

Brothers, Sheila C

From: Hippisley, Andrew R
Sent: Friday, March 21, 2014 2:10 PM
To: Brothers, Sheila C
Subject: RE: Advanced Horticulture

Graduate certificate in Advanced Horticulture

This is a recommendation that the University Senate approve the establishment of a new graduate certificate: Advanced Horticulture, in the Department of Horticulture within the College of Agriculture, Food and Environment.

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UNIVERSITY OF KENTUCKY

College of Agriculture

Robert L. Geneve, Professor

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June 19, 2012

Graduate Curriculum Committee,

Included are the documents to initiate a Graduate Certificate in Advance Horticulture. All coursework in the Certificate will be offered via distance learning. The concept of an Advanced Horticulture Certificate was developed by faculty from five Universities participating in AG*IDEA, an affiliate of the Great Plains IDEA consortium. Great Plains AG*IDEA is a national consortium of universities offering programs and courses in agriculture disciplines. The University of Kentucky is a member of this Consortium. Additional information about the Consortium can be found at <http://www.gpidea.org/>

The Consortium requires the participating faculty to prepare a business plan for the proposed Certificate that includes identification of the target audience, learning objectives, syllabi for the selected coursework and a program evaluation plan. This plan has been accepted by the Great Plains IDEA consortium and was initiated in Spring 2012. In Spring 2012, UK finalized the administrative agreements with the Great Plains IDEA consortium that has allowed for the current submission to initiate an Advance Horticulture Graduate Certificate.

In order to make this process seamless for participating UK students, each course available in the Certificate program will be assigned a UK course name and number regardless of the University affiliation of the instructor for that course. Each proposed course will be evaluated for approval through the usual University of Kentucky system for new graduate courses. Students will register for classes under the UK course number and pay tuition to the UK registrar at the Consortium rate. The Consortium Common Price for the 2012-2013 academic year is \$485 per graduate credit hour. Course fees will be shared between the resident University (12.5%), the instructor's University (75%), and the Great Plains IDEA consortium (12.5%).

It is envisioned that there will be interest in the Advanced Horticulture Certificate in three targeted audiences. First, there is a population of County Extension personnel with a need and interest in attaining a M.S. degree. The Certificate program can act as the first step in this process by offering distance learning coursework in their discipline that they can complete off-campus. The Advanced Horticulture Certificate coursework is compatible with the newly initiated Integrated Plant and Soil Science graduate program, which could be completed with additional on-campus courses and research activities.

A second population of students that might be attracted to the Certificate program are industry professionals interested in advanced Horticulture training or a mechanism to stay current in their field.

The third group might include a population of students that would not normally participate in graduate education. An example of this group might be the large population of Master Gardener graduates that have the time, interest and enthusiasm for attaining advanced training in Horticulture.

Sincerely,

A handwritten signature in cursive script that reads "R Geneve". The letters are fluid and connected, with a prominent capital "R" at the beginning.

Robert Geneve, Professor

University of Kentucky Graduate Certificate Program Application Form

Please use this application form as a guide for your Certificate Program proposal.

Name of Proposed Certificate Program: Advanced Horticulture

Sponsoring Academic Unit: Department of Horticulture

Administering Unit, if different: ____

Primary Contact Name: Robert Geneve

Campus Address : 401b Plant Science Building

Phone Number: 257-8610 **Email:** rgeneve@uky.edu

First Term the Certificate Would be Offered: Spring 2013

1. Describe the Certificate Program and provide a statement of educational objectives and learning outcomes.

The Certificate in Advanced Horticulture provides students with the basic knowledge and skills required to master advanced practices and principles in horticulture. The program provides courses that cover a broad overview of horticultural production including nursery, greenhouse, edible food crop production as well as coursework in horticultural business management. Production courses are balanced with basic coursework in plant physiology, nutrition, and irrigation science to provide students with an excellent foundation for a horticultural management position, teaching, or graduate school. Specific learning outcomes include: a) A proficiency in advanced principles and practices in horticultural production. b) A fundamental understanding of the basic plant physiology associated with horticultural production. c) A proficiency in the principles of horticultural business management.

2. Include a statement about the need for such a Certificate Program, and specifically why there is a need to offer this certificate at the University of Kentucky.

The Advanced Horticulture Certificate is opportunity for Master Gardeners, Vocational teachers, Extension agents and commercial growers to broaden their knowledge base in horticulture and advance their employment opportunities. It would also provide the initial step toward pursuing a graduate degree in the Integrated Plant and Soil Science program offered at the University of Kentucky collaboratively by the Department of Horticulture and the Department Plant and Soil Sciences.

3. Describe the demographics of the target student population for the Certificate Program. Double click each box that applies and describe the intended audience.

- Graduate Students
- Professional Students: ____
- Degree-seeking, Matriculated Students
- Non-Degree-Seeking Students

*Completed and approved applications should be submitted to:
Dean of the Graduate School, University of Kentucky*

4. Provide specific courses and other requirements for the Certificate Program. Separate listings of courses may be included with the proposal.

The Advanced Horticulture Certificate requires 15 credit hours from the following list of courses:

- PLS 630 Environmental Nursery Production (3 cr.) Spring
- PLS 631 Advanced Arboriculture (3 cr.) Fall
- PLS 632 Floral Crops Production (2 cr.) Spring
- PLS 633 Viticulture (3cr.) Spring
- PLS 634 Interior Plantscaping (3 cr.) Spring
- PLS 635 Herbaceous Perennials and Grasses (3 cr.) Fall
- PLS 636 Business Management of Horticulture Enterprises (3 cr.) Spring and Fall
- PLS 637 Plant Nutrition and Nutrient Management (3 cr.) Spring and Fall
- PLS 638 Plant Physiology (3 cr.) Fall
- PLS 639 Water Issues in Land and Landscape (3 cr.) Spring
- PLS 640 Advanced Topics in Plant Propagation (3 cr.) Fall
- PLS 641 Plant Water Relations (3 cr.) Spring
- PLS 643 Advanced Greenhouse Crop Production (4 cr.) Spring

5. Provide a statement on the relationship of the Certificate Program to degree programs within the unit(s), if any.

Students completing the Advanced Horticulture Certificate could use a portion of these credits towards completion of a M.S. degree in the Integrated Plant and Soil Science program offered at the University of Kentucky collaboratively by the Department of Horticulture and the Department Plant and Soil Sciences.

6. Will the Certificate Program be offered jointly with another university? If yes, describe the relationship with the joint unit.

The Advanced Horticulture Certificate is an approved program through AG*IDEA, which is the agricultural section of the Great Plains IDEA Interactive Distance Education Alliance. The University of Kentucky is a participating member institution of this organization. The institutions participating in the Horticulture section of AG*IDEA include Kansas State University, North Carolina State University, Texas Tech University , University of Nebraska-Lincoln, and the University of Kentucky.

7. Will the Certificate Program be offered on campus, as a distance education program, or a combination? Describe any distance education components in detail.

The Advanced Horticulture Certificate includes only distance education courses that have been approved at each of the originating Universities.

8. Describe the admissions criteria and process in detail. Differentiate between processes for degree-seeking students and non-degree-seeking students, where applicable.

Potential student apply through the normal UK Graduate School admission process pertaining to certificate programs. The Advanced Horticulture Certificate does not require a GRE score for admission. It is recommended that students have a minimum of a 3.0 undergraduate GPA, but students may be admitted on a provisional basis after evaluation by the program Director.

9. Provide a projection of the Certificate Program's financial plan. Include the impact on campus resources, such as classrooms and instructional faculty/personnel. Also include plans for tuition and billing, if separate from standard rates across schools.

Students apply and are admitted at one university (UK); enroll in all courses at that university; and graduate or receive a certificate from that university. The online courses are taught by the best faculty in the discipline from several universities within the consortium. Students in the Advanced Horticulture Certificate pay tuition through the regular UK tuition process at a common credit hour price set by the Great Plains IDEA Interactive Distance Education Alliance. The tuition revenue is split between UK, the course offering institution, and Great Plains IDEA Interactive Distance Education Alliance as stipulated in the agreement between UK and the Alliance. The common price for the 2012-2013 academic year (fall, spring and summer) is \$485 per graduate credit hour.

Campus resources would include a Great Plains IDEA Interactive Distance Education Alliance Campus Coordinator responsible for interaction between UK and the Alliance. A faculty member from the Department of Horticulture will serve as the advisor for admitted students. It is expected that the majority of students participating in the Certificate program would not be on campus and therefore, not requiring additional campus resources.

10. List all faculty members who will be responsible for planning and participating in the Certificate Program. Programs are encouraged to provide advising for students through the identification of one faculty member as the Director of the Certificate.

There is a Horticulture Coordinating Committee with members from the participating Universities that meets on a regular basis (monthly) via conference call. This committee was responsible for submission of the business plan for Certificate approval by Great Plains IDEA Interactive Distance Education Alliance. The Horticulture Coordinating Committee functions under the Faculty Rules for the Horticulture Inter-Institutional Graduate Certificate's Program that has been accepted by the participating institutions. The Director of the Advanced Horticulture Certificate will be a faculty member from the Department of Horticulture. The initial Director will be Robert Geneve who has been the representative from UK on the coordinating committee.

11. Describe the evaluation plans for the Certificate Program.

A detailed evaluation process was required as part of the business plan provided in the Certificate proposal to the Great Plains IDEA Interactive Distance Education Alliance. The Alliance will be responsible for conducting a pre and post evaluation to participating students and the Horticulture Coordinating Committee is responsible for modification of the evaluation forms and implementation of any changes to the Certificate based on the student evaluations.

Program Personnel for the Horticulture Faculty excerpted from our Faculty Handbook for AGIDEA

Alliance Program Liaison to a Program Initiative or Academic Program. The Alliance Board appoints at least one Administrative Liaison from among the board to advise and support the Horticulture faculty and to ensure that the faculty adheres to the policies and procedures established by the Great Plains IDEA. The Administrative Liaison supports the program faculty in curriculum construction, course development, teaching assignments and rotations, and any other applicable Great Plains IDEA policies and procedures and bylaws.

Faculty Program Chair. The program faculty selects a Faculty Program Chair from the horticulture faculty across the participating institutions, and organizes a leadership succession plan.

The Faculty Program Chair serves for a one-year term. This will rotate among the faculty whose institutions offer the certificates. The Faculty Program Chair is responsible for leading the faculty in the development of the Program Initiative Business Plan, the curriculum development, course titles and schedule of offerings. The Program Initiative/Academic Faculty Program Chair shall work in conjunction with the Administrative Liaison to the Board of Directors of the Alliance.

The specific responsibilities of the Faculty Program Chair includes the following:

- Act as point of first contact for the Administrative Liaison to the Horticulture program
- Lead meetings of the horticulture faculty
- Facilitate curriculum development
- Manage course rotation
- Address issues of program administration
- Update faculty handbook as appropriate
- Schedule faculty meetings as determined in this manual
- Prepare agendas for faculty meetings and meetings of the Institutional Representatives.
- Coordinate student learning outcomes and assessments of student satisfaction.

Institutional Representative. Each participating institution has one faculty member designated as the coordinator of the program for that institution. Each institution determines how that person is selected to fulfill these responsibilities.

Responsibilities of the Institutional Representative may include the following:

- Coordinate the program at the institution.
- Represent the faculty at that institution at meetings not requiring faculty attendance.
- Oversee student admissions.
- Other responsibilities as defined by the institution.
- Serve as advisors to the students enrolled at their home institution and evaluate student transcripts for equivalencies.

Program Faculty. Program faculty are those teaching any of the required Horticulture courses. Faculty must be approved as graduate faculty appropriate to their home institution.

Responsibilities of program faculty may include the following:

- Monitor the quality of course delivery and recommend changes when and where needed.
- Adhere to the professional integrity expected at their home institution in teaching and serving students
- Teach program coursework.
- Provide students with opportunities to evaluate courses using Student Learning Outcomes and commonly accepted assessment practices.
- Advise students.

Meetings

Annual Faculty Meeting: The Faculty Program Chair will schedule and organize, in consultation with the Administrative Liaison, a periodic faculty meeting. This meeting could be held at the same location as and at the same time as the American Society for Horticultural Science annual, or the meeting of the Great Plains IDEA, or on-line via a teleconferencing program.

Conference Calls: The Great Plains IDEA Lead Institution will support conference calls to conduct affairs between the annual face-to-face meetings.

Special Meetings: The Faculty Program Chair, in consultation with the Administrative Liaison and/or other Horticulture faculty, shall determine when special meetings are to be called. Special meetings of Institutional Representatives or of the Horticulture faculty may be held. The Faculty Program Chair will give notice in writing or via e-mail to each Institutional Representative at least 30 days in advance of the meeting. In no cases should a special meeting be held in which decisions will be made that affect the content, structure, or general administration of the program without a proper notice of the meeting being given to all institutions participating in the Horticulture program. Special meetings may be held in person or through telecommunications.

Chair letter of support



Robert L. Houtz, Professor
*Chair, Department of Horticulture
Plant Physiology/Biochemistry/
Molecular Biology Program
N-318 Agricultural Science Building-North
Lexington, Kentucky 40546-0091
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April 1, 2013

Dr. Robert L. Geneve, Professor
Department of Horticulture
University of Kentucky
401B Plant Science Building
Lexington KY 40546-0312

Dear Dr. Geneve:

This letter is to communicate to you and others the official outcome of the recent discussion at our faculty meeting on Friday, March 29th at 2:00 PM in S-301 Ag. Sci. North in regard to your efforts on the Horticulture Graduate Certificate Program. All official faculty were either physically present or connected by Skype. The vote was recorded by the Chair at ~2:15 PM and was unanimous in support of you moving the program forward.

Sincerely,

A handwritten signature in black ink that reads 'Robert L. Houtz'. The signature is written in a cursive style.

Digitally signed by Robert L. Houtz
DN: cn=Robert L. Houtz,
o=University of Kentucky,
ou=Horticulture,
email=rhoutz@uky.edu, c=US
Date: 2013.04.01 15:04:20 -0400

Robert L. Houtz,
Professor and Chair

AG*IDEA Horticulture Business Plan

Assessment Plan

Assessment strategies for the Horticulture Graduate Certificate programs.

The Horticulture Graduate Certificate program will be assessed based on the program's ability to recruit and retain students, the time required to complete a Certificate program and the level to which students meet the program's learning outcomes.

Data to assess the Certificate program will be collected from a number of sources including:

1. Student demographics. These will include student numbers, retention, and time to complete a Certificate.
2. Student achievement in key coursework related to student learning outcomes. See attached curriculum map for the courses that address each learning objective.
3. Periodic student surveys. Students will be asked to complete two surveys that will help evaluate program effectiveness and perceived learning. One survey will be conducted as they enter the Certificate program and a second after they complete the Certificate. Draft surveys are attached.

Student learning outcomes for the Horticulture Graduate Certificate program include the student's ability to attain:

1. A proficiency in advanced principles and practices in horticultural production.
2. A fundamental understanding of the basic plant physiology associated with horticultural production.
3. A proficiency in the principles and practices of horticultural pest management.

Program assessment targets for the first five years of the program:

1. Student numbers should increase by 15% each year.
2. Student retention rate should be >85%.
3. Average time to complete a Certificate should be < three years.
4. At least 75% of students will achieve a B grade or better in key coursework related to student learning outcomes.
5. At least 85% of students will agree that their coursework has made them better able to communicate horticultural principles with others in their field.
6. At least 85% of students will agree that their coursework has made them better prepared to solve problems they might encounter in the work place.

AG*IDEA Horticulture Business Plan

Initial Survey for Students completing a Horticulture Certificate program

1. Check those areas that apply.

a. Why have you chosen to pursue a Horticulture Certificate?		To prepare for graduate school.
		To be more knowledgeable and competitive in my current job.
		To provide a background to change professions.
		To attain professional continuing education credits.
		To increase my horticultural education for my own personal learning.
		Other –

2. Select the degree to which you agree or disagree with the following statements:

	Strongly Disagree (1)	Somewhat Disagree (2)	Somewhat Agree (3)	Strongly Agree (4)
a. You feel that you have the basic scientific and technical skills in horticulture you need for your career.				
b. You feel that you are able to communicate horticultural principles with others in your field.				
c. You feel comfortable making horticultural recommendations to others related to plant pest management.				
d. You feel prepared to solve horticultural problems you might encounter in the work place.				
e. You feel comfortable making horticultural recommendations to others related to plant pest management.				

AG*IDEA Horticulture Business Plan

Exit Survey for Students completing a Horticulture Certificate program

1. Select the degree to which you agree or disagree with the following statements:

	Strongly Disagree (1)	Somewhat Disagree (2)	Somewhat Agree (3)	Strongly Agree (4)
a. Your coursework has provided you with the basic scientific and technical horticultural skills you will need in your career.				
b. Your coursework has made you better able to communicate horticultural principles with others in your field.				
c. You feel comfortable making horticultural recommendations to others related to plant pest management.				
d. Your coursework has made you better prepared to solve problems you might encounter in the work place.				
e. Your learning experience with the distance learning format used for this Horticulture Certificate program was comparable to a traditional in-classroom experience.				
f. You would recommend the Horticulture Certificate program to other students.				

2. Please let us know how you feel about the following questions.

- a. Are there any new courses we should offer to expand your knowledge of horticulture and help prepare you for your career?
- b. Provide any suggestions for improvement for the Horticulture Certificate program.

Demonstrate proficiencies and advanced practices and principles in horticultural production.
Demonstrate an understanding of the basic plant physiology associated with horticultural production.
Demonstrate a proficiency in the practices and principles of pest management.

Core courses

Plant Nutrition
Business Management of Hort Enterprises
Plant Physiology
Plant Water Relations
Floral Crops production
Environmental Nursery Production
Arboriculture

Elective courses

Environmental Stress Physiology
Seed Science
Advanced Greenhouse Crop Production
Advanced Nursery Management
Fruit Quality
General Viticulture
Advanced Interiorscaping
Herbaceous Perennials and Grasses
Turf Disease Management
Herbicides / Weed Management Systems
Turf and Landscape Weed Management
Management of Horticulture Insects
Insect Toxicology
Biological Control of Pests
Pesticide Resistance Management
Plant Pathology
Modified Rootzones
Soil Physics
Soil Chemistry

Horticultural Certificates Curriculum Map

Courses	Learning Outcomes		
	Demonstrate proficiencies and advanced practices and principles in horticultural production.	Demonstrate an understanding of the basic plant physiology associated with horticultural production.	Demonstrate a proficiency in the practices and principles of pest management.
Core courses			
Business Management of Hort Enterprises	X		
Plant Physiology		X	
Plant Nutrition		X	
Plant Water Relations		X	
Floral Crops production	X		
Environmental Nursery Production	X		
Arboriculture	X		
Electives			
Environmental Stress Physiology		X	
Seed Science		X	
Fruit Quality		X	
Modified Rootzones		X	
Advanced Greenhouse Crop Production	X		
Advanced Nursery Management	X		

General Viticulture	X		
Advanced Interiorscaping	X		
Herbaceous Perennials and Grasses	X		
Plant Pathology			X
Turf Disease			X
Management of Horticulture Insects			X
Insect Toxicology			X
Biological Control of Pests			X
Pesticide Resistance Management			X
Herbicides / Weed Management Systems			X
Turf and Landscape Weed Management			X
Soil Physics		X	
Soil Chemistry		X	

Assessment activity

Learning outcome 1 :

Demonstrate proficiencies and advanced practices and principles in horticultural production.

Assessment methods

1. Identify course(s), activities, exams, etc. where data were collected:

Courses

Floral Crops production

Environmental Nursery Production

Exams

Final exit exam

2. Term/Year of collection:

3. Describe the data and the criteria used for evaluating student work:

Percentage of students meeting the proficiency standards of performance on exams.

4. List results from the assessment process:

5. Recommendations and plans for curricular improvement:

Learning outcome 2 :

Demonstrate an understanding of the basic plant physiology associated with horticultural production.

Assessment methods

1. Identify course(s), activities, exams, etc. where data were collected:

2. Term/Year of collection:

3. Describe the data and the criteria used for evaluating student work:

4. List results from the assessment process:

5. Recommendations and plans for curricular improvement:

Learning outcome 3 :

Demonstrate a proficiency in the practices and principles of pest management.

Assessment methods

1. Identify course(s), activities, exams, etc. where data were collected:

2. Term/Year of collection:

3. Describe the data and the criteria used for evaluating student work:

4. List results from the assessment process:

5. Recommendations and plans for curricular improvement:

NEW COURSE FORM

Signature Routing Log

General Information:

Course Prefix and Number: PLS 630

Proposal Contact Person Name: Robert Geneve Phone: 7-8610 Email: rgeneve@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
Department of Horticulture	06/01/2012	Robert Houtz / 7-1758 / rhoutz@uky.edu	
Graduate Curriculum, Committee, College of Agriculture	11/16/2012	Larry Grabau / 7-3469 / lgrabau@uky.edu	
		/ /	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision ⁶
Undergraduate Council			
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

⁶ Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.