

**Comment:**

1. Program Rationale, line 2. Still says 7 2/3, please change to 7 1/3.
2. "FAES is internally continuing with a third writing course. We realize this is not a university requirement." This addresses question 2 below.

**FAES  
BS in Agricultural Systems Management**

This proposal is ready for bringing up before the full CAA with the following changes requested.

- 1 The third writing requirement mentioned on CAA Page 10/21 is no longer a part of the GE. Please confirm that this is the department's intention and isn't a holdover from the current system.
- 2 Several places in the document state that the increase in required credit hours offered by the unit is 7 2/3. These should be 7 1/3.

Status: PENDING

**PROGRAM REQUEST**  
Agricultural Systems Management

Last Updated: Kaletunc,Gonul  
05/03/2011

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 Re-envisioned with significant changes to program goals and/or curricular requirements (e.g., degree/major name changes, changes in program goals, changes in core requirements, structural changes to tracks/options/courses)  
 Current Program/Plan Name Agricultural Systems Management  
 Proposed Program/Plan Name Agricultural Systems Management  
 Program/Plan Code Abbreviation AGMSYS-BS  
 Current Degree Title Bachelor of Science in Agriculture

**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		61	40.7	43	2.3
Required credit hours offered by the unit	Minimum	49	32.7	40	7.3
	Maximum	49	32.7	40	7.3
Required credit hours offered outside of the unit	Minimum	12	8.0	3	5.0
	Maximum	12	8.0	3	5.0
Required prerequisite credit hours not included above	Minimum	9	6.0	9	3.0
	Maximum	9	6.0	9	3.0

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

Due to changes implemented in the conversion of the current ASM program to the semester version, there is an increase of <sup>7 1/3</sup> 7 2/3 total credit hours. A separate capstone course, Agricultural Systems Management Capstone (4900) for 3 credit hours was added in the semester program. The livestock waste management course (ASM 550) which was an elective course in the quarter program was changed into a required course (ASM 3550) in the semester program based on the feedback from faculty, staff, and Advisory Committee. The safety course (4600) was also expanded (from 3 credit hours under quarters to 3 semester credits) due to the increasing importance of safety and health in the farm business. Surveying (2371) was also expanded (from 2 credit hours under quarters to 2 semester credits) by adding a 2/3 of a credit hour to provide an adequate number of labs to students. 1/3 credit hours increase is due to increasing credit hours of computer assisted problem solving course.

**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**
- Plan and manage the machinery systems, building infrastructure, and soil and water resources used in the sustainable production of food, fiber, and energy incorporating appropriate safety, environmental, legal, and economic constraints.
  - Implement and follow the business principles and ethical practices necessary to build and maintain a viable farm or agribusiness.
  - Function effectively in a global society both as a team member and a leader interacting successfully with agricultural industry professionals, government officials, and the general public from diverse ethnic and cultural backgrounds.
  - Become an accomplished professional in agriculture and related industries who continuously updates technical and management skills and serves relevant industry associations and organizations.
  - Contribute technical, management and leadership skills to community activities, organizations and charities.

Status: PENDING

**PROGRAM REQUEST**  
Agricultural Systems Management

Last Updated: Kaletunc, Gonul  
05/03/2011

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## 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)

#### Classroom assignments

- Other classroom assessment methods (e.g., writing assignments, oral presentations, oral exams)

#### Evaluation of a body of work produced by the student

- Practicum, internship or research evaluation of student work
- 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 evaluation of instruction
- Student interviews or focus groups

#### Additional types of indirect evidence

- Job or post-baccalaureate education placement
- Curriculum or syllabus review
- Comparison or benchmarking

### 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 college/school
- 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
- Make improvements in learning facilities, laboratories, and/or equipment
- 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

- ASM 2nd rev with chair letter 3 May 2011.pdf: ASM proposal 2nd revision

*(Program Proposal. Owner: Kaletunc, Gonul)*

Status: PENDING

**PROGRAM REQUEST**  
Agricultural Systems Management

Last Updated: Kaletunc, Gonul  
05/03/2011

**Comments**

- Revised ASM semester proposal is attached.  
ASM 2nd revision proposal with chair letter is attached. May 3, 2011 GK *(by Kaletunc, Gonul on 05/03/2011 06:34 PM)*

**Workflow Information**

Status	User(s)	Date/Time	Step
Submitted	Kaletunc, Gonul	11/15/2010 03:41 PM	Submitted for Approval
Revision Requested	Stokoe, Laurie Anne	11/15/2010 03:52 PM	Unit Approval
Submitted	Kaletunc, Gonul	11/15/2010 04:08 PM	Submitted for Approval
Approved	Kaletunc, Gonul	11/15/2010 04:09 PM	Unit Approval
Revision Requested	Pfister, Jill Ann	12/11/2010 08:36 AM	College Approval
Submitted	Kaletunc, Gonul	01/21/2011 08:12 PM	Submitted for Approval
Approved	Kaletunc, Gonul	01/21/2011 08:13 PM	Unit Approval
Approved	Pfister, Jill Ann	01/27/2011 06:35 AM	College Approval
Revision Requested	Soave, Melissa A	04/28/2011 03:10 PM	CAA Approval
Submitted	Kaletunc, Gonul	05/03/2011 06:34 PM	Submitted for Approval
Approved	Kaletunc, Gonul	05/03/2011 06:35 PM	Unit Approval
Pending Approval	Pfister, Jill Ann Stokoe, Laurie Anne	05/03/2011 06:35 PM	College Approval



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And Biological Engineering

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To: Office of Academic Affairs (OAA)

From: Sudhir Sastry, Professor and Interim Chair

A handwritten signature in black ink, appearing to read "Sudhir Sastry".

Date: November 15, 2010

Re: Department of Food, Agricultural, and Biological Engineering (FABE) Semester  
Proposals for Agricultural Systems Management (ASM) program

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 Agriculture for Agricultural Systems Management (ASM) program. The department currently administers seven programs; all are being converted to semesters, in addition we are adding a combined BS/MS program in FABE. These programs are:

- 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:
  - Agricultural Systems Management (ASM)
  - Landscape Construction
- Two graduate programs:
  - MS in Food, Agricultural, and Biological Engineering
  - 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 July 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 ASM program offered through the College of Food, Agricultural, and Environmental Sciences. The curriculum was developed with thoughtful input from faculty, teaching staff, students, and our departmental ASM industry advisory committees. Over the 2009 summer, a benchmark analysis of the curriculum was performed by using a database of 22 agricultural systems management programs.

The department's faculty and staff engaged in an all-day retreat on Sept. 18, 2009, to review and 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 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.

An FABE Department representative participated in bi-weekly Q2S Implementation Committee meetings held in the College of Food, Agricultural, and Environmental Sciences starting from November 2009. This committee provided opportunities for us to present our progress, to receive feedback, 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.

The department's Agricultural Systems Management Industry Advisory Committee were regularly consulted about program objectives and outcomes. ASM Advisory Board meetings were conducted on July 26 and August 25, 2010 to give them an update on the quarter-to-semester progress, to discuss the ASM curriculum and to ask for suggestions for the semester version of the ASM curriculum. The committee emphasized that the ASM profession is becoming more global and wanted this to be reflected in the proposed program goals and in the curriculum.

The proposed curriculum was discussed with students in the ASM major on September 27, 2010 in the ASM 590 Precision Agriculture course during which approximately 2/3 of the ASM students in the program were present.

The last two Academic Affairs meetings on September 17 and October 1, 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 major changes in the proposed curriculum are summarized below:

- 1) Due to changes implemented in the conversion of the current ASM program to the semester version, there is an increase of 7.3 total credit hours.
- 2) The program objectives are revised with input from faculty, staff, and the department's ASM Advisory Committee to further refine and update the objectives.
- 3) Capstone course addition: A separate capstone course, Agricultural Systems Management Capstone (4900) for 3 credit hours was added in the semester program.
- 4) The livestock waste management course (ASM 550) in the quarter program was an elective course. Based on the feedback from faculty, staff, and Advisory Committee, it was decided to make the semester version (ASM 3550) a required course.
- 5) The safety course (4600) was also expanded (from 3 credit hours under quarters to 3 semester credits) due to the increasing importance of safety and health in the farm business.
- 6) Surveying (2371) was also expanded (from 2 credit hours under quarters to 2 semester credits) by adding a 2/3 of a credit hour to provide an adequate number of labs to students.

The proposal was uploaded on the OAA website on November 15, 2010.

ASM curriculum is an excellent program for students planning to farm and for employment in companies providing services to production agriculture. Given the widespread support by industry, students, faculty, and staff, I heartily recommend that this proposal for a semester-based BS in Agriculture for the Agricultural Systems Management program in the Department of Food, Agricultural and Biological Engineering be approved.

**BS in Agriculture  
Agricultural Systems Management  
(ASM) 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:**

Re-envisioned with significant changes to program goals and/or curricular requirements (e.g., degree/major name changes, changes in program goals, changes in core requirements, structural changes to tracks/options/courses)

**Program / Plan Name:** Agricultural Systems Management

**Type of Program / Plan:** Undergraduate bachelors degree program

**Program / Plan SIS code abbreviation:** AGMSYS-BS

**Degree Title:** Bachelor of Science in Agriculture

**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 Agricultural Systems Management graduate will be able to:

1. Plan and manage the machinery systems, building infrastructure, and soil and water resources used in the sustainable production of food, fiber, and energy incorporating appropriate safety, environmental, legal, and economic constraints.
2. Implement and follow the business principles and ethical practices necessary to build and maintain a viable farm or agribusiness.
3. Function effectively in a global society both as a team member and a leader interacting successfully with agricultural industry professionals, government officials, and the general public from diverse ethnic and cultural backgrounds.
4. Become an accomplished professional in agriculture and related industries 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.



**B.S. in Agriculture**  
**Major: Agricultural 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 Rur Soc 1500 or Sociology 101.

FAES 100 or USAS 100, etc.....	1	Social Science 1: (Rur Soc 1500 or Soc x101).....	3
English 1110 .....	3	Social Science 2 : (AEDE Econ 2001 or Econ 2001).....	3
Writing Level 2 (2367).....	3	Historical Study.....	3
Agr Comm 3130 or Comm x321.....	3	Culture & Ideas or Historical Study .....	3
Math 1148 .....	4	Literature.....	3
Data Analysis <sup>1</sup> .....	3	Art.....	3
Biological Science (HCS 2200) .....	3	Contemporary Issues/College Capstone .....	3
Physics 1200 (with lab) .....	5	<b>Total GEC:</b>	<b>53</b>
Soil Science (with lab) (ENR 3000 and 3001) .....	4		
Animal Sciences 2200.01.....	3		

<sup>1</sup>Options: AEE 3537, An Sci 2260, H&CS 2260,  
AEDE 2005, ENR 2000, Stat 145

Agricultural Systems Mgt Core	43
Agricultural Systems Mgt Supporting courses	18 – 21
Internship (ASM 3191)	2
Electives	2 - 5
<b>Total Credit Hours:</b>	<b>121</b>

**1. Agricultural Systems Mgt Core**

ASM 2240	Basic Metal Fabrication for Agriculture	3
ASM 2241	Building Materials & Construction in	3
ASM 2305	Professional Development I	2
ASM 2310	Electrical Systems for Ag & Res Appl	2
ASM 2370	Environmental Hydrology	2
ASM 2371	Land Surveying for Agr & Environ Sys	2
ASM 3232	Engines and Power Transmission	3
ASM 3320	Facilities for Agr & Greenhouse Prod	3
ASM 3360	Agricultural Machinery Management	3
ASM 3550	Animal & Rural Waste Mgt	2
ASM 4170	Senior Program Review	0
ASM 4560	Fluid Power and Electronics in Ag	3
ASM 4575	Applied Agricultural Water	2
ASM 4580	Precision Agriculture	2
ASM 4600	Agricultural Safety and Health	3
ASM 4605	Professional Development II	2
ASM 4900	Capstone in Agricultural Systems Mgt	3
CS&E X101	Computer Problem Solving in	3
or 1112	Computer Prob Solving for Const Mgt	—
		<b>43</b>

**2. Agricultural Systems Mgt Supporting Courses**

18-21

<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	Agribusiness Law	3
Bus-Fin 3500 or 3510	Legal Environment of Business	1.5
ENR 7520	Environmental Science and Law	3
Choose a total of four courses from Ag Mgt and Ag Sci electives, with at least one from each category:		
<u>Ag Management Electives</u> (Choose at least one)		
AED Econ 3102	Principles of Agribusiness Marketing	3
AED Econ 3103	Principles of Agribusiness Finance	3
AED Econ 3104	Farm Business Management	3
AED Econ 3123	Grain Marketing	2
AED Econ 3128	Marketing Fruits and Vegetables	2
AED Econ 3160	Human Resource Mgt In Small Business	2
AED Econ 4540	Intern'l Commerce & World Economy	3
Bus-MHR 2000	Introduction to International Business	4
Com Ldr 3530	Foundations of Pers and Prof Leadership	3
Com Ldr 4430	Leadership in Teams and Community Org	3
CSM 1205	Introduction to Construction Systems Mgt	4
Int Stud X356	Introduction to Globalization (GEC SS)	Q5
XX 3597	Study Abroad	1-5
XX 5597	Study Abroad	1-5
<u>Ag Science Electives</u> (Choose at least one)		
An Sci 2200.01	Intro Animal Science (if missed in GE)	3
Entom 4601	General Insect Pest Management	2
ENR 3000	Soil Science (if missed in GE)	3
ENR 5270	Soil Fertility	3
HCS 2200	Science of Sustain Plant Prod (if missed)	3
HCS 3420	Seed Science	3
HCS 3521	Basic Greenhouse Crop Production	3
HCS 4411	Grain, Oilseed and Fiber Crops	3
HCS 4412	Forage, Grasslands and Prairies	3
HCS 4422	Principles of Weed Ecology and Mgt	3

FOUR-YEAR PLAN  
BS in Agriculture  
Agricultural Systems Management  
Semester Guide  
15 December 2010

Autumn Semester		Spring Semester	
FAES 100 Survey Class	<u>1</u>	AEDE 2201 or Econ 200	<u>3</u>
Math 1148	<u>4</u>	ASM 2241 Bldg Materials & Constr in Ag	<u>3</u>
English 1110	<u>3</u>	Physics 1200	<u>5</u>
H&CS 2200 Science of Growing Plants	<u>3</u>	Writing Level 2 (2367)	<u>3</u>
Rural Soc 1500 or Soc 101	<u>3</u>		<u>14</u>
	<b>14</b>		
ASM 2371 Land Survey for Ag & Environ	<u>2</u>	Ag Comm 3130 or Comm 321	<u>3</u>
ASM 2240 Basic Metal Fabrication for Ag	<u>3</u>	ASM 2310 Elect Sys for Ag & Res Appl	<u>2</u>
ASM 2305 Professional Development I	<u>2</u>	Soil Science 3000 Soil Science	<u>3</u>
Art	<u>3</u>	Soil Science 3001 Soil Science Lab	<u>1</u>
ASM 2370 Environmental Hydrology	<u>2</u>	Data Analysis	<u>3</u>
CS&E 101 Computer Prob Solv in Busines	<u>3</u>	Historical Study	<u>3</u>
	<b>15</b>		<b>15</b>
Free Elective	<u>3</u>	Ag Mgt Elective	<u>2</u>
Culture and Ideas or Historical Study	<u>3</u>	Literature	<u>3</u>
ASM 3191 Internship	<u>2</u>	ASM 3550 Animal and Rural Waste Mgt	<u>2</u>
ASM 3360 Ag Machinery Management	<u>3</u>	Animal Science 2200.01	<u>3</u>
AEDE 2105 Managerial Records & Analys	<u>3</u>	ASM 3232 Engines and Power Trans	<u>3</u>
AEDE 3101 Princ of Agribusiness Mgt	<u>3</u>	ASM 3320 Fac for Ag & Greenhouse Prod	<u>3</u>
	<b>17</b>		<b>16</b>
Contemporary Issues	<u>3</u>	ASM 4170 Senior Program Review	<u>0</u>
ASM 4580 Precision Agriculture	<u>2</u>	ASM 4560 Fluid Power & Electr in Ag Mac	<u>3</u>
ASM 4575 Applied Ag Water Management	<u>2</u>	ASM 4600 Agricultural Safety and Health	<u>3</u>
Ag Sci or Mgt Elective	<u>3</u>	Ag Sci or Mgt Elective	<u>3</u>
ASM 4605 Professional Development II	<u>2</u>	AEDE 3170 Agricultural Law	<u>3</u>
Ag Science Elective	<u>3</u>	ASM 4900 Capstone om Ag Sys Mgt	<u>3</u>
	<b>15</b>		<b>15</b>

Total Credit Hours

121

### Program Rationale

Major changes were implemented in the conversion of current ASM program to semester program which resulted in an increase of 7 2/3 credit hours offered by unit. The proposed semester-based ASM was developed with the input from students, faculty, and ASM Advisory Committee. The changes are summarized below in detail:

**Revised program objectives.** The semester conversion provided the opportunity for faculty, staff, and the department's ASM Advisory Committee further refine and update the objectives. ASM Advisory Committee was particularly interested in inclusion of statements emphasizing the preparation of students to function in a global society.

**Capstone course addition:** A separate capstone course, Agricultural Systems Management Capstone (4900) for 3 credit hours was added in the semester program. In the quarter program, capstone requirement was met by ASM 575 Agricultural Water Management course. However, it was considered that the projects assigned in this course may not be necessarily allowing the use of all the knowledge acquired by students from the program and also project assignment was a portion of the course with a significant instruction in the course topics. Therefore, it was decided to develop a stand alone capstone course to improve students' capstone experience and to allow students to work on a broader range projects combining the knowledge they learned in all of their courses. Engineering graphics course required in quarter program was dropped to open up credit hours for the capstone course in the semester program.

### Changing requirements of existing courses:

- Livestock waste management course (ASM 550) in quarter program was an elective course. Given the importance of dealing with waste effectively and efficiently in a farm business, it was considered that the knowledge is essential for all ASM program graduates. With the feedback from ASM Advisory Committee, it was decided to make ASM 3550 a required course with 2 credit hours.
- Similarly, the safety course (4600) was also expanded (from 3 credit hours under quarters to 3 semester credits) due to the increasing importance of safety and health in the farm business and to include contemporary topics such as handling pesticides, safety issues of automated materials handling systems, and emerging safety regulations adding 1 credit hour to the total credit hours.
- Surveying (2371) was also expanded (from 2 credit hours under quarters to 2 semester credits) by adding a 2/3 of a credit hours. Surveying under quarters is 1 hour of lecture and a 3 hour lab a format that works well for this course. To maintain this format and provide an adequate number of labs requires the proposed two credit hour semester version.

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

**Internship requirement:** Internship guidelines will be kept similar to the quarter program internship. Internship guidelines are outlined in the ASM 3191 Internship course syllabus. Going to semesters brings our program's internship offering into better alignment with other schools. 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

*CEAES has tried to internally continue with a third writing course. We realize this is not a university requirement*

### 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		61	40.7	43	2.3
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	Maximum	49	32.7	40	7.3
Required credit hours offered outside of the unit	Minimum	12	8.0	3	5.0
	Maximum	12	8.0	3	5.0
Required prerequisite credit hours not included above	Minimum	9	6.0	9	3.0
	Maximum	9	6.0	9	3.0

**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**

Due to changes implemented in the conversion of the current ASM program to the semester version, there is an increase of  $7 \frac{2}{3}$  total credit hours. A separate capstone course, Agricultural Systems Management Capstone (4900) for 3 credit hours was added in the semester program. The livestock waste management course (ASM 550) which was an elective course in the quarter program was changed into a required course (ASM 3550) in the semester program based on the feedback from faculty, staff, and Advisory Committee. The safety course (4600) was also expanded (from 3 credit hours under quarters to 3 semester credits) due to the increasing importance of safety and health in the farm business. Surveying (2371) was also expanded (from 2 credit hours under quarters to 2 semester credits) by adding a  $\frac{2}{3}$  of a credit hour to provide an adequate number of labs to students.  $\frac{1}{3}$  credit hours increase is due to increasing credit hours of computer assisted problem solving course.

AGRICULTURAL SYSTEMS MANAGEMENT  
New Students Entering OSU Summer 2007 and Thereafter

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. CheckT when completed: \* \_\_\_\_ , \*or \_\_\_\_ .

FAES 100 or USAS 100, etc.	1	Social Science	15
English 110.01	5	AED Econ 200 or Econ 200	5
Second Writing Course	0-5	Rural Soc 105 or Soc 101	5
(See approved CFAES GEC list)		Additional Social Science	5
Agr Comm 390 or Comm 321	5	(See approved CFAES GEC list)	
Math 148	4	History (See approved CFAES GEC list)	5
Natural Sciences (must take five courses)	25	Arts and Literature (See approved CFAES GEC list)	10
Physics 111 or 131		Literature	5
Biological Science Course (Select one)		Visual and Performing Arts	5
Anim Sci 310		Contemporary Issues (See approved CFAES GEC list)	5
Biology 101 or 113 or H115; 102 or 114 or H116		Major (see below)	61-65
Entomology 101, 102		Internship (AGSYSMGT 489)	3
EEOB 232, 235		Minor	20-25
ENR 201		Students majoring in Agricultural Systems Management <u>cannot</u> select a minor in Agricultural & Construction Systems Management, Agricultural Systems Management or Landscape Construction. A minor in Agribusiness or General Business is strongly recommended.	
Fd Sc&Te 201		Free Electives <sup>3</sup>	10-24
H&CS 200, 300		Total	183
Humn Ntr 210			
Microbiol 509			
Plnt Bio 101, 102, 300			
Select a two-course sequence from (Select one sequence):			
Biology 101/102 or 113/114 or H115/H116			
Chem 101/102 or 121/122 or 121/125			
EarthSci 121/203 or 121/210 or 121/ENR 300.01 <u>and</u> 300.02 (must take both)			
Physics 111/112 or 131/132 or Physics 111/Arch 426			
Plnt Bio 101/102			
Select one or two courses from:			
Biological Science courses listed above			
Chem 101 or 121 or H201; 102 or 122 or 125 or H202; 123 or H203			
Earth Sci 121, 122, 203, 210			
ENR 300.01 <u>and</u> 300.02 (must take both)			
Math 151			
Physics 112 or 132; 133			

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Major 61-65

Required			
AGSYSMGT	232	Small Air Cooled Engines	4
AGSYSMGT	240	Basic Metal Fabrication for Agriculture	4
AGSYSMGT	241	Building Materials and Construction in Agriculture	4
AGSYSMGT	305	Professional Development I	4
AGSYSMGT	310	Electric Power for Agricultural and Residential Applications	3
AGSYSMGT	320	Facilities for Agricultural and Greenhouse Production	5
AGSYSMGT	360	Agricultural Machinery	5
AGSYSMGT	370	Principles of Hydrology	3
AGSYSMGT	371	Land Surveying for Agricultural and Environmental Systems	2
AGSYSMGT	560	Hydraulics and Electronics for Agriculture Machine	4
AGSYSMGT	575	Soil and Water Systems	3
AGSYSMGT	580	Precision Agriculture	3
AGSYSMGT	600	Agricultural Safety and Health	3
AGSYSMGT	605	Professional Development II	2
CS&E	101 or 105	Computer Assisted Problem Solving for Construction Mgt.	4
EN GRAPH	121	Graphic Presentation I	3
DATA ANALYSIS AEE (was Agr Edu)	387 or AED Econ 205 or Anim Sci 260 or ENR 222 or H&CS 260 or Stat 145		5

### **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 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	ASM 232	4	ASM 240	4
AEDE Econ 200	5	Science Elect	5	En Graph 121	3
Bio Sci Elective	5	English 110	<u>5</u>	Physics 111	5
Math 148	<u>4</u>		14	Rural Soc 105	<u>5</u>
	15				17

<u>Autumn 10</u>		<u>Winter 11</u>		<u>Spring 11</u>	
ASM 305	4	ASM 241	4	ASM 371	2
CSE 101	4	Ag Comm 390	4	Data Analysis	5
2 <sup>nd</sup> Writing (367)	5	Minor	5	Minor	3
Free Elective	<u>1</u>	Free Elective	<u>3</u>	2 <sup>nd</sup> Science	<u>5</u>
	14		16		15

<u>Autumn 11</u>		<u>Winter 12</u>		<u>Spring 12</u>	
ASM 370	3	ASM 310	3	ASM 360	5
Literature	5	ASM 320	5	5 <sup>th</sup> Science	5
Minor	5	History	5	Free Elective	<u>4</u>
Free Elective	<u>3</u>	Minor	<u>3</u>		14
	16		16		

<u>Autumn 12</u>		<u>Spring 13</u>	
ASM 3191	2	ASM 4170	0
ASM 4580	2	ASM 4560	3
ASM 4605	2	ASM 4575	2
Contemp Issues	3	ASM 4600	3
Soc Sci Elect	3	VPA	3
Free Elective	<u>3</u>	Minor	3
	15	Free Elective	<u>1</u>
			15

Student completes 137 quarter hours (91.3 semester hours equiv) and 30 hours of semester courses for a total of 120.3 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	ASM 232	4	ASM 240	4
AEDE Econ 200	5	Science Elect	5	En Graph 121	3
Bio Sci Elective	5	English 110	<u>5</u>	Physics 111	5
Math 148	<u>4</u>		14	Rural Soc 105	<u>5</u>
	15				17

<u>Autumn 11</u>		<u>Winter 12</u>		<u>Spring 12</u>	
ASM 305	4	ASM 241	4	ASM 371	2
CSE 101	4	Ag Comm 390	4	Data Analysis	5
2 <sup>nd</sup> Writing (367)	5	Minor	5	Minor	3
Free Elective	<u>1</u>	Free Elective	<u>3</u>	2 <sup>nd</sup> Science	<u>5</u>
	14		16		15

<u>Autumn 12</u>		<u>Spring 13</u>	
ASM 2370	2	ASM 2310	2
ASM 3360	3	ASM 3320	3
Literature	3	History	3
Minor	3	Minor	3
Free Elective	<u>4</u>	5 <sup>th</sup> Science	3
	15	Free Elective	<u>1</u>
			15

<u>Autumn 13</u>		<u>Spring 14</u>	
ASM 3191	2	ASM 4170	0
ASM 4580	2	ASM 4560	3
ASM 4605	2	ASM 4575	2
Contemp Issues	3	ASM 4600	3
Soc Sci Elect	3	VPA	3
Free Elective	<u>3</u>	Minor	3
	15	Free Elective	<u>1</u>
			15

Student completes 91 quarter hours (60.6 semester hours equiv) and 60 hours of semester courses for a total of 120.6 hours of semester and semester equivalent hours.



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 preferred one.

<u>Autumn 10</u>		<u>Winter 11</u>		<u>Spring 11</u>	
Survey class	1	ASM 240	4	ASM 305	4
AEDE Econ 200	5	Physic 111	5	An Sci 200	5
H&CS 200	5	English 110	<u>5</u>	Rural Soc 105	<u>5</u>
Math 148	<u>4</u>		14		14
	15				

<u>Autumn 11</u>		<u>Winter 12</u>		<u>Spring 12</u>	
ASM 370	3	ASM 241	4	ASM 232	4
CSE 101	4	ASM 310	3	ASM 371	2
Soil Sci 300.01	3	Ag Comm 390	5	Data Analysis	5
Soil Sci 300.02	2	History	<u>5</u>	Mgt Princ Choice	<u>5</u>
2 <sup>nd</sup> Writing (367)	<u>5</u>		17		16
	17				

<u>Autumn 12</u>		<u>Spring 13</u>	
ASM 3320	3	ASM 3550	2
ASM 3360	3	ASM 4560	3
Literature	3	Ag Sci Elective	3
Acct Choice	3	Art	3
Free Elective	<u>2</u>	Bus Law Choice	<u>3</u>
	14		14

<u>Autumn 13</u>		<u>Spring 14</u>	
ASM 3191	2	ASM 4170	0
ASM 4580	2	ASM 4575	2
ASM 4605	2	ASM 4600	3
Contemp Issues	3	ASM 4900	3
Culture & Ideas	3	Ag Sci Elective	3
Ag Mgt Elective	<u>3</u>	Ag Mgt Elective	3
	15	Free Elective <sup>1</sup>	<u>2</u>
			16

<sup>1</sup>Free elective hours will equal that required to bring the total semester hours to 59. The Ag Sci and Ag Mgt electives require four courses with minimum of one from each category and there are both two and three credit hour courses in these categories.

Student completes 93 quarter hours (62 semester hours equiv) and 59 hours of semester courses for a total of 121 hours of semester and semester equivalent hours.

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	ASM 240	4	ASM 232	4
AEDE Econ 200	5	Physics 111	5	ASM 305	4
H&CS 200	5	English 110	<u>5</u>	An Sci 200	5
Math 148	<u>4</u>		14	Rural Soc 105	<u>5</u>
	15				18

<u>Autumn 12</u>		<u>Spring 13</u>	
ASM 2310	2	ASM 2241	3
ASM 2370	2	ASM 3550	2
ASM 2371	2	Data Analysis	3
Second Writing	3	Soil Sci 3000	3
Ag Comm 3130	3	Soil Sci 3001	1
CSE 101	<u>3</u>	Princ of Mgt Choice	<u>3</u>
	15		15

<u>Autumn 13</u>		<u>Spring 14</u>	
ASM 3320	3	ASM 4560	3
ASM 3360	3	Art	3
Literature	3	History	3
Acct Choice	3	Bus Law Choice	3
Free Elective	<u>3</u>	Ag Sci Elective	<u>3</u>
	15		15

<u>Autumn 14</u>		<u>Spring 15</u>	
ASM 3191	2	ASM 4170	0
ASM 4580	2	ASM 4575	2
ASM 4605	2	ASM 4600	3
Contemp Issues	3	ASM 4900	3
Culture & Ideas	3	Ag Sci Elective	3
Ag Mgt Elective	<u>3</u>	Ag Mgt Elective	2
	15	Free Elective <sup>1</sup>	<u>1</u>
			14

<sup>1</sup>Free elective hours will equal that required to bring the total semester hours to 89. The Ag Sci and Ag Mgt electives require four courses with minimum of one from each category and there are both two and three credit hour courses in these categories.

Student completes 47 quarter hours (31.3 semester hours equiv) and 89 hours of semester courses for a total of 120.3 hours of semester and semester equivalent hours.

Objectives:

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

1. Plan and manage the machinery systems, building infrastructure, and soil and water resources used in the sustainable production of food, fiber, and energy incorporating appropriate safety, environmental, legal, and economic constraints.
2. Implement and follow the business principles and ethical practices necessary to build and maintain a viable farm or agribusiness.
3. Function effectively in a global society both as a team member and a leader interacting successfully with agricultural industry professionals, government officials, and the general public from diverse ethnic and cultural backgrounds.
4. Become an accomplished professional in agriculture and related industries 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.

Key

- 1 = introductory level
- 2 = intermediate level
- 3 = advanced level

Cr Hrs	Title	Program Goal					
		1	2	3	4	5	
Required Courses offered by unit							
ASM 1241	3	Bldg Materials and Construction in Agr	1				1
ASM 2240	3	Basic Metal Fabrication for Agr.	1				1
ASM 2305	2	Professional Development I			2	2	2
ASM 2310	2	Electric Power for Ag and Residential App	2				
ASM 2370	2	Principles of Hydrology	2	2			1
ASM 2371	2	Land Surveying for Ag and Environ Syste	2				
ASM 3191	2	Internship in Ag Sys Mgt	2	2	2	2	
ASM 3232	3	Engines and Power Transmission	2	1			
ASM 3320	3	Facilities for Ag and Greenhouse Prod	2	1			
ASM 3360	3	Agricultural Machinery	2	1			
ASM 3550	2	Livestock and Rural Waster Management	2	2	2		1
ASM 4560	3	Fluid Power and Electronics in Ag Mach	3	1			
ASM 4575	2	Soil and Water Systems	3	2	1		1
ASM 4580	2	Precision Agriculture	3	2	1		
ASM 4600	3	Agricultural Safety and Health	3		2	2	1
ASM 4605	2	Professional Development II			3	3	3
ASM 4900	3	Capstone Design	3	3	3	2	

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	
Category	3-6	Agricultural Science	3	2			
Category	3-6	Agricultural Management	3	2			
Category	9	Communication - Writing, Speech	1		2		1
Category	6	Social Science			2		2
Category	15	Humanities - Art, Literature, History, Culture			2		1
Category	7	Math and Data Analysis	2	2			
Category	15	Sciences - Physics, Soil Sci etc	2	2			
Choice	3	Contemporary Issues			3		

ASM Quarter-to-Semester Curriculum Map  
15-Dec-10

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

Semester		Quarters		Change
Course	Cr Hrs	Course	Cr Hrs	Cr Hrs
2240	3	240	4	$\frac{1}{3}$
2241	3	241	4	$\frac{1}{3}$
2305	2	305	4	$-\frac{2}{3}$
2310	2	310	3	0
2370	2	370	3	0
3371	2	371	2	$\frac{2}{3}$
3232	3	232	4	$\frac{1}{3}$
3320	3	320	5	$-\frac{1}{3}$
3360	3	360	5	$-\frac{1}{3}$
3550	2	550	3	2 <sup>1</sup>
4560	3	560	4	$\frac{1}{3}$
4575	2	575	3	0
4580	2	580	3	0
4600	3	600	3	1
4605	2	605	2	$\frac{2}{3}$
4900	3	NA	0	3 <sup>2</sup>
CS&E 101	3	CS&E 101	4	$\frac{1}{3}$
Total	43		Total	7 $\frac{2}{3}$
		Total Qtr	56	

Internship - not included in major hours:

3191	2	489	3	0
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<sup>1</sup>550 was not required in quarters

<sup>2</sup>Standalone capstone course is new for semesters



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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](mailto:faure.2@osu.edu)