

New Graduate Curriculum(s)

Horticulture, Forestry and Recreation Resources

**New Program Proposal
Basic Program Information**

1. Proposing Institution: Kansas State University
2. Title of proposed program: Graduate Certificate in Horticultural Therapy
3. Degree to be offered: Graduate Certificate
4. Anticipated date of implementation: Fall 2009
5. Responsible department(s): Horticulture, Forestry, and Recreation Resources

Program Proposal Narrative

This proposal responds to the need for graduate-level horticultural therapy practitioner training to keep pace in the allied-therapy health field; the increasing number of requests for a horticultural therapy curriculum offered via distance education; an international and national demand to K-State for educational opportunities in horticultural therapy; and the strategic prioritization efforts of the Department of Horticulture, Forestry, and Recreation Resources and the College of Agriculture.

Horticultural therapy is a method in which a trained Horticultural Therapist uses live plants and the growing environment to heal and rehabilitate people. There are four essential elements in the practice of horticultural therapy: 1) a defined treatment procedure that focuses on horticultural or gardening activities; 2) a client with a diagnosed problem who is in treatment for that problem; 3) a treatment goal that can be measured and evaluated, and; 4) a trained professional to deliver the treatment. Treatment goals in horticultural therapy programs typically target social, psychological, physical, and cognitive health outcomes. Horticultural therapy practitioners often time work as private consultants that work with a variety of client groups and settings while others are directly hired by one institution. From a recent survey of registered horticultural therapists, the most common settings for horticultural therapy programs were vocational training centers, rehabilitation hospitals, nursing homes, botanic gardens, veteran's facilities, hospice, alcohol treatment centers and cancer treatment centers.

Horticultural therapy is considered a complimentary therapy along with physicians, psychiatrists, psychologists, occupational therapists, physical therapists, behavioral specialists, vocational skills instructors, and others. Thus horticultural therapy practitioners must be experts on the medical and psychological benefits of gardening and facilitating improvement of the patients' physical, social, and mental well-being.

A. Educational Objectives

Upon completing the graduate certificate program in horticultural therapy students will

- Be able to explain the delivery models and systems used in settings where horticultural therapy is currently practiced and where it is emerging as a service
- Have achieved entry-level competence through a combination of academic and fieldwork education
- Be prepared to articulate and apply horticultural therapy theory and evidence-based evaluations and interventions to achieve expected outcomes
- Be prepared to be a lifelong learner and keep current with evidence-based professional practice
- Uphold the ethical standards, values, and attitudes of the horticultural therapy profession
- Understand the distinct roles and responsibilities of the horticultural therapist
- Be prepared to advocate as a professional for the horticultural therapy services offered and for the recipients of those services
- Be prepared to be an effective consumer of the latest research and knowledge bases that support practice and contribute to the growth and dissemination of research and knowledge

B. Certificate Program Courses

The Graduate Certificate in Horticultural Therapy consists of 16 credit hours in required courses.

Required courses:

HORT 750 Orientation to Horticultural Therapy 1 cr
HORT 751 Human Issues in Horticultural Therapy 3 cr
HORT 752 Horticulture in Horticultural Therapy 3 cr
HORT 753 Clinical Skills in HT 6 cr
HORT 755 Practicum in Horticultural Therapy 3 cr

COURSE DESCRIPTIONS

HORT 750 Orientation to Horticultural Therapy 1cr (Fall, Spring)

This course will introduce students to online delivery methods, graduate level research, writing and technology skills, create a community of practice, and introduce students to the profession of horticultural therapy.

HORT 751 Human Issues in Horticultural Therapy 3cr (Fall, Spring)

This course will explore human issues in horticulture generally, and human issues in horticultural therapy specifically. Consideration of selected topics and issues such as people-plant relationship theories, horticultural therapy as a specialized allied health field, health-care gardens and their use, societal impacts on horticultural therapy, and research issues. Provides students with a knowledge and understanding of the literature in horticultural therapy and develops an appreciation of the interrelationships involved in this multidisciplinary area.

HORT 752 Horticulture in Horticultural Therapy 3cr (Spring)

Application of horticulture principles and practices in therapeutic settings; considerations for greenhouse systems operations and management in therapeutic settings; landscape maintenance, fruit and vegetable gardening, and production horticulture as part of a therapeutic program; and plant propagation for production and therapy.

HORT 753 Clinical Skills in Horticultural Therapy 6cr (Summer through Fall)

This course begins summer semester, concludes fall semester, and requires two 5-day on-site experiences. Development of horticultural therapy skills and methodology is presented through real-life case studies. New developments and applications of gardening or horticultural activities for special populations will be emphasized. Procedures for management of horticultural therapy programs, designing therapeutic or rehabilitation activities, and evaluation methods will be discussed. Instruction, practice, and evaluation of clinical skills with population groups typically served through horticultural therapy. Pr.: HORT 751.

HORT 755 Practicum in Horticultural Therapy 3cr (Fall, Spring)

The practicum is a means of demonstrating the interconnections between ‘theory’ and ‘practice’. By conducting a practicum project, students demonstrate the ability to apply concepts and ideas from their study of horticultural therapy to a specific population or setting. Pr.: HORT 752, HORT 753

C. Meeting the Educational Objectives

The educational objectives will be achieved through program content that will include:

- *Foundational content*: prerequisite coursework in the behavioral and horticultural sciences
- *Basic tenets of horticultural therapy*: the history and philosophical base of the profession; the application of horticulture as therapy in various settings and with various population groups; the role of horticulture in the promotion of health and the prevention of disease and disability; client and facility assessment to formulate an intervention plan (HORT 751, HORT 753)
- *Horticultural therapy theoretical perspectives*: describe theories that underlie the practice of horticultural therapy; compare and contrast models of practice; how to use theories and models in horticultural therapy evaluation and intervention (HORT 751)
- *Screening, evaluation, and referral*: the use of standardized and non-standardized screening and assessment tools to determine the need of horticultural therapy intervention; the selection of appropriate assessment tools based on client needs and contextual factors; procedures and protocols when administering assessments; factors that might bias assessment results, such as culture, disability status, and situational variables; documentation procedures to adhere to facility, local, state, federal, and reimbursement agencies (HORT 753, HORT 755)
- *Formulation and implementation of an intervention plan*: the use of evaluation findings based on appropriate theoretical approaches, models of practice, and frames of reference to develop

horticulture-based intervention plans and strategies based on the stated needs of the client as well as data gathered during the evaluation process in collaboration with the client and others (HORT 752, HORT 753, HORT 755)

- *Context of service delivery*: the differentiation among the contexts of health care, education, community, and social systems as they relate to the practice of horticultural therapy; the current policy issues and social, economic, political, geographic, and demographic factors that influence the contexts for practice of horticultural therapy; the role and responsibility of the practitioner to address changes in service delivery policies to effect changes in the system, and to identify opportunities in emerging practice areas; the trends in models of service delivery and their potential effect on the practice of horticultural therapy (HORT 750, HORT 751, HORT 753)
- *Management of horticultural therapy services*: how the various practice settings (e.g. medical institutions, school systems, community systems) affect the delivery of horticultural therapy services; the impact of contextual factors on the management and delivery of horticultural therapy services; how to plan, develop, organize, and market the delivery of services (HORT 753, HORT 755)
- *Research*: the importance of research, scholarly activities, and the continued development of a body of knowledge relevant to the profession of horticultural therapy; how to locate, understand, and evaluate information, including the quality of research evidence; the use of research literature to make evidence-based decisions; how to understand and critique the validity of research studies, including designs (both quantitative and qualitative) and methodologies (HORT 750, HORT 751)

D. Program Need

a. Student Demand

There are several indicators in support of student interest in this program.

Beginning in 1991, the first distance education course in horticultural therapy was offered at K-State. HORT 780, a one-credit course, was taught as a series of 15 videotape lectures. Since this first distance education course, there have been continued requests for more horticultural therapy distance education offerings. Currently there are four courses offered via distance education: HORT 256, Human Dimensions of Horticulture; HORT 525, Horticulture for Special Populations; HORT 640, Problems in Horticulture/Horticulture Therapy; and HORT 880, Topics in Horticulture/Horticulture Therapy. With little to no marketing, enrollment in the distance education courses since the 2003-2004 academic year has averaged 33 students per year; HORT 256 has averaged 20 students; HORT 525 6 students; HORT 640 5 students; and HORT 880 3 students (see table below). HORT 525 and HORT 640 are available for undergraduate or graduate credit with 33-35% of students enrolling for graduate credit (see table below). *These enrollment numbers show that Distance Education is an important component of the HT program.* A large percentage of students are non-traditional, involved with family or employment situations and unable to relocate to Manhattan, Kansas.

Enrollment in Horticultural Therapy Distance Education Courses

Course	2003-2004	2004-2005	2005-2006	2006-2007	Total	4 year average
HORT 256	28	17	15	21	81	20
HORT 525	12	6	3	4	25	6
HORT 640	6	2	7	5	20	5
HORT 880	4	3	1	(not offered)	8	3

Graduate Enrollment in Horticultural Therapy Distance Education Courses

Course	2003-2004	2004-2005	2005-2006	2006-2007	Total
HORT 525	3	2	3	2	10
HORT 640	0	2	3	2	7
HORT 880	4	3	1	(not offered)	8

Saved email communication from perspective students to Shoemaker demonstrates the interest in graduate education and distance learning opportunities. All inquiries were for graduate education, the majority of the inquiries were for information on a Masters program, and almost half also asked if there were distance learning opportunities.

Email inquiries about graduate education received by Shoemaker

Year	Inquiries about a M.S.	Inquiries about a Ph.D.	Inquiries about distance learning
2007 - 2008	25	4	10

Since 2001, 14 students have worked in the area of horticultural therapy for their M.S. in the HFRR campus-based program. Of those students, 8 of them wanted to learn how to be a horticultural therapy practitioner and none of them have continued in a Ph.D. program. If a graduate-level practitioner training program had been available, 8 of the 14 would have chosen that option over our current research-based M.S. program. It is not known how many of them would have preferred a distance education graduate program.

The American Horticultural Therapy Associations new professional registration criterion requires college accredited horticultural therapy instruction. Currently, most individuals receive their horticultural therapy instruction through certificate programs at public gardens or not-for-profit institutes. This creates a new demand for college credit horticultural therapy instruction.

The campus-based BS in horticultural therapy was discontinued due to consistent low enrollment. The department currently offers campus-based horticultural therapy specializations at the undergraduate and graduate level. Enrollment for the undergraduate horticultural therapy specialization continues to be low. *The typical HT student is a non-traditional student, may be a career-changer, is typically place-bound, and usually has at least one higher-education degree (AHTA Board research, Chicago Botanic Garden market research). These characteristics of our primary student body explain why they are not likely to or are not able to move to Manhattan to participate in our campus-based undergraduate program but are highly likely to participate in a distance-education graduate program.*

b. Demand for Graduates

The dramatic changes in the health care field over the past ten years, primarily the shift to managed care, have influenced the profession of horticultural therapy and other allied therapy professions such as art therapy, music therapy, and occupational therapy. A study of these allied therapy professions by the AHTA Professional Standard Task Force in 2004 determined that the current registration process offered by AHTA would not be considered adequate by insurance companies and the educational standards were very sub-standard in today’s marketplace. As a result, AHTA has focused on raising the educational and competency requirements for registered clinicians. Starting in fall 2008, a bachelor’s degree and a minimum number of college credits in three subject areas [horticultural therapy (9 credits), horticulture (12 credits), and human services (12 credits)], will be required. The biggest challenge with these new standards for registration will be obtaining the college credit requirement in horticultural therapy. *There are very few universities currently offering coursework in horticultural therapy and only K-State offers courses via distance education.*

c. Locational and comparative advantages

Currently there are no other comparable programs in the State of Kansas or the nation. The AHTA web site lists two other universities offering an option in horticultural therapy at the undergraduate level (Rutgers University and University of Maine – Orono) and two university certificate programs at the undergraduate level. All of these are campus-based programs.

E. Administrative Structure

Administrative oversight of the certificate program will exist within the HFRR department with a close partnership with the Division of Continuing Education. Within HFRR, a program coordinator (Shoemaker) will have primary responsibility for administering the program, with support of the Graduate Committee for admissions decisions.

To gain admission, students will be approved for admission by the HFRR department Graduate Committee and by the Graduate School. Students will apply directly to the graduate certificate coordinator, the coordinator will forward to the HFRR department Graduate Committee for approval of recommendations for admission, and then forward to the Graduate School recommendations for admission.

Admission requires evidence of completion of a bachelor's degree from an accredited university with a grade point average above 3.0 on a 4.0 scale in the junior and senior years; two years of professional work experience; and college course work in horticulture (minimum of three courses), health and human services (minimum of two courses in subjects such as psychology and human development), and statistics. Applicants should have proficiency in the computer operations necessary to complete web-based distance courses. For international students a score of at least 600 (paper-based test) or 100 (IBT-internet-based test) on the TOEFL will be required.

F. Budget

Part I. Anticipated Enrollment	Implementation Year		Year 2		Year 3	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
A. Headcount		20		35		40
B. Total SCH taken by all students in program	245		300		350	
Part II. Program Cost Projection						
A. In implementation year one, list all identifiable General Use costs to the academic unit(s) and how they will be funded. In subsequent years, please include only the additional amount budgeted.						
	Implementation Year		Year 2		Year 3	
<u>Base Budget:</u>		--\$14,636--		--\$--		--\$30,000--
Salaries						
OOE		--\$600--		--\$29,000--		--\$25,000--
Total		--\$15,236--		--\$29,000--		--\$55,000--

Implementation Year: The needs in the first year will be met with

- budgeted salary and operating expense lines of existing faculty (internal reallocation is not indicated above)
- Revenue of \$83,801 from:
 - \$15,236 in grant funds to be used for course development has been awarded from the Division of Continuing Education
 - Tuition and fees to HFRR @ \$177/credit hour = \$43,365
 - HORT 753 Materials fee @ \$210/credit hour = \$25,200

Year 2: The needs in the second year will be met with

- budgeted salary and operating expense lines of existing faculty (internal reallocation is not indicated above)
- Revenue of \$82,200 from:
 - Tuition and fees to HFRR @ \$186/credit hour = \$55,800
 - HORT 753 Materials fee @ \$220/credit hour = \$26,400

Year 3: The needs in the third year will be met with

- budgeted salary and operating expense lines of existing faculty (internal reallocation is not indicated above)
- Revenue of \$95,970 from:
 - Tuition and fees to HFRR @ \$195/credit hour = \$68,250
 - HORT 753 Materials fee @ \$231/credit hour = \$27,720

Projected Revenue

Begin Fall 2009		Projected			
Year 1		Credits	Enrollment	SCH	Dept. Revenue^z
Summer	DCE Grant				\$15,236
Fall	HORT 750	1	10	10	1,770
(10	HORT 751	3	10	30	5,310
Students)					
Spring	HORT 750	1	10	10	1,770
(10 new	HORT 751	3	10	30	5,310
Students)	HORT 752	3	15	45	7,965
Summer	HORT 753	6	20	120	21,240
	Materials fee ^y		20		25,200
Total				245	\$83,801
Year 2					
Fall	HORT 750	1	10	10	1,860
(10 new	HORT 751	3	10	30	5,580
Students)					
Spring	HORT 750	1	5	5	930
(5 new	HORT 751	3	5	15	2,790
Students)	HORT 752	3	20	60	11,160
	HORT 755	3	20	60	11,160
Summer	HORT 753	6	20	120	22,320
	Materials fee		20		26,400
10 students graduate					
Total				300	\$82,200
Year 3					
Fall	HORT 750	1	10	10	1,195
(10 new	HORT 751	3	10	30	5,850
students)	HORT 898	2	15	30	5,850
5 students graduate					
Spring	HORT 750	1	10	10	1,195
(5 new	HORT 751	3	10	30	5,850
Students)	HORT 752	3	20	60	11,700
	HORT 755	3	20	60	11,700
Summer	HORT 753	6	20	120	23,400
	Materials fee		20		27,720
10 students graduate					
Total				350	\$ 95,970
3-Year Total					\$261,971

^z2009-2010 tuition @ \$431/credit hour, \$107/credit hour tuition + \$70/credit hour department fee = \$177/credit hour to department

2010-2011 tuition @ 452/credit hour (5% increase) = \$186/credit hour to department

2011-2012 tuition @ 475/credit hour (5% increase) = \$195/credit hour to department

^ymaterials fee for additional costs associated with the on-site clinical training component of HORT 753 such as transportation, food, program supplies, this is based on a budget provided by the Chicago Botanic Garden, a likely training site for HORT 753; Year 1 @ of \$210/credit hour; Year 2 @ \$220 (5% increase); Year 3 @ \$231 (5% increase)

Projected Expenses

2009		Expenses
Year 1		
Davis	.10 FTE	
Shoemaker	.70 FTE	
Williams	.15 FTE	
Faculty salary and benefits are budgeted lines of existing faculty		
Graduate Assistant for course development^x		\$14,636
Travel for HORT 753 planning^z		600
Total		\$15,236
Year 2		
Davis	.10 FTE	
Shoemaker	.70 FTE	
Williams	.15 FTE	
Faculty salary and benefits are budgeted lines of existing faculty		
Travel for HORT 753 2 trips, 5 days each		4,000
HORT 753 site fees \$1,250/student^y		25,000
Total		\$29,000
Year 3		
Davis	.10 FTE	
Shoemaker	.70 FTE	
Williams	.15 FTE	
GTA	.50 FTE	30,000
HORT 753 site fees \$1,250/student		25,000
Total		\$55,000
Expenses – 3 year total		99,236
Revenue – 3 year total		261,971
Net		162,735

^xDivision of Continuing Education grant funded

^y Based on budget prepared by Chicago Botanic Garden, a likely training site for HORT 753

G. Faculty

Core Faculty

Three HFRR faculty will serve as the core faculty in the program. All are tenured, two are full professors, and all are graduate faculty.

Greg Davis, Ph.D., Associate Professor of Landscape Horticulture will serve as co-instructor for HORT 752 and a student advisor

Candice Shoemaker, Ph.D., Professor of Horticulture and Human Health will serve as faculty coordinator for the program, and instructor for HORT 750, 751, 753, and 755

Kim Williams, Ph.D., Professor of Floriculture will serve as co-instructor for HORT 752 and a student advisor

H. Faculty Coordinator for the Certificate Program

Candice Shoemaker, Ph.D., Professor of Horticulture and Human Health
Department of Horticulture, Forestry, and Recreation Resources
2021 Throckmorton
Manhattan, KS 66506

I. Student Learning Outcomes and Assessment Plan

a. List all of the student learning outcomes for the program.

Upon completing the Graduate Certificate in Horticultural Therapy students will

1. Be able to explain the delivery models and systems used in settings where horticultural therapy is currently practiced and where it is emerging as a service
2. Have achieved entry-level competence through a combination of academic and fieldwork education
3. Be prepared to articulate and apply horticultural therapy theory and evidence-based evaluations and interventions to achieve expected outcomes
4. Be prepared to be a lifelong learner and keep current with evidence-based professional practice
5. Uphold the ethical standards, values, and attitudes of the horticultural therapy profession
6. Understand the distinct roles and responsibilities of the horticultural therapist
7. Be prepared to advocate as a professional for the horticultural therapy services offered and for the recipients of those services
8. Be prepared to be an effective consumer of the latest research and knowledge bases that support practice and contribute to the growth and dissemination of research and knowledge

- b. Identify outcomes that will be assessed in the first three years of the plan.**
SLOs #1, 2, 3 and 6 will be assessed in the first three years of the program.

Relationship to K-State Student Learning Outcomes (insert the program SLOs and check all that apply):

Program SLOs	University-wide SLOs (Graduate Programs)			Program SLO is conceptually different from university SLOs
	Knowledge	Skills	Attitudes and Professional Conduct	
1. HT Delivery Models & Services	☆			
2. Entry level competence	☆	☆	☆	
3. Evidence-based HT programming	☆	☆	☆	
4. Roles and Responsibilities	☆		☆	

- c. How will the learning outcomes be assessed? What groups will be included in the assessment?**

SLO	Direct Assessment Method	Indirect Assessment Measure	Who will be Assessed?
<i>1. Be able to explain the delivery models and systems used in settings where horticultural therapy is currently practiced and where it is emerging as a service</i>	Final exam questions will be included in each of the required courses to assess this SLO	Exit interview with the program director and completion of a self assessment survey asking students their confidence in performing each of the SLOs (in development).	All students enrolled in course All students upon completion of the certificate program
<i>2. Have achieved entry-level competence through a combination of academic and fieldwork education</i>	Midterm and final evaluation of practitioner performance during practicum (HORT 755). Scoring rubrics will be used for this assessment (in development).	Fieldwork supervisor evaluation. Self-assessment of implementation of horticultural therapy program. Exit interview with the program director and completion of a self assessment survey asking students their confidence in performing each of the SLOs (in development).	All students enrolled in HORT 755 All students upon completion of the certificate program
<i>3. Be prepared to articulate and apply horticultural therapy theory and evidence-based evaluations and interventions to achieve expected outcomes</i>	Final exam questions will be included in HORT 751 and HORT 753 Midterm and final evaluation of practitioner performance during practicum (HORT 755). Scoring rubrics will be	Fieldwork supervisor evaluation. Self-assessment of implementation of horticultural therapy program. Exit interview with the	All students enrolled in HORT 751, HORT 753, and HORT 755 All students upon completion of the certificate program

	used for this assessment (in development).	program director and completion of a self assessment survey asking students their confidence in performing each of the SLOs (in development).	
<i>6. Understand the distinct roles and responsibilities of the horticultural therapist</i>	Final exam questions will be included in HORT 751 and HORT 753 Midterm and final evaluation of practitioner performance during practicum (HORT 755). Scoring rubrics will be used for this assessment (in development).	Fieldwork supervisor evaluation. Self-assessment of implementation of horticultural therapy program. Exit interview with the program director and completion of a self assessment survey asking students their confidence in performing each of the SLOs (in development).	All students enrolled in HORT 751, HORT 753, and HORT 755 All students upon completion of the certificate program

d. When will these outcomes be assessed? When and in what format will the results of the assessment be discussed?

SLO	Timetable for Assessment	Baseline Created
<i>1. Be able to explain the delivery models and systems used in settings where horticultural therapy is currently practiced and where it is emerging as a service</i>	Fall 2009 Spring/Fall 2010 Spring/Fall 2011 Exit interview and self-assessment developed Fall/Spring 2009-2010	3-year baseline created for all exams Pilot test 2010 and create a baseline 2011
<i>2. Have achieved entry-level competence through a combination of academic and fieldwork education</i>	Rubrics, practicum self-assessment, and fieldwork supervisor evaluation form developed Fall/Spring 2009-2010 Exit interview and self-assessment developed Fall/Spring 2009-2010	Pilot test 2010 and create a baseline 2011 Pilot test 2010 and create a baseline 2011
<i>3. Be prepared to articulate and apply horticultural therapy theory and evidence-based evaluations and interventions to achieve expected outcomes</i>	Fall 2009 Spring/Fall 2010 Spring/Fall 2011 Rubrics, practicum self-assessment, and fieldwork supervisor evaluation form developed Fall/Spring 2009-2010 Exit interview and self-assessment developed Fall/Spring 2009-2010	3-year baseline created for all exams Pilot test 2010 and create a baseline 2011 Pilot test 2010 and create a baseline 2011
<i>6. Understand the distinct roles and responsibilities of the horticultural therapist</i>	Fall 2009 Spring/Fall 2010 Spring/Fall 2011 Rubrics, practicum self-assessment, and fieldwork supervisor evaluation form developed Fall/Spring 2009-2010 Exit interview and self-assessment developed Fall/Spring 2009-2010	3-year baseline created for all exams Pilot test 2010 and create a baseline 2011 Pilot test 2010 and create a baseline 2011

Faculty will meet once each semester to assess the tools designed to assess the SLOs. Student scores will be examined and a baseline set. Survey results of students completing the program will be reviewed. Appropriate adjustments to the courses will be made as warranted.

e. What is the unit's process for using assessment results to improve student learning?

The program faculty will work together to prepare the assessment rubrics, student exit survey, and field supervisor evaluation form. Since this is a new program, assessment will be viewed as "standard operating protocol" rather than an additional administrative requirement. Thus, assessment results will be the guide for understanding and improving student learning as we implement and build this program.

At each semester meeting that will focus on assessment results, the program faculty will consider the results in the context of the full curriculum as well as within the courses intended to target specific SLOs.

J. Endorsements

Letters of endorsement from HFRR, the College of Agriculture, and the Division of Continuing Education are attached.