



Blue Ridge Naturalist Certificate of Merit

Course Catalog

Offered through Adult Education Programs at The North Carolina Arboretum

This catalog contains descriptions of all core (required) courses as well as some example electives in each required category.

Core Classes

Most Core Classes also have optional field experiences: Students should consider taking as many field experiences as possible for their Naturalist study. A minimum of four (4) field studies fulfill program recommendations.

Geology of the Blue Ridge

Fall: 6 sessions

Instructor: Steve Yurkovich

BRN core credit

Explore the geologic history of the Southern Appalachian Mountains in this Zoom-based class that includes lecture presentations, discussions and self-guided explorations in the field. The course begins with a discussion of the earth's interior and plate tectonics, progresses to a model for the formation of the southern Appalachians and then describes the surficial processes that generate the current mountain topography. Discussion will also include an overview of geologic processes that affect these mountains today: earthquakes, mass movements and floods.

Ecology of the Blue Ridge

Fall: 6 Sessions

Instructor: Dan Lazar

BRN/BREG - Core | NCEE Criteria III & II (with field experience)

Discover why the Southern Appalachians are home to more tree species than all of Europe. Learn how ants and whitetail deer determine where trilliums grow. Take a virtual tour of the amazing natural ecosystems of Western North Carolina, from riverside amphibian breeding ponds to mountaintop Spruce-Fir forests. This Zoom-based class will include lecture

presentations, discussions, self-guided explorations, and virtual field trips during which students will uncover the complex interactions between familiar organisms and their natural environment. *Students registered for the online course will have the opportunity to register separately for a small-group distanced field experience, also eligible for BRN or NCEE Criteria II credit.*

Natural History Interpretation

Fall: 6 sessions

Instructor: Brad Daniel

BRN- Core

Natural history interpreters provoke interest and curiosity in our natural and cultural heritage. This online intensive course will introduce the basic principles of environmental interpretation and is designed for Blue Ridge Naturalists who will be leading nature walks, teaching natural history to adults or children, and delivering talks to community groups. Participants will learn how to create nature education talks or walks that are purposeful, enjoyable, informative and organized. Students will be given an opportunity to develop their own programs and practice their presentation and communication skills. This class fulfills a core requirement for the Blue Ridge Naturalist Certificate and is limited to students who are nearing the completion of their Naturalist certificate course of study and developing ideas for their final projects. PLEASE NOTE: This course is designed to be interactive and will be presented in a synchronous meeting format via Zoom. Students should plan to participate with the instructor in real time; however a recording of each class will be made available to registered participants for a limited period following the session for review and to provide access for those with unavoidable scheduling conflicts. Attendance is mandatory for the final two class periods, which consist of student presentations.

Botany Basics

Instructor: Alexandra Holland

BRN- Core

Plants have many amazing abilities: they make their own food, pull water hundreds of feet in the air against gravity, and trick insects and other animals into helping them reproduce. They track the sun, recoil at a touch, and warn other plants of danger. In this class we will explore all these phenomena and more as we look at the basics of plant structure, function, evolution, classification, and ecology. The class is a Zoom-based lecture format. Discussion questions and practical exercises will be provided to reinforce the lecture material, including making observations in your own yard or neighborhood. Participants are encouraged to sign up for the complementary Botany Basics Walks for further reinforcement of the lecture material, but the walks are not a requirement.

Water (Fluvial) Systems from the Blue Ridge to the Ocean

Instructor: Anton DuMars

BRN- Core

Water flow across a diverse geological framework shapes the Earth's surface. The process of surface water flow and the earth's response to this flow is investigated across three physiographic provinces, including the Blue Ridge, Piedmont, Coastal Plains/Continental Shelf. Processes and responses include erosion, sediment transport, and formation of associated depositional environments.

Vertebrate Zoology of the Blue Ridge I

Instructor: Carlton Burke

BRN- Core

The Southern Appalachian Mountain region is quite diverse in the many different species of vertebrate animals that make their home here. In this series of classes, students will learn the basic identification and natural history of many of our mountain wildlife species. Each week we will cover a different group of vertebrate animals – fish, amphibians, reptiles, mammals, and birds through the use of slide presentations and worksheets.

Vertebrate Zoology of the Blue Ridge II

Instructor: Carlton Burke

BRN- Core

The Southern Appalachian Mountain region is quite diverse in the many different species of vertebrate animals that make their home here. In this series of classes, students will learn the basic identification and natural history of many of our mountain wildlife species. Each week we will cover a different group of vertebrate animals – fish, amphibians, reptiles, mammals, and birds through the use of slide presentations and worksheets.

Native Tree ID Series

Fall Color and Native Tree Identification

Instructor: Carlton Burke

BRN Core Requirement | NC EE Criteria II credit (2 hours)

Many trees in Western North Carolina combine to create the spectacular foliage color show during the autumn months. This online class covers the biology of what causes seasonal color change and the basics of identifying trees by their leaves, bark, fruit and other characteristics.

Winter Native Tree ID

Instructor: Carlton Burke

BRN Core

Trees take on a whole new dimension in winter. Learn to identify winter trees based on silhouette, bark, twigs and other characteristics. We will cover major concepts and terms, and review some of the best books for tackling this subject matter.

Spring Native Tree ID

Instructor: Carlton Burke

BRN Core

When we think of flowers in the spring, our attention often is turned towards the numerous showy flowers found on herbaceous plants on the forest floor. If we look upwards however, we would notice the many species of mountain trees which also begin blooming at this time of the year as well. In this class, we will learn about identifying trees by their flowers, buds and bark, and investigate tree structures and pollination strategies.

Summer Native Tree ID

Instructor: Carlton Burke

BRN Core

Western North Carolina's lush mountain forests are home to dozens of species of trees. In this online class, students will learn how to identify many of the area's tree species based on their habitat preferences, individual characteristics, including leaves, and their uses both by humans and wildlife.

Flora ID Series

Fall Flora ID

Instructor: Scott Dean

BRN core

Learn to identify native mountain flora using a non-technical keying system, while studying the characteristics of plant families, the basics of plant community and the natural and the cultural history of the flora of the Blue Ridge.

Newcomb's Wildflower Guide and Wildflowers of Tennessee, the Ohio Valley and the Southern Appalachians are recommended as references.

Spring Flora ID

Instructor: Scott Dean

BRN core

Learn to identify native mountain flora using a non-technical keying system, while studying the characteristics of plant families, the basics of plant community and the natural and the cultural history of the flora of the Blue Ridge. Presented online with resources, quizzes and exercises

provided for conducting observations in the “field,” meaning your own yard or neighborhood with nods to nearby trails reopening for recreational use.

Summer Flora ID

Instructor: Scott Dean

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Learn to identify native mountain flora using a non-technical keying system, while studying the characteristics of plant families, the basics of plant community and the natural and the cultural history of the flora of the Blue Ridge. Presented online with resources, quizzes and exercises provided for conducting observations in the “field,” meaning your own yard or neighborhood with nods to nearby trails reopening for recreational use.

Elective Classes: At least 6 Hours From Each Category

Astronomy & Meteorology; Wildlife; Plant Studies; Growing in Place and Special Topics; Appalachian Arts & Culture; and Service and Volunteerism.

Below are some examples of courses which fulfill each requirement. These are not the only courses offered, they are just to give you an idea of what qualifies for each category.

Astronomy & Meteorology Example Courses:

Treasures of the Winter Night Sky

Instructor: Stephan Martin

BRN elective

Join us for an exploration of the treasures of the night sky as we discover the constellations, bright stars, planets, and deep sky objects that fill the evening skies in the cool of winter. During this online class, we'll review the basic use of planispheres and star charts to find our way around the night sky and learn about some of the rich collections of objects that are visible with binoculars and small telescopes.

Mysteries & Wonders of the Moon

Instructor: Martin, Stephan

BRN elective

This class will consider patterns in the moon's movement through the sky, examine its influences on the natural world, and consider the moon's nature, origin and structure. We will join together virtually to gaze at the moon from our own locations the evening of Tuesday, March 23.

Winter Sky Watch

Instructor: Stephan Martin
BRN elective

Stargazing and social distancing come together to form a unique virtual stargazing community as we gather to explore the constellations, bright stars, planets and deep sky objects of the winter night sky with local astronomer Stephan Martin as our guide. All you need is a smartphone or mobile device, a free downloadable astronomy app and an internet connection to join in via Zoom to enjoy the wonders of the night sky from the safety of your own stargazing location. Steve will point out some of the celestial wonders of the night sky during this time of year and share their myths and legends.

Wildlife Example Courses:

Birding Basics: Bird Song

Instructor: Burke, Kevin
BRN elective

With the dense canopy of spring forests it can be difficult to identify which birds are singing without at least learning the basics of birdsong identification. The class starts with a slide discussion of local birds and their spring breeding behavior patterns.

Identifying Regional Frogs by Sight & Sound

Instructor: Brannon, Patrick
BRN elective

Learn about the biology of regional frogs and how to identify them by sight and sound. Discern the differences in calls of the variety of species emerging from early spring through late summer. This citizen-science driven class teaches students to monitor seasonal changes in the types, numbers or calling times that may be indicators of environmental effects such as global climate change. Including worksheets for self-guided field experiences at Willow Pond onsite at the Arboretum or in other nearby frog-loving locations.

Plant Studies Example Courses:

Botanizing Walk

Instructor: Alexandra Holland
BRN elective

Botany Basics Walks

Native Azalea Awe Walk

Instructor: Ben Pick
BRN elective

At peak bloom in early May, the Arboretum's Native Azalea Collection, featuring 16 of the 17 U.S. native azalea species, is a wonder to behold. Instructor Ben Pick, who formerly worked in the collection as an Arboretum horticulturist, leads this educational walk to discuss the colorful azaleas, as well as other rare and interesting native plants that share the landscape, a hidden gem along the winding shores of Bent Creek. The Native Azalea Collection is also a fantastic example of ecological gardening in a woodland space -- enhanced with naturalistic plantings and selectively maintained while retaining and spotlighting characteristic natural elements of the original habitat -- making the garden an indispensable resource for landowners of forested property. Arrive with a water bottle, dressed appropriately for weather. Class requires a half-mile walk to and from the Native Azalea Collection site.

Tree Trek

Instructors: Dan Lazar and Carlton Burke
BRN elective

Join two master naturalists and great friends Carlton Burke and Dan Lazar for this trek along the Blue Ridge Parkway to learn more about the incredible diversity of tree species growing in Western North Carolina. Stops along the way allow for study of species found across a variety of habitats and different elevations, from river floodplains to cool mountaintops. Students should come prepared for hiking on trails and dressed appropriately for weather conditions, including cooler temperatures at higher elevations, bring a bag lunch, water and a field journal.

Growing in Place and Special Topics Example Courses:

Loving Where You Live: Spring Ephemerals Walk with Naturalist Scott Dean - Botanical Garden

Instructor: Scott Dean
BRN elective

Spring is here and the natural world is waking from its winter rest! Take a ramble through the Botanical Gardens with Naturalist Scott Dean to see what's stirring with the wildflowers, trees and critters. We'll discuss what's happening now and how that relates to changes that will occur as the season and year progresses.

Contemplative Photography and The Enveloping Landscape in Spring

Instructor: Susan Patrice
BRN elective

Deepen your intimacy with your surroundings and the natural world through photography. Award-winning documentary photographer Susan Patrice offers a heart-felt photography workshop that combines contemplative practices with ways to document this extraordinary time that might keep us six feet apart from other humans but can inspire a closer and more intimate

focus on nature and our surroundings. Through this simple photographic practice, a nearby green space can become an oasis of beauty and connection and your own backyard can come alive with extraordinary photographic opportunities. Four Zoom-based class meetings include photographic assignments, rich sharing and discussion, and supportive critiques. Additional sessions for equipment coaching and field experience for shooting onsite at the Arboretum are included. Tools: Zoom, Google account for sharing images.

Appalachian Arts & Culture Example Courses:

An Appalachian Ethnobotany: At the Intersection of Science & Tradition

Instructor: Williams, Marc

BRN elective

Ethnobotanist Marc Williams considers the specific botanical traditions of indigenous groups and later settlers in the Appalachian mountains. He provides a general history of nature studies of the region, paying particular attention to food, medicine and crafts. Another area of Williams' interest is the effect of exotic invasive plants on the Appalachian ecosystem and their potential uses within the framework of wild edible foraging and fermentation.

Service and Volunteerism Examples

Below are two ongoing service and volunteer opportunities through the Arboretum. You may choose to complete volunteering outside of the Arboretum as well through other non-profits. We will regularly introduce you to conservation-based organizations in the region. You may consider them for volunteer possibilities. We are glad to provide recommendations.

Adult Education Moderators and Facilitators

Contact: adulthoodeducation@ncarboretum.org

BRN elective

Moderator: Assists with moderating online classes for Adult Education along with program staff. This volunteer opens the online Zoom meeting, checks in with the instructor and ensures they can access slides and share their screen. Also, admits and welcomes meeting attendees and introduces the instructor (script provided). Confirms instructor's preference for responding to questions, then monitors questions recorded in chat and facilitates Q & A and class discussion. Facilitator: Assists with logistics and operations during onsite or field-based classes. This volunteer works closely with the instructor to ensure that all registered participants are accounted for and are adhering to COVID safety guidelines, have the proper equipment, and are able to participate in the field-based activity.

EcoEXPLORE

Contact: ecoexplore.volunteers@gmail.com

ecoExplore is a program initiated by Arboretum to encourage children in grades K-8 to get outside and explore nature. Volunteers are needed to review the pictures and post them to iNaturalist, where scientists around the world can weigh in and dialogue in a global citizen science effort! You do not need to be an expert in any of the fields the children are studying as training is provided by the ecoEXPLORE team. You just need a computer and internet access, good communication skills and the desire to share your love of nature with our young explorers. You can work from wherever you like, whenever you like. Support is also provided to you through email and special programming. BRN candidates will find this a great opportunity to hone your Naturalist skills and participate in community-based science! And here's the best part: You have the opportunity to nurture a love of lifelong learning and inspire wonder in the natural world for generations to come!

**For more information: Adult Education Programs at The North Carolina Arboretum
adulthoodeducation@ncarboretum.org or 828.665.2492**
