

Garden Party: Introduction to Gardening Short Course

INST 2550 (register on SIS), 1 credit

Wednesdays, 5pm to 7pm, Hereford Garden

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Course description:

This short course will introduce students to the major concepts used in growing herbs, flowers, and vegetables organically in a small and cooperative garden context. The class will learn and apply their skills in the Hereford College Farm Garden, working with fellow students to manage and grow crops to harvest for themselves and Hereford residents. This course will focus on low-tech, biological gardening strategies that aim to improve the soil ecosystem and soil health as the primary driver of plant health and growth -- without the use of fertilizers and pesticides -- drawing on the methods promoted by John Jeavons (Grow Biointensive), Eliot Coleman, Bill Mollison (permaculture), Patryk Battle (no-till gardening), and Elaine Ingham (Soil Food Web; biological farming). Concepts covered in the class will include garden planning, seed starting, soil media and amendments, garden and soil preparation, seedling transplanting, mulching, watering and irrigation, season extension, attracting pollinators, managing pests and weeds, cover cropping, composting, and seed saving.

This course will be taught in person in Vaughn House and at the Hereford Garden. Each week, students will participate in hands-on activities to develop their confidence and skills in growing crops while working together to manage and improve the Hereford Garden for future students. Students will receive a pass/fail grade based on weekly attendance, participation in class activities, and cooperation with fellow classmates. The course will end with a garden party, giving tours of the garden to fellow Hereford residents and sharing the crops students have grown.

Course objectives:

- Understand the difference between, and the advantages and disadvantages of, conventional (chemical), organic, and biological growing approaches.
- Develop a working understanding of the components of soil health (air, moisture, minerals, organic matter, and biology).
- Understand the dynamics and value of interdependence among organisms (e.g., among plants, among soil dwelling organisms, among human communities, between all three)
- Learn about the role and importance of fungi in gardening, soil health, human health, and ecosystems.
- Acquire competence and confidence in growing healthy plants without reliance on synthetic chemical inputs.
- Grow "beyond organic" crops from seeds to harvest.
- Work cooperatively to manage and improve the Hereford Garden for the benefit of classmates and Hereford residents.

Required materials:

- How to Grow More Vegetables by John Jeavons
- (Possibly) The New Organic Grower by Eliot Coleman
- Comfortable clothes that will get dirty
- Gardening gloves
- Hat (for sun)

Course Schedule:

Class 1

February 27

Introduction, soil health basics, and garden planning

Activity: garden planning/scheduling as a group.

Summary: In our first lecture, we will introduce ourselves and talk about our intentions and goals for the course and gardens. The instructor will give a brief explanation of the differences between conventional (chemical), organic, and biological approaches to growing. The class will discuss the relative advantages and disadvantages of each approach. The instructor will also introduce John Jeavons's Grow Biointensive and the New Organic Grower as core gardening strategy and planning methods, including examining charts on recommended spacing and calories embodied in typical yields. As an activity, students will review what crops were grown in the garden last year and where they were grown, collectively discuss what crops they want to grow in the coming year, and determine where in the garden they might go. The class will then break into groups, each taking responsibility for planning one section of the garden, as well as their special project (see the end of is syllabus) to be completed by the end of the semester.

Class 2

March 6

Seed starting, growing media and amendments, and soil testing

Activities: starting seeds, soil sampling and testing

Summary: The class will learn about starting seeds inside or in greenhouses, learning about growing media, seedling care and watering through the delicate germination phase. The teacher will present examples of seedlings in various stages of early growth. The class will have two activities. The first activity will be starting seedlings (most likely warm season crops) using soil block-making tools. The second activity will be gathering soil from the garden and preparing it to be sent to a lab for analysis. We will take a preliminary look at a soil test and learn what we can determine from a lab soil analysis from a biological growing approach. We will also prepare a sample of garden soil to examine under a microscope to see what the soil is made of and

discuss the soil food web. Students will create a schedule for monitoring and caring for the seedlings through germination, the cotyledon stage, and developing their first true leaves.

Spring Break

March 13

Class 3

March 20

Garden maintenance and soil preparation, season extension

Activities: Weeding, amending and prepping soil, installing season extending infrastructure

Summary: This class will take place in the Hereford College Farm Garden. We will have two brief discussions: examine the results of the soil test and its implications for amendments, and extending the growing season with the use of indoor seedling starts (as covered the previous week), greenhouses, low tunnels, row cover, cloches, etc. The class will spend the majority of its time working in the groups from Class 1 to prepare their garden spaces for planting during the next week's class. We will remove weeds, add compost and possibly soil amendments, aerate the soil, and level the seedbed. We will set up low tunnels and any other needed infrastructure based on the class's garden plans.

Class 4

March 27

Transplanting seedlings, direct seeding, mulching.

Activities: transplanting cold-weather crops, direct seeding

Summary: The class will assess the class's seed starts, although they will not likely be ready for transplanting, and learn about selecting quality plants by pricking out. The class will transplant cool-season seedlings and direct seed other cool-season crops as appropriate. We will mulch in the seeds and transplants, and discuss the reasons for mulching and various materials to choose from.

Class 5

April 3

Composting

Activities: building thermal compost pile and worm compost bins

Summary: This class will cover the basics of composting to improve soil life and reduce waste. The instructor will explain the major ingredients of compost, designing a basic compost recipe, where to source materials, and how to build compost piles. We will harvest compost currently in the tumblers and assess its quality both using our senses and common sense, as well as looking at the microbes in the compost under a microscope. The class will work together to create thermal compost piles. We then will create worm composting bins that can be used

inside or outside, and discuss care and maintenance of worm bins. The class will also monitor their sections of the garden and do maintenance as needed.

Class 6

April 10

Cover cropping, managing pests and weeds, attracting pollinators. role of fungi

Activity: Inoculating logs or woodchip bed with culinary mushrooms

Summary: In this class, we will cover the strategy of using cover crops to prevent soil loss, stimulate soil biology, and build up organic matter and soil structure. We also will do a walking tour of the garden to examine what "weeds" are growing, learn what weeds can tell us, cover basic weed management. And we will discuss common fungal, insect, and animal pests that are likely to damage our crops, examine strategies for mitigating losses (e.g., companion planting, netting, natural repellants), and how to attract beneficial insects and pollinators. We will also have an overview of the role of fungi in our soils, ecosystems, and society. We will have a short activity inoculating wood substrates with culinary fungi – installations will go in the garden. Class will continue to work together to maintain the garden.

Class 7

April 17

Harvesting, food preservation, and seed saving

Activities: harvesting early crops, dehydrating crops, making sauerkraut, direct-sowing warm-season crops

Summary: In this class, we will discuss how and when to harvest cold season crops, and harvest the first crop of cool-season greens (e.g., kale, collards, lettuce, spinach, radishes, carrots). We will learn how to preserve foods using a food dehydrator, as well as making a basic sauerkraut. During garden time, the class also will direct-sow seeds for warm-season crops, including plants from the cucurbit (squash and melons) and solanaceae (tomatoes and potatoes) families, corn, beans, and warm-season flowers (ideally under plastic cover). And the class will begin preparations for the garden party by way of cleaning and weeding beds as needed and putting away equipment and planning the layout for the next week.

Class 8

April 24

Garden party: tours and sharing harvest

Summary: Class will prepare for and host Hereford students, faculty and staff in the garden for a garden party. Class members will conduct garden tours for attendees, offer samples of foods made with garden crops, and celebrate community and the promise that nature holds.

Special project:

Over the course of the semester, students will form groups of two or three and design and build one garden feature/piece of infrastructure from this list:

- Container garden (at least 4 cu ft., 12" depth)
- King Stropharia/Wine Cap mushroom patch
- Rainbarrel and catchment for shed
- Garden bench
- Mini-pond/fountain (five-gallon bucket)
- Beneficial insect hotel
- Irrigation system
- Cold frame
- Native pollinator flower patch

Student teams need to consider the holistic context in which their garden feature will exist – e.g., orientation in the physical space, sun aspect, water requirements, safety, maintenance needs, most likely problems, life expectancy, seasonal use/storage, end-of-“life” reuse, additional functions/uses. Importantly, students will develop plans to be reviewed by UVA’s housing/groundskeeping department for their suggestions and approval.

The reason for this special project is to contribute to the garden’s legacy while giving students an understanding and vision for the real-life challenges of growing and gardening. Would-be gardeners are often stymied by “invisible structures” – a permaculture phrase that means the rules, policies, and cultural expectations that are rarely acknowledged but in some ways have the most influence over one’s ability to grow.