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: Forest Operations and Business  
For Students Graduating in calendar year 2019

Minimum credit hours required for graduation is 120.

**Degree Core Requirements (21 credits):**
- Forest Science (9 credits)
  - 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)
  - FREC 1004 Digital Planet (3 credits)
- Environmental Economics (3 credits)
  - FREC 4014 Natural Resources Economics (3 credits)
- Policy (3 credits)
  - FREC 4434 Natural Resource Policy (3 credits)
- Oral Communication (3 credits – choose one)
  - COMM 2004 Public Speaking (3 credits) or FREC 3524 Environmental Interpretation (3 credits)

**Option Requirements (43 credits)**
- ACIS 1004 Accounting Foundations (3 credits) or ACIS 2115 Principles of Accounting (3 credits)
- CSES 3134 Soils in the Landscape (3 credits) or FREC 4354 Forest Soil and Watershed Management (3 credits)
- ENGL 3764 Technical Writing or ENGL 3774 Business Writing (3 credits)
- FIN 3054 Legal and Ethical Environment of Business (3 credits)
- FREC 2414 Field Experiences in Forest Resources (2 credits)
- FREC 2514 Wildland Fire: Ecology and Management (3 credits)
- FREC 3214 Forest Biometrics (3 credits)
- FREC 3224 Forest Biometrics Lab (1 credit)
- FREC 3324 Silvicultural Principles and Applications (4 credits)
- FREC 3344 Forest Field Studies (1 credit)
- FREC 3714 Forest Harvesting (3 credits)
- FREC 3724 Forest Boundaries and Roads (3 credits)
- FREC 3734 Timber Procurement (2 credits)
- FREC 4214 Forest Photogrammetry and Spatial Data Processing (3 credits)
- FREC 4444 Integrated Forest Management Practicum (3 credits)
- FREC 4714 Harvest Systems Evaluation (3 credits)
Restricted Electives (15 credits from the following courses, substitutions possible with approval)

- AAEC 2104 Personal Financial Planning (3 credits)
- AAEC 3314 Environmental Law (3 credits)
- AAEC 3454 Small Business Management and Entrepreneurship (3 credits)
- AAEC 3504 Marketing Agricultural Products (3 credits) (pre: AAEC 1005)
- AAEC 4424 Agricultural Financial Management (3 credits)
- AAEC 4754 Real Estate Law (3 credits)
- AAEC 4764 Real Estate Appraisal (3 credits)
- ACIS 2116 Principles of Accounting (3 credits)
- COMM 1014 Introduction to Communication Studies (3 credits)
- COMM 2044 Principles of Public Relations (3 credits) (pre: COMM 1014)
- COMM 3124 Interpersonal Communication (3 credits)
- COMM 3064 Persuasion (3 credits) (pre: COMM 1014)
- FIN 3104 Introduction to Finance (3 credits) (pre: ACIS 2115, (BIT 2405 or STAT 3005 or STAT 3604 or STAT 4604 or STAT 4705 or STAT 4714) or (STAT 3615, STAT 3616), (ECON 2005 or ECON 2025H)
- MGT 3064 Cornerstones of Entrepreneurship and Innovation (3 credits)
- MGT 3304 Management Theory and Leadership Practices (3 credits) (junior standing)
- MKTG 3104 Marketing Management (3 credits) (junior standing)
- SBIO 2614 Introduction to Forest Products and Marketing (3 credits)
- SOC 2024 Minority Group Relations (3 credits)
- UAP 4374 Land Use and Environment (3 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)
- CLE Area 2 course: ___________________________________________ (3 credits)
- CLE Area 2 course: ___________________________________________ (3 credits)

Area 3: Society and Human Behavior (6 credits)
- AAEC 1005 Econ of the Food & Fiber System or ECON 2005 Principles of Economics (3 credits)
- AAEC 1006 Econ of the Food & Fiber System or ECON 2006 Principles of Economics (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)
- BIOL 1106 Principles of Biology (3 credits)
- BIOL 1116 Principles of Biology 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 (5 credits)

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FOREST OPERATIONS AND BUSINESS 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 Natural Resources and Environment will include the following minimum criteria:
   - Having an in-major and overall grade point average 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, 1106 and 1115, 1116; and MATH 1026

2. **Foreign Language Requirement:** A sequence of two (2) foreign language courses is required for graduation unless two (2) high school units 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:** Includes all courses designated as FIW, FREC, GEOG, NR and SBIO.

5. An in-major and overall GPA of 2.0 is required for graduation.

6. Some of the listed courses have prerequisites. Be sure to consult with the University Catalog or check with your advisor.

7. Some courses must be taken in sequence to satisfy **prerequisites.** Consult your advisor.