

Certificate in Therapeutic Horticulture Handbook

Aug 20, 2022 – April 15, 2023

Engaging with Plants and Nature to Improve Human Health



North Carolina Botanical Garden

ncbg.unc.edu

919-962-0522

Street: 100 Old Mason Farm Road • Chapel Hill, NC 27517

Mail: UNC-Chapel Hill • CB 3375 • Chapel Hill, NC 27599-3375

Indigenous Land Acknowledgement

The lands we steward are the ancestral homeland of several Siouan-speaking tribes and a part of the recognized home of the Occaneechi Band of the Saponi Nation². We celebrate the many Native people, who, to this day, meet, gather, walk, hike, and engage with the habitats and gardens on this land, and we honor their Native ancestors and Elders, past, present, and future.

We are grateful for the engagement of Indigenous people with the Garden across its history and strive to be of continued value to all Native communities in North Carolina. We invite you to join us in learning the history about the land we each steward and supporting Native artists and entrepreneurs and organizations advocating for American Indian communities, such as the UNC American Indian Center.

For more information on the history of the land the North Carolina Botanical Garden stewards, prior to the Garden's existence, see <https://ncbg.unc.edu/about/diversity-equity-inclusion/land-acknowledgement/>.

Foreword

The North Carolina Botanical Garden (NCBG) is pleased to offer the Hybrid Certificate in Therapeutic Horticulture (HCTH), which provides comprehensive therapeutic horticulture training to professionals and students in allied health, education, and design fields. This certificate is a strong credential for those interested in incorporating therapeutic horticulture into their chosen field of work. It is our hope that each student who completes this program will come away with the knowledge, practical expertise, and confidence to make therapeutic horticulture a living, thriving therapeutic modality in the communities we serve.

NCBG is a university-affiliated botanical garden with an outstanding reputation as a garden that integrates a conservation ethic into all of its programs. We are the region's most comprehensive center of knowledge on plants in North Carolina and the southeastern United States, and we provide a broad audience with inspirational experiences, opportunities for health and wellness through outdoor activities, and educational programs within a scientifically based institution. It is the Garden's vision to have a profound influence on how people value and interact with the environment and the biologically diverse world.

The Garden's mission is

"To inspire understanding, appreciation, and conservation of plants in gardens and natural areas and to advance a sustainable relationship between people and nature."

The Certificate in Therapeutic Horticulture expands this mission with its goals

- "1. To provide a balanced curriculum of both therapeutic horticulture practices and traditional horticultural knowledge that enables graduates to use plants and nature to improve human health and wellness
2. To expand the field of therapeutic horticulture, so more people in various settings and situations can have access to this unique and dynamic therapeutic treatment method"

The Certificate in Therapeutic Horticulture awards a certificate of 'completion' for students successfully completing the online and in-person class requirements. Students who choose to complete an optional 40-hour internship at a TH site of their choosing will receive a certificate of 'mastery.' Upon completion of the program students will have learned the following:

- Historical and current uses of therapeutic horticulture, research findings to support its efficacy, and the wide range of fields that interface with the therapeutic horticulture profession
- Therapeutic horticultural techniques and programming for different populations in various health care and educational settings
- Tools and methods for adapting and modifying gardening for people with different ability levels
- Fundamentals of horticulture, including native plant and seed propagation; vegetable, herb, flower and indoor plant gardening; how to build good soil; and plant diseases and pests
- How therapeutic horticulture complements other treatment options in clinical and non-clinical settings
- Business considerations when developing a therapeutic horticulture program
- Communication and interpersonal techniques to enhance working with people
- Exposure to journaling and nature-based art to deepen personal connections to natural world
- Therapeutic horticulture is practiced through hands-on activities, exposure to different program models and field trips to local settings
- Practical application of therapeutic horticulture in a setting of their own choosing through an independent internship

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1. INTRODUCTION

1.1 WHO SHOULD APPLY?

Are you...

- invested in human health and want to incorporate the healing effects of plants and the natural world into practice
- looking for ways for clients to increase creative ventures and connections to plants and their environment
- eager to build confidence and enhance understanding of therapeutic horticulture
- interested in connecting with like-minded people and professionals who share your passion

If any of this sounds familiar, you are in the right place.

The Certificate in Therapeutic Horticulture is designed for

- Working professionals in allied health fields such as: Occupational Therapy, Physical Therapy, Recreational Therapy, Social Work, Psychology, Rehabilitation Counseling, or other related allied health occupations
- Working professionals in allied education fields such as: K-12 education, college educators, teachers of exceptional children, etc.
- Working professionals in allied design fields such as: Landscape design/architecture, urban planning & development, etc.
- Current students in the above fields
- Graduated students in the above fields not yet working in their fields

No previous horticulture knowledge is required.

Note: Please contact the NCBG Therapeutic Horticulture Program Manager Emilee Weaver: erweaver@unc.edu, if your field is different from those outlined above and you'd like to be considered for the program.

1.2 THE BENEFITS OF THE NCBG CERTIFICATE IN THERAPEUTIC HORTICULTURE

For 50 years the North Carolina Botanical Garden has served the public through courses in botany, horticulture, botanical art, native plants, conservation and related fields. Since 1978, the Horticultural Therapy Program within the Education Department and has offered one-day trainings introducing the field of therapeutic horticulture. Feedback has pointed to a growing interest in more in-depth classes in therapeutic horticulture.

Furthering our commitment to advancing the profession of Therapeutic Horticulture and responding to expressed interest, we are delighted to offer an accessible and comprehensive program. We believe strongly in the benefits of therapeutic horticulture for individuals and communities and are invested in growing the practice.

Accessible

Becoming a registered Horticultural Therapist with the American Horticultural Therapy Association (AHTA) is an extensive process requiring horticultural therapy courses, plant science and human science courses from accredited colleges or universities, and a 480-hour internship. NCBG's Certificate in Therapeutic Horticulture (CTH) offers an alternative educational opportunity to working professionals and students. Courses are offered online and in-person on weekends.

This certificate is not accredited by the American Horticultural Therapy Association, nor supports the AHTA registration process. HCTH is designed to enhance trained professionals in their field of practice.

Comprehensive

During this eight-month program, students will receive approximately 1 hour of recorded lectures each month that cover a wide variety of TH topics. There is no limit to the number of times students can listen to the lectures, and they can be accessed 24/7 on our online learning platform. On the second Saturday of each month, we will meet as a group at the North Carolina Botanical Garden and discuss the lecture content, participate in hands-on activities that reinforce the online content, network with classmates and instructors, and attend field trips to therapeutic horticulture programs that are local to the Garden.

Instructors for these classes include AHTA registered horticultural therapists, practicing therapeutic horticulturalists, NCBG horticulture staff, allied health professionals, and other

accomplished experts in their respective fields. The program concludes with a take-home exam, and an optional 40-hour internship.

The program is a unique compilation of theory and practice which not only seeks to impart knowledge but also offers a wide array of professional expertise.

1.3 WHAT IS THERAPEUTIC HORTICULTURE?

Therapeutic horticulture is the use of plants and plant-related activities to promote mental, emotional, physical, spiritual, and intellectual well-being for clients. Participants' involvement with plants can be active (for example, engaging in gardening activities such as planting seeds or pruning plants) or passive (for example, walking or sitting in a garden setting). Therapeutic horticulture is facilitated by a registered horticultural therapist or other professionals trained in the use of horticulture as a therapeutic tool.

Benefits of therapeutic horticulture include physical activity, relaxation and enjoyment, skill development, creative expression, sensory stimulation, intellectual and personal growth, social interaction, and a spiritual connection with life. Therapeutic horticulture has been used to support;

- ❑ **MENTAL HEALTH GOALS** such as reducing stress and tension, diminishing anger, improving mood, developing coping skills, enhancing personal responsibility, fostering hope, learning to work independently
- ❑ **SOCIAL GOALS** such as improving the ability to work with others, improving communication skills, reducing social anxiety, reducing irritability and aggressiveness
- ❑ **COGNITIVE GOALS** such as learning new skills, regaining lost skills, improving memory, improving ability to initiate tasks, improving attention to detail
- ❑ **PHYSICAL GOALS** such as improving coordination, retraining muscles, improving balance, improving strength.

Therapeutic horticulture is practiced in varied settings including rehabilitation programs, psychiatric and mental health facilities, hospitals, correctional facilities, schools, nursing homes and senior centers, and community and botanic gardens. People who benefit from therapeutic horticulture include adults and children with physical, psychological, and developmental disabilities, those recovering from illness or injury, people wishing to improve their quality of life in hospice or nursing home settings, persons who have experienced abuse and their abusers, public offenders, and those recovering from addiction.

2. GENERAL PROGRAM INFORMATION

Successful completion of the program requires viewing all online lectures, attendance of 7 out of 8 in-person classes, occasional homework, and passing a final take-home exam. The completion of a 40-hour internship is optional. Course scheduling is designed for graduation within an 8-month period (12-months with internship).

Contact

Therapeutic Horticulture Program Manager- Emilee Weaver
Director of Education- Joanna Lelekacs

ncbg.unc.edu/certificate-programs/

Phone (General): (919) 962-0522

Fax: (919) 962-3531

2.1 PROGRAM POLICY

NCBG reserves the right to adjust the course schedule or substitute faculty. Policy and procedure will be revised with new version of the program.

2.2 COURSE CALENDAR

August 20, 2022 – April 15, 2023

*See section 4.2

Courses will be listed on the NCBG website under, “Hybrid Certificate in Therapeutic Horticulture”: ncbg.unc.edu/certificate-programs/. They are also listed on pages 14-16 of this handbook.

2.3 PROGRAM REGISTRATION

Students must be at least eighteen years of age and meet requirements detailed in Section 1.1 “Who Should Apply?” of this Handbook.

Successful registration will be dependent on both the order in which the registration form is completed and suitability for the program. Maximum enrollment is 20. Upon reaching 20 enrolled students, a waitlist will be created. Registration will open on May 25, 2022. The link to register will be available on the NCBG website under “Certificate in Therapeutic Horticulture”: ncbg.unc.edu/certificate-programs/

2.4 PAYMENT OPTIONS

Registration & Payment Plans:

Registration opens: May 25, 2022

Registration closes: September 3, 2022

Registration Dates		Payment Plan	Initial Payment	Payment Due July 19, 2022	Payment due August 19, 2022
Early Bird	Register by June 20, 2022	Pay in full	\$1,750.00	n/a	n/a
		Pay in two installments	\$875.00		\$875.00
		Pay in three installments	\$500.00	\$625.00	\$625.00
Regular	Register after June 20, 2022	Pay in full	\$1,850.00	n/a	n/a
		Pay in two installments	\$925.00		\$925.00
		Pay in three installments	\$600.00	\$625.00	\$625.00
Regular	Register after July 19, 2022	Pay in full	\$1,850.00	n/a	n/a
		Pay in two installments	\$925.00		\$925.00
Late	Register after August 20, 2022	Pay in full	\$2,150	n/a	n/a

2.5 REFUND POLICY

If a class is cancelled due to insufficient enrollment or has been filled prior to receipt of your payment, you will be notified, and your payment will be refunded in full.

- Cancellations made on or before June 20, 2022 will be issued a refund minus a \$200 administrative fee
- Cancellations made after June 20 but prior to July 21, 2022 will be issued a refund minus a \$500 administrative fee
- No refunds will be issued for cancellations made on or after July 21, 2022

Questions? Contact the Registrar at ncbgregistrar@unc.edu or 919-962-4882

2.6 SCHOLARSHIPS

NCBG will grant 4 need-based partial-scholarships. These scholarships will cover 35% of the program costs, requiring scholarship-recipients to pay a total of \$650.00 for the program. Submission of the application does not guarantee that a student will receive the scholarship.

The scholarship application will be posted on the NCBG website (ncbg.unc.edu/certificate-programs/) on June 13, 2022. Students must submit the application before 12 noon on July 11th, 2022. Applications will be submitted by email to Emilee Weaver (erweaver@unc.edu). Applications received after 12pm on July 11th will not be considered.

2.7 ENROLLMENT CONFIRMATION

Confirmation of program registration will be sent via email upon completion of online registration as well as for any payments made.

2.8 CANCELLATION POLICY

In case of inclement weather, or if an in-person class is cancelled for any other reason, students will receive an email by 8:00am the morning of the scheduled class. Every effort will be made to inform students of a cancelled in-person class with as much advance notice as possible.

2.9 ATTENDANCE POLICY

In order to receive a certificate of completion or mastery, students are permitted one in-person class absence, or a total of 6 hours. If a student is absent for more than one class (6 hours), they may continue in the program attending classes; however, they will not receive a certificate.

If extenuating circumstances require additional absences, allowances will be considered at the discretion of the Director of Education in consultation with the course instructor.

2.10 SUPPORTIVE MATERIAL

While outside reference material is not required for purchase in order to enroll in or complete the certificate program, we strongly advise that you acquire one of the following texts. These provide foundational information for therapeutic horticulture, and they will be useful references as you integrate therapeutic horticulture into your practice.

1. The Profession and Practice of Horticultural Therapy, Haller, Kennedy and Capra eds., 2019

2. Horticulture as Therapy, Principles and Practices, Simson and Straus eds, 1998

3. Horticultural Therapy Methods: Making Connections in Health Care, Human Services, and Community Programs, by Haller and Kramer eds., 2006

An extensive bibliography of useful reference material will be presented during the first class. Individual teachers may recommend other reference materials.

3. Program Completion

3.1 PROGRAM COMPLETION REQUIREMENTS

To receive a certificate upon completion of the program, students must attend 7 out of 8 in-person classes, pass the final take-home exam. If a certificate of mastery is pursued, a 40-hour internship (with documentation) must be completed by August 31, 2023.

3.2 INTERNSHIP EXPERIENCE

An internship is optional for those wishing to receive a Certificate of Mastery in Therapeutic Horticulture. The intent is to provide students with a service-learning opportunity that is directly related to the mission of the CTH and applies the knowledge gained in the coursework. A minimum of 40 hours of direct service learning is required. In addition, students who are currently employed may be able to complete a project related to their CTH studies at their place of employment (i.e., design an accessible garden; implement TH activities; complete a case study).

Prior to beginning an internship, students must submit a brief proposal for pre-approval, outlining the proposed location and scope of their internship. The proposal shall include a description of the service, site, and how it relates to the CTH. Upon completion, students will provide: documentation of the hours served verified by supervisor / administrator (a form will be provided); Final Reflective Questionnaire, log of hours and final project; and any relevant documents that support the experience. Internships may begin after class #23, the weekend of February 11, 2023. Internship hours must be completed with all documents submitted by August 31, 2023.

a. List of Potential Internship Options

1. Botanical Gardens
2. Long Term Care Facilities (Assisted Living, Nursing Homes, Continuing Care Retirement Communities)
3. Mental Health Facilities (Community Clinics, In-patient Facilities)
4. Children's Programs / Schools
5. Community Gardens
6. Hospice / Palliative Care Programs
7. Acute Care / Rehab Settings
8. Prisons
9. Adult Day Care Programs (Dementia Care)
10. Halfway Houses / Day Treatment Programs
11. Eating Disorder Programs
12. Internship of own choosing, approved by instructor

3.3 PROGRAM COMPLETION DEADLINES

Students must have completed all online lectures and in-person classes by April 15, 2023. The final take-home exam will be provided on April 15, 2023 and is due to Emilee Weaver erweaver@unc.edu by 12:00am the following weekend, April 23, 2023. The optional 40-hour TH internship, along with documentation of hours served, are due to Emilee Weaver by August 31, 2023 for review. Upon review and approval of the internship documentation, notification will be sent to the student and a certificate of mastery will be mailed to the address of their choosing.

4. CURRICULUM

4.1 COURSE LISTING & CONSOLIDATED SCHEDULE

The curriculum provides instruction in achieving academic proficiency and understanding of the concepts and practice of therapeutic horticulture. The online and in-person elements of the program are delineated in the schedule. The 'opens' date listed for the online content indicates the day that the lectures will be available in Padlet for review each month. Once online content has been opened to students, access remains open for the duration of the program and can be viewed 24/7.

Hybrid Certificate in Therapeutic Horticulture Schedule- (Working)

	Date	#	Class Title	Time	Hrs.
September	ONLINE CONTENT Opens: Aug. 20, 2022		Introduction to Therapeutic Horticulture (Historical and Theoretical Overview)	Self-Paced	1
	IN-PERSON Saturday Sept. 10, 2022	1	Program Manager & Student Introductions	9am-12pm	3
		2	Local Field Trip- Location TBA	1pm-4pm	3
October	ONLINE CONTENT Opens: Sept. 11, 2022		Principles of TH Site & Participant Assessment	Self-Paced	1
	IN-PERSON Saturday Oct. 8, 2022	3	Population Adaptation Workshop	9am-12pm	3
		4	Local Field Trip- Location TBA	1pm-4pm	3
November	ONLINE CONTENT Opens: Oct. 9, 2022		Treatment Goal Development Principles of Site Safety	Self-Paced	1
	IN-PERSON Saturday Nov. 12, 2022	5	Adaptive Tools & Techniques Workshop	9am-12pm	3
		6	Local Field Trip- Location TBA	1pm-4pm	3
December	ONLINE CONTENT Opens: Nov. 13, 2022		TH Activity Development & Facilitation	Self-Paced	1
	IN-PERSON Saturday Dec. 10, 2022	7	TH Activity Implementation Workshop	9am- 12pm	3
		8	Local Field Trip- Location TBA	1pm- 4pm	3

January	ONLINE CONTENT Opens: Dec. 11, 2022		TH Basic Horticulture Skills Raised Bed & Container Gardening	Self-Paced	1
	IN-PERSON Saturday Jan. 7, 2023	9	Plant Metaphors in Health & Wellness Mindfulness & TH	9am- 10:30am	1.5
		10		10:30am- 12pm	1.5
		11	Nature Journaling Workshop (on-site)	1pm- 4pm	3

	Date	#	Class Title	Time	Hrs.
February	ONLINE CONTENT Opens: Jan. 8, 2023		Indoor/Outdoor TH Programming Spaces Propagation Techniques	Self-Paced	1
	IN-PERSON Saturday Feb. 11, 2023	12	Native Seed Propagation Methods Native Plant Propagation Methods	9am-10:30am	1.5
		13		10:30am-12pm	1.5
		14	Indoor Plant Propagation Methods & Propagating for Plant Sales	1:00pm-4:00pm	3

March	ONLINE CONTENT Opens: Feb. 12, 2023		Introduction to Universal Design Introduction to Vegetable/Flower Design	Self-Paced	1
	IN-PERSON Saturday March. 11, 2023	15	Garden Design Workshop	9am- 12pm	3
		16	Fundamentals of Soil & Growing Media Managing Pests, Diseases, and Weeds (Off-Site Class Location/ Field Trip)	1pm-2:30pm	1.5
		17		2:30pm- 4pm	1.5

April	ONLINE CONTENT Opens: Mar. 12, 2023		TH Program Funding, Budget, Proposals, & Evaluation	Self-Paced	1
	IN-PERSON Saturday Apr. 15, 2023	18	TH Panel of Practitioners Q&A Session	9am-12pm	3
		19	Course Wrap Up - Resources Moving Forward	1pm-4pm	3
	NCBG		TH Certificate Ceremony & Reception	4:30pm	

4.2 HOMEWORK ASSIGNMENTS

Students may be assigned homework at the discretion of the class instructor. If a student is absent from a class, they will be responsible for obtaining class materials to ensure successful program completion. To receive credit for participation students must participate during class and complete in-class assignments.

4.3 STANDARDS FOR GRADES

All measures of program completion will be done on a pass/fail basis. No grades will be assigned.

4.4 CLASS DESCRIPTIONS AND OBJECTIVES

1. NCBG Program Manager & Student Introductions

Let's get to know one another! As a group, we'll learn each other's professional/personal backgrounds and motivations for joining NCBG's TH Certificate program through team building activities and engage in a brief orientation of the TH program and NCBG!

2. Field Trip to Farm at Penny Lane- Pittsboro, NC

Off-site field trip. Address/directions will be provided.

3. Population Adaptation Workshop

Instructor:

Amy Brightwood

Course Description:

Students will learn about the considerations, goals, precautions, and more in working with individual/groups with developmental disabilities. Goals and challenges will be presented

as we explore planning and adapting activities with this population together. Instructors will present general characteristics, teaching aids, and communication strategies, but most of our time will be spent participating in a hands-on planting activity. Students will have the ability to “play” therapist, client, and observer roles.

Learning Objectives:

Upon completion of this course, students will have an understanding of the following:

- The definition of developmental disability
- What populations/disorders fall under the category of DD
- General characteristics of Autism Spectrum Disorder, Cerebral Palsy, and Down’s Syndrome
- Adapted activities and reasons for adaptation
- Goals and challenges within the DD population
- Ideas for ways to plan and lead activities that target specific outcomes

4. Field Trip: Location TBA

Off-site field trip. Address/directions will be provided.

5. Adaptive Tools & Techniques Workshop

Instructors:

Amy Bruzzichesi, MSW & Greg Stivland, OTR/L

Class Description:

Students will have the opportunity to apply the use of adaptive tools and techniques to real-world TH scenarios and populations. This course will be an active, hands-on workshop that places students in the role of the 'participant' as well as 'practitioner' so they have a firsthand account of what it feels like to be a TH participant who requires adaptive tools and techniques as well as consider the need for adapting tools and activities for TH clients. A thorough tool demonstration and recommendations for commonly used adaptive techniques will be provided.

Learning Objectives:

Upon completion of this class, students will have an understanding of the following:

- Identify 3 or more ways a Therapeutic Horticulture activity can be adapted.
- Identify why and how you might need to adapt a TH activity.
- Identify why and how you might need to adapt the environment when working with a client on a TH activity.
- Identify why/when adapted tools might be needed to complete a TH activity.
- Identify resources (online/books) to learn more or to purchase adaptive tools.

6. Field Trip to Carol Woods Retirement Community- Chapel Hill, NC

Off-site field trip. Address/directions will be provided.

7. TH Activity Implementation Workshop

Instructor:

Amy Stidham

Class Description: Students will have the opportunity to apply the activity analysis worksheet to a nature-based session for seniors. This course will be interactive and hands-on including a demonstration and discussion that will take place alongside the instructor. The instructor will lead students through a pre-planned activity while prompting discussions of possible accommodations and situations that may occur when hosting a group with varied abilities.

Learning Objectives:

Upon completion of this course, students have an understanding of the following:

- Apply activity analysis to prepare TH session for seniors
- Use accommodations for auditory, visual and olfactory impairments
- Understand techniques for preparing staff, coaches, and volunteers
- Prepare class participants for activity (safety, ground rules, pacing, expectations)
- Understand how to use your personal practitioner style to your advantage

8. Virtual Field Trip to Poppysol Farm- Held at NCBG

Instructor: Hannah Popish

Virtual/digital farm tour conducted at the NC Botanical Garden (due to formant winter season).

9. Plant Metaphors for Health & Wellness

Instructor:

Jane Saiers PhD, HTR, AAS

Class Description:

People are “rooted” and “transplanted”; they “blossom” and “wilt.” Plant metaphors express our oneness with nature and alignment with its rhythms. Using these metaphors during work with plants can enliven the senses, reawaken the sense of connection with the natural world, and lead to revelations and self-insights. In this class, we explore plant metaphors as a therapeutic tool. Participants learn about the use of plant metaphors in therapeutic horticulture to enhance health and facilitate healing and apply plant metaphors in a hands-on project.

Learning Objectives:

Upon completion of this course, students will have an understanding of the following:

- Define and describe plant metaphors;
- Describe how plant metaphors have been used to support health and facilitate healing in wellness programs and therapeutic horticulture;
- Outline a therapeutic program based on the use of plant metaphors.

10. Mindfulness & TH

Instructor:

Victoria Smith

Reap What You Sow! Mindfulness and gardening are known ways of supporting mental, emotional and physical wellbeing. Imagine the perfect pair they make!

Upon completion of this course, students will have an understanding of the following:

- Why Mindfulness? What *is* Mindfulness?
- How to apply mindful practices to everyday gardening
- To nurture mind, body and spirit connection with nature
- Simple, mindful movement, breathing and meditation activities

11. Nature Journaling

Instructor:

Jane Eckenrode, BFA, Artist

Class Description:

At its core, Nature Journaling is simply the practice of becoming a good observer. Whether you are just getting started, want to add visual notes to your writing, or simply enjoy nature, you can build confidence by practicing skills that quickly establish a framework for a diagram, drawing, or description. Students experiment with portable drawing and painting media, discuss strategies to organize your journal, then venture out to the Garden to make observations. Come dressed for the weather! Refer to the provided materials list, or bring your favorite journal and tools.

Learning Objectives:

Upon completion of this course, students will have an understanding of the following:

- Benefits of journaling to foster a connection to nature;
- Materials and practices that work outdoors;
- Techniques to practice that build confidence.

12. Native Seed Propagation

Instructor:

Heather Summer, NCBG Seed Program Coordinator

Class Description:

Students learn seed propagation techniques for native perennials and woody plants. Topics include seed collection methods, post-collection handling, cleaning equipment and techniques, seed storage, seed sowing techniques, sowing media, cultural requirements of seedlings, and dormancy requirements.

Learning Objectives:

Upon completion of this course, students have an understanding of the following:

- Basic seed collection methods; and
- Basic seed propagation techniques.

13. Native Plant Propagation Methods

Instructor:

Matt Gocke, MF, NCBG Nursery and Greenhouse Manager

Class Description:

Students learn fundamentals of vegetative propagation and techniques for propagating southeastern native plants by means of stem cuttings and propagation by division. Class includes a tour of the vegetative propagation facilities of NCBG.

Learning Objectives:

Upon completion of this course, students have an understanding of the following:

- Basic vegetative propagation techniques (stem cuttings and division) for native plants.

14. Indoor Plant Propagation & Propagating for Plant Sales

Instructor:

Emilee Weaver, NCBG Therapeutic Horticulture Program Manager

Class Description:

Students will learn how to establish indoor and outdoor systems that support year-round indoor and outdoor plant propagation efforts. A variety of propagation methods will be presented, demonstrated, and reinforced with hands-on practice by students. Retail and wholesale purchasing techniques will be discussed as they pertain to program needs and plant sale profit margins. Students will learn how to produce quality plants and value-added products that contribute to the financial sustainability and reputation of a TH program.

Learning Objectives:

Upon completion of this course, students will have an understanding of the following:

- How to choose indoor and outdoor plants that are easy and fast to propagate.
- Several indoor and outdoor plant propagation methods.
- How to leverage retail and wholesale purchasing relationships to enable the highest profit margins on plant/value-added products.
- How to interpret an 'availability list' and use it for year-round planning and purchasing.
- Examples of how to make plant-based, value-added products.
- How to increase the quality level of plants so they can compete with professional growers.
- How to design a plant sale to make the highest profits, educate the customers, and support the needs of the TH program participants.

15. Garden Design for Therapeutic Horticulture

Instructors:

Kirsten Reberg-Horton & Valerie O'Brien

Course Description:

This course introduces students to principles of landscape design utilized in the healing gardens that support Therapeutic Horticulture programming. Incorporating concepts of Universal/accessible design, safety, growing conditions, plant selection and aesthetics, students will learn how to approach new and existing projects from a design perspective. Students will also have the opportunity to put pencil to paper and work through a sample design challenge using the knowledge they've gained.

Learning Objectives:

Upon completion of this course, participants will have an understanding of:

- List the important features of a safe and accessible garden.
- Understand what makes a garden therapeutic.

-
- Understand how the needs of diverse populations impact landscape design.
 - Use a ruler to measure out spaces in a design.
 - Place different species of plants within a garden based on the plant properties and environmental conditions.
 - Evaluate the design of an existing garden or roughly plan a new garden for the purposes of therapeutic horticulture.

16. Fundamentals of Soil and Growing Media

Off-site field trip and class to RambleRill Farm! Address/directions will be provided.

Instructor:

Jane Saiers, PhD, HTR, AAS

Class Description:

This class will introduce participants to the physical, chemical, and biological properties of soil. Participants will learn about practices for maintaining and improving soil health. They will examine soil in the field and under the microscope and take a soil sample for chemical analysis. They will also become familiar with the properties and functions of growing media frequently used in therapeutic horticulture.

Learning Objectives:

Upon completion of this course, participants will be able to:

- Describe physical, chemical, and biological properties of soil
- Discuss practices for maintain and improving soil health
- Take a soil sample for a chemical analysis
- Describe preparation of compost and its applications

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- Differentiate potting (soil) mix from germination mix

17. Managing Pests, Diseases, and Weeds in the Garden

Off-site field trip and class to RambleRill Farm! Address/directions will be provided.

Instructor:

Jane Saiers, PhD, HTR, AAS

Class Description:

This course introduces students to the theory and practice of integrated pest management. Participants learn about the role of fostering healthy soil in managing garden pests. They become familiar with insect, weed, and disease life cycles; plants commonly affected by these pests; and cultural, physical, biological, and chemical methods for managing diseases, insects, and weeds in the garden. Strategies for incorporating integrated pest management into therapeutic horticulture programs are explored.

Learning Objectives:

Upon completion of this course, participants are able to:

- Describe principles and practices of integrated disease, insect, and weed management;
- Identify common garden pests in our region;
- Outline strategies for managing common insects, diseases, and weeds that impact ornamental and vegetable crops in our region;
- Use online resources as tools in pest management efforts.

18. Panel of TH/HT Practitioners- Q&A Session

Names of experienced TH/HT panelists TBA

Come prepared to get any remaining questions about the TH field/practice answered!

19. Course Wrap Up

Instructor:

Emilee Weaver

Though our class time has come to a close, our opportunity for developing and maintaining a strong, unified therapeutic horticulture community has just begun! We'll discuss your questions about "what now??" and "where do I go from here??"

5. FACULTY

Amy Brightwood, Certificate in HT from HTI, Horticultural Therapist

Amy has a B.A. in Psychology, a Masters in Theological Studies, focusing in Human Development and Spirituality, as well as a Certificate in Horticultural Therapy and is working toward being an HTR (registered horticultural therapist). Her previous work experiences include hospice, mindfulness-based stress reduction, research and more.

Catherine Crowder, HTR

Catherine Crowder is a contract horticultural therapist working with various populations: long-term care residents, veterans, cancer patients and survivors and women's groups. She received her horticultural therapy training through HTI in 2014 and completed an internship at Hospice and Palliative Care of Greensboro. Her long-term project, planting "Hope Pots", is still used as part of the holiday grief counseling sessions at hospice. She enjoys consulting on creating therapeutic spaces and giving presentations on the benefits of being mindful in nature and the lessons learned. Prior to this career shift, Catherine worked in various marketing and corporate positions throughout the Southeast.

Jane Eckenrode, BFA, Artist

Jane is a professional artist with 30 year's experience designing and building immersive natural science exhibits for the California Academy of Sciences, Taiwan National Museum of Natural Science, and North Carolina Museum of Natural Sciences. She holds a Bachelors of Fine Arts from the Tyler School of Art of Temple University and is a member of the Chatham Artists Guild. Jane has fused her art background with an interest in natural science and informal education to present nature journaling workshops for educators and the public at the North Carolina Museum of Natural Sciences, Walnut Creek Wetlands Center, Association of Science-Technology Centers, Cape Fear Botanical Garden, and the NC Outdoor Classroom Symposium.

Matt Gocke, MF, NCBG Nursery & Greenhouse Manager

Matt Gocke is the Nursery and Greenhouse Manager at NCBG. His responsibilities at the Garden include seed and vegetative propagation of southeastern US native plants for use in the NCBG habitats and landscapes and for sale to the general public. Prior to working at the NCBG, Matt was a master's student and project manager at the NC State Department of Forestry. His research focus was rooted cutting techniques for native tree species including pine, sweetgum and several oak species. Matt is a resident of Durham, NC.

Sally Haskett, HTR, NCBG Horticultural Therapy Program Manager

Sally Haskett, Horticultural Therapist Registered, has worked as Horticultural Therapy Program Manager at NCBG for eight years. She has developed therapeutic horticulture programs in a range of settings from assisted living centers to working farms, and with persons living with developmental disabilities, mental illness, traumatic brain injury, dementia, and physical conditions. Her teaching experience includes yearly workshops for professionals, daily mentoring of interns, and national presentation forums. She has a Masters degree in Landscape Architecture that provides foundational knowledge of garden design. The opportunity to help people make connections to the earth, plants and nature has been her greatest reward.

Valerie O'Brien, Landscape Designer, BLA

Valerie O'Brien is a Landscape Designer with over five years of experience in the field. She has a Bachelor's Degree in Landscape Architecture from the SUNY College of Environmental Science and Forestry. Valerie's career has taken her on a journey from hands-on maintenance at a historic arboretum, to New York City park construction, to designing parks, greenways, and urban plazas in the Raleigh area. Her interest in healing gardens and her desire to help people connect with nature through design has led her to Horticultural Therapy. She believes that good design is the key to a great Therapeutic Horticulture program and is excited to learn and grow with the community at NCBG.

Amy Bruzzichesi, MSW

Amy Bruzzichesi is a therapeutic horticulturist and career social worker with a background in elder care, medical social work, and the nonprofit world. As the daughter of a landscape architect and a psychotherapist, therapeutic horticulture felt like a natural fit for her love of gardens and helping people find the tools they need to thrive. Amy works with organizations and private clients to provide therapeutic horticulture programs and services which meet the needs of people facing changes and challenges through plant- and garden-based therapeutic activities. When she isn't with clients, Amy enjoys reading, travel, and her role as an Alamance County Extension Master Gardener Volunteer. She can usually be found covered in dirt in her own garden growing fruit, flowers, and vegetables with her family.

Hannah Popish, MSW

Hannah Popish runs poppysol, LLC - a one acre permaculture inspired herb and flower farm and apothecary in Chatham County, NC. She has been on the land since September 2017. Hannah comes from generations of nature lovers and healers. She is a clinical herbalist and farmer with a master's in social work who is passionate about encouraging people to be agents in their own healing. Her herbal training began in Alamance County with folk herbalist Suki Roth, continued with David Winston's clinical herbalist two-year program, and continues each day through ongoing engagement with the plants and other continuing education opportunities. Her work is firmly grounded in connecting people with plants, knowing that each person has unique needs and healing is non-linear. Hannah is grateful to offer a range of tincture formulas, tea blends, bath salts and salves through her [website](#) and also offers a Flower CSA seasonally that includes the farm's herbal bounty. She also does an annual plant sale in the spring and fall so that "herb curious" folks and plant lovers can grow the herbal medicine they need right in their own spaces. When she's not with the plants she's loving up on farm dog Mimi, trying to find a body of water to be in or a new trail to explore, and definitely cooking and eating with close friends and family!

Kirsten Reberg-Horton, Owner and Designer, Kalmia Landscape Design

Kirsten Reberg-Horton has been designing and teaching landscape design to Master Gardeners and others since 2002. Kirsten believes that gardens offer an immersive sensory experience that has a unique ability to soothe our spirits and spark joy and creativity.

Kirsten is currently pursuing a Masters in Mental Health Counseling at NCCU in order to bring together mental health and our connection to nature. Empowering people to claim their birthright of the natural world, thereby enhancing their own and others wellbeing, brings her great joy and purpose. One of her favorite quotes is from *Green Nature Human Nature*, "Nature itself can entrap us involuntarily, occupy our minds, shut out daily cares, and allow us to become refreshed" (Lewis, C.A.).

www.lovepeopleloveplants.com

Jane Saiers, PhD, HTR, AAS

RambleRill Farm, Hillsborough, NC

Jane Saiers and her husband Darin Knapp grow certified organic fruits, vegetables, and mushrooms and raise goats and chickens at RambleRill Farm in Hillsborough, NC. They also offer on-farm experiences that enhance participants' health and well-being by awakening the senses and engaging the mind through connection with nature. Jane and Darin believe that nearly everyone can be healthier by spending daily time, be it 15 minutes or 8 hours, with plants and animals.

Website: www.RambleRillFarm.com

Email: Jane@RambleRillFarm.com

Victoria Smith, M. Sci. (Clinical Psych), E-RYT

Victoria is a native Californian who has made Durham, North Carolina home for over 15 years. She has enjoyed teaching Mindfulness and Yoga as well as volunteering with NCBG's Horticultural Therapy program for the past 9 years. She is devoted to the belief that the practice of mindful gardening is an excellent way to plant seeds of self-care and cultivate a bounty of wellbeing. Outside the garden, you can find Victoria sipping a latte, hiking the Eno and reading a good book. Victoria has a Masters of Science in Clinical Psychology/Marriage, Family and Child Counseling. She is a 200HR Experienced Registered Yoga Teacher. Victoria is currently working with the Durham Health Department, studying Horticultural Therapy, and Trauma Sensitive Mindfulness. Contact Victoria at phenixrising4@gmail.com. Twitter: @peoplesyoga_i, Instagram: @thepeoplesyoga Website: The People's Yoga & Wellness.

Amy Stidham, Instructor, Former TH Program Manager at Cape Fear Botanical Garden

Amy Stidham, HT Certified, worked as TH Program Manager at Cape Fear Botanical Garden, a non-profit public garden, from 2013-2022. She developed the Garden's initial TH program and gained first time approval for transitioning veterans at Fort Bragg to participate in horticulture classes. She earned her Certificate of Merit for coursework completion in Horticultural Therapy from Chicago Botanic Garden in 2016 and developed TH programs that provided opportunities for any age or ability to participate in activities within varied settings. Programs served those with vision and speech impairment, cognitive, behavioral and physical disabilities, veterans and military families, seniors, and those in day programs, residential assisted living and memory care facilities. She is a Veteran, NC Environmental Educator, Landscape Design Consultant and Extension Master Gardener and believes that there's always more to explore and learn about people's connection to nature and its benefits.

Greg Stivland, OTR/L, Durham Public Schools and HT Intern

Greg Stivland is a pediatric Occupational Therapist who has worked in both private and school-based practice over the last 28 years. He works with students aged 3-21 who receive services through the Exceptional Children's department, and each have an Individual Educational Plan (IEP). Populations served include children and young adults with: Developmental Disabilities, Intellectual Disability, Down syndrome, Autism, Cerebral Palsy, ADHD, Specific Learning Disabilities, TBI's, Visually Impaired/Blind, and Deaf/Hard of Hearing. Greg has used Horticulture activities with students as a therapeutic modality to support and inspire student skill development including: fine motor skills, bilateral coordination, self-regulation, attention, strength/endurance, social skills, and prevocational/vocational skills. He is currently completing coursework needed to become a Registered Horticultural Therapist including an internship through the NC Botanical Gardens in Chapel Hill.

Heather Summer, NCBG Seed Program Coordinator

Heather Summer is the Seed Program Coordinator for NCBG. She has a B.S. in Biology (with a concentration in botany) from Florida State University and an M.S. in Ecology from the University of Georgia. Prior to joining the Garden, Heather worked as a regional vegetation ecologist and project manager for NatureServe in Durham and as a field biologist for the Florida Natural Areas Inventory in Tallahassee, FL and the J.W. Jones Ecological Research Center in Newton, GA.

Emilee Weaver, BSW, NCBG TH Program Manager, HT Certificate (HTI)

Emilee Weaver has been a professional horticulturist for 24 years in five different states/climates in the U.S. Fourteen of those years have been spent as a horticultural therapist and consultant. Stemming from a formalized education in social work, years of in-field horticulture experience, and a horticultural therapy certificate from the Horticultural Therapy Institute of Denver, she has developed and managed numerous HT programs involving a variety of populations and settings. Most notably, she developed a therapeutic/vocational horticultural therapy program at a high-security treatment facility for adolescent girls, a military veteran reintegration program at Denver Botanic Gardens, and managed an HT program at a 400 bed, state-managed psychiatric hospital in North Carolina. She currently serves as the Therapeutic Horticulture Program Manager at the NC Botanical Garden, providing direct services to community organizations and managing the on-site and online TH educational programs offered by the Garden. She co-authored the HT textbook, "The Profession and Practice of Horticultural Therapy" which was published in 2019. She is enthusiastic about supporting a thriving local and national TH/HT community in the U.S and beyond.

6. ADDENDUM

6.1 MISSION AND HISTORY OF THE NORTH CAROLINA BOTANICAL GARDEN

NCBG is a unit of the University of North Carolina at Chapel Hill. We further the University's mission of teaching, research, and public service through our mission:

“To inspire understanding, appreciation, and conservation of plants in gardens and natural areas and to advance a sustainable relationship between people and nature.”

The concept of the conservation garden was developed at NCBG in the early 1990s to represent the many conservation-related activities that the NCBG is pursuing. The Garden has the following eight program themes within its mission.

1. Conservation through propagation of native plants, which ensures that wild populations are not damaged by direct use.
2. Seed banking and reintroduction, an ex-situ conservation program that protects germplasm reserves as a last resort against extinction in the wild and for use in reintroduction of wild populations.
3. The protection and restoration of natural areas.
4. The elimination of invasive species and replacement with noninvasive alternatives.
5. Gardening in nature's context, which seeks to promote plants that support native biodiversity.
6. Sustainable gardening, which seeks to promote environmentally friendly gardening practices.
7. Supplying critical information on conservation of the flora of the southeastern United States and on the Garden's conservation programs.
8. People-nature relations, which describes how important plant diversity and natural areas are to the physical and psychological health of all of us.

The history of NCBG is a history of the people and the botanical legacy of the University of North Carolina at Chapel Hill.

Please review more details about the North Carolina Botanical Garden history on our website at <https://ncbg.unc.edu/about/a-conservation-garden/>