

Status: PENDING

**PROGRAM REQUEST**  
Horticulture and Crop Science PhD

Last Updated: Myers, Dena Elizabeth  
01/19/2011

<b>Fiscal Unit/Academic Org</b>	Horticulture & Crop Science - D1127
<b>Administering College/Academic Group</b>	Food, Agric & Environ Science
<b>Co-administering College/Academic Group</b>	
<b>Semester Conversion Designation</b>	Converted with minimal changes to program goals and/or curricular requirements (e.g., sub-plan/specialization name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content)
<b>Current Program/Plan Name</b>	Horticulture and Crop Science
<b>Proposed Program/Plan Name</b>	Horticulture and Crop Science PhD
<b>Program/Plan Code Abbreviation</b>	HCS-PH
<b>Current Degree Title</b>	Doctor of Philosophy

**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		120	80.0	80	0.0
Required credit hours offered by the unit	Minimum	37	24.7	25	0.3
	Maximum	83	55.3	55	0.3
Required credit hours offered outside of the unit	Minimum	0	0.0	0	0.0
	Maximum	0	0.0	0	0.0
Required prerequisite credit hours not included above	Minimum				
	Maximum				

**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 able to demonstrate scientific competency, i.e. the understanding of scientific methods (reductionist and system approaches), core physical and biological sciences, specialized science knowledge, statistical knowledge and usage.
  - Understand the importance of international awareness and connections: i.e. understand global issues and have the ability to network with international peers.
  - Be able use all forms of communication effectively at a professional level.
  - Be able to manage projects, personnel, and time effectively.
  - Be able to participate in interdisciplinary/holistic projects, grants, etc.

**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)
- 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

**Direct assessment methods specifically applicable to graduate programs**

- Candidacy exams
- Research proposals written and grants awarded
- Thesis/dissertation oral defense and/or other oral presentation
- Thesis/dissertation (written document)
- Publications
- Other: Presentations at professional meetings.

**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
- Grade review
- Outreach participation
- 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
- Analyze and report to accrediting organization
- Make improvements in curricular requirements (e.g., add, subtract courses)
- Make improvements in course content
- Make improvements in course delivery and learning activities within courses
- 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

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

- Justification HCS Graduate Program Semesters.docx

*(Program Rationale Statement. Owner: McMahon,Margaret Jane)*

- DeptHCSSupportLetter.jpg

*(Letter from Program-offering Unit. Owner: McMahon,Margaret Jane)*

- HCS-PhD-SemesterProgram Revised12-20-10.docx

*(List of Semester Courses. Owner: McMahon,Margaret Jane)*

## Comments

- Horticulture and Crop Science faculty approved the programs 19-0 by vote on 12/14/2010. *(by McMahon,Margaret Jane on 12/20/2010 11:57 AM)*

## Workflow Information

Status	User(s)	Date/Time	Step
Submitted	McMahon,Margaret Jane	12/20/2010 11:57 AM	Submitted for Approval
Approved	McMahon,Margaret Jane	12/29/2010 11:16 AM	Unit Approval
Approved	Stokoe,Laurie Anne	01/14/2011 04:11 PM	College Approval
Approved	Myers,Dena Elizabeth	01/19/2011 10:16 AM	GradSchool Approval
Pending Approval	Soave,Melissa A	01/19/2011 10:16 AM	CAA Approval



November 16, 2010

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)

The Department of Horticulture and Crop Science Graduate offers three graduate degree programs:

- Master of Science (M.S.) degree in Horticulture and Crop Science with thesis
- Master of Science degree in Horticulture and Crop Science non-thesis option (permitted only by petition to the HCS Graduate Studies Committee)
- Doctor of Philosophy (Ph.D.) degree in Horticulture and Crop Science

The faculty in Horticulture and Crop Science conducted a thorough review of the Master of Science and Doctor of Philosophy programs in 2008. As a result of that review a new curriculum for M.S. and Ph.D students was developed and approved. That curriculum is viewed as being successful. As a result, the conversion to semesters has required little change from the quarter program except for adjustments in course credit hours and required minimum number of hours for graduation.

The program sheets for the M.S. and Ph.D. programs that are included in the program approval packet show the comparison between quarter and semester versions of the respective programs.

**Brief program description:**

Graduate programs in Horticulture and Crop Science include required courses that are considered essential for all M.S. and Ph.D. graduate students. The student, in conjunction with their SAC, will select additional courses that are important for the particular discipline area, support the student's research program, and address specific needs or interests. Good communication and professional skills also are essential, and required courses address those needs as well.

Shortly after the first meeting with the student's SAC, a complete *Graduate Course Program* must be prepared by the student and his or her advisor. The proposed *Graduate Course Program* must meet the minimum requirements of the Department and be approved by the SAC no later than the end of the second semester (M.S.) or third semester (Ph.D.). Any deviation from the approved requirements must be approved by the SAC and the Departmental Graduate Studies Committee. Student progress will be monitored continually, with annual progress reports generated and put in the student's file maintained in the department office.

**The Proposed Ph.D. Semester Graduate Program**

**Department of Horticulture and Crop Science 11/2/10 rev. 05/23/11**

The Department of Horticulture and Crop Science Graduate a Doctor of Philosophy (Ph.D.) degree in Horticulture and Crop Science

**A. Requirements.**

The Ph.D. program in Horticulture and Crop Science requires 20 cr. hr. in classes considered essential for all Ph.D. graduate students. Many graduate courses in HCS require a solid background in basic sciences (biological, chemical, and physical sciences) and mathematics. Good communication and professional skills also are essential, and required courses address those needs as well. The student, in conjunction with their Student Advisory Committee (SAC) and approved by the department Graduate Studies Committee (GSC), will select additional courses that are important for the particular discipline area, support the student’s research program, and address specific needs or interests.

Shortly after the first meeting with the student's SAC, a complete *Graduate Course Program* must be prepared by the student and his or her advisor. The proposed *Graduate Course Program* must meet the minimum requirements of the Department and be approved by the SAC no later than the end of the third semester. Any deviation from the minimum requirements must be approved by the SAC and the Departmental Graduate Studies Committee.

**Course requirements for the Ph.D. degree in Horticulture & Crop Science:**

Students must complete four disciplinary courses that encompass plant physiology, agricultural ecology, plant breeding and genetics, and statistical analysis. Other required HCS courses include taking each of the following classes two times: the departmental seminar and colloquium course, the research methods course, and the current topics course.

Required courses are as follow:

<b>HCS 5602 Ecology of Agriculture</b> (revised 602)	3 cr. hr.
<b>HCS 5621 Crop Physiology</b> or <b>HCS 8821 Advanced Crop Physiology</b> (Revised 621 and 821, respectively)	3 cr. hr.
<b>HCS 7625 Plant Breeding and Biotechnology</b> (revised 625) or <b>HCS 8825 Advanced Plant Breeding</b> (revised 825)	3 cr. hr.
<b>HCS 8887 Techniques of Experimental Design</b> (revised 887)	4 cr. hr.
<b>HCS 7001 Professional Development</b> (new course)	1 cr. hr.
<b>HCS 7890 Seminar and Colloquium</b> (revised 804)	1 cr. hr. (2x)
<b>HCS 7806 Methods in HCS</b> (revised 806)	1 cr. hr. (2x)
<b>HCS 8830 Current Topics</b> (revised 830)	1 cr. hr. (2x)
<b>Total Required Course credits</b>	<b>20 cr.hr.</b>

**Further credits required for graduation:**

Ph.D. students are required by the Graduate School to have a minimum of 80 semester credit hours for graduation. Six of the remaining 60 credit hours can be chosen from any class 7000 or greater not used to fulfill the requirements listed above but not including HCS 8999, HCS 8830 or HCS 8806.

To meet the remaining required hours for graduation, courses can be chosen that meet the previous criteria but can also include any non-HCS course 4000 or greater, any HCS course 5000 or higher including H&CS 8999 (repeatable), HCS 8830 (to repeatable limit), or HCS 8806 (to repeatable limit).

<b>Total minimum semester hours from required courses:</b>	<b>20</b>
<b><u>Total minimum elective semester hours:</u></b>	<b><u>60</u></b>
<b>Total minimum credit hours required for graduation:</b>	<b>80</b>

**For comparison purposes to Quarter Requirements**

**Quarter Requirements Are:**

HCS 621 or HCS 822 Crop Physiology	5 cr
HCS 625 or HCS 825 Plant Breeding and Biotechnology	4 or 5 cr
HCS 602 Field Crop Ecology	3 cr
HCS 804 Seminar and colloquium	1 cr hr (2x)
HCS 806 Research Methods	2 cr hr (2x)
HCS 830 Current Topics	2 cr hr (4x)
HCS 887 Statistics	5 cr hr
HCS 999 Research	varies

**Additional required courses:**

Take a minimum of 12 credits of other classes from any HCS class 600 level or higher (excluding classes used to fulfill core credit higher and HCS 999, 830, 840); any non-HCS class 500 level or higher.

<b>Total hours from all classes listed above except 999</b>	<b>37-38</b>
<b>Minimum quarter hours required by the graduate school</b>	<b>120</b>

Students select in consultation with the student's SAC the additional courses needed to meet the minimum number of credits needed to graduate.

***In summary:***

<b>Total minimum qtr hours from required courses:</b>	<b>37-38</b>
<b><u>Total minimum qtr hours from elective courses:</u></b>	<b><u>82-83</u></b>
<b>Total minimum qtr hours needed for graduation:</b>	<b>120</b>

**Quarter-to-Semester Credit Hour Requirement Conversion:**

<b>Quarter to semester hr. conv. (required courses)</b>	<b>37 x 0.667 = 25*</b>
<b>Qtr to sem. hr. conversion (total for graduation):</b>	<b>120 x 0.667 = 80*</b>

\* ***Matches with the required course and total hours listed in the semester programs above.***