

H&CS Undergraduate Learning Goals and Outcomes: *Upon successfully completing their degree program, H&CS undergraduates will:*

1. Be competent in critical thinking and research.

Measurable outcomes:

1. Ability to acquire, analyze, and interpret information/data
2. Ability to reach logical and reasonable conclusions from information and data.

2. Understand the concept of sustainability and be able to use sustainable practices in horticulture and crop science. **Formerly goal 4**

Measurable outcomes:

1. Ability to define and discuss the concept of sustainability .
2. Ability to create a sustainably sound landscape design and/or include sustainable practices in projects that focus on the production or maintenance of plants.

3. Have the ability to integrate the fundamentals of physical and biological sciences with the scientific principles of plant science to develop and maintain sustainable plant systems. **Combination of former goals 2 and 3**

Measurable outcomes:

1. Ability to calculate discipline-related quantitative measurements.
2. Ability to predict the effect of environmental conditions on plant growth.
3. Ability to understand the relationship between organization management practices and scientifically based plant production and maintenance methods (see goal 5 below).

4. Be able to disseminate information effectively through all forms of communication (oral, electronic, written, visual, etc.) at a professional level.

Measurable outcomes:

1. Ability to effectively and professionally present information gathered for reports and projects.
2. Ability to effectively interact with peers, other professionals, and lay persons.

5. Understand the fundamentals of management of horticulture and crop science enterprises, *e.g.* planning for sufficient labor and equipment to meet crop needs such as planting, maintaining, and harvesting; estimating landscape design and maintenance costs; having the appropriate materials (irrigation system components, pots, growing media, fertilizers, golf pro-shop sales items, etc.) available at the right time, compliance with applicable laws and regulations, fundamentals of professional behavior. **Formerly goal 6**

Measurable outcomes:

- 1 Ability to set personal and professional goals and develop plans and strategies and to meet those goals
- 2 Ability to work with and supervise personnel made up of a diverse array of individuals
- 3 Ability to use best practices for customer service, economics, compliance with regulations, etc .

4 Ability to present themselves professionally to peers and clients.

6. Have an appreciation for life-long learning through self-awareness and evaluation, seeking knowledge, and using evaluation and synthesizing skills.

Measurable outcomes:

1. Ability to locate and use continuing education opportunities such as short courses, workshops, and seminars.
2. Ability to achieve success through continuous professional development and promotion
3. Demonstration of increasing leadership responsibility
4. Ability to perform self-evaluations (*this is a requirement in several HCS classes including the required senior capstone class*).

7. Have developed an appreciation of and respect for diversity.

Measurable outcomes:

1. Ability to work with a people with varying cultures, backgrounds, ideas, ideals, and status.

8. Develop the skills to act in a responsible and ethical way.

Measurable outcomes:

1. Ability to properly credit sources of information.
2. Ability to perform effectively as a contributing team member.
3. Ability to demonstrate a positive work ethic through performance in the classroom, university sanctioned extracurricular activities, and internship duties.

Status: PENDING

PROGRAM REQUEST
Sustainable Plant Systems

Last Updated: Stokoe, Laurie Anne
01/14/2011

Fiscal Unit/Academic Org	Horticulture & Crop Science - D1127
Administering College/Academic Group	Food, Agric & Environ Science
Co-administering College/Academic Group	
Semester Conversion Designation	New Program/Plan
Proposed Program/Plan Name	Sustainable Plant Systems
Type of Program/Plan	Undergraduate bachelors degree program or major
Program/Plan Code Abbreviation	SPS
Proposed 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				43	
Required credit hours offered by the unit	Minimum			31	
	Maximum			43	
Required credit hours offered outside of the unit	Minimum			69	
	Maximum			91	
Required prerequisite credit hours not included above	Minimum			9	
	Maximum			9	

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

- Be competent in critical thinking and research, i.e., have the ability to effectively gather or generate, analyze, evaluate, and disseminate information.
- Have the ability to integrate the fundamentals of physical and biological sciences in sustainable plant systems.
- Have translational plant science competency, i.e., the ability to apply horticulture, and agronomic principles to grow and maintain healthy in an efficient, economically sound, environmentally compatible, and socially responsible way.
- Understand the concept of sustainability and be able to use sustainable practices.
- Be able to communicate effectively in all aspects (oral, electronic, written, visual, etc.) at a professional level.
- Understand the fundamentals of successful business and entrepreneurial operation: i.e., planning, goal setting, personnel management, business terminology, finance, economics, etc.
- Have an appreciation for and ability to practice life-long learning through self-awareness and evaluation, seeking knowledge, and using evaluation and synthesizing skills.
- Have developed an appreciation of and respect for diversity.
- Understand the importance of social responsibility in sustainability and how to be socially responsible.

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

- Embedded testing (i.e. specific questions in homework or exams that allow faculty to assess students' attainments of a specific learning goal)
- Pre- and post-testing
- 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

- Student survey
- Alumni survey
- Employer feedback or survey
- Student evaluation of instruction
- Student interviews or focus groups

Additional types of indirect evidence

- Job or post-baccalaureate education placement
- Student or alumni honors/recognition achieved
- Peer review of program
- External program review
- 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)

- Meet with students directly to discuss their performance
- 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
- Benchmark against best programs in the field

Program Specializations/Sub-Plans

Status: PENDING

PROGRAM REQUEST
Sustainable Plant Systems

Last Updated: Stokoe, Laurie Anne
01/14/2011

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.

- | | |
|--|--------------------------|
| Program Specialization/Sub-Plan Name | Agronomy |
| Program Specialization/Sub-Plan Goals | • |
| Program Specialization/Sub-Plan Name | Horticulture |
| Program Specialization/Sub-Plan Goals | • |
| Program Specialization/Sub-Plan Name | Landscape Mngmt & Design |
| Program Specialization/Sub-Plan Goals | • |
| Program Specialization/Sub-Plan Name | Turfgrass Science |
| Program Specialization/Sub-Plan Goals | • |

Pre-Major

Does this Program have a Pre-Major? No

Attachments

- Transition Policy.docx
(Transition Policy. Owner: McMahon, Margaret Jane)
- Concurrence for SPS from MolGen.txt
(Support/Concurrence Letters. Owner: McMahon, Margaret Jane)
- Concur4SPS-Entom.doc
(Support/Concurrence Letters. Owner: McMahon, Margaret Jane)
- SPS Rationale.docx
(Program Rationale Statement. Owner: McMahon, Margaret Jane)
- Concur4SPS-PLPATH.doc
(Support/Concurrence Letters. Owner: McMahon, Margaret Jane)
- CurriculumMap-SPSHort.xlsx
(Curricular Map(s). Owner: McMahon, Margaret Jane)
- CurriculumMap-SPSLD&M.xlsx
(Curricular Map(s). Owner: McMahon, Margaret Jane)
- CurriculumMap-SPSTurf.xlsx
(Curricular Map(s). Owner: McMahon, Margaret Jane)
- SPS-Agron 4-YearPlan.docx
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)
- SPS-Hort 4-YearPlan.docx
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)
- SPS-LD&M 4-YearPlan.docx
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)
- SPS-Turf 4-YearPlan.docx
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)
- 4-Year(2,2)Trans PlanCropScience.docx: Agron 2 yr qtr, 2 yr sem
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)
- 4-Year(1,3)Trans PlanCropScience.docx: Agron 1 yr qtr, 3 yr sem
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)
- 4-Year(2,2)Trans PlanHort.docx: Hort 2 yr qtr, 2 yr sem
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)
- 4-year(1,3)Trans PlanHort.docx: Hort 1 yr qtr, 3 yr sem
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)
- 4-Year(2,2)TransPlanLanHort.docx: LD&M 2 yr qtr, 2 yr sem
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)
- 4-Year(1,3)TransPlanLanHort.docx: LD&M 1 yr qtr, 3 yr sem
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)
- 4-Year(2,2)TransPlanTurf.docx: Turf 2 yr qtr, 2 yr sem
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)
- 4-Year(1,3)TransPlanTurf.docx: Turf 1yr qtr, 3 yr sem
(Semester Advising Sheet(s). Owner: McMahon, Margaret Jane)

- [DepthHCSSupportLetter.jpg](#)
(Letter from Program-offering Unit. Owner: McMahon,Margaret Jane)
- [SPS-Horticulture Semester Curriculum.docx: Hort Course List](#)
(List of Semester Courses. Owner: McMahon,Margaret Jane)
- [SPS-Turf Semester Curriculum.docx: Turf Course List](#)
(List of Semester Courses. Owner: McMahon,Margaret Jane)
- [SPS-Lnd Design&Mgmt Semester Curriculum.docx: Landscape Design & Mgmt Course List](#)
(List of Semester Courses. Owner: McMahon,Margaret Jane)
- [SENR-SPSConcurrence.pdf: Concurrence School Env. & Nat'l Res.](#)
(Support/Concurrence Letters. Owner: McMahon,Margaret Jane)
- [SPS-Agronomy Semester Curriculum.docx: Agronomy Course List](#)
(List of Semester Courses. Owner: McMahon,Margaret Jane)
- [CurriculumMap-SPSAgron.xlsx: Curriculum Map SPS-Agron](#)
(Curricular Map(s). Owner: McMahon,Margaret Jane)

Comments

- The SPS major and 4 specializations were created to replace 3 plant-based majors in H&CS. Though related to the old majors, there are significant differences in how SPS is structured which is why it is submitted as a new and not revised major.

We request the following abbreviations for the specializations: Agronomy - AGR, Horticulture - HRT, Landscape Design and Management - LDM, Turfgrass Science - TGS. *(by McMahon,Margaret Jane on 12/07/2010 09:19 AM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	McMahon,Margaret Jane	10/04/2010 01:27 PM	Submitted for Approval
Revision Requested	McMahon,Margaret Jane	10/11/2010 11:45 AM	Unit Approval
Submitted	McMahon,Margaret Jane	12/07/2010 09:19 AM	Submitted for Approval
Revision Requested	Pfister,Jill Ann	12/17/2010 05:19 PM	Unit Approval
Submitted	McMahon,Margaret Jane	12/20/2010 10:28 AM	Submitted for Approval
Approved	McMahon,Margaret Jane	12/20/2010 10:43 AM	Unit Approval
Approved	Stokoe,Laurie Anne	01/14/2011 04:09 PM	College Approval
Pending Approval	Soave,Melissa A	01/14/2011 04:09 PM	CAA Approval



November 16, 2010

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The Department of Horticulture and Crop Science is submitting and supports the following semester programs:

Revised major:

Professional Golf Management

New major (replaces the current Crop Science, Landscape Horticulture, and Turfgrass Science majors):

Sustainable Plant Systems with 4 specializations: Agronomy, Horticulture, Landscape Design and Management, and Turfgrass Science.

Revised graduate programs:

Horticulture and Crop Science MS

Horticulture and Crop Science PH

Revised minors:

Agronomy (formerly Crop Science)

Horticulture

Landscape Design and Management (formerly Landscape Horticulture)

Turfgrass Science

The programs are the result of an extensive review of our current curriculum that began in early 2009. The review included input from our industry stakeholders and partners, graduate and undergraduate students, all departmental faculty and staff, other OSU departments, as well as with faculty at benchmark programs at other institutions. The results of the collected data were discussed at a day-long faculty and staff retreat in December 2009.

As a result of that retreat and subsequent weekly meetings of faculty, staff, and students from January through early September 2010, the following has occurred. A set of learning outcomes were developed for both the graduate and undergraduate programs. Courses were created, revised, or dropped as the curriculum was developed to meet those goals at the appropriate level. Currently a plan is being developed to make sure that the outcomes, courses, and curriculum continue to provide the best education possible for our students.

The faculty voted unanimously to approve the undergraduate majors and minors (25 for, 0 against). The faculty vote for approval of the graduate programs will be taken at the December faculty meeting.

Respectfully,

A handwritten signature in black ink, appearing to read 'William Randle'.

William Randle

Professor and Chair

Department of Horticulture and Crop Science

(New abbreviations requested for: Landscape Design and Management Minor = LNDESMG-MN
Agronomy Minor = AGRON-MN)

Rationale for proposed program changes:

The current majors were created when the Departments of Agronomy and Horticulture merged in 1994 to become Horticulture and Crop Science. Though modified over time, it had become apparent that to remain relevant to current and future needs of society the majors needed substantial revision. To make the revisions as effective as possible we talked among ourselves in the department, with peers at other institutions, current and former students, and stakeholders such as employers of our students and users of our knowledge.

From those conversations we decided to create a single program that provided all students with a fundamental understanding of the applications of plant science in the creation of sustainable plant-based systems. Students then choose a focus in the specific areas of agronomy, horticulture, turfgrass science, or landscape design and management. Though there is some overlap among the specializations, each is distinct enough to merit its own identity. The association of each specialization with a traditional term and recognizable discipline (*e.g.* agronomy, horticulture, turfgrass, landscape) will attract students familiar with those terms and the careers associated with each term. The name Sustainable Plant Systems reflects the principles we teach and should attract students who may be unfamiliar with traditional terms but are interested in careers that involve growing plants using sustainable practices.

FAES 100 or USAS 100, etc	1	Historical Study	3
Writing Level 1	3	Culture & Ideas or Historical	
Writing Level 2	3	Study	3
Agr Comm 390 or Comm 321	3	Literature	3
Math 1130 or 1148 (College Algebra)	4	Art	3
Data Analysis (HCS 2260 recommended)	3	Opt. 1 HCS 2202 ¹ Frm & Fxn Cult Plt	4
Biological Science (Bio 1113)	4-5	Minor	12-15
Physical Science (<i>Chem 101</i>)	4-5	Major	40-43
Add'l. Sci. HCS 2201 ¹ Ecol of Mng'd Plt Sys.	4	Contemporary Issues	3
Social Science 1 (Rural Soc 1500 or <i>Social 101</i>)	3	Internship (HCS 4191.01)	2
Social Science 2 (AED Econ 2201 or Econ 200)	3	<u>Electives</u>	<u>5-13</u>
		TOTAL	121

Required Courses – Sustainable Plant Systems Major

HCS	2200	Science of Sustainable Plant Production	-or-	3
HCS	2203	Human & Cultivated Plant Interactions		
HCS	3320	Plant Propagation	-or-	3
HCS	3420	Seed Science		
PLNTPATH	3001	General Plant Pathology		2
ENTMLGY	4600	Intro to Insect Science		1
ENR	3000.01	Soil Science		3
HCS	5600	Capstone		2
HCS	5601	Managing your Virtual Portfolio (part of capstone req.)		1

Required Courses - Agronomy Specialization

HCS	4325	Plant Genetics		3
HCS	4411	Grain, Oilseed, and Fiber Crops		3
HCS	5412	Forages, Grasslands, and Prairies		3
HCS	5422	Principles of Weed Ecology and Management		3
PLNTPATH	3002	General Plant Pathology Lab		2
ENTMLGY	4601 or 4603	General Entomology or Agricultural Entomology		2

Additional Electives to Complete the Agronomy Specialization

HCS	2305	Organic Gardening		1
HCS	2306	Sustainable Vegetable Practicum		3
HCS	3320	Plant Propagation (if not taken above)		3
HCS	3420	Seed Science (if not taken above)		3
HCS	3521	Basic Greenhouse Production		2
HCS	3380	Latino Workforce in Land-Based Industries		2
HCS	3797/5797	Study Abroad		3-6
HCS	3488	Professional Development		1-3
HCS	5460	Fruit Crop Physiology and Production		3
HCS	5521	Advanced Greenhouse Production		3
HCS	5602	Ecology of Agriculture		3
HCS	5621	Crop Physiology		3
HCS	5630	Seed Production		2
HCS	5730	Seed Ecology and Physiology		2
HCS	5193	Independent Study		1-3
ENR	3000.02	Soils lab		1
ENR	4260	Soil Management		3
ENR	5270	Soil Fertility and Fertilizers		3
ASM	????	<i>Hydrology (old 370)</i>		2?
ASM	????	<i>Precision Agriculture (old 580)</i>		2?
PLNTPATH	5140 or 5603	Diseases of Field Crops or Plant Disease Management		2-3
ENTMLGY	5800	Pesticide Science		3
MOLGEN	3436	Introductory Plant Physiology		3

Year 1	Fall Semester	Spring Semester
	Survey FAES 100	English 110
	Chem 101	Biol 113
	Math 130 or 148	H&CS 2201 or 2202 (Add'l GE Science*)
	Art	Social Science 1
	<u>13</u>	<u>15</u>

28 credit hours

Year 2	Fall Semester	Spring Semester
	H&CS 2201 or 2202 (Add'l GE Science*)	Data Analysis
	H&CS 2200 or 2203 (Maj. req.)	Social Science 2
	2 nd Writing	Cult./Idea/History
	Plant Path (Maj. Req.)	H&CS 3420 (Maj. req.)
	Free Elective	Specialization requirement
	<u>17</u>	<u>15</u>

32 credit hours

Year 3	Fall Semester	Spring Semester
	Minor	Cont. Issues/Free Elective
	AgrComm/Comm 3	Minor
	Specialization requirement	Soil Science (Maj. Req.)
	Entomology (Maj. Req.)	Literature
	Specialization elective	Specialization elective
	<u>14</u>	<u>17</u>

Summer

Internship	2
<u>14</u>	<u>17</u>

31 credit hours

Year 4	Fall Semester	Spring Semester
	H&CS 5601(Maj. Req.)	H&CS 5600 (Maj. Req.)
	Specialization electives	Minor
	Minor (2 classes)	Specialization electives
	Free Elective	History
	<u>16</u>	<u>14</u>

30 Credit hours

121 Total Credit Hours

Distribution of hours:

GE's	65
Major	41
(Major Req. 19)	
(Specialization Req. 12)	
(Specialization Electives 10)	
Minor	<u>15</u>
Grand Total	121

* Approval of course as GE Add'l Science pending

2010	Fall Qtr		Winter Qtr		Spring Qtr	
	Survey FAES 100	1	Chem 101 or 121	5	Biol 113	5
	Math 148	4	AEDE 200 or Econ 200	5	Chem 102	5
	RuSoc 105 or Soc 101	5	English 110.01 5	5	History	5
	Visual and Perf Art	5				
		<u>15</u>		<u>15</u>		<u>15</u>

45 credit hours (30 semester hours)

2011	Fall Qtr		Winter Qtr		Spring Qtr	
	H&CS 200	5	H&CS 260	5	H&CS 300	5
	Literature	5	Add'l Soc Science	5	H&CS 325	5
	Biology 114	5	Second Writing	5	Major	5
		<u>15</u>		<u>15</u>		<u>15</u>

45 credit hours (30 semester hours)

2012	Fall Semester		Spring Semester	
	Minor	3	Culture and Ideas	3
	AgrComm/Comm	3	Minor	3
	Major	2	Major	3
	Soil Science (major)	3	Entom	3
	Pl Path (major)	4	Free Elective	2
			<u>Summer 2012</u>	
			Internship	2
		<u>15</u>		<u>16</u>

31 credit hours

2013	Fall Semester		Spring Semester	
	H&CS 5601(Maj. Req.)	1	H&CS 5600 (Maj. Req.)	2
	Major (2 classes)	6	Minor	3
	Minor (2 classes)	6	Major (2 classes)	5
	Free Elective	2	Cont. Issues/Col. Capstone	3
			Free elective	2
		<u>15</u>		<u>15</u>

30 credit hours

121 Total Semester Credit Hours

2011	Fall Qtr	Winter Qtr	Spring Qtr
	Survey FAES 100 1	Chem 101 or 121 5	Biol 113 5
	Math 148 4	AEDE 2201 or Econ 200 5	Chem 102 5
	RuSoc 105 or Soc 101 5	English 110.01 5	History 5
	Visual and Perf Art 5		
	<u>15</u>	<u>15</u>	<u>15</u>

45 credit hours (30 semester hours)

2012	Fall Semester	Spring Semester
	HCS 2201 3	HCS 2202 3
	Literature 3	HCS 2260 3
	Second Writing 3	HCS 3325 or 3420 3
	HCS 2200 or 2203 3	AgrComm/Comm 3
	Free Elective 3	Free Elective 3
	<u>15</u>	<u>15</u>

30 credit hours

2013	Fall Semester	Spring Semester
	Minor 3	Culture and Ideas 3
	Major (2 classes) 6	Minor 3
	ENR 3000.01 (Soil Science) 3	Major 5
	PI Path 3001 and 3002 4	Entom 3600 and either 3601 or 3603 3
		<u>Summer 2013</u>
		Internship 2
	<u>16</u>	<u>16</u>

32 credit hours

2014	Fall Semester	Spring Semester
	H&CS 5601(Maj. Req.) 1	H&CS 5600 (Maj. Req.) 2
	Major 3	Minor 3
	Minor (2 classes) 6	Major 3
	Free Elective 2	Cont. Issues/Col. Capstone 3
		Free elective 3
	<u>15</u>	<u>14</u>

29 credit hours

121 Total Semester Credit Hours

	Goal								
Classes	1	2	3	4	5	6	7	8	9
GE's									
Writing 1									
Writing 2									
Communication									
Math 148 Sem Equiv									
Data Analysis									
Biol 113 Sem Equiv									
Chem 101 Sem Equiv.									
Social Sci 1									
Social Sci 2									
Historical Survey									
Cult &Idea or Hist. Study									
Literature									
Art									
Contemporary Issues									
Internship	Interm.	Interm.	Adv.	Interm.	Interm.	Adv.	Adv.	Adv.	Interm.
Add'l. Sci 1 HCS 2201	Begin	Begin	Begin	Begin	Begin	N/A	Begin	N/A	N/A
Option 1 HCS 2202	Begin	Begin	Begin	Begin	Begin	N/A	Begin	N/A	N/A
	1	2	3	4	5	6	7	8	9
Required H&CS	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
HCS 4325	?	?	?	?	?	?	?	?	?
HCS 4411	Begin	Interm.	Interm.	Interm.	Begin	Begin	Interm.	N/A	Begin
HCS 5600	Adv.	Interm.	Interm.	Adv.	Adv.	Interm.	Adv.	Adv.	Adv.
HCS 5601	Adv.	N/A	N/A	N/A	Adv.	N/A	Adv.	N/A	N/A
Required non-H&CS	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
PLNTPATH 3001 & 3302									
ENTOM 3600, 3601 or 3603									
ENR 3000.01									
Electives	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
HCS 2200	Begin	Begin	N/A	Begin	N/A	N/A	Begin	Begin	Begin
HCS 2203	Begin	Begin	Interm.	Interm.	Interm.	Begin	Begin	Interm.	Interm.
HCS 2305	N/A	Begin	Begin	Interm.	N/A	N/A	Begin	N/A	Interm.
HCS 2306	Begin	Interm..	Begin	Interm..	Begin	Begin	Interm.	Interm.	Interm.

H&CS Undergrad Learning Objectives: *Upon successfully completing their degree program, H&CS undergraduates will:*

1. Be competent in critical thinking and research, *i.e.*, have the ability to effectively gather or generate, analyze, evaluate, and disseminate information.
2. Have the ability to integrate the fundamentals of physical and biological sciences (*e.g.* chemistry, physics, biology, botany, genetics, molecular biology, evolution, scientific method, etc.) in sustainable plant systems.
3. Have translational plant science competency, *i.e.*, the ability to apply horticulture, and agronomic principles (*e.g.* soil science, plant phys., crop/field ecology, landscape design and maintenance, pest management, etc.) to grow and maintain healthy plants in an efficient, economically sound, environmentally compatible, and socially responsible way.
4. Understand the concept of sustainability and be able to use sustainable practices.
5. Be able to communicate effectively in all aspects (oral, electronic, written, visual, etc.) at a professional level.
6. Understand the fundamentals of successful business and entrepreneurial operation: *i.e.*, planning, goal setting, personnel management, business terminology, finance, economics, etc.
7. Have an appreciation for and ability to practice life-long learning through self-awareness and evaluation, seeking knowledge, and using evaluation and synthesizing skills.
8. Have developed an appreciation of and respect for diversity.
9. Understand the importance of social responsibility in sustainability and how to be socially responsible.

The above will be achieved through lectures, labs, field trips, research projects, study abroad experiences, department-, college- and university-sanctioned extracurricular events and activities, as well as other instructional practices.

FAES 100 or USAS 100, etc	1	Historical Study	3
Writing Level 1	3	Culture & Ideas or Historical	
Writing Level 2	3	Study	3
Agr Comm 390 or Comm 321	3	Literature	3
Math 1130 or 1148 (College Algebra)	4	Art	3
Data Analysis (HCS 2260 recommended)	3	Opt. 1 HCS 2202 ¹ Frm & Fxn Cult Plt	4
Biological Science (Bio 1113)	4-5	Minor	12-15
Physical Science (<i>Chem 101</i>)	4-5	Major	40-43
Add'l. Sci HCS 2201 ¹ Ecol of Mng'd Plt Sys.	4	Contemporary Issues	3
Social Science 1 (Rural Soc 1500 or <i>Social 101</i>)	3	Internship (HCS 4191.01)	2
Social Science 2 (AED Econ 2201 or Econ 200)	3	<u>Electives</u>	<u>5-13</u>
		TOTAL	121

Required Courses – Sustainable Plant Systems Major

15

HCS	2200	Science of Sustainable Plant Production	<u>-or-</u>	3
HCS	2203	Human & Cultivated Plant Interactions		
HCS	3320	Plant Propagation	<u>-or-</u>	3
HCS	3420	Seed Science		
PLNTPATH	3001	General Plant Pathology		2
ENTMLGY	4600	Intro to Insect Science		1
ENR	3000.01	Soil Science		3
HCS	5600	Capstone		2
HCS	5601	Managing your Virtual Portfolio (part of capstone req.)		1

Required: Horticulture Specialization (Choose 2)

5-6

HCS	3521	Basic Greenhouse Production		2
HCS	5450	Vegetable Production		3
HCS	5460	Fruit Crop Physiology and Production		3
HCS	5533	Nursery Production		3

Required : Support for Horticulture Specialization

4

PLNTPATH	3002	General Plant Pathology Lab		2
ENTMLGY	4601 or 4602	General Insect Pest Management or Landscape Entomology		2

Additional Electives to Complete the Horticulture Specialization

16-19

HCS	2305	Organic Gardening		1
HCS	2306	Sustainable Vegetable Practicum		3
HCS	2340	Landscape Plants I		3
HCS	3320	Plant Propagation (if not taken above)		3
HCS	3420	Seed Science (if not taken above)		3
HCS	3340	Landscape Plants II		4
HCS	3521	Basic Greenhouse Production ²		2
HCS	3522	Sustainable Irrigation and Fertigation Practices		2
HCS	3380	Latino Workforce in Land-Based Industries		2
HCS	3401	H&CS Industries and Organizations		1-3
HCS	3797/5797	Study Abroad		3-6
HCS	4325	Plant Genetics		3
HCS	4189	Professional Development		1-3
HCS	4560	Creating a Virtual Perspective		3
HCS	5193	Independent Study		1-3
HCS	5422	Principles of Weed Ecology and Management		3
HCS	5450	Vegetable Production ²		3
HCS	5460	Fruit Crop Physiology and Production ²		3
HCS	5521	Advanced Greenhouse Production		3
HCS	5533	Nursery Production ²		3
PLNTPATH	5120 or 5150 or 5603	Diseases of Ornamentals <u>or</u> Fruit & Vegetable Diseases <u>or</u> Plant Disease Management		2-3
ENR	3000.02	Soil Science Lab		1
MOLGEN	3436	Introductory Plant Physiology		3

Year 1	Fall Semester		Spring Semester	
	Survey FAES 100	1	English 110	3
	Chem 101	5	Biol 113	5
	Math 130 or 148	4	H&CS 2201 or 2202 (Add'l GE Science*)	4
	Art	3	Social Science 1	3
		<u>13</u>		<u>15</u>
			28 credit hours	
Year 2	Fall Semester		Spring Semester	
	H&CS 2201 or 2202 (Add'l GE Science*)	4	Data Analysis	3
	H&CS 2200 or 2203 (Maj. req.)	3	Social Science 2	3
	2 nd Writing	3	Cult./Idea/History	3
	Plant Path (Maj. Req.)	4	H&CS 3320 or 3420 (Maj. req.)	3
	Free Elective	3	Specialization requirement	3
		<u>17</u>		<u>15</u>
			32 credit hours	
Year 3	Fall Semester		Spring Semester	
	Minor	3	Cont. Issues/Free Elective	3
	AgrComm/Comm	3	Minor	3
	Specialization requirement	3	Soil Science (Maj. Req.)	3
	Entomology (Maj. Req.)	3	Literature	3
	Specialization elective	2	Specialization elective	3
		<u>14</u>		<u>17</u>
			Summer	
			Internship	2
				<u>17</u>
			31 credit hours	
Year 4	Fall Semester		Spring Semester	
	H&CS 5601(Maj. Req.)	1	H&CS 5600 (Maj. Req.)	2
	Specialization electives	7	Minor	3
	Minor (2 classes)	6	Specialization electives	4
	Free Elective	2	History	3
		<u>16</u>	Free elective	2
				<u>14</u>
			30 Credit hours	

121 Total Credit Hours

Distribution of hours:

GE's	65
Major	41
(Major Req.	19)
(Specialization Req.	6)
(Specialization Electives	16)
Minor	<u>15</u>
Grand Total	121

* Approval of course as GE Add'l Science pending

2010	Fall Qtr		Winter Qtr		Spring Qtr	
	Survey FAES 100	1	Chem 101 or 121	5	Biol 113	5
	Math 148	4	AEDE 200 or Econ 200	5	Chem 102	5
	RuSoc 105 or Soc 101	5	English 110	5	History	5
	Visual and Perf Art	5				
		<u>15</u>		<u>15</u>		<u>15</u>

45 quarter hours (30 semester hours)

2011	Fall Qtr		Winter Qtr		Spring Qtr	
	H&CS 200	5	H&CS 260	5	H&CS 300	5
	H&CS 320	4	Add'l Soc Science	5	Literature	5
	Biology 114	5	Second Writing	5	Major	5
		<u>14</u>		<u>15</u>		<u>15</u>

44 quarter hours (29 semester hours)

2012	Fall Semester		Spring Semester	
	Minor	3	Culture and Ideas	3
	AgrComm/Comm	3	Minor	3
	Major	3	Major	3
	Soil Science (major)	3	Entom	1
	Pl Path (major)	4	Free Elective	2
			<u>Summer 2012</u>	
			Internship	2
		<u>16</u>		<u>16</u>

32 credit hours

2013	Fall Semester		Spring Semester	
	H&CS 5601 (Maj. Req.)	1	H&CS 5600 (Maj. Req.)	2
	Major (2 classes)	6	Minor	3
	Minor (2 classes)	6	Major (2 classes)	5
	Free Elective	2	Cont. Issues/Col. Capstone	3
			Free elective	2
		<u>15</u>		<u>15</u>

30 credit hours

121 Total Semester Credit Hours

2011	Fall Qtr	Winter Qtr	Spring Qtr
	Survey FAES 100 1	Chem 101 or 121 5	Biol 113 5
	Math 148 4	AEDE 200 or Econ 200 5	Chem 102 5
	RuSoc 105 or Soc 101 5	English 110 5	History 5
	Visual and Perf Art 5		
	<u>15</u>	<u>15</u>	<u>15</u>

45 credit hours (30 semester hours)

2012	Fall Semester	Spring Semester
	HCS 2201 3	HCS 2202 3
	Literature 3	HCS 2260 3
	Second Writing 3	HCS 3325 or 3420 3
	HCS 2200 or 2203 3	AgrComm/Comm 3
	Free Elective 3	Free Elective 3
	<u>15</u>	<u>15</u>

30 credit hours

2013	Fall Semester	Spring Semester
	Minor 3	Culture and Ideas 3
	Major (2 classes) 6	Minor 3
	ENR 3000.01 (Soil Science) 3	Major 5
	PI Path 3001 and 3002 4	Entom 3600 and either 3601 or 3602 3
		<u>Summer 2013</u>
		Internship 2
	<u>16</u>	<u>16</u>

32 credit hours

2014	Fall Semester	Spring Semester
	H&CS 5601 1	H&CS 5600 2
	Major (2 classes) 6	Minor 3
	Minor (2 classes) 6	Major 3
	Free Elective 2	Cont. Issues/Coll Capstone 3
		Free elective 3
	<u>15</u>	<u>14</u>

29 credit hours

121 Total Semester Credit Hours

Classes	Goal								
	1	2	3	4	5	6	7	8	9
GE's									
Writing 1& 2									
Communication									
Math 148 Sem Equiv									
Data Analysis									
Biol 113 Sem Equiv									
Chem 101 Sem Equiv.									
Social Sci 1									
Social Sci 2									
Historical Survey									
Cult &Idea or Hist. Study									
Literature									
Art									
Contemporary Issues									
Internship HCS 4191.01	varies	varies	varies	varies	varies	varies	varies	varies	varies
Add'l. Sci 1 HCS 2201	Begin	Begin	Begin	Begin	Begin	N/A	Begin	N/A	N/A
Option 1 HCS 2202	Begin	Begin	Begin	Begin	Begin	N/A	Begin	N/A	N/A
Required H&CS	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
HCS 5600	Adv.	Interm.	Interm.	Adv.	Adv.	Interm.	Adv.	Adv.	Adv.
HCS 5601	Adv.	N/A	N/A	N/A	Adv.	N/A	Adv.	N/A	N/A
Required non-H&CS	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
PLNTPATH 3001 & 3302									
ENTOM 3600, 3601 or 3603									
ENR 3000.01									
Electives	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
HCS 2200	Begin	Begin	N/A	Begin	N/A	N/A	Begin	Begin	Begin
HCS 2203	Begin	Begin	Interm.	Interm.	Interm.	Begin	Begin	Interm.	Interm.
HCS 2340	N/A	N/A	Begin	Begin	N/A	N/A	Begin	N/A	Begin
HCS 2305	N/A	Begin	Begin	Interm.	N/A	N/A	Begin	N/A	Interm.
HCS 2306	Begin	Interm.	Begin	Interm..	Begin	Begin	Interm.	Interm.	Interm.
HCS 3340	Interm.	Interm.	Interm.	Interm.	N/A	N/A	Interm.	N/A	Interm.

H&CS Undergrad Learning Objectives: *Upon successfully completing their degree program, H&CS undergraduates will:*

1. Be competent in critical thinking and research, *i.e.*, have the ability to effectively gather or generate, analyze, evaluate, and disseminate information.
2. Have the ability to integrate the fundamentals of physical and biological sciences (*e.g.* chemistry, physics, biology, botany, genetics, molecular biology, evolution, scientific method, etc.) in sustainable plant systems.
3. Have translational plant science competency, *i.e.*, the ability to apply horticulture, and agronomic principles (*e.g.* soil science, plant phys., crop/field ecology, landscape design and maintenance, pest management, etc.) to grow and maintain healthy plants in an efficient, economically sound, environmentally compatible, and socially responsible way.
4. Understand the concept of sustainability and be able to use sustainable practices.
5. Be able to communicate effectively in all aspects (oral, electronic, written, visual, etc.) at a professional level.
6. Understand the fundamentals of successful business and entrepreneurial operation: *i.e.*, planning, goal setting, personnel management, business terminology, finance, economics, etc.
7. Have an appreciation for and ability to practice life-long learning through self-awareness and evaluation, seeking knowledge, and using evaluation and synthesizing skills.
8. Have developed an appreciation of and respect for diversity.
9. Understand the importance of social responsibility in sustainability and how to be socially responsible.

The above will be achieved through lectures, labs, field trips, research projects, study abroad experiences, department-, college- and university-sanctioned extracurricular events and activities, as well as other instructional practices.

FAES 100 or USAS 100, etc	1	Historical Study	3
Writing Level 1	3	Culture & Ideas or Historical Study	3
Writing Level 2	3		
Agr Comm 390 or Comm 321	3	Literature	3
Math 1130 or 1148 (College Algebra)	4	Art	3
Data Analysis (HCS 2260 recommended)	3	Opt. 1 HCS 2202 ¹ Frm & Fxn Cult Plt	4
Biological Science (Bio 1113)	4-5	Minor	12-15
Physical Science (<i>Chem 101</i>)	4-5	Major	40-43
Add'l. Sci. HCS 2201 ¹ Ecol of Mng'd Plt Sys.	4	Contemporary Issues	3
Social Science 1 (Rural Soc 1500 or <i>Sociol 101</i>)	3	Internship (HCS 4191.01)	2
Social Science 2 (AED Econ 2201 or Econ 200)	3	<u>Electives</u>	<u>5-13</u>
		TOTAL	121

Required Courses – Sustainable Plant Systems Major

15-16

HCS	2200	Science of Sustainable Plant Production	<u>-or-</u>	3
HCS	2203	Human & Cultivated Plant Interactions		
HCS	3320	Plant Propagation	<u>-or-</u>	3
HCS	3420	Seed Science		
PLNTPATH	3001	General Plant Pathology		2
ENTMLGY	4600	Intro to Insect Science		1
ENR	3000.01	Soil Science		3
HCS	5600	Capstone	<u>-or-</u>	2
HCS	5401	Sustainable Landscape Design III (Capstone alternate)		3
HCS	5601	Managing your Virtual Portfolio (part of capstone req.)		1

Required for Landscape Design and Management Specialization

15

HCS	2340	Landscape Plants I		3
HCS	3340	Landscape Plants II		4
HCS	2401	Sustainable Landscape Design I		3
HCS	3410	Sustainable Landscape Maintenance Practices		2
HCS	4410	Sustainable Landscape Management		3

Students Must Select a Design Option or a Landscape Management Option for additional credits

6-8

Design Option (Required)

HCS	4401	Sustainable Landscape Design II ²		3
HCS	5401	Sustainable Landscape Design III ³		3

OR

Landscape Management Option (Required)

HCS	3470	Principles of Turfgrass Management		3
HCS	5422	Principles of Weed Ecology and Management		3
ENTMLGY	4602	Landscape Entomology ⁴		2

Additional Elective Coursework to Complete the Landscape Design and Management Specialization

2-5

HCS	2203	Human & Cultivated Plant Interactions (if not taken above)		3
HCS	3320	Plant Propagation (if not taken above)		3
HCS	3380	The Latino Work Force in Land-based Industries		2
HCS	3401	HCS Industries & Organizations		1-3
HCS	3438	Theme and Specialty Gardens		2
HCS	3439	Design of Specialty Gardens		1
HCS	3522	Sustainable Irrigation & Fertigation Practices		2
HCS	3797/5797	Study Abroad (England, Italy, Mexico)		3
HCS	4189	Professional Development		1-3
HCS	4560	Creating a Virtual Perspective		3
HCS	5193	Independent Study		1-3
HCS	5533	Nursery Management		3
PLNTPATH	3002 <u>or</u> 5120	Gen'l Plant Pathology Lab <u>or</u> Diseases of Ornamentals		2

Year 1	Fall Semester	Spring Semester
	Survey FAES 100	English 110
	Chem 101	Biol 1113
	Math 1130 or 1148	H&CS 2201 or 2202 (Add'l GE Sci I)
	Art	Social Science 1
	<u>1</u>	<u>3</u>
	<u>5</u>	<u>5</u>
	<u>4</u>	<u>4</u>
	<u>3</u>	<u>3</u>
	<u>13</u>	<u>15</u>

28 credit hours

Year 2	Fall Semester	Spring Semester
	H&CS 2201 or 2202 (Add'l GE Sci II)	Data Analysis
	H&CS 2200 or 2203 (Maj. Req.)	Social Science 2
	2 nd Writing	Cult./Idea/History
	Plant Path 3001 (Maj. Req.)	H&CS 3320 or 3420 (Maj. Req.)
	HCS 2401 (Maj. Req.)	Major
	<u>4</u>	<u>3</u>
	<u>3</u>	<u>3</u>
	<u>3</u>	<u>3</u>
	<u>2</u>	<u>3</u>
	<u>3</u>	<u>5</u>
	<u>15</u>	<u>17</u>

32 credit hours

Year 3	Fall Semester	Spring Semester
	Minor	Contemporary Issues
	AgrComm/Comm	Minor
	Major	ENR 3001.01 (Soil Science, Maj. Req.)
	Entom 3600 (Maj. Req.)	Literature
	Free elective	Major
	<u>3</u>	<u>3</u>
	<u>3</u>	<u>3</u>
	<u>5</u>	<u>3</u>
	<u>1</u>	<u>3</u>
	<u>2</u>	<u>4</u>
	<u>14</u>	<u>18</u>

32 credit hours

Year 4	Fall Semester	Spring Semester
	HCS 5601 (Major Capstone)	HCS 5401 or 5600 (Major Capstone)
	Major (2 or more classes)	Minor
	Minor (2 classes)	Major
	Free elective	History
	<u>1</u>	<u>2 or 3</u>
	<u>6 or 7</u>	<u>3</u>
	<u>6</u>	<u>5</u>
	<u>2</u>	<u>3</u>
	<u>13 (14)</u>	<u>2</u>
		<u>15 (16)</u>

29 Credit hours

121 Total Credit Hours

Distribution of hours:

GE's	63
Major	43
Minor	<u>15</u>
Grand Total	121

2010	Fall Qtr		Winter Qtr		Spring Qtr	
	Survey FAES 100	1	Chem 101 or 121	5	Biol 113	5
	Math 148	4	AEDE 200 or Econ 200	5	Chem 102	5
	RuSoc 105 or Soc 101	5	English 110	<u>5</u>	History	<u>5</u>
	Visual and Perf Art	<u>5</u>				
		<u>15</u>		15		<u>15</u>

45 credit hours (30 semester hours)

2011	Fall Qtr		Winter Qtr		Spring Qtr	
	HCS 200	5	HCS 260	5	HCS 300	5
	HCS 320	4	Add'l Soc Science	5	Literature	5
	HCS 204	<u>5</u>	Second Writing	<u>5</u>	Bio 114	<u>5</u>
		<u>14</u>		15		<u>15</u>

44 credit hours (29 semester hours)

2012	Fall Semester		Spring Semester	
	Minor	3	Culture and Ideas	3
	AgrComm/Comm	3	Minor	3
	Major	5	Major	5
	ENR 3001.01 (Soil Science, Major req.)	3	Entom 3600 (major req.)	1
	PI Path 3001 (major req.)	<u>2</u>	Free Elective	2
			Summer 2012	
			Internship	<u>2</u>
		<u>16</u>		<u>16</u>

32 credit hours

2013	Fall Semester		Spring Semester	
	HCS 5601 (Maj. Req.)	1	HCS 5600 (Maj. Req.)	2
	Major (2 classes)	6	Minor	3
	Minor (2 classes)	6	Major (2 classes)	5
	Free Elective	<u>2</u>	Cont. Issues/Col. Capstone	3
		<u>15</u>	Free elective	<u>2</u>
				<u>15</u>

30 credit hours

121 Total Semester Credit Hours

2011	Fall Qtr		Winter Qtr		Spring Qtr	
	Survey FAES 100	1	Chem 101	5	Biol 113	5
	Math 148	4	AEDE 200 or Econ 200	5	Chem 102	5
	RuSoc 105 or Soc 101	5	English 110	<u>5</u>	History	<u>5</u>
	Visual and Perf Art	<u>5</u>				
		<u>15</u>		15		15

45 credit hours (30 semester hours)

2012	Fall Semester		Spring Semester	
	HCS 2201 or 2202	3	HCS 2202 or 2201	3
	Literature	3	HCS 2260	3
	Second Writing	3	HCS 3325 or 3420	3
	HCS 2200 or 2203	3	AgrComm/Comm	3
	Major (HCS 2401 highly recommended)	<u>3</u>	Free Elective	<u>3</u>
		<u>15</u>		15

30 credit hours

2013	Fall Semester		Spring Semester	
	Minor	3	Culture and Ideas	3
	Major (2 classes)	6	Minor	3
	ENR 3001.01 (Soil Science, major req.)	3	Major (2 or more classes)	7
	PI Path 3001 (major req.)	2	Entom 3600 (major req.)	1
	Free Elective	<u>2</u>		
		<u>16</u>		

Summer 2013

Internship	<u>2</u>
	16

32 credit hours

2014	Fall Semester		Spring Semester	
	HCS 5601 (Major capstone)	1	HCS 5401 or 5600 (Major capstone.)	2-3
	Major (2 classes)	5	Minor	3
	Minor (2 classes)	6	Major (2 classes)	6
	Free Elective	<u>2-3</u>	Contemp. Issues/Col. Capstone	<u>3</u>
		<u>14-15</u>		14-15

29 credit hours

121 Total Credit Hours

	Goal								
Classes	1	2	3	4	5	6	7	8	9
GE's									
Writing 1									
Writing 2									
Communication									
Math 148 Sem Equiv									
Data Analysis									
Biol 113 Sem Equiv									
Chem 101 Sem Equiv.									
Social Sci 1									
Social Sci 2									
Historical Survey									
Cult & Idea or Hist. Study									
Literature									
Art									
Contemporary Issues									
Internship H&CS 4191.01	varies	varies	varies	varies	varies	varies	varies	varies	varies
Add'l. Sci 1 HCS 2201	Begin	Begin	Begin	Begin	Begin	N/A	Begin	N/A	N/A
Option 1 HCS 2202	Begin	Begin	Begin	Begin	Begin	N/A	Begin	N/A	N/A
Required H&CS	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
HCS 2340	N/A	N/A	Begin	Begin	N/A	N/A	Begin	N/A	Begin
HCS 2401	Interm.	Interm.	Begin	Interm.	Interm.	Interm.	Interm.	Interm.	Begin
HCS 3340	Interm.	Interm.	Interm.	Interm.	N/A	N/A	Interm.	N/A	Interm.
HCS 3410	Interm.	Begin	Interm.	Interm.	Begin	Begin	Interm.	Interm.	Interm.
HCS 4410	Interm.	Interm.	Interm.	Adv.	Adv.	Begin	Interm.	Interm.	Interm.
HCS 5601	Adv.	N/A	N/A	N/A	Adv.	N/A	Adv.	N/A	N/A
Required non-H&CS	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
PLNTPATH 3001 & 3302									
ENTOM 3600, 3601 or 3603									
ENR 3000.01									
Electives	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
HCS 2200	Begin	Begin	N/A	Begin	N/A	N/A	Begin	Begin	Begin
HCS 2203	Begin	Begin	Interm.	Interm.	Interm.	Begin	Begin	Interm.	Interm.
HCS 3320	Interm.	Adv.	Adv.	Interm..	Adv.	Begin	Adv.	Interm.	Interm.

HCS 3522	Begin	Begin	Interm.	Interm.	Begin	Begin	N/A	Interm.	Interm.
HCS 3380	Interm.	Begin	Begin	Begin	Interm.	Adv.	Interm.	Interm.	Interm.
HCS 3401.02	Interm.	Begin	Begin	Begin	Interm.	Adv.	Interm.	Interm.	Interm.
HCS 3420	Interm.	Interm.	Begin	Begin	Interm.	N/A	Begin	Interm.	Begin
HCS 3438	Begin	Interm.	Interm.	Interm.	Interm.	Interm.	Interm.	Interm.	Interm.
HCS 3439	Begin	Interm.	Interm.	Interm.	Interm.	Interm.	Interm.	Interm.	Interm.
HCS 3470	Begin	Interm.	Interm.	Interm.	Interm.	Begin	N/A	Interm.	Interm.
HCS 4189	varies	varies	varies	varies	varies	varies	varies	varies	varies
HCS 4401	Adv.	Adv.	Adv.	Adv.	Adv.	Adv.	Adv.	Adv.	Adv.
HCS 4560	Adv.	N/A	N/A	N/A	Adv.	Adv.	Adv.	N/A	N/A
HCS 5193	varies	varies	varies	varies	varies	varies	varies	varies	varies
HCS 5401	Adv.	Adv.	Adv.	Adv.	Adv.	Adv.	Adv.	Adv.	Adv.
HCS 5422	Begin	Interm.	Interm.	Interm.	Begin	Begin	Interm.	Begin	Interm.
HCS 5533	Adv.	Adv.	Adv.	Adv.	Adv.	Interm.	Interm.	Interm.	Interm.
HCS 5600	Adv.	Interm.	Interm.	Adv.	Adv.	Interm.	Adv.	Adv.	Adv.
HCS 5797	Adv.	Interm.	N/A	Adv.	Adv.	N/A	Adv.	Interm.	Interm.
PINTPATH 5140 or 5603									
ENTOM 4800									

H&CS Undergrad Learning Objectives: *Upon successfully completing their degree program, H&CS undergraduates will:*

1. Be competent in critical thinking and research, *i.e.*, have the ability to effectively gather or generate, analyze, evaluate, and disseminate information.
2. Have the ability to integrate the fundamentals of physical and biological sciences (*e.g.* chemistry, physics, biology, botany, genetics, molecular biology, evolution, scientific method, etc.) in sustainable plant systems.
3. Have translational plant science competency, *i.e.*, the ability to apply horticulture, and agronomic principles (*e.g.* soil science, plant phys., crop/field ecology, landscape design and maintenance, pest management, etc.) to grow and maintain healthy plants in an efficient, economically sound, environmentally compatible, and socially responsible way.
4. Understand the concept of sustainability and be able to use sustainable practices.
5. Be able to communicate effectively in all aspects (oral, electronic, written, visual, etc.) at a professional level.
6. Understand the fundamentals of successful business and entrepreneurial operation: *i.e.*, planning, goal setting, personnel management, business terminology, finance, economics, etc.
7. Have an appreciation for and ability to practice life-long learning through self-awareness and evaluation, seeking knowledge, and using evaluation and synthesizing skills.
8. Have developed an appreciation of and respect for diversity.
9. Understand the importance of social responsibility in sustainability and how to be socially responsible.

The above will be achieved through lectures, labs, field trips, research projects, study abroad experiences, department-, college- and university-sanctioned extracurricular events and activities, as well as other instructional practices.

FAES 100 or USAS 100, etc	1	Historical Study	3
Writing Level 1	3	Culture & Ideas or Historical	
Writing Level 2	3	Study	3
Agr Comm 390 or Comm 321	3	Literature	3
Math 1130 or 1148 (College Algebra)	4	Art	3
Data Analysis (HCS 2260 recommended)	3	Opt. 1 HCS 2202 ¹ Frm & Fxn Cult Plt	4
Biological Science (Bio 1113)	4-5	Minor	12-15
Physical Science (<i>Chem 101</i>)	4-5	Major	40-43
Add'l. Sci. HCS 2201 ¹ Ecol of Mng'd Plt Sys.	4	Contemporary Issues	3
Social Science 1	3	Internship (HCS 4191.01)	2
(Rural Soc 1500 or <i>Sociol 101</i>)	3		
Social Science 2	3	<u>Electives</u>	<u>5-13</u>
(AED Econ 2201 or Econ 200)		TOTAL	121

Required Courses – Sustainable Plant Systems Major

15

HCS	2200	Science of Sustainable Plant Production	<u>-or-</u>	3
HCS	2203	Human & Cultivated Plant Interactions		
HCS	3320	Plant Propagation	<u>-or-</u>	3
HCS	3420	Seed Science		
PLNTPATH	3001	General Plant Pathology		2
ENTMLGY	4600	Intro to Insect Science		1
ENR	3000.01	Soil Science		3
HCS	5600	Capstone		2
HCS	5601	Managing your Virtual Portfolio (part of capstone req.)		1

Required Courses - Turfgrass Specialization

10

HCS	3470	Principles of Turfgrass Management		3
HCS	4570	Turfgrass Management and Science		3
PLNTPATH	3002	General Plant Pathology Lab		2
ENTMLGY	4601 or 4602	General Insect Pest Management or Landscape Entomology		2

Additional elective coursework to complete the specialization

15-18

HCS	2200	Science of Sustainable Plant Production (if not taken above)		3
HCS	2203	Human & Cultivated Plant Interactions (if not taken above)		3
HCS	2270	Historical Perspectives on Golf Course Design and Management		2
HCS	2340	Landscape Plants		3
HCS	3320	Plant Propagation (if not taken above)		3
HCS	3420	Seed Science (if not taken above)		3
HCS	3797/5797	Study Abroad		3-6
HCS	3370	Sports Turf Management		3
HCS	4189	Professional Development in Hort and Crop Science		1-3
HCS	4560	Creating a Virtual Perspective		3
HCS	5193	Independent Study		1-3
HCS	5422	Principles of Weed Ecology and Management		3
HCS	5670	Golf Courses and Their Environments		3
HCS	5890	Turfgrass Seminar		1
PLNTPATH	5130	Turfgrass Diseases and Integrate Turf Health Management		2
ENR	3000.02	Soils lab		1
ENR	5260	Urban and Sports Turf Soils		3
ENR	5270	Soil Fertility and Fertilizers		3

Year 1	Fall Semester		Spring Semester	
	Survey FAES 100	1	English 110	3
	Chem 101	5	Biol 113	5
	Math 130 or 148	4	H&CS 2201 or 2202 (Add'l GE Science*)	4
	Art	3	Social Science 1	3
		<u>13</u>		<u>15</u>
			28 credit hours	

Year 2	Fall Semester		Spring Semester	
	H&CS 2201 or 2202 (Add'l GE Science*)	4	Data Analysis	3
	H&CS 2200 or 2203 (Maj. req.)	3	Social Science 2	3
	2 nd Writing	3	Cult./Idea/History	3
	Plant Path (Maj. Req.)	4	H&CS 3320 or 3420 (Maj. req.)	3
	Free Elective	3	H&CS 2270	2
		<u>17</u>		<u>14</u>
			31 credit hours	

Year 3	Fall Semester		Spring Semester	
	Minor	3	Cont. Issues/Free Elective	3
	AgrComm/Comm	3	Minor	3
	H&CS 3470	3	Soil Science (Maj. Req.)	3
	Entomology (Maj. Req.)	3	Literature	3
	H&CS 2234	3	H&CS 4570	3
			Summer	
			Internship	2
		<u>15</u>		<u>17</u>
			32 credit hours	

Year 4	Fall Semester		Spring Semester	
	H&CS 5601(Maj. Req.)	1	H&CS 5600 (Maj. Req.)	2
	H&CS 4560	3	Minor	3
	H&CS 5670	3	Specialization elective	3
	Minor (2 Classes)	6	History	3
	H&CS 4488	1	Free elective	2
	Free Elective	2	Turfgrass Seminar	1
		<u>16</u>		<u>14</u>
			30 Credit hours	

121 Total Credit Hours

Distribution of hours:

GE's	65
Major	41
(Major Req.	19)
(Specialization Req.	6)
(Specialization Electives	16)
Minor	<u>15</u>
Grand Total	121

* Approval of course as GE Add'l Science pending

2010	Fall Qtr		Winter Qtr		Spring Qtr	
	Survey FAES 100	1	Chem 101 or 121	5	Biol 113	5
	Math 148	4	AEDE 200 or Econ 200	5	Chem 102	5
	RuSoc 105 or Soc 101	5	English 110.01 5	5	History	5
	Visual and Perf Art	5				
		<u>15</u>		<u>15</u>		<u>15</u>

45 quarter hours (30 semester hours)

2011	Fall Qtr		Winter Qtr		Spring Qtr	
	H&CS 200	5	H&CS 260	5	H&CS 300	5
	H&CS 320	4	Add'l Soc Science	5	Literature	5
	Biology 114	5	Second Writing	5	Major	5
		<u>14</u>		<u>15</u>		<u>15</u>

44 quarter hours (29 semester hours)

31 credit hours

2012	Fall Semester		Spring Semester	
	Minor	3	Culture and Ideas	3
	AgrComm/Comm	3	Minor	3
	H&CS 3470	3	Soil Science	3
	Entomology	3	Plant Path	4
	H&CS 2234	3	H&CS 4570	3
			<u>Summer 2012</u>	
			Internship	2
		<u>15</u>		<u>18</u>

33 credit hours

2013	Fall Semester		Spring Semester	
	H&CS 5601	1	H&CS 5600	2
	H&CS 4560	3	Minor (2 classes)	6
	H&CS 5670	3	Turfgrass Seminar	1
	Minor	3	Cont. Issues/Coll. capstone	3
	H&CS 4488	1	Free elective	3
	Free Elective	3		
		<u>14</u>		<u>15</u>

29 credit hours

121 Total Semester Credit Hours

2011	Fall Qtr		Winter Qtr		Spring Qtr	
	Survey FAES 100	1	Chem 101 or 121	5	Biol 113	5
	Math 148	4	AEDE 200 or Econ 200	5	Chem 102	5
	RuSoc 105 or Soc 101	5	English 110.01 5	5	History	5
	Visual and Perf Art	5				
		<u>15</u>		<u>15</u>		<u>15</u>

45 quarter hours (30 semester hours)

2012	Fall Semester		Spring Semester	
	HCS 2201	3	HCS 2202	3
	Literature	3	HCS 2260	3
	Second Writing	3	HCS 3325 or 3420	3
	HCS 2200 or 2203	3	AgrComm/Comm	3
	Free Elective	3	Free Elective	3
		<u>15</u>		<u>15</u>

30 credit hours

2013	Fall Semester		Spring Semester	
	Minor	3	Culture and Ideas	3
	AgrComm/Comm	3	Minor	3
	H&CS 3470	3	Soil Science	3
	Entomology	3	Plant Path	4
	H&CS 2234	3	H&CS 4570	3
			<u>Summer 2012</u>	
			Internship	2
		<u>15</u>		<u>18</u>

33 credit hours

2014	Fall Semester		Spring Semester	
	H&CS 5601	1	H&CS 5600	2
	H&CS 4560	3	Minor (2 classes)	6
	H&CS 5670	3	Turfgrass Seminar	1
	Minor	3	Cont. Issues/Coll. capstone	3
	H&CS 4488	1	Free elective	2
	Free Elective	2		
		<u>13</u>		<u>15</u>

28 credit hours

121 Total Semester Credit Hours

Classes	Goal								
	1	2	3	4	5	6	7	8	9
GE's									
Writing 1									
Writing 2									
Communication									
Math 148 Sem Equiv									
Data Analysis									
Biol 113 Sem Equiv									
Chem 101 Sem Equiv.									
Social Sci 1									
Social Sci 2									
Historical Survey									
Cult & Idea or Hist. Study									
Literature									
Art									
Contemporary Issues									
Internship H&CS 4191.01	Varies	Varies	Varies	Varies	Varies	Varies	Varies	Varies	Varies
Add'l. Sci 1 HCS 2201	Begin	Begin	Begin	Begin	Begin	N/A	Begin	N/A	N/A
Option 1 HCS 2202	Begin	Begin	Begin	Begin	Begin	N/A	Begin	N/A	N/A
Required H&CS	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
HCS 3470	Begin	Interm.	Interm.	Interm.	Interm.	Begin	N/A	Interm.	Interm.
HCS 4570	Interm.	Interm.	N/A	Interm.	N/A	N/A	Adv.	Interm.	N/A
HCS 5600	Adv.	Interm.	Interm.	Adv.	Adv.	Interm.	Adv.	Adv.	Adv.
HCS 5601	Adv.	N/A	N/A	N/A	Adv.	N/A	Adv.	N/A	N/A
Required non-H&CS	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
PLNTPATH 3001 & 3002									
ENTOM 3600 and 3601 or 3602									
ENR 3000.01									
Electives	<u>Goal 1</u>	<u>Goal 2</u>	<u>Goal 3</u>	<u>Goal 4</u>	<u>Goal 5</u>	<u>Goal 6</u>	<u>Goal 7</u>	<u>Goal 8</u>	<u>Goal 9</u>
HCS 2200	Begin	Begin	N/A	Begin	N/A	N/A	Begin	Begin	Begin
HCS 2203	Begin	Begin	Interm.	Interm.	Interm.	Begin	Begin	Interm.	Interm.
HCS 2270	N/A	N/A	Begin	Interm.	Begin	N/A	N/A	Begin	Begin

HCS 2340	N/A	N/A	Begin	Begin	N/A	N/A	Begin	N/A	Begin
HCS 3320	Interm.	Adv.	Adv.	Interm..	Adv.	Begin	Adv.	Interm.	Interm.
HCS 3420	Interm.	Interm.	Begin	Begin	Interm.	N/A	Begin	Interm.	Begin
HCS 3370	Interm.	Interm.	Interm.	Interm.	N/A	N/A	N/A	N/A	Interm.
HCS 4189	varies	varies	varies	varies	varies	varies	varies	varies	varies
HCS 4560	Adv.	N/A	N/A	N/A	Adv.	Adv.	Adv.	N/A	N/A
HCS 5193	varies	varies	varies	varies	varies	varies	varies	varies	varies
HCS 5422	Begin	Interm.	Interm.	Interm.	Begin	Begin	Interm.	Begin	Interm.
HCS 5670	Interm.	Interm.	N/A	Interm.	Interm.	N/A	Interm.	N/A	Interm.
HCS 5890	N/A	N/A	Adv.	Adv.	N/A	Adv.	Adv.	N/A	Adv.
ENR 3000.02									
ENR 5260									
ENR 5270									
PINTPATH 5130									

H&CS Undergrad Learning Objectives: *Upon successfully completing their degree program, H&CS undergraduates will:*

1. Be competent in critical thinking and research, *i.e.*, have the ability to effectively gather or generate, analyze, evaluate, and disseminate information.
2. Have the ability to integrate the fundamentals of physical and biological sciences (*e.g* chemistry, physics, biology, botany, genetics, molecular biology, evolution, scientific method, etc.) in sustainable plant systems.
3. Have translational plant science competency, *i.e.*, the ability to apply horticulture, and agronomic principles (*e.g.* soil science, plant phys., crop/field ecology, landscape design and maintenance, pest management, etc.) to grow and maintain healthy plants in an efficient, economically sound, environmentally compatible, and socially responsible way.
4. Understand the concept of sustainability and be able to use sustainable practices.
5. Be able to communicate effectively in all aspects (oral, electronic, written, visual, etc.) at a professional level.
6. Understand the fundamentals of successful business and entrepreneurial operation: *i.e.*, planning, goal setting, personnel management, business terminology, finance, economics, etc.
7. Have an appreciation for and ability to practice life-long learning through self-awareness and evaluation, seeking knowledge, and using evaluation and synthesizing skills.
8. Have developed an appreciation of and respect for diversity.
9. Understand the importance of social responsibility in sustainability and how to be socially responsible.

The above will be achieved through lectures, labs, field trips, research projects, study abroad experiences, department-, college- and university-sanctioned extracurricular events and activities, as well as other instructional practices.

The university Pledge to Undergraduate Students (see end of this document) will be followed by the faculty advisors in Horticulture and Crop Science. Advisors will encourage their advisees to be proactive in getting help with scheduling courses before and after the conversion to make sure progress toward graduation is not impeded as long as the students follow a course of action that promotes progress. That course of action includes but is not limited to: a timely declaration of major and minor, taking courses in proper sequence, taking and successfully completing a sufficient number of hours each term, maintaining GPA's in the major, minor, and overall above 2.00, etc.

Beginning in summer, 2010, transition students (those who start under quarters and will finish under semesters) will be receiving information regarding the semester conversion via bulletin boards in Howlett and Kottman Halls, the department website (hcs.osu.edu), and other communication methods. This is intended to keep them informed of the process, the progress being made in graduate and undergraduate programs and course approval, as well as what they should be doing to make the transition as seamless as possible.

Undergraduate students will have the option to remain in their current majors but with the required number of credit hours for graduation reduced from 183 to 121 and credits for courses taken under quarters adjusted accordingly. Courses that are a one for one switch from quarter to semester versions should be relatively easy to incorporate into a student's program. For quarter courses that are dropped or significantly altered, or semester versions that will not be available before the student's projected graduation date, suitable semester alternatives will be substituted. The substitutions will be based on course content and meeting the needs of the student's career path and time to graduation.

The other option for undergraduates is to switch to the semester majors and have quarter courses and credits evaluated for "transfer" into the new curriculum. The process will be similar to that for students remaining in the old majors.

It is assumed that undergraduates who start before Au 2011 would likely remain in the old majors but students who start Au 2011 through Sp 2012 might prefer to switch to the new majors.

In general, transition students will be encouraged to complete the quarter system GEC categories that have no or few options (e.g. most sciences, social science) before the conversion. They are also being encouraged to take required courses in the major for the same reason. We feel that the categories with the most options (some semester GE categories and electives in the major) will provide the most flexibility in course choice and scheduling under semesters. Students who are thinking of switching to the new Sustainable Plant Systems major will be advised to take Biology 113 or its semester equivalent because that is the biological science required for the SPS major.

Graduate students will be advised in a similar manner regarding progress toward degree completion.

Faculty and others who advise students will be kept up-to-date with advising policies, resources, and tips via the H&CS Q2S Carmen website and other communication formats.

University Pledge to Undergraduate Students:

In planning and implementing its conversion from quarters to semesters for summer 2012, The Ohio State University is committed to protecting the academic progress of students. Students should find that the shift from quarters to semesters does not disrupt progress toward their degrees if they

1. decide on their major and degree within a time compatible with four-year graduation;
2. meet the standards for progress defined by their academic unit and continue to complete appropriate course loads successfully; and
3. actively develop and follow academic plans in consultation with their academic advisors.

Students completing a quarter-plus-semester degree program will receive approximately the same amount of instruction, and the changes to the calendar and to courses should only improve the quality of programs. Full-time tuition (general and instructional fees) for an academic year under semesters will not cost more than what tuition would have cost for that same year under quarters, and the change should not adversely affect students' financial aid.

To ensure that the conversion will not harm students' progress, academic units will continue to provide intentional, purposeful advising. Academic advisors will understand how the changes in courses and curricula may affect students' degree programs, will know where and how programs can be flexible, and will be prepared to assist students in planning their remaining semesters to graduation. Good planning around a student's major will be particularly important, and the university will provide that support to students who begin their academic career under quarters and complete it under semesters.

Students will vary considerably in their academic progress, and each student's plan for completing degree requirements will need to be determined individually. Every student will be responsible for getting and using the advice essential to assure progress toward his or her degree. Advising is a joint endeavor, and we are confident that students and their advisors, working together, can develop effective plans leading to timely graduation as the university converts to semesters

On Sep 30, 2010, at 2:37 PM, MARK SEEGER wrote:

Dr. Randle,

Molecular Genetics and PCMB have reviewed your reorganized undergraduate majors that are proposed to start with the upcoming conversion to semesters in 2012. The most relevant change is the elimination of HCS300 (cross listed with PCMB) and the incorporation of material previously taught in HCS300/PCMB300 into other courses for your undergraduate majors. You have our support for this proposed change.

Best wishes,
Mark

Mark A. Seeger, Ph.D.
Associate Professor
Associate Chair
Department of Molecular Genetics and
The Center for Molecular Neurobiology
The Ohio State University
614-292-5106



Department of Entomology

College of Food, Agriculture and Environmental Sciences
202 Kottman Hall
2021 Coffey Rd.
Columbus, OH 43210
Phone (614) 292-8209

16 September 2010

To: William M. Randle, Chair, Dept. of Horticulture and Crop Science

From: Susan Fisher, Chair, Dept. of Entomology

Re.: Statement of Concurrence

We concur with your requirement for entomology coursework in the Sustainable Plant Systems (SPS) major, in all four of its specializations. Our curriculum committee has reviewed the SPS curricula and supports the entomology requirement.

From: hendrick.15@osu.edu
To: mcmahon.43@osu.edu
Cc: giese.1@osu.edu
Subject: Concurrence
Date: Monday, December 06, 2010 11:31:59 PM

Dr. McMahon - The School of Environment and Natural Resources has reviewed the Department of Horticulture and Crop Science's proposal for a Sustainable Plant systems major, and is pleased to offer our concurrence.

Kind Regards,

Ron Hendrick, Director and Professor
School of Environment and Natural Resources

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BEGIN-ANTISPAM-VOTING-LINKS

Teach CanIt if this mail (ID 1124640664) is spam:

Spam: <https://antispam.osu.edu/b.php?i=1124640664&m=29080a242da2&c=s>

Not spam: <https://antispam.osu.edu/b.php?i=1124640664&m=29080a242da2&c=n>

Forget vote: <https://antispam.osu.edu/b.php?i=1124640664&m=29080a242da2&c=f>

END-ANTISPAM-VOTING-LINKS