Forestry (FOR)

Courses primarily for undergraduates:

FOR 201. Forest Biology.
(2-0) Cr. 2. F. *Prereq: Concurrent enrollment in FOR 202, FOR 203, FOR 204, FOR 205, and FOR 206*
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.

FOR 202. Wood Utilization.
(2-0) Cr. 2. F. *Prereq: Concurrent enrollment in FOR 201, FOR 203, FOR 204, FOR 205, and FOR 206*
Processing of sustainable materials including wood into products and general properties and proper use of these products.

FOR 203. Resource Measurements/Evaluation.
(2-0) Cr. 2. F. *Prereq: Concurrent enrollment in FOR 201, FOR 202, FOR 204, FOR 205, and FOR 206; MATH 140*
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).

FOR 204. Forest Ecosystem Decision-Making.
(2-0) Cr. 2. F. *Prereq: Concurrent enrollment in FOR 201, FOR 202, FOR 203, FOR 205, and FOR 206*
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.

FOR 205. Integrated Forestry Laboratory.
(0-8) Cr. 3. F. *Prereq: Concurrent enrollment in FOR 201, FOR 202, FOR 203, FOR 204, and FOR 206*
Field and laboratory exercises integrating the evaluation and management of forest goods, services, and the processing of wood products.

FOR 206. Fall Forestry Camp.
Cr. 4. F. *Prereq: Concurrent enrollment in FOR 201, FOR 202, FOR 203, FOR 204, and FOR 205*
Three-week field camp to address topics and issues covered in 201, 202, 203, 204, and 205.

FOR 280. Wood Properties and Identification.
(3-3) Cr. 4. S.
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.

FOR 283. Pesticide Application Certification.
(Cross-listed with AGRON, ENT, HORT). (2-0) Cr. 2. S.
Holscher. 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.

FOR 290. Special Problems.
Cr. 1-4. Repeatable. *Prereq: Freshman or Sophomore classification, permission of instructor*

FOR 290A. Special Problems: Leadership in Forestry Teams (LIFT) Learning Community.
Cr. 1-4. Repeatable. *Prereq: Freshman or Sophomore classification, permission of instructor*

FOR 290B. Special Problems: Forest Ecosystem Management.
Cr. 1-4. Repeatable. *Prereq: Freshman or Sophomore classification, permission of instructor*

FOR 290C. Special Problems: Natural Resource Conservation.
Cr. 1-4. Repeatable. *Prereq: Freshman or Sophomore classification, permission of instructor*

FOR 290D. Special Problems: Urban and Community Forestry.
Cr. 1-4. Repeatable. *Prereq: Freshman or Sophomore classification, permission of instructor*

FOR 290E. Special Problems: Wood Science and Technology.
Cr. 1-4. Repeatable. *Prereq: Freshman or Sophomore classification, permission of instructor*

FOR 302. Silviculture.
(2-3) Cr. 3. S. *Prereq: FOR 201*
Manipulation of forest vegetation based on ecological principles for the production of goods and services. Nonmajor graduate credit.

FOR 342. Dynamics of Forest Stands.
(2-3) Cr. 3. Alt. F., offered 2012. *Prereq: FOR 203, STAT 101*
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. Nonmajor graduate credit.

FOR 356. Dendrology.
(Cross-listed with BIOL). (2-4) Cr. 4. F. *Prereq: BIOL 211*
Identification and ecology of North American woody plant species. Importance of woody plants in timber production and wildlife habitat. Natural disturbances, human impacts, management and restoration concerns for major North American forest regions will be addressed. Nonmajor graduate credit.

FOR 416. Forest Insect and Disease Ecology.
(Cross-listed with PL P). (3-3) Cr. 4. F. *Prereq: 8 credits in biological sciences, including BIOL 211*
T. Harrington, M. Harris . 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. Nonmajor graduate credit.

FOR 451. Forest Resource Economics and Quantitative Methods.
(3-3) Cr. 4. S. *Prereq: FOR 203, MATH 150*
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. Nonmajor graduate credit.

FOR 452. Ecosystem Management.
(Cross-listed with NREM). (2-3) Cr. 3. F. *Prereq: Junior classification, and NREM 301 or A ECL 312*
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. Nonmajor graduate credit.

FOR 453. Forest Resource Policy and Administration.
(3-0) Cr. 3. S. *Prereq: junior or senior classification*
Forest and related natural resource policies and contemporary policy issues. Integration of elements of policy development processes, various participants in these processes, and resulting programs. Ethics in professional forestry and natural resource conservation. Participation in the policy process involving communication with policy makers and natural resource professionals, study of current issues, promotion of issues with students as issue educators. Participation in policy meetings to identify/determine various elements and applications of strategies associated with the policy development process. Nonmajor graduate credit.

FOR 454. Forestry Practicum.
(1-4) Cr. 3. S. *Prereq: 20 credits in student's major at 300 level or above*
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. Nonmajor graduate credit.

FOR 475. Urban Forestry.
(Cross-listed with HORT). (2-3) Cr. 3. F. *Prereq: Junior or senior classification, 3 credits in biology*
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). Nonmajor graduate credit.

FOR 480. Wood Anatomy and Fiber Analysis.
(2-3) Cr. 3. Alt. F., offered 2011. *Prereq: FOR 280 or permission of instructor*
Microscopic anatomy and ultrastructure of wood and other industrial lignocellulosic materials. Microscopy techniques for fiber analysis. Comparison of fiber properties. Nonmajor graduate credit.

FOR 481. Conversion of Lignocellulosic Materials.
(2-3) Cr. 3. F. *Prereq: FOR 280 or equivalent*
Chemical properties of lignocellulosic materials. Wood chemistry. Various conversion processes. Pulp and paper technology. Biobased products. Other fiber products. Cellulose derivatives. Term paper and/or student project required for graduate level. Nonmajor graduate credit.

FOR 483. Wood Deterioration and Preservation.
(Cross-listed with PL P). (2-3) Cr. 3. Alt. F., offered 2011. *Prereq: FOR 280*
Deterioration of wood in use by biological and physical agents. Wood preservation and fire retardant treatments. Environmental impact of wood treating. Nonmajor graduate credit.

FOR 485. Wood and Natural Fiber Composites.
(2-3) Cr. 3. Alt. F., offered 2012. *Prereq: FOR 280 or TSM 240*
Consolidation behavior of wood and other lignocellulosic materials. Principles of adhesion. Manufacturing processes for wood and lignocellulose composites such as plywood, oriented strand products, laminated lumber, particleboard, medium density fiberboard, and bast fiber products. Extrusion processing of natural fiber/plastic composites. Nonmajor graduate credit.

FOR 486. Drying Processes for Wood and Other Lignocellulosic Materials.
(2-3) Cr. 3. Alt. S., offered 2012. *Prereq: FOR 280 or TSM 240*
Principles of moisture relations in hygroscopic materials; adsorption, desorption, equilibrium moisture content. Transport processes in natural materials such as wood. Drying processes for wood and other lignocellulosic materials. Influence of moisture on dimensional stability and durability of wood and lignocelluosic composites. Nonmajor graduate credit.

FOR 487. Physical Properties of Wood.
(3-3) Cr. 4. Alt. S., offered 2012. *Prereq: FOR 280*
Mechanical, thermal, electrical, and acoustical properties of wood. Lumber grading and stress rating, nondestructive evaluation of wood and wood composite products. Nonmajor graduate credit.

Courses primarily for graduate students, open to qualified undergraduates:

FOR 599. Creative Component.
Cr. 1-12. Repeatable, maximum of 12 credits.

FOR 599A. Creative Component: Forest Biology.
Cr. 1-12. Repeatable, maximum of 12 credits.

FOR 599B. Creative Component: Forest Biometry.
Cr. 1-12. Repeatable, maximum of 12 credits.

FOR 599C. Creative Component: Forest and Recreation Economics.
Cr. 1-12. Repeatable, maximum of 12 credits.

FOR 599D. Creative Component: Forest Management and Administration.
Cr. 1-12. Repeatable, maximum of 12 credits.

FOR 599E. Creative Component: Wood Science.
Cr. 1-12. Repeatable, maximum of 12 credits.

Courses for graduate students:

FOR 696. Research Seminar.
(Cross-listed with AGRON, BBMB, GDCB, HORT, PLBIO). Cr. 1. Repeatable. F.S.
Research seminars by faculty and graduate students. Offered on a satisfactory-fail basis only.

FOR 699. Research.
Cr. 1-12. Repeatable, maximum of 12 credits.

FOR 699A. Research: Forest Biology - Wood Science.
Cr. 1-12. Repeatable, maximum of 12 credits.

FOR 699B. Research: Forest Biometry.
Cr. 1-12. Repeatable, maximum of 12 credits.

FOR 699C. Research: Forest Economics.
Cr. 1-12. Repeatable, maximum of 12 credits.

FOR 699D. Research: Forest Management and Administration.
Cr. 1-12. Repeatable, maximum of 12 credits.

FOR 699E. Research: Wood Science.
Cr. 1-12. Repeatable, maximum of 12 credits.

FOR 699F. Research: Plant Physiology.
Cr. 1-12. Repeatable, maximum of 12 credits.