

Status: PENDING

PROGRAM REQUEST
Construction Systems Management

Last Updated: Pfister, Jill Ann
06/10/2011

Fiscal Unit/Academic Org	Food, Agric & Biological Eng - D1123
Administering College/Academic Group	Food, Agric & Environ Science
Co-administering College/Academic Group	
Semester Conversion Designation	Converted with minimal changes to program goals and/or curricular requirements (e.g., sub-plan/specialization name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content)
Current Program/Plan Name	Construction Systems Management
Proposed Program/Plan Name	Construction Systems Management
Program/Plan Code Abbreviation	CONSYM-BSC
Current Degree Title	Bachelor of Science Construction Systems Managemnt

Credit Hour Explanation

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program		185	123.3	129	5.7
Required credit hours offered by the unit	Minimum	71	47.3	52	4.7
	Maximum	76	50.7	58	7.3
Required credit hours offered outside of the unit	Minimum	109	72.7	71	1.7
	Maximum	114	76.0	77	1.0
Required prerequisite credit hours not included above	Minimum	0	0.0	0	0.0
	Maximum	0	0.0	0	0.0

Explain any change in credit hours if the difference is more than 4 semester credit hours between the values listed in columns B and C for any row in the above table

More courses are being developed for CSM and made a part of the curriculum through the expansion of the category "Business electives" into "Technical/Business Electives". The safety course was also expanded (from 3 credit hours under quarters to 3 semester credits) with an increase of 1 credit hour, due to the increasing importance of safety in the construction field. The total credit hours for the program is kept at 129 credit hours because of the American Council for Construction Education (ACCE) accreditation requirements of our program. In several courses, conversion of credit hours from quarters to semesters are rounded up rather than rounding down to comply with ACCE requirements resulting in an increase of 4 credit hours.

Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

- | | |
|-------------------------------|--|
| Program Learning Goals | <ul style="list-style-type: none"> ● Plan and manage the construction of buildings and other infrastructure, and associated systems that meet all functional, safety, environmental, legal and economic requirements. ● Follow the business principles and ethical practices necessary to build and maintain a viable company serving the construction industry. ● Function effectively both as a team member and leader interacting successfully with clients, owners, government officials, the general public, and construction industry professionals from diverse ethnic and cultural backgrounds. ● Become an accomplished professional in the construction industry who continuously updates technical and management skills and serves relevant industry associations and organizations. ● Contribute technical and management skills to improving local communities through active participation in community activities, organizations and charities. |
|-------------------------------|--|

Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? Yes

Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs? No

DIRECT MEASURES (means of assessment that measure performance directly, are authentic and minimize mitigating or intervening factors)

Evaluation of a body of work produced by the student

- Portfolio evaluation of student work
- Capstone course reports, papers, or presentations

INDIRECT MEASURES (means of assessment that are related to direct measures but are steps removed from those measures)

Surveys and Interviews

- Employer feedback or survey
- Student interviews or focus groups

Additional types of indirect evidence

- Job or post-baccalaureate education placement
- External program review

USE OF DATA (how the program uses or will use the evaluation data to make evidence-based improvements to the program periodically)

- Analyze and discuss trends with the unit's faculty
- Analyze and report to accrediting organization
- Make improvements in curricular requirements (e.g., add, subtract courses)
- Make improvements in course content
- Make improvements in course delivery and learning activities within courses
- Periodically confirm that current curriculum and courses are facilitating student attainment of program goals

Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

Pre-Major

Does this Program have a Pre-Major? No

Attachments

- CSM_Proposal_with_chair_letter_7_June11rev2[2].pdf: CSM proposal 3rd revision
(Program Proposal. Owner: Kaletunc, Gonul)

Comments

- 5/26/2011 Please add the ENR 3001 lab back into the Natural Sciences and check the department abbreviation for the Introduction to Int Bus course. It is one way in CSM and a different in ASM. *(by Pfister, Jill Ann on 05/27/2011 07:12 AM)*
- All the comments made on 12/07/2010 are addressed in the revised proposal submitted on 12 January 2011.

ASM 2nd revision proposal with chair letter is attached. May 3, 2011 GK *(by Kaletunc, Gonul on 05/03/2011 07:17 PM)*

- Still needed:
 1. edit curricular map to add GEC content
 2. add accreditation justification for credit hour rationale statement
 3. Change Physics pre-/co-req for 2440 to ENR 3000
 4. Modify 4-year plan to show ENR 3000 earlier
 5. Change 1241 to 2241
 6. Change 2440 to 3440 *(by Christy, Ann Denise on 12/07/2010 05:06 PM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Kaletunc, Gonul	01/22/2011 05:39 PM	Submitted for Approval
Approved	Kaletunc, Gonul	01/22/2011 05:39 PM	Unit Approval
Approved	Pfister, Jill Ann	01/27/2011 06:58 AM	College Approval
Revision Requested	Soave, Melissa A	04/28/2011 03:10 PM	CAA Approval
Submitted	Kaletunc, Gonul	05/03/2011 07:18 PM	Submitted for Approval
Approved	Kaletunc, Gonul	05/03/2011 07:18 PM	Unit Approval
Revision Requested	Pfister, Jill Ann	05/27/2011 07:13 AM	College Approval
Submitted	Kaletunc, Gonul	06/08/2011 01:54 PM	Submitted for Approval
Approved	Kaletunc, Gonul	06/08/2011 01:54 PM	Unit Approval
Approved	Pfister, Jill Ann	06/10/2011 06:23 AM	College Approval
Pending Approval	Cameron, Erin Marie Soave, Melissa A	06/10/2011 06:24 AM	CAA Approval



Department of Food, Agricultural
And Biological Engineering

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To: The Office of Academic Affairs (OAA)
From: Sudhir Sastry, Professor and Interim Chair
Date: July 16, 2010
Re: Department of Food, Agricultural, and Biological Engineering (FABE) Semester
Proposals for Construction Systems Management (CSM) program

A handwritten signature in black ink, appearing to read "Sudhir Sastry", on a light blue background.

On behalf of the faculty of the Department of Food, Agricultural, and Biological Engineering, I am pleased to submit these semester conversion proposals for our BS in Construction Systems Management (CSM) program. The department currently administers seven programs; all are being converted to semesters. These include:

- Three undergraduate programs:
 - BS in Food, Agricultural, and Biological Engineering (currently having three formally approved specializations and 12 registrar-designated SIS sub-plans)
 - BS in Construction Systems Management (CSM)
 - Major in Agricultural Systems Management (leading to a BS in Agriculture)
- Two minor programs:
 - o Agricultural Systems Management (ASM)
 - o Landscape Construction
- Two graduate programs:
 - o MS in Food, Agricultural, and Biological Engineering
 - o PhD in Food, Agricultural, and Biological Engineering
- One combined program: BS / MS in Food, Agricultural, and Biological Engineering

The department administratively resides in the College of Food, Agricultural, and Environmental Sciences (FAES) with adjunct status in the College of Engineering. Those programs that academically reside within the College of Engineering (BS, MS and PhD in FABE) are part of the university's first wave of planning and were submitted to OAA in Summer 2010. The programs that reside within the College of Food, Agricultural, and Environmental Sciences (BS in CSM, ASM major, ASM minor, Landscape Construction minor) are part of the university's third wave of planning (to be submitted to OAA in Autumn 2010).

This letter accompanies and introduces proposals for conversion of the existing CSM program offered through the College of Food, Agricultural, and Environmental Sciences.

These curricula were developed with thoughtful input from faculty, teaching staff, students, and our departmental industry advisory committees. Over the 2009 summer, a faculty member and a graduate teaching assistant from our department performed a benchmark analysis of curricula. They researched the undergraduate curricula at peer semester institutions (32 biological and/or food engineering programs, 15 agricultural engineering programs, 22 agricultural systems management programs, and 44 construction management programs).

The department's faculty and staff engaged in an all-day retreat on Sept. 18, 2009, to review our "State of the Union" for academic affairs, discuss our current programs' objectives and student learning outcomes, consider the benchmark data, and introduce quarter-to-semester transition issues and planning processes.

Following the department's all-day retreat, a subcommittee of three faculty members (Drs.

Lichtensteiger, Kaletunc, and Christy) was formed to begin the proposal drafting process. A department-wide Carmen site was developed as a way to keep communication open and transparent to all. A series of weekly small working group meetings were convened throughout the 2009-2010 academic year to develop revised program objectives and outcomes and to generate the curricula drafts.

The College of Food, Agricultural, and Environmental Sciences began holding bi-weekly Q2S Implementation Committee meetings in November 2009. This committee provided opportunities for each department's point persons to present their progress and to work together in subcommittees on topics of mutual interest such as general education, global experience, shared core curricula, graduate education, student services, outcomes assessment, and capstone experience.

A major program revision for our CSM program was done in December 2009. The last two Academic Affairs meetings on September 17 and October 1st 2010 were dedicated to curriculum discussion for CSM and ASM programs. Then an e-mail ballot was conducted for faculty vote. 12 faculty responded out of 18 total, 12 for, 0 against.

The department's Construction Systems Management Industry Advisory Committee were regularly consulted about program objectives and outcomes and has reviewed the proposed semester curricula.

The proposed curriculum was reviewed by Assistant Dean Jill Pfister, and questions raised were addressed as below:

1. The third writing requirement will be met by our two professional development classes, CSM 2305 and 4605 (4 credit hours total).
2. The capstone requirement will be met by CSM 4900 Construction Management Capstone (3 cr. hrs.)
3. Internship guidelines will be kept similar to the quarter program internship. Internship guidelines are outlined in the CSM 3489 Internship course syllabus. Students need four documents and the "syllabus" included in the order below
 - Internship Description
 - Internship Proposal
 - Supervisor Evaluation
 - 489 (3489 Semester) Course Assignments

All four of these documents are included in the proposal.

The proposal was uploaded on the OAA website on October 14, 2010.

Given the widespread support by industry, students, faculty, and staff, I heartily recommend that this proposal for semester-based BS in Construction Systems Management program in FABE be approved.

BS in Construction Systems Management (BS in CSM) Program Proposal

*Primary contact: Dr. Gonul Kaletunc (kaletunc.1@osu.edu, 292-0419)
Secondary contact: Dr. Michael Lichtensteiger (Lichtensteiger.2@osu.edu, 292-9351)*

GENERAL PROGRAM INFORMATION

Fiscal Unit / Academic Organization: D1123: Food, Agricultural and Biological Engineering

Administering College / Academic Group: Food, Agricultural and Environmental Sciences

Co-Administering College / Academic Group: N/A

Semester conversion designation:

Converted with minimal changes to program goals and/or curricular requirements (e.g., name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content)

Program / Plan Name: Construction Systems Management

Type of Program / Plan: Undergraduate bachelors degree program

Program / Plan SIS code abbreviation: CONSYM-BSC

Degree Title: Bachelor of Science in Construction Systems Management

Specializations / Sub-plan names (to be printed on student's transcripts) and SIS codes: N/A

PROGRAM REQUIREMENTS

Program learning goals:

Upon completion of the program, the Construction Systems Management graduate will be able to:

1. Plan and manage the construction of buildings and other infrastructure, and associated systems that meet all functional, safety, environmental, legal and economic requirements.
2. Follow the business principles and ethical practices necessary to build and maintain a viable company serving the construction industry.
3. Function effectively both as a team member and leader interacting successfully with clients, owners, government officials, the general public, and construction industry professionals from diverse ethnic and cultural backgrounds.
4. Become an accomplished professional in the construction industry who continuously updates technical and management skills and serves relevant industry associations and organizations.
5. Contribute technical and management skills to improving local communities through active participation in community activities, organizations and charities.

B.S. in Construction Systems Management
Major: Construction Systems Management
Effective Summer 2012

All students must complete two Global Issues courses. This requirement is the successor to the diamond/ asterisk requirement. All students must fulfill a Social Diversity requirement in the GEC which can be done by completing Rural Sociology 105 or Sociology 101.

FAES 100 or USAS 100, etc.	1	Social Science 1 (Rur Soc 1500 or Soc 1101).....	3
English 1110 First Year English Composition.....	3	Social Science 2 (AED Econ 2201 or Econ 2001).....	3
Writing Level 2 (2367)	3	Historical Study	3
Agr Comm 3130 or Comm 1110 Speech.....	3	Culture & Ideas or Historical Study	3
Math 1148 College Algebra	4	Literature.....	3
Data Analysis ¹	3	Art	3
Entomology 1111 Biology of Orgsms Affecting Bldgs ..	4		
Physics 1200 Mechanics, Kinematics, Fluids,Waves ..	5		
Earth Science 1121 The Dynamic Earth.....	4		
ENR 3000/3001 Soil Science	4		
		Total GEC:	52

¹Options: AEE 3537, AEDE 2005, An Sci 2260,
H&CS 2260, ENR 2000, Stat 1450

Construction Sys Mgt Core	55
Construction Management Supporting Courses	15 – 18
Internship (CSM 3191)	2
Electives	3 - 6
Total Credit Hours:	130

1. Construction Systems Management Core

CSM 1205 Intro to Construction Management	3
CSM 2240 Construction Materials & Methods I	3
CSM 2241 Construction Materials & Methods II	3
CSM 2305 Professional Development I	2
CSM 2310 Electrical & Lighting Systems	3
CSM 2345 Mechanical Systems for Buildings	3
CSM 2440 Construction Surveying & Site Develop	4
CSM 2600 Construction Safety and Health	3
CSM 3450 Estimating	4
CSM 3451 Scheduling	4
CSM 3545 Structures for Construct Managers I	3
CSM 3546 Structures for Construct Managers II	3
CSM 4170 Senior Program Review	0
CSM 4605 Professional Development II	2
CSM 4641 Construction Project Management	2
CSM 4642 Construction Contracts & Documents	2
CSM 4660 Heavy Construction Management	3
CSM 4900 Construction Management Capstone	3
CSE 1112 Computer Assisted Problem Solving	3
Engr 1121 Graphics Presentations I	2

55

2. Construction Management Supporting Courses

15-18

<u>Principles of Management</u> (Choose one)	
AED Econ 3101 Principles of Agribusiness Management	3
BUS-Mhr 3100 Foundations of Management and HR	3
<u>Accounting</u> (Choose one)	
AED Econ 2105 Managerial Records and Analysis	3
Acct & Mis 2200 Introduction to Accounting I	3
Acct & Mis 2000 Foundations of Accounting	3
<u>Business Law</u> (Choose one)	
AED Econ 3170 Agricultural Law	3
Bus-Fin 3500 Legal Environment of Business	1.5
ENR 7520 Environmental Science and Law	3
<u>Finance</u> (Choose one)	
AED Econ 3103 Principles of Agribusiness Finance	3
Bus-Fin 2220 Introductory Finance	3
ISE 2040 Engineering Economic Analysis	2
<u>Human Resources</u> (Choose one)	
AED Econ 3160 Human Resource Mgt In Small Business	2
BUS-Mhr 3300 Managing Human Resources	3
Com Ldr 3530 Foundations of Pers and Prof Leadership	3
Com Ldr 4430 Leadership in Teams and Community Org	3
<u>Technical/ Business Electives</u> (Choose one)	
CSM 5670 Green Bldg and Sustainable Construction	3
CSM 5680 Construction Renovation and Demolition	3
ASM 3232 Engines and Power Transmission	3
ASM 4575 Applied Ag Water Management	3
xxx 3597 Study Abroad	1-5
xxx 5597 Study Abroad	1-5
Acct & Mis 2300 Introduction to Accounting II	3
AED Econ 3102 Principles of Agribusiness Marketing	3
AED Econ 3121 Salesmanship in Agriculture	2
BUS-FIN 3290 Entrepreneurial Finance	3
BUS-FIN 3400 Introduction to Real Estate	3
BUS-FIN 4412 Real Estate Law	3
BUS-M&L 3150 Marketing Management	3
BUS-M&L 3241 Intro to Entrepreneurial Marketing	3
BUS-MGT 3130 Foundations of Operations Management	3
BUS-Mhr 2000 Introduction to International Business	1.5
BUS-Mhr 3510 New Venture Creation	3
BUS-Mhr 3520 Leading High-Performance Ventures	3

CONSTRUCTION SYSTEMS MANAGEMENT

Draft Semester Guide Ver 7.1
6 June 11

Autumn Semester	Spring Semester
Survey Class <u>1</u> Math 1148 College Algebra <u>4</u> English 1110 English Composition <u>3</u> Entom 1111 Bio of Orgsms affecting Bldgs <u>4</u> CSM 1205 Intro Construction Mgmt <u>3</u> Target: 15	AEDE 2201 or Econ 200 Micro Econ <u>3</u> CSM 2240 Construction Mat. & Meth I <u>3</u> Physics 1200 Mech, Kinem, Fluids, Wave <u>5</u> Writing Level 2 (2367) <u>3</u> En Graph 121 Graphics Presentations I <u>2</u> Target: 16
Art <u>3</u> CSM 2241 Construction Mat. & Meth. II <u>3</u> CSM 2305 Professional Dev. I <u>2</u> CSM 2310 Electrical & Lighting Systems <u>3</u> Data Analysis <u>3</u> C&SE105 Computer Tech. for Const. <u>3</u> Target: 17	CSM 2345 Mechanical Sys for Bldgs <u>3</u> Ag Comm 3130 or Comm 321 Speech <u>3</u> CSM 2440 Const. Survey & Site Dev. <u>4</u> CSM 2600 Const. Safety & Health <u>3</u> ENR 3000/3001 Soil Science <u>4</u> Target: 17
Human Resource Mgt (AEDE 3160) <u>2</u> CSM 3450 Estimating <u>4</u> CSM 3191 Internship <u>2</u> CSM 3545 Structures for Constr Mgrs I <u>3</u> Accounting (AEDE 2105) <u>3</u> Princ of Management (AEDE 3101) <u>3</u> Target: 17	CSM 3451 Scheduling <u>4</u> CSM 3546 Structures for Constr Mgrs II <u>3</u> Finance (AEDE 3103) <u>3</u> Rural Soc 1500 or Soc 101 <u>3</u> Earth Science 121 The Dynamic Earth <u>4</u> Target: 17
CSM 4641 Construction Management <u>2</u> CSM 4642 Constr Documents & Contracts <u>2</u> CSM 4660 Heavy Construction Mgt <u>3</u> Technical/Business Elective <u>3</u> Culture & Ideas or Historical Study <u>3</u> Literature <u>3</u> Target: 16	CSM 4170 Senior Program Review <u>0</u> CSM 4643 Construction Mgt Capstone <u>3</u> Historical Study <u>3</u> CSM 4605 Professional Dev. II <u>2</u> Business Law (AEDE 3170) <u>3</u> Free Elective <u>4</u> Target: 15

Total Credit Hours

130

Program Rationale

The current BS in CSM was recently approved by the Ohio Board of Regents in December 2009, and therefore this is largely a simple conversion of that program. The proposed semester-based BS in CSM has a few enhancements, based on assessment results and ongoing feedback about the current program. The CSM program will go through an accreditation review in Spring 2011 by the American Council for Construction Education (ACCE). The total credit hours for the program is kept at 129 credit hours to comply with the ACCE accreditation requirements of our program. In several courses, conversion of credit hours from quarters to semesters are rounded up rather than rounding down to comply with ACCE requirements resulting in an increase of 4 credit hours.

The most important changes are:

Revised program objectives. The semester conversion provided the opportunity for faculty, staff, and the department's CSM Advisory Committee further refine and update the objectives.

Reorganization of how material is divided among courses and slight expansion of some topic coverage.

The two quarter-course sequence Estimating and Scheduling I and II was converted into two stand alone courses, one on Estimating and the other on Scheduling. The safety course was also expanded (from 3 credit hours under quarters to 3 semester credits) due to the increasing importance of safety in the construction field. Likewise the capstone course was given a similar expansion in time.

Technical/Business Electives. The expansion of the category "Business electives" into "Technical/Business Electives" allows students to choose among a wider selection of courses including technical and managerial classes.

Third writing course: The third writing requirement will be met by our two professional development classes, CSM 2305 and 4605 (4 credit hours total).

Capstone course: The capstone requirement will be met by CSM 4900 Construction Management Capstone (3 cr. hrs.)

Internship requirement: Internship guidelines will be kept similar to the quarter program internship. Internship guidelines are outlined in the CSM 3191 Internship course syllabus. Going to semesters brings our program's internship offering into better alignment with schools such as Cincinnati and Purdue. Students were provided four documents and the "syllabus" listed below. Internship description is included at the end of this document.

Typically the packet provided includes:

Internship Description

Internship Proposal

Supervisor Evaluation

489 (3191 Semester) Course Assignments

Date of last significant program revision: December 2009.

Credit Hour Explanation

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program		185	123.3	129	5.7
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	Maximum	76	50.7	58	7.3
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	Maximum	114	76.0	77	1.0
Required prerequisite credit hours not included above	Minimum	0	0.0	0	0.0
	Maximum	0	0.0	0	0.0

Explain any change in credit hours if the difference is more than 4 semester credit hours between the values listed in columns B and C for any row in the above table

More courses are being developed for CSM and made a part of the curriculum through the expansion of the category “Business electives” into “Technical/Business Electives”. The safety course was also expanded (from 3 credit hours under quarters to 3 semester credits) with an increase of 1 credit hour, due to the increasing importance of safety in the construction field. The total credit hours for the program is kept at 129 credit hours because of the American Council for Construction Education (ACCE) accreditation requirements of our program. In several courses, conversion of credit hours from quarters to semesters are rounded up rather than rounding down to comply with ACCE requirements resulting in an increase of 4 credit hours.

B.S. in Construction Systems Management
Effective Autumn 2009

All students must complete two International Issues courses one of which must be a non-western or global course designated with an asterisk (*). The other course may be another non-western or global course or a western (non-US) course designated with a diamond. Check when completed: * ____, *or♦ ____,.

FAES 100 or UVC 100	1	Social Sciences	
English 110	5	Rural Soc 105 or Sociol 101	5
Second Writing (see approved CFAES GEC list)	0-5	AED Econ 200 or Econ 200	5
Oral Expression (Agr Comm 390 or Comm 321)	5	One course selected from the Social Science approved CFAES GEC list	5
Math 148	4	Arts and Humanities	
Data Analysis (AED Econ 205, AEE 387, Anim Sci 260, ENR 222, H&CS 260, Stat 145)	5	One History course selected from approved list	5
Natural Sciences¹ (total of 25 hours)		One Literature course selected from approved CFAES GEC list	5
Physics 111 or 131	5	One Visual and Perf. Art course selected from approved CFAES GEC list	5
Biological Sciences: Select one course from:	5		
Animal Sci 310; Anthro 200; Biology 101, 102, 113, 114, H115, H116; Entomology 101, 102; EEOB 232, 235; ENR 201; FdSc&Te 201; H&CS 200, 300; Human Nutr 210; Microbiol 509; Plnt Bio 101, 102, 300		Major (see below)	100-104
Select one course sequence from: Biology 101/102 or 113/114 or H115/H116, Chemistry 101/102 or 121/122 or 121/125 or H201/H202, Earth Sci 121/203 or 121/210 or 121/ENR 300.01 and 300.02 (must take both), Physics 111/112 or 131/132 or 111/Arch 426, Plnt Bio 101/102	5-10	Free Electives	1-10
Select one or two courses ^{1,2} from:	5-10	TOTAL	185
Biological Sciences courses listed above; Chem 101, 102, 121, 122, 123, 125, H201, H202, H203; Earth Sci 121, 122, 203, 210; ENR 300.01 and 300.02 (must take both); Math 151; Physics 112, 132, 133			

Major

1. Construction Systems Core	78	2. Construction Management Supporting Courses	22-26
CONSYSMT 205 Intro. to Construction Management	4	<i>Principles of Management: choose one of the following courses:</i>	
CONSYSMT 240 Basic Metal Fabrication	4	AED ECON 401 Principles of Agribusiness Management	5
CONSYSMT 241 Construction Methods and Materials	4	BUS-MHR 400 Foundations of Management and Human Resources	4
CONSYSMT 305 Professional Development I	4	<i>Accounting: choose one of the following courses:</i>	
CONSYSMT 310 Electrical and Lighting Systems for Buildings	4	ACCT&MIS 211 Introduction to Accounting I	5
CONSYSMT 345 Mechanical Systems for Buildings	4	ACCT&MIS 310 Foundations of Accounting	5
CONSYSMT 440 Construction Site Development	5	AED Econ 412 Managerial Records and Analysis	5
CONSYSMT 441 Construction Drawings and Estimating	5	<i>Business Law: choose one of the following courses:</i>	
CONSYSMT 489 Internship in Construction Systems Management	3	AED ECON 470 Agricultural Law (includes ag construction examples)	4
CONSYSMT 540 Estimating and Scheduling I	4	BUS-FIN 510 Legal Environment of Business	4
CONSYSMT 541 Estimating and Scheduling II	4	ENR 752 Environmental Science and Law	4
CONSYSMT 545 Structures for Construction Managers I	4	<i>Finance: choose one of the following courses:</i>	
CONSYSMT 546 Structures for Construction Managers II	4	AED ECON 403 Principles of Agribusiness Finance	5
CONSYSMT 600 Construction Safety and Health	3	BUS-FIN 420 Foundations of Finance	4
CONSYSMT 605 Professional Development II	2	IND ENG 504 Engineering Economic Analysis	3
CONSYSMT 641 Construction Project Management	3	<i>Human Resources: choose one of the following courses:</i>	
CONSYSMT 642 Construction Control - Contracts and Documents	3	AED ECON 460 Human Resource Management in Small Businesses	3
CONSYSMT 643 Construction Management Capstone	3	BUS-MHR 660 Managing Human Resources	4
CONSYSMT 660 Heavy Construction Management	4	<i>Other Business Topics: choose one of the following courses (additional ones may count toward free elective hours):</i>	
CS&E 105 Computer-Assisted Problem Solving for Construction Management	4	ACCT&MIS 212 Introduction to Accounting II	5
EN GRAPH 121 Graphic Presentation I	3	AED ECON 402 Principles of Agribusiness Marketing	5
		AED ECON 421 Salesmanship in Agriculture	3
		BUS ADM 555 Introduction to International Business	4
		BUS-FIN 590 Entrepreneurial Finance	4
		BUS-FIN 670 Real Estate and Urban Land Economics	4
		BUS-FIN 775 Real Estate Law	4
		BUS-M&L 450 Foundations of Marketing Management	4
		BUS-M&L 490 Entrepreneurial Marketing	4
		BUS-MGT 430 Foundations of Operations Management	4
		BUS-MHR 390 Innovation and Entrepreneurship in Modern Business	4
		BUS-MHR 490 New Venture Creation	4
		BUS-MHR 590 Leading High-Performance Ventures	4
		BUS-MHR 704 Concepts and Competencies for Managing People	4

¹Choose Physics 111, a biological science course, a 2-course sequence (which may include the physics or biology course already chosen) and any additional courses to make a total of 25 hours (5 courses)

²ENR (Soil Science) 300.01 and 300.02 are highly encouraged

TRANSITION POLICY

We, the faculty and staff of Department of Food, Agricultural, and Biological Engineering pledge that our undergraduate students' progress toward graduation will not be delayed by the conversion to semesters. We think the quality and value of our degree programs will be improved under the new semester curricula, and that the transition will occur without increasing time to degree. Our approach for advising undergraduate students is to prepare an Individual Advising Plan for each student to fill out and go over with their academic advisor. This plan will spell out how each student will complete the remaining requirements for their degree from the summer of 2012 until graduation in such a way that meets the student's needs and does not delay graduation compared to what would have been the case had OSU remained on quarters.

– *Sudhir Sastry, Professor and Interim Chair*

Examples of transition plans in detail follow for students entering

Autumn 2009

Autumn 2010

Autumn 2011

Autumn 2012 will start and finish under semester program.

Course projections for students making the transition from quarters to semesters after completing one, two and three years under quarters are shown below. These projections assume that students who began in Autumn 2009 will meet the requirements of the quarter curriculum while those entered Autumn 2010 will be encouraged to meet the requirements of the semester curriculum but can finish under the quarter curriculum requirements if the semester curriculum would cost extra time. Students entering Autumn 2011 would be required to fulfill the semester requirements. A one page form that contains a projection similar to those shown but tailored to each student's situation and other pertinent information such as the date the student entered the program, intended graduation date, a credit hours analysis and signatures of both the student and advisor will be provided to each student and a copy kept on file in the FABE department.

1. Student completes three years under quarters and one year under semesters and fulfills the requirements of the quarter curriculum.

<u>Autumn 09</u>		<u>Winter 10</u>		<u>Spring 10</u>	
Survey class	1	CSM 240	4	CSM 205	4
AEDE Econ 200	5	Physics 111	5	CSM 241	4
Bio Sci Elective	5	English 110	<u>5</u>	En Graph 121	3
Math 148	<u>4</u>		14	Rural Soc 105	<u>5</u>
	15				16

<u>Autumn 10</u>		<u>Winter 11</u>		<u>Spring 11</u>	
CSM 310	4	CSM 305	4	CSM 440	5
Data Analysis	5	CSM 345	4	Mgt Choice	5
2 nd Writing (367)	<u>5</u>	CS&E 105	4	Ag Comm 390	<u>5</u>
	14	Accting Choice	<u>5</u>		15
			17		

<u>Autumn 11</u>		<u>Winter 12</u>		<u>Spring 12</u>	
CSM 441	5	CSM 540	4	CSM 541	4
CSM 545	4	CSM 546	4	Bus Law Choice	4
Hum Res Choice	3	Finance Choice	5	Bus Elective	4
Soc Sci Elective	<u>5</u>	History	<u>5</u>	Nat Sci #3	<u>5</u>
	17		18		17

<u>Autumn 12</u>		<u>Spring 13</u>	
CSM 2600	3	CSM 4170	0
CSM 3191	2	CSM 4642	2
CSM 4605	2	CSM 4660	3
CSM 4641	2	CSM 4900	3
Nat Sci #4	3	Nat Sci #5	3
Literature	<u>3</u>	VPA	<u>3</u>
	15		14

Student completes 143 quarter hours (95.3 semester hours equiv) and 29 hours of semester courses for a total of 124.3 hours of semester and semester equivalent hours.

2. Student completes two years under quarters and two years under semesters and fulfills the requirements of the quarter curriculum.

<u>Autumn 10</u>		<u>Winter 11</u>		<u>Spring 11</u>	
Survey class	1	CSM 240	4	CSM 205	4
AEDE Econ 200	5	Physics 111	5	CSM 241	4
Bio Sci Elective	5	English 110	<u>5</u>	En Graph 121	3
Math 148	<u>4</u>		14	Rural Soc 105	<u>5</u>
	15				16

<u>Autumn 11</u>		<u>Winter 12</u>		<u>Spring 12</u>	
CSM 310	4	CSM 305	4	CSM 440	5
Data Analysis	5	CSM 345	4	Mgt Choice	5
2 nd Writing (367)	<u>5</u>	CS&E 105	4	Ag Comm 390	<u>5</u>
	14	Accting Choice	<u>5</u>		15
			17		

<u>Autumn 12</u>		<u>Spring 13</u>	
CSM 3450	4	CSM 3451	4
CSM 3545	3	CSM 3546	3
Hum Res Choice	3	Finance Choice	3
Soc Sci	3	Bus Law Choice	3
History	<u>3</u>	Nat Sci #3	<u>3</u>
	16		16

<u>Autumn 13</u>		<u>Spring 14</u>	
CSM 2600	3	CSM 4170	0
CSM 3191	2	CSM 4642	2
CSM 4605	2	CSM 4660	3
CSM 4641	2	CSM 4900	3
Nat Sci #4	3	Nat Sci #5	3
Literature	<u>3</u>	VPA	3
	15	Tech/Bus Elective	<u>3</u>
			17

Student completes 91 quarter hours (60.6 semester hours equiv) and 64 hours of semester courses for a total of 124.6 hours of semester and semester equivalent hours. This is slightly over the 123.3 hours that represent the semester equivalent of the quarter curriculum. Some of the selections from the CSM Supporting courses may be lower than that shown.

3. Student completes two years under quarters and two years under semesters and fulfills the requirements of the semester curriculum. Students who will be near the midpoint of their academic program at the transition will be encouraged to complete their program under semesters following schedule similar to that shown below. Although these students have already started their program, completing the courses shown for the first two years in any order will allow a smooth transition to semesters. If this is not done then scenario number two may be the preferred one.

<u>Autumn 10</u>		<u>Winter 11</u>		<u>Spring 11</u>	
Survey class	1	CSM 240	4	CSM 205	4
AEDE Econ 200	5	Physics 111	5	CSM 241	4
Bio Sci Elective	5	English 110	<u>5</u>	En Graph 121	3
Math 148	<u>4</u>		14	Rural Soc 105	<u>5</u>
	15				16

<u>Autumn 11</u>		<u>Winter 12</u>		<u>Spring 12</u>	
CSM 310	4	CSM 305	4	CSM 440	5
Data Analysis	5	CSM 345	4	Mgt Choice	5
2 nd Writing (367)	<u>5</u>	CS&E 105	4	Ag Comm 390	<u>5</u>
	14	Accting Choice	<u>5</u>		15
			17		

<u>Autumn 12</u>		<u>Spring 13</u>	
CSM 2600	3	CSM 3451	4
CSM 3450	3	CSM 3546	3
CSM 3545	3	Finance Choice	3
Bus Law Choice	3	Literature	3
History	<u>3</u>	ENR 3000/3001	<u>4</u>
	15		17

<u>Autumn 13</u>		<u>Spring 14</u>	
CSM 3191	2	CSM 4170	0
CSM 4605	2	CSM 4642	2
CSM 4641	2	CSM 4660	3
Hum Res Choice	3	CSM 4900	3
Earth Sci 121	4	Art	3
TEch/Bus Elective	<u>3</u>	Culture & Ideas	3
	16	Free Electives	<u>3</u>
			17

Student completes 91 quarter hours (60.6 semester hours equiv) and 65 hours of semester courses for a total of 125.6 hours of semester and semester equivalent hours. Student may have free elective hours from quarters to bring total to 129 semester hours. If not 3.4 hours of free electives would be waived to keep credit hours per semester reasonable.

4. Student completes one year under quarters and three years under semesters. The student will fulfill the requirements of the semester curriculum.

<u>Autumn 11</u>		<u>Winter 12</u>		<u>Spring 12</u>	
Survey class	1	CSM 240	4	CSM 205	4
AEDE Econ 200	5	Physics 111	5	CSM 241	4
Entomology 101	5	English 110	<u>5</u>	En Graph 121	3
Math 148	<u>4</u>		14	Rural Soc 105	<u>5</u>
	15				16

<u>Autumn 12</u>		<u>Spring 13</u>	
CSM 2310	3	CSM 2305	2
Data Analysis	3	CSM 2345	3
2 nd Writing (2367)	3	CSM 2440	4
CSE 105	3	CSM 2600	3
Accting Choice	<u>3</u>	Ag Comm 390	<u>3</u>
	15		15

<u>Autumn 13</u>		<u>Spring 14</u>	
CSM 3450	4	CSM 3451	4
CSM 3545	3	CSM 3546	3
Mgt Choice	3	Finance Choice	3
Bus Law Choice	3	Literature	3
History	<u>3</u>	ENR 3000/3001	<u>4</u>
	16		17

<u>Autumn 14</u>		<u>Spring 15</u>	
CSM 3191	2	CSM 4170	0
CSM 4605	2	CSM 4642	2
CSM 4641	2	CSM 4660	3
Hum Res Choice	3	CSM 4900	3
Earth Sci 121	4	Art	3
Tech/Bus Elective	<u>3</u>	Culture & Ideas	3
	16	Free Electives	<u>3</u>
			17

Student completes 45 quarter hours (30 semester hours equiv) and 96 hours of semester courses for a total of 126 hours of semester and semester equivalent hours. Student may have free elective hours from quarters to bring total to 129 semester hours. If not 3 hours of free electives would be waived to keep credit hours per semester reasonable.

CSM Program Goals:

1. Plan and manage the construction of buildings and infrastructure for the built environment that meet all functional, safety, environmental, legal and economic requirements.
2. Implement and follow the business principles and ethical practices necessary to build and maintain a viable company serving the construction industry.
3. Function effectively both as a team member and a leader interacting successfully with construction industry professionals, government officials, and the general public from diverse ethnic and cultural backgrounds.
4. Become an accomplished professional in the construction industry who continuously updates technical and management skills and serves relevant industry associations and organizations.
5. Contribute technical, management and leadership skills to community activities, organizations and charities.

The following table shows how each CSM course contributes to the program goals.
1 = introductory level, 2 = intermediate level, 3 = advanced level.

CSM Curriculum Map
16-Dec-10

Course	Cr Hrs	Title	Program Goal				
			1	2	3	4	5
CSM 1205	3	Intro to Construction Management	1	1	1		
CSM 1240	3	Construction Materials and Methods I	1	1	1		
CSM 2241	3	Construction Materials and Methods II	1	1			
CSM 2305	2	Professional Development I			1	2	2
CSM 2310	3	Electrical and Lighting Systems	2	2	1		
CSM 2345	3	Mechanical Systems for Buildings	2	2	1		
CSM 2440	4	Construction Surveying and Site Devel	2	2	1		
CSM 2600	3	Construction Safety and Health	2	2	2		
CSM 3489	2	Internship	2	2	2	2	
CSM 3450	4	Estimating	2	2	2		
CSM 3451	4	Scheduling	2	2	2		
CSM 3545	3	Structures for Construction Mgrs I	2	2	1		
CSM 3546	3	Structures for Construction Mgrs II	2	2	1		
CSM 4605	2	Professional Development II			3	3	3
CSM 4641	2	Construction Project Management	3	3	3	3	
CSM 4642	2	Construction Contracts and Documents	3	3			
CSM 4660	3	Heavy Construction Management	3	3	1		
CSM 4900	3	Construction Management Capstone	3	3	3		

Required courses
offered outside the unit

Choice	3	Principles of Management	2	2	2	2	2
Choice	3	Accounting	2	2			
Choice	3	Business Law	2	3	1	1	
Choice	2-3	Finance	2	2			
Choice	2-3	Human Resources	2	2	2	2	
Choice	2-3	Technical/Business Elective	3	2		2	
Category	9	Communication - Writing, Speech	1		2		1
Category	6	Social Sciences			2		2
Category	15	Humanities - Art, Literature, History, Culture			2		2
Category	7	Math and Data Analysis	2	2			
Category	15	Sciences - Physics, Entom, Soil Sci etc	2	2			

CSM Quarter-to-Semester Curriculum Map

Correlation between quarter and semester courses for the required CSM core courses and the change in credit hours. Positive change indicates that credit hours were added in the conversion.

16-Dec-10

Semester		Quarters		Change
Course	Cr Hrs	Course	Cr Hrs	Cr Hrs
1205	3	205	4	$\frac{1}{3}$
2240	3	240	4	$\frac{1}{3}$
2241	3	241	4	$\frac{1}{3}$
2305	2	305	4	$-\frac{2}{3}$
2310	3	310	4	$\frac{1}{3}$
2345	3	345	4	$\frac{1}{3}$
2440	4	440	5	$\frac{2}{3}$
2600	3	600	3	1
3191	2	489	2	$\frac{2}{3}$
3450	4	441	5	$-\frac{2}{3}$
		540	2	
3451	4	540	2	0
		541	4	
3545	3	545	4	$\frac{1}{3}$
3546	3	546	4	$\frac{1}{3}$
4605	2	605	2	$\frac{2}{3}$
4641	2	641	3	0
4642	2	642	3	0
4660	3	660	4	$\frac{1}{3}$
4900	3	643	4	$\frac{1}{3}$
CSE 105	3	105	4	$\frac{1}{3}$
En Gr 121	2	121	3	0
	57		Total	5



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ASM and CSM Internship/Co-op Description

Definitions:

Internship – typically this is a placement of one semester in duration.

Co-op -- typically this is a placement of more than one semester in duration. Placements vary by company and intern preference. Verify the duration of your internship with the Internship Coordinator (faure.2).

Overview of Internships

Students registered in the Construction Systems Management (CSM) or Agricultural Systems Management Program (ASM) are required to complete an internship with approximately 560 total contact hours. In the past, this was achieved through a 14 week, full time experience. Currently, employers are looking for part time and Co-op situations in addition to the traditional internship, so the durations have been modified.

The range of activities that Interning or Co-Oping students could experience includes:

1. Attending weekly **meetings** and any appropriate management or coordination meetings, including meetings with clients, technicians, trades and subcontractors, sales personnel, service personnel, and other constituents of the business, organization, or farm operation.
2. Completing, updating, and distributing **communications** of various types such as , seed trail notes, records of feeding or pounds of milk, animals born, daily job and materials logs, labor logs, safety inspections, and other documents related to the business.
3. **Observing and/ or interacting** with various professionals including inspectors, architects, engineers, other staff, attorneys and contractors.
4. Preparing specifications, plans, schedules or proposals. Assisting with Bid Proposals, creating materials lists, reading and updating blueprints, creating take-offs, project schedules and estimating are additional experiences the students may experience.

Note: Students do enjoy helping and completing hands on work. Driving machinery, learning safety for various equipment and how to operate it properly etc. This is fine and is to be expected; however, it should not be the focus of the internship.

Currently, students may complete the total required hours through one (or a combination of both) of the following internship options:

Option One

This is the traditional, paid, 14-week, full-time or 14+ week part-time, professional internship. This position is not intended to be a laborer position. Interns in **option one** are paid an hourly wage plus any company holiday pay. Many companies offer pay for overtime hours above 40 hours per week. Students may also extend the period for as long as is desired. (Co-op)

Option Two

Non-paid “shadowing” or volunteer position(s); the placement should involve both job site and office duties and appropriate training similar to Option One. Students may complete one or more placement(s) over the course of many weeks to equal 560 hours of experience. This option is **not** intended to be a laborer position.

Students and supervisors will track hours and students will report them at least bi-weekly to the Internship Coordinator. A record of completed hours will be kept by the student, the supervisor and the CSM Internship Coordinator.

Student Responsibilities for Both Options

Students will write a **proposal** describing their anticipated placement and indicating which option they want to arrange. Student interns in either option are expected to be included in common management meetings as an observer and should be given communication tasks such as taking minutes, updating project records or blueprints, and taking care of other related follow up tasks after meetings.

Students may be included in any management area of the company related to their major, either Agriculture or Construction. Students may need training or guidance in completing tasks successfully, but most work unsupervised or lightly supervised once they have been trained.

For example, students may work in the office contributing to the organization’s record keeping and planning, project estimation, take-offs, client communication, public communication, record-keeping or bidding. They may complete RFI’s, update blueprints, take site photos, get permits, update daily and weekly logs and reports, meet inspectors, complete safety walk-throughs, jobsite meetings, participate in walk-throughs and so on.

At the conclusion of the internship for either option, the student will ask to be enrolled in 489, **write a final report, a profile page, and deliver a PowerPoint presentation** of their experience.

Supervisor Responsibilities

Supervisors for both option one and option two should confirm the acceptance of the student’s Internship Proposal with a **letter or email stating their concurrence**. Option two supervisors will also confirm the students’ hours of participation at the conclusion of the experience.

Supervisors also complete an **evaluation form** upon completion of the internship experience.

For questions regarding the internship program, contact the ASM/CSM Internship Coordinator, Mary Faure, at faure.2@osu.edu