from CSM 1500 will be taught in CSM 1000 – Introduction to Construction Science and Management and required in CSM 3030 will be taught in CSM 2020. Both CSM 1000 and CSM 2020 will be revised accordingly so as to accommodate the instruction of the remaining required subject matter.

Add the following two new courses: CSM 3060 – Emerging Technologies in Construction and CSM 3070 – Sustainability in Construction.

Replace the two Business and Management major requirement courses with two free electives. Prior to the change in the ACCE curriculum accreditation requirements, all accredited construction education programs were required to have their students complete more Business and Management courses. With the change, ACCE reduced the number of Business and Management credits required and thus the reason the two major requirement courses were replaced with free electives. This also provided the opportunity for CSM majors to take courses in other disciplines.

List the objectives of the modified program. (1500 characters)

No changes from the existing program objectives which are as follows:

1. Excel in the education of construction science and management undergraduate students alike through a rigorous program of academic learning designed to produce motivated, well-educated, responsible citizens with the management and technical skills requisite for leadership positions in the construction industry.
2. Provide relevant education in construction-related disciplines for other undergraduate students at Clemson University.
3. Foster Clemson University's service mission by providing outreach activities for the construction industry and the public, both nationally and internationally.
4. Assist in attaining Clemson University's research goals by conducting and disseminating the results of research and development, and/or conducting educational courses for the construction industry.

**Assessment of Need**

Provide an assessment of the need for the program modification for the institution, the state, the region, and beyond, if applicable. (1500 characters)

The modifications to the undergraduate curriculum are due to the recent changes to the required curriculum requirements for accreditation by the American Council for Construction Education (ACCE). ACCE moved from a prescriptive curriculum requirement status to one of outcomes and in so doing reduced the number of required non-construction discipline-specific courses along with eliminating the requirement for a minimum number of construction-related courses and replacing it with the requirement to demonstrate meeting 20 program student learning construction-specific outcomes. In so making these changes in their Curriculum Standards, ACCE did not reduce the overall requirement for all accredited programs which remains at a minimum of 120 credits.

Finally, the changes proposed will not impact our current articulation agreements with Greenville Technical College and Horry-Georgetown Technical College.

Will the proposed modification impact any existing programs and services at the institution?

Yes

No

If yes, explain. (1000 characters)

**List of Similar Programs in South Carolina**

Program Name	Institution	Similarities	Differences
NONE at the BS Degree Level			

**Description of the Program**

Projected New Enrollment**						
Year	Fall		Spring		Summer	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours

\*\* As the result of implementing the modifications there will be no changes in the student enrollment from the current status of approximately 200 students which is the maximum the program can accommodate with the current level of resourcing.

### Curriculum

Attach a curriculum sheet identifying the courses required for the program. Please see Appendix A.

#### Curriculum Changes

**Note: Complete this table only if there are changes to the curriculum.**

<b>Courses Eliminated from Program</b>	<b>Courses Added to Program</b>
CSM 1500 – Construction Problem Solving	CSM 3060 – Emerging Technologies in Const.
CSM 3030 – Soils and Foundations	CSM 3070 – Sustainability in Construction
2 Major Business/Mgmt. Electives	2 Free Electives

### Faculty

Provide a brief explanation of any additional institutional changes in faculty and/or administrative assignment that may result from implementing the proposed program modification. (1000 characters)

None

### Resources

Identify any new library/learning resources, new instructional equipment, and new facilities or modifications to existing facilities needed to support the modified program. (2000 characters)

None

**Financial Support** – There are no changes associated with the program modification, no changes in enrollment, faculty or resources needed for implementation of the proposed changes.

Estimated New Costs by Year						
Category	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	Total
Program Administration						
Faculty and Staff Salaries						
Graduate Assistants						
Equipment						
Facilities						
Supplies and Materials						
Library Resources						
Other*						
<b>Total</b>						
Sources of Financing						
Category	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	Total
Tuition Funding						
Program-Specific Fees						
State Funding (i.e., Special State Appropriation)*						
Reallocation of Existing Funds*						
Federal Funding*						
Other Funding*						
<b>Total</b>						
<b>Net Total</b> (i.e., Sources of Financing Minus Estimated New Costs)						

\*Provide an explanation for these costs and sources of financing in the budget justification.

### Budget Justification

Provide a brief explanation for the other new costs and any special sources of financing (state funding, reallocation of existing funds, federal funding, or other funding) identified in the Financial Support table. (1000 characters)

**Note: Institutions need to complete this budget justification *only* if any other new costs, state funding, reallocation of existing funds, federal funding, or other funding are included in the Financial Support table.**

### Evaluation and Assessment

Will any the proposed modification impact the way the program is evaluated and assessed?

Yes

No

If yes, explain. (1000 characters)

Will the proposed modification affect or result in program-specific accreditation?

Yes

No

If yes, explain; if the modification will result in the program seeking program-specific accreditation, provide the institution's plans to seek accreditation, including the expected timeline for accreditation. (500 characters)

The B.S. program in construction science and management is fully accredited and the current accreditation was in 2013. There are no progress reports due to the ACCE and the next accreditation visit will take place in 2019. To remain accredited the undergraduate program in construction science and management must come into compliance with the Council's new curriculum standards and thus the reason for this Program Modification request.

Will the proposed modification affect or lead to licensure or certification?

Yes

No

If yes, explain how the program will prepare students for licensure or certification. (500 characters)

### Teacher or School Professional Preparation Programs

Is the proposed modified program a teacher or school professional preparation program?

Yes

No

If yes, complete the following components.

Area of Certification

Attach a document addressing the South Carolina Department of Education Requirements and SPA or Other National Specialized and/or Professional Association Standards.

## Appendix A

### Proposed Revised CSM Curriculum Course Map

#### Freshman Year

##### First Semester

- 3 – CSM 1000 Intro. To Construction Sci. and Mgt.
- 3 – ENGL 1030 Accelerated Composition
- 3 – MGT 2180 Management Personal Computer Applications
- 4 – MATH 1060 Calculus of One Variable I <sup>1</sup>
- 3 – PHYS 2070 General Physics I
- 1 – PHYS 2090 General Physics I Lab.

17

##### Second Semester

- ~~3 – ART 2100 Introduction to Art and Architecture~~ (change to open non-lit/CCA elective)
- 3 – *Non-literature Humanities/Cross-cultural Awareness Elective* (no longer require it to be ART 2100)
- ~~3 – CSM 1500 Construction Problem Solving~~ (Combined CT2 and Ethics Requirement into CSM 1000)
- 3 - COMM 1500 Intro. to Human Comm. Or 3 - COMM 2500 Public Speaking
- 3 - PHYS 2080 General Physics II
- 1 - PHYS 2100 General Physics II Lab.
- 3 – *Free Elective*
- ~~3 – STAT 3090 Introductory Business Statistics~~ (Moved to Sophomore Second Semester to better align with students preq. and actually taking of the course)
- 3 - *Social Science Requirement* <sup>2</sup> (moved from Junior Year, first semester)

16

#### Sophomore Year

##### First Semester

- 3 - AGM 2210 Surveying
- 3 - CSM 2010 Structures I
- 3 - CSM 2030 Materials and Methods of Const. I
- 3 - ECON 2110 Principles of Microeconomics
- 3 - Arts and Humanities (Literature) Requirement

15

##### Second Semester

- 3 - ACCT 2010 Financial Accounting Concepts
- 4 - CSM 2020 Structures II
- 3 - CSM 2040 Contract Documents
- 3 - CSM 2050 Materials and Methods of Const. II
- ~~3 – ECON 2120 Principles of Macroeconomics~~ (no longer an accreditation requirement – change to free elective – Free elective placed in First Year Second Semester)
- 3 - *STAT 3090 Introductory Business Statistics* (moved from Freshman Second Semester)

16

#### Junior Year

##### First Semester

- ~~3 – CSM 3030 Soils and Foundations~~ (Course Removed - Included in Structures II)
- 3 - CSM 3040 Environmental Systems I

ACAP

3/23/17

Agenda Item 5a

3 - CSM 3510 Construction Estimating

3- *CSM 3060 Emerging Technologies in Construction* (New Course)

3 - ENGL 3040 Business Writing or 3 - ENGL 3140 Technical Writing

~~3 - Social Science Requirement~~ (Moved to Freshman, semester 2)

3 - *LAW 3220 Legal Environment of Business* (Moved from Junior Semester 2 to make space for new course)

15

Second Semester

3 - CSM 3050 Environmental Systems II

3 - CSM 3520 Construction Scheduling

3 - CSM 3530 Construction Estimating II

3 - *CSM 3070 Sustainability in Construction* (New Course)

~~3 - LAW 3220 Legal Environment of Business~~

3 - MGT 3070 Human Resource Management

15

## Senior Year

First Semester

3 - CSM 4110 Safety in Building Construction

1 - CSM 4500 Construction Internship

3 - CSM 4530 Construction Project Management

3 - CSM 4610 Construction Economics Seminar

3 ~~6~~ - *Major Requirement*<sup>3</sup> (Change from 6 Major Requirement to 3 Major and 3 Free)

3 - *Free Elective*

16

Second Semester

6 - CSM 4540 Construction Capstone

3 ~~6~~ - *Major Requirement*<sup>3</sup> (Change from 6 Major Requirement to 3 Major and 3 Free)

3 - *Free Elective*

3 - Science and Tech. in Society Requirement<sup>2</sup>

15

125 Total Semester Hours

<sup>1</sup>

A sequence of MATH 1020 and 2070 and may be substituted.

<sup>2</sup>

See General Education Requirements.

<sup>3</sup>

Select from the following department-approved list or as approved in writing by advisor and department chair: ACCT 4040, ACC5 4060, ACCT 4080, ACCT 4100, AGM 3010, APEC 3130, APEC 3130, APEC 4130, APEC 4210, ARCH 4030, ARCH 4040, ARCH 4050, ARCH 4250, ARCH 4280, CE 3520, CE 4360, CE 4380, CE 4390, COMM 3050, COMM 3500, COMM 3560, COMM 3620, COMM 3640, COMM 4620, COMM 4800, CRP 4010, CSM 4200, CSM 4550, CSM 4900, CSM 4980, ECON 3010, ECON 3020, ECON 3060, ECON 3070, ECON 3100, ECON 3150, ECON 3250, ECON 4010, ECON 4020, ELE 3010, ELE 4010, ENGL 3160, FIN 3040, FIN 3050, FIN 3060, FIN 3070, FIN 3110, FIN 3120, FIN 4150, FIN 4170, LAW 3330, LAW 4050, MGT 2010, MGT 4220, MGT 4250, MGT 4270, MGT 4310, MGT 4350, MGT 4360, MKT 3010, MKT 4230, PHIL 3400, PHIL 3440, PHIL 3450, PHIL 3470, PSYCH 3680, PSYCH 3690, PSYCH 3700, SOC 2350, SOC 3300; Modern Languages (Chinese, French, German, Italian, Japanese, and Spanish, 2000 Level or above)

Note: A minimum of 800 hours of construction experience will be required prior to graduation.