



Plant Form and Function

Native Plant Trust's Plant Form and Function course will teach you the foundations of plant structure, anatomy, and physiology. You will learn:

- Vegetative organs, on morphological and cellular levels
- Plant reproduction and reproductive parts, on morphological and cellular levels
- Fundamental plant processes, on cellular and chemical levels

While the native plant examples are specific to New England, the concepts, approaches, processes, and tools for learning botanical science can be applied no matter where your specific location.

Structure

This course is offered in 5 modules. The modules are self-paced and include learning material with accompanying activities. Each module also offers online journal spaces to post assignments, forums for discussion and questions, and quizzes. An instructor will facilitate the forums and review the submitted assignments.

Concepts

Module 1: Plant Introduction: Vascular/Non-Vascular, Angiosperm/Gymnosperm, Dicot/Monocot

Module 2: Vegetative Organs: Structure and Growth

Module 3: Plant Processes: Transport, Transpiration, Growth Processes

Module 4: Reproductive Organs: Flowers, Fruits, and Seeds: Anatomy, Pollination, Dispersal, Germination

Module 5: Reproductive Processes: Asexual and Sexual, Chromosomes, Mitosis, Meiosis, Genetic Variation

Requirement

Plant Form and Function is a Basic Core requirement for Native Plant Trust's Native Plant Studies Certificate. Students must complete all lessons (including assignments, journal entries, and quizzes) to count this course toward their certificate.

Tools

For the close looking and dissection exercises in this course, we recommend you use a high magnification hand lens (10x or 20x triplex), a sharp razor blade or fine scalpel, fine forceps, and blank paper and pencils. You can also use a dissecting scope, if you have access to one. There are also numerous simple and inexpensive ones, such as Foldscopes.

Resources

There are no required books for this course, but an extensive resource list is provided in the first module for

your further optional study.

Contacts

If you have further plant science interest that you wish to pursue in-person, we recommend:

- Attending an in-person program with Native Plant Trust
- Contact your state natural heritage program
- Contact the science departments at your local college