

APPROVED
University Registrar

COLLEGE OF NATURAL RESOURCES AND ENVIRONMENT
Department of Forest Resources and Environmental Conservation
Bachelor of Science in Forest Resources and Environmental Conservation
Major: Forestry
Option: Urban Forestry

For Students Graduating in Calendar Year 2020

Minimum credit hours required for graduation is 120. Prerequisites or enrollment restrictions may apply to some courses. Consult the undergraduate course catalog or the timetable of classes.

Degree Core Requirements (21 credits)

Forest Science (9 credits – take all)

- ___ FREC 2214 Introduction to Land and Field Measurements (3 credits)
- ___ FREC 2314 Forest Biology and Dendrology (2 credits)
- ___ FREC 2324 Dendrology Laboratory (1 credit)
- ___ FREC 3314 Forest Ecology and Silvics (3 credits)

Geospatial Analysis (3 credits – take all)

- ___ FREC 4114 Information Technologies for Natural Resource Management (3 credits)

Environmental Economics (3 credits – take all)

- ___ FREC 4014 (NR 4014) Natural Resources Economics (3 credits)

Policy (3 credits – take all)

- ___ FREC 4434 Natural Resource Policy (3 credits)

Oral Communication (3 credits – take one)

- ___ COMM 2004 Public Speaking (3 credits) **or** FREC 3524 Environmental Interpretation (3 credits)

Option Requirements (25 credits)

- ___ CSES 3134 (ENSC 3134) Soils in the Landscape (3 credits)
- ___ FREC 2134 (HORT 2134) Plants and Greenspaces in Urban Communities (3 credits)
- ___ FREC 3354 (HORT 3354) Trees in the Built Environment (3 credits)
- ___ FREC 3454 Trees in the Built Environment Lab (1 credit)
- ___ FREC 4454 Urban Forest Management and Policy (3 credit)
- ___ FREC 4514 Forest and Tree Pests (3 credits)

Geospatial Analysis Elective (3 credits – take one)

- ___ FREC 4214 Forest Photogrammetry and Spatial Data Processing (3 credits)
- ___ GEOG 4354 (GEOS 4354) Introduction to Remote Sensing (3 credits)

Physical Science Elective (3 credits – take one)

- ___ BIOL 1106 Principles of Biology (3 credits)
- ___ BIOL 2304 (HORT 2304) Plant Biology (3 credits)
- ___ CHEM 1036 General Chemistry (3 credits)
- ___ GEOS 1004 Physical Geology (3 credits)

Woody Plant Identification Elective (3 credits – take one)

- ___ HORT 3325 Woody Landscape Plants (3 credits)
- ___ HORT 3326 Woody Landscape Plants (3 credits)

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University Registrar

Restricted Electives (21 credits – see accompanying lists)

- Advanced Forestry and Environmental Science Restricted Elective (6 credits)
- Applied Plant Sciences Restricted Elective (6 credits)
- Policy, Planning, and Business Restricted Elective (9 credits)

CLE Requirements (36 credits)

Area 1: Writing and Discourse (6 credits)

- ENGL 1105 First-Year Writing (3 credits)
- ENGL 1106 First-Year Writing (3 credits)

Area 2: Ideas, Cultural Traditions, and Values (6 credits)

- FREC 2554 (LAR 2554, NR 2554) Leadership for Global Sustainability (3 credits)
- CLE Area 2 course: _____ (3 credits)

Area 3: Society and Human Behavior (6 credits)

- AAEC 1005 Economics of the Food & Fiber System **or** ECON 2005 Principles of Economics (3 credits)
- CLE Area 3 course: _____ (3 credits)

Area 4: Scientific Reasoning and Discovery (8 credits)

- BIOL 1105 Principles of Biology (3 credits)
- BIOL 1115 Principles of Biology Lab (1 credit)
- CHEM 1035 General Chemistry (3 credits)
- CHEM 1045 General Chemistry Lab (1 credit)

Area 5: Quantitative and Symbolic Reasoning (6 credits)

- MATH 1025 Elementary Calculus (3 credits)
- MATH 1026 Elementary Calculus (3 credits)

Area 6: Creativity and Aesthetic Experience (1 credit)

- CLE Area 6 course: _____ (1 credit)

Area 7: Critical Issues in a Global Context (3 credits)

- CLE Area 7 course: _____ (3 credits)

Free Electives (17 credits)

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Restricted Electives (21 credits – see lists below)

Advanced Forestry and Environmental Science Restricted Electives (Choose 6 credits)

CSES 4774	(ENSC 4774) Reclamation of Drastically Disturbed Lands	3
ENSC 3644	(CSES 3644) Plants for Environmental Restoration	3
FIW 2114	Principles of Fisheries and Wildlife (CLE 7)	3
FREC 2514	Wildland Fire: Ecology and Management	3
FREC 3214	Forest Biometrics	3
FREC 3324	Silviculture Principles and Applications	4
FREC 3544	Outdoor Recreation Management	3
FREC 3754	Watersheds and Water Quality Monitoring	3
FREC 4334	Agroforestry	3
FREC 4354	Forest Soil and Watershed Management	3
FREC 4374	Forested Wetlands	3

Applied Plant Sciences Restricted Electives (Choose 6 credits)

CSES 2564	Turfgrass Management	3
ENT 4254	Insect Pest Management	3
FREC 2254	(HORT 2554) Arboriculture Field Skills	1
HORT 2154	(SPAN 2154) Spanish for the Green Industry	3
HORT 2244	Plant Propagation	3
HORT 3584	Landscape Practicum	1
HORT 4614	Ornamental Plant Production & Marketing	3
HORT 4744	Plant Establishment & Environmental Design	3
PPWS 4104	Plant Pathology	3
PPWS 4604	Biological Invasions	4

Policy, Planning, and Business Restricted Electives (Choose 9 credits)

AAEC 3314	Environmental Law (CLE 7)	3
AAEC 4754	Real Estate Law	3
GEOG 3244	The U.S. City	3
HIST 3156	History of American Cities II (CLE 3)	3
LAR 2XXX	Any 2000-level course or higher	3
MGT 3304	Management Theory and Leadership Practice	3
MKTG 3104	Marketing Management	3
PSCI 3344	(UAP 3344) Global Environmental Issues	3
PSCI 3424	State and Local Government	3
UAP 1024	Urban Public Issues (CLE 3)	3
UAP 2004	(REAL 2004) Principles of Real Estate	3
UAP 2014	Urbanization and Development (CLE 3)	3
UAP 3434	(PSCI 3434) Public Administration	3
UAP 4344	Law of Critical Environmental Areas	3
UAP 4374	Land Use and Environment	3

NOTICE: Some courses have prerequisites. Please check the Course Catalog for details.

IMPORTANT NOTES ON THE FOLLOWING PAGE

URBAN FORESTRY NOTES

1. **Satisfactory Progress:** By the end of the semester in which the student has attempted 60 hours (including transfer, advanced placement, advanced standing, and credit by examination), “satisfactory progress” towards a B.S. degree in the College of Natural Resources and Environment will include the following minimum criteria:
 - Having an in-major and overall grade point average (GPA) of at least 2.0.
 - Passing at least 24 semester credits that apply to the *Curriculum for Liberal Education (CLE)*.
 - Passing the following courses or their equivalents:
 - ✓ BIOL 1105, 1115, and CHEM 1035, 1045
 - ✓ One of: BIOL 1106, BIOL/HORT 2304, CHEM 1036, GEOS 1004
 - ✓ and MATH 1026
2. **Foreign Language Requirement:** A sequence of two (2) foreign language courses is required for graduation unless two (2) high school credits of the same foreign language or six (6) transfer credit hours of foreign language have been earned. These credits do not count toward graduation. See catalog section on “Graduation Requirements”.
3. **Policy on Student Exchanges:** Studying overseas or at another U.S. university is a wonderful opportunity to enhance your education. However, planning for an exchange should begin at least 9 months prior to leaving. This will allow time to determine what substitutions, if any, will be allowed and time to arrange your schedule at Virginia Tech to ensure that all requirements for graduation are met.
4. **In-Major GPA Computation:** In-major GPA computation includes all courses designated as FIW, FREC, GEOG, NR, and SBIO.
5. An in-major and overall GPA of at least 2.0 is required for graduation.
6. In accordance with university guidelines, courses satisfying degree core requirements may not be double-counted to satisfy other areas of a degree (e.g. CLE).
7. Some of the listed courses have prerequisites and some courses must be taken in sequence to satisfy prerequisites. Be sure to consult with the University Catalog or check with your advisor.

