FORESTRY (FOR)

Courses primarily for undergraduates:

FOR 2010: Forest Biology
Credits: 2. Contact Hours: Lecture 2.
Prereq: Concurrent enrollment in FOR 2020, FOR 2030, FOR 2040, FOR 2050, *and* FOR 2060.
Discussion of ecological concepts, individual tree structure and growth, variation and diversity in tree populations. Physical environment of trees and forests, ecological processes in forest communities, and introduction to different regional forest communities. (Typically Offered: Fall)

FOR 2020: Sustainable Materials: Wood Utilization
Credits: 2. Contact Hours: Lecture 2.
Prereq: Concurrent enrollment in FOR 2010, FOR 2030, FOR 2040, FOR 2050, *and* FOR 2060
Basis for use of wood as an industrial raw material for lumber, composites, pulp and paper, energy and chemicals. Implications of use of alternative renewable and non-renewable materials for societal infrastructure and consumer goods. (Typically Offered: Fall)

FOR 2030: Resource Measurements/Evaluation
Credits: 2. Contact Hours: Lecture 2.
Prereq: Concurrent enrollment in FOR 2010, FOR 2020, FOR 2040, FOR 2050, *and* FOR 2060; MATH 1400
Survey techniques involved in quantification, valuation, and evaluation of tree and stand growth and other variables in the forest environment (e.g., recreational use, wildlife habitat value, biomass, and solid wood). (Typically Offered: Fall)

FOR 2040: Forest Ecosystem Decision-Making
Credits: 2. Contact Hours: Lecture 2.
Prereq: Concurrent enrollment in FOR 2010, FOR 2020, FOR 2030, FOR 2050, and FOR 2060
Methods of decision-making related to forest ecosystems including communications, teams and conflict resolution. Current issues relating to public, private, and urban forests; quantification of processes, services, and goods produced by the forest and expected by the public such as wildlife, water, range, recreation, wilderness, biodiversity, as well as wood and fiber products. (Typically Offered: Fall)

FOR 2050: Integrated Forestry Laboratory
Credits: 3. Contact Hours: Laboratory 8.
Prereq: Credit or concurrent enrollment in FOR 2010, FOR 2020, FOR 2030, FOR 2040, *and* FOR 2060
Field and laboratory exercises integrating the evaluation and management of forest goods, services, and the processing of wood products. (Typically Offered: Fall)

FOR 2060: Fall Forestry Camp
Credits: 4.
Prereq: Credit or concurrent enrollment in FOR 2010, FOR 2020, FOR 2030, FOR 2040, *and* FOR 2050
Three-week field camp to address topics and issues covered in 2010, 2020, 2030, 2040, and 2050. (Typically Offered: Fall)

FOR 2800: Wood Properties and Identification
Credits: 4. Contact Hours: Lecture 3, Laboratory 3.
Properties of wood and how they relate to its successful use. Comparative anatomical characteristics, scientific nomenclature, and hand lens identification of commercially important North American woods. (Typically Offered: Spring)

FOR 2830: Pesticide Application Certification
(Cross-listed with AGRON 2830/ ENT 2830/ HORT 2830).
Credits: 2. Contact Hours: Lecture 2.
Core background and specialty topics in agricultural, and horticultural pesticide applicator certification. Students can select certification categories and have the opportunity to obtain pesticide applicator certification at the completion of the course. Commercial pesticide applicator certification is emphasized. (Typically Offered: Spring)

FOR 2900A: Special Problems: Leadership in Forestry Teams (LIFT) Learning Community
Credits: 1-4. Repeatable.
Prereq: Freshman or Sophomore classification, permission of instructor
Offered on a satisfactory-fail basis only.

FOR 2900B: Special Problems: Forest Ecosystem Management
Credits: 1-4. Repeatable.
Prereq: Freshman or Sophomore classification, permission of instructor
Offered on a satisfactory-fail basis only.

FOR 2900C: Special Problems: Natural Resource Conservation
Credits: 1-4. Repeatable.
Prereq: Freshman or Sophomore classification, permission of instructor
Offered on a satisfactory-fail basis only.

FOR 2900D: Special Problems: Urban and Community Forestry
Credits: 1-4. Repeatable.
Prereq: Freshman or Sophomore classification, permission of instructor
Offered on a satisfactory-fail basis only.

FOR 2900E: Special Problems: Wood Science and Technology
Credits: 1-4. Repeatable.
Prereq: Freshman or Sophomore classification, permission of instructor
Offered on a satisfactory-fail basis only.

FOR 3020: Silviculture
Credits: 4. Contact Hours: Lecture 3, Laboratory 3.
Prereq: FOR 2010 *or* NREM 3010 *or* WFCE 3120
Manipulation of forest vegetation based on ecological principles for the production of goods and services. (Typically Offered: Spring)

FOR 3560: Dendrology
(Cross-listed with BIOL 3560).
Credits: 3. Contact Hours: Lecture 2, Laboratory 2.
Prereq: BIOL 2110
Identification and ecology of North American woody plant species. Importance of woody plants in timber production and wildlife habitat. Historical conditions of North American forest regions will also be addressed. (Typically Offered: Fall)

FOR 3570: Winter Dendrology
Credits: 2. Contact Hours: Lecture 2.
Identification of North American woody plant species in winter using twigs, buds, bark, and growth form. Emphasis on the ecological roles of trees in winter environments and their adaptations to cold conditions. Students develop practical skills in winter tree identification and are introduced to techniques commonly used in winter forestry assessment and planning. (Typically Offered: Spring)

FOR 3580: Forest Herbaceous Layer: Ecology and Identification.
Credits: 1.
Survey of the major plant families, general, and representative species of the forest herbaceous layer. Functional ecology and restoration. (Typically Offered: Spring)

FOR 4160: Forest Insects and Diseases
(Cross-listed with PLP 4160).
Credits: 3. Contact Hours: Lecture 2, Laboratory 2.
Nature of insects and pathogens of forest and shade trees; their role in the dynamics of natural and managed forest ecosystems; and the management of indigenous and exotic pests. Laboratory experience working with insect and fungal pests of trees. (Typically Offered: Fall)

FOR 4420: Dynamics of Forest Stands
(Dual-listed with FOR 5420).
Credits: 3. Contact Hours: Lecture 2, Laboratory 3.
Prereq: FOR 3020*;* NREM 3010*; (*STAT 1010 *or* STAT 1040*)*
Change in forest species composition and structure at the stand and landscape scales resulting from site quality, tree growth, competition, succession, and disturbance. Methods for assessing tree growth and reconstructing past stand development. Applications to forest and savanna management. Offered even-numbered years. (Typically Offered: Fall)

FOR 4510: Forest Resource Economics and Quantitative Methods
Credits: 4. Contact Hours: Lecture 3, Laboratory 3.
Prereq: FOR 2030
Application of economic principles to forest resource management considering both market and non-market goods and services. Methods of identifying and specifying problems in the management and use of forest resources. Application of mathematical and statistical models to the solution of managerial problems. (Typically Offered: Spring)

FOR 4520: Ecosystem Management: Integrating Ecology, Society, and Policy
(Dual-listed with FOR 5520/ NREM 5520). (Cross-listed with NREM 4520).
Credits: 3. Contact Hours: Lecture 2, Laboratory 3.
*Prereq: Junior or Senior classification; (*NREM 1200 *or* BIOL 1730*)*
Principles of planning, regulating, and decision-making associated with public and private lands, with consideration of forest, grassland, wetland, and freshwater aquatic ecosystems. Integrated natural resources management within ecological, social, economic and policy constraints. (Typically Offered: Spring)

FOR 4540: Forestry Practicum
Credits: 3. Contact Hours: Lecture 1, Laboratory 4.
Prereq: Senior classification
Integrated decision-making related to the conservation, management, and preservation of private and public forests, wildlands, urban/community forests, and/or the production and utilization of wood products. Student teams work with a client and develop management plans that incorporate ecological, social, economic, ethical, and institutional/political factors. Effective teamwork, written/oral/visual communication, and problem-solving stressed. Multiple trips to project site and client. (Typically Offered: Spring)

FOR 4750: Urban Forestry
(Cross-listed with HORT 4750).
Credits: 3. Contact Hours: Lecture 2, Laboratory 3.
Prereq: Junior or senior classification, 3 credits in BIOL
Discussion of establishment and management of woody perennials in community-owned urban greenspaces, consideration of urban site and soil characteristics, plant physiology, plant culture, urban forest valuation, inventory methods, species selection, and urban forest maintenance (health care and pest management). (Typically Offered: Fall)

Courses primarily for graduate students, open to qualified undergraduates:

FOR 5420: Dynamics of Forest Stands
(Dual-listed with FOR 4420).
Credits: 3. Contact Hours: Lecture 2, Laboratory 3.
Prereq: Graduate Standing or Permission of Instructor
Change in forest species composition and structure at the stand and landscape scales resulting from site quality, tree growth, competition, succession, and disturbance. Methods for assessing tree growth and reconstructing past stand development. Applications to forest and savanna management. Offered even-numbered years. (Typically Offered: Fall)

FOR 5520: Ecosystem Management: Integrating Ecology, Society, and Policy
(Dual-listed with FOR 4520/ NREM 4520). (Cross-listed with NREM 5520).
Credits: 3. Contact Hours: Lecture 2, Laboratory 3.
Prereq: Graduate Standing or Permission of Instructor
Principles of planning, regulating, and decision-making associated with public and private lands, with consideration of forest, grassland, wetland, and freshwater aquatic ecosystems. Integrated natural resources management within ecological, social, economic and policy constraints. (Typically Offered: Spring)

FOR 5990A: Creative Component: Forest Biology
Credits: 1-12. Repeatable, maximum of 12 credits.
Prereq: Instructor Permission for Course
Offered on a satisfactory-fail basis only.

FOR 5990B: Creative Component: Forest Biometry
Credits: 1-12. Repeatable, maximum of 12 credits.
Prereq: Instructor Permission for Course
Offered on a satisfactory-fail basis only.

FOR 5990C: Creative Component: Forest and Recreation Economics
Credits: 1-12. Repeatable, maximum of 12 credits.
Prereq: Instructor Permission for Course
Offered on a satisfactory-fail basis only.

FOR 5990D: Creative Component: Forest Management and Administration
Credits: 1-12. Repeatable, maximum of 12 credits.
Prereq: Instructor Permission for Course
Offered on a satisfactory-fail basis only.

FOR 5990E: Creative Component: Wood Science
Credits: 1-12. Repeatable, maximum of 12 credits.
Prereq: Graduate Standing or Permission of Instructor
Offered on a satisfactory-fail basis only.

Courses for graduate students:

FOR 6960: Research Seminar
(Cross-listed with AGRON 6960/ BBMB 6960/ PLBIO 6960/ GDCB 6960/ HORT 6960).
Credits: 1. Contact Hours: Lecture 1.
Repeatable.
Research seminars by faculty and graduate students. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

FOR 6990A: Research: Forest Biology - Wood Science
Credits: 1-12. Repeatable, maximum of 12 credits.
Prereq: Instructor Permission for Course
Offered on a satisfactory-fail basis only.

FOR 6990B: Research: Forest Biometry
Credits: 1-12. Repeatable, maximum of 12 credits.
Prereq: Instructor Permission for Course
Offered on a satisfactory-fail basis only.

FOR 6990C: Research: Forest Economics
Credits: 1-12. Repeatable, maximum of 12 credits.
Prereq: Instructor Permission for Course
Offered on a satisfactory-fail basis only.

FOR 6990D: Research: Forest Management and Administration
Credits: 1-12. Repeatable, maximum of 12 credits.
Prereq: Instructor Permission for Course
Offered on a satisfactory-fail basis only.

FOR 6990E: Research: Wood Science
Credits: 1-12. Repeatable, maximum of 12 credits.
Offered on a satisfactory-fail basis only.

FOR 6990F: Research: Plant Physiology
Credits: 1-12. Repeatable, maximum of 12 credits.
Prereq: Instructor Permission for Course
Offered on a satisfactory-fail basis only.