409. Forest Hydrology
Spring of even-numbered years. 3(2-3)
Interdepartmental with Crop and Soil Sciences, and Resource Development.
P: EC 201 or EC 202. R: Not to open to freshmen.
Science and technology of the hydrologic cycle and water resources in forest, wetland, wetland, and rural watersheds.
QP: EC 210, MTH 116, MTH 100 or CPS 130 or CPS 131. R: Not to open to freshmen and sophomores.

410. Independent Study in Forest and Wood Science
Fall, Spring, Summer. 1 to 3 credits.
A student may earn a maximum of 8 credits in all enrollments for this course.
R: Open only to juniors and seniors. Approval of department.

411. Forestry Research
Fall. 3(3-2)
R: Open only to graduate students in Forestry.
The philosophy, nature, and procedures of research in forest science.

412. Woody Plant Genetics
Fall. 3(2-2)
P: BOT 105, BOT 101, CSS 150.
Applications of plant breeding and genetic principles to improve tree species and to preserve biological diversity in forest trees for human benefit.
QP: BOT 205, BOT 301, CSS 350 QA: FOR 410

413. Forest Ecology
Spring of odd-numbered years. 3(3-2)
R: Open only to graduate students in Forestry.
Tree productivity, competition and succession. Wildlife, nutrient cycling, timber management. 
QP: FOR 304 QA: FOR 304

414. Advanced Wood Technology
Spring of odd-numbered years. 3(2-2)
R: Open only to graduate students in College of Agriculture and Natural Resources.
Mechanical and physical properties of wood, Sorption, swelling, elasticity, and anisotropy. Composite technology and industry practices.

415. Forest Soils
Fall of odd-numbered years. 3(2-2)
Evaluation and inventory of forest soils and landscape ecosystems. Physical, water, biological, and chemical processes. Nutrient cycling, diagnosis, and fertilization. Variability, geography, and landscape ecology.

416. Arboriculture
Fall. 3(2-2)
P: BOT 105, FOR 204, or HRT 211. R: Not to open to freshmen and sophomores.
Tree selection and planting to fit climatic, space and edaphic conditions. Diagnosing tree abnormalities. Cultural practices used in the care and maintenance of shade and ornamental trees.
Field trip required.
QP: FOR 204, BOT 205 QA: FOR 460

417. Urban Forestry
Spring. 3(3-0)
P: FOR 204 or HRT 211. R: Not to open to freshmen and sophomores.
Tree improving in the urban environment. Principles of urban forest management: legal, economic, organizational, and cultural. Street tree planning and inventory systems. Utility forestry and commercial arboriculture. Field trip required.
QP: FOR 302 or HRT 211 QA: FOR 461

418. Natural Resource Economics and Social Sciences
Fall. 3(2-2) Interdepartmental with Park and Recreation Resources, Fisheries and Wildlife, and Resource Development.
P: EC 201 or EC 202. R: Not to open to freshmen and sophomores.
QP: EC 201 or EC 202 QA: FOR 460

419. Natural Resource Planning and Policy
Spring. 3(2-2) Interdepartmental with Fisheries and Wildlife, Park and Recreation Resources, and Resource Development.
P: FOR 408, FOR 464 or FW 434 or FW 424; FW 472 or PRR 443 or RD 415 or RD 460. R: Open only to seniors and graduate students in College of Agriculture and Natural Resources.
Scientific, environmental, social, and institutional factors affecting planning and policy-making. Focus on ecosystem-based planning and policy issues through development of a multiple-use plan. Case studies.
QP: FOR 455 or RD 417 QA: FOR 466

420. Forestry Field Studies
Summer. 3 credits. Open only at W.K. Kellogg Biological Station.
P: FOR 304, FOR 306, FOR 404, or FOR 406. R: Open only to juniors and seniors in College of Agriculture and Natural Resources.
Forest protection. Field trip required.
QP: FOR 209, FOR 320, FOR 305, FOR 204, CSS 210 QA: FOR 304, FOR 305, FOR 329, FOR 320

421. Woody Plant Genetics
Fall. 3(2-2)
P: BOT 105, BOT 301, CSS 150.
Applications of plant breeding and genetic principles to improve tree species and to preserve biological diversity in forest trees for human benefit.
QP: BOT 205, BOT 301, CSS 350 QA: FOR 410

422. Woody Plant Genetics
Fall. 3(2-2)
P: BOT 105, BOT 301, CSS 150.
Applications of plant breeding and genetic principles to improve tree species and to preserve biological diversity in forest trees for human benefit.
QP: BOT 205, BOT 301, CSS 350 QA: FOR 410

423. Woody Plant Genetics
Fall. 3(2-2)
P: BOT 105, BOT 301, CSS 150.
Applications of plant breeding and genetic principles to improve tree species and to preserve biological diversity in forest trees for human benefit.
QP: BOT 205, BOT 301, CSS 350 QA: FOR 410

424. Forest Ecology
Spring of odd-numbered years. 3(3-2)
R: Open only to graduate students in Forestry.
Tree productivity, competition and succession. Wildlife, nutrient cycling, timber management. 
QP: FOR 304 QA: FOR 304

425. Advanced Wood Technology
Spring of odd-numbered years. 3(2-2)
R: Open only to graduate students in College of Agriculture and Natural Resources.
Mechanical and physical properties of wood, Sorption, swelling, elasticity, and anisotropy. Composite technology and industry practices.

426. Forest Soils
Fall of odd-numbered years. 3(2-2)
Evaluation and inventory of forest soils and landscape ecosystems. Physical, water, biological, and chemical processes. Nutrient cycling, diagnosis, and fertilization. Variability, geography, and landscape ecology.

427. Silviculture
Fall of even-numbered years. 3(3-0)
R: Open only to graduate students in Forestry, Fisheries and Wildlife, Botany and Plant Pathology, and Resource Development.
Ecological, genetic, physiological, and societal impacts of silvicultural practices. Current problems in stand management and forest regeneration in temperate and tropical zones.
QA: FOR 385

428. Forest Resource Policy
Spring of odd-numbered years. 3(3-0)
R: Open only to graduate students in Forestry.
Offer to develop, formulation, implementation and evaluation.
QA: FOR 380

429. Agroforestry Systems
Spring of odd-numbered years. 3(3-0)
R: Open only to graduate students majors in Botany and Plant Pathology, Crop and Soil Sciences, Forestry, and Horticulture.
Biophysical and ecological aspects of agroecology and agroforestry. Nutrient cycling and the soil, root, tree and crop interface.

430. Economics of Renewable Resources
Spring of even-numbered years. 3(3-3)
Interdepartmental with Resource Development.
P: AEC 821.
Applications of economic theory and analysis to renewable natural resources problems. Focus on renewable resource interactions, including multiple-use forestry and agroforestry.

431. Special Problems
Fall, Spring, Summer. 1 to 5 credits. A student may earn a maximum of 7 credits in all enrollments for this course.
R: Approval of department; application required.

432. Master's Thesis Research
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 9 credits in all enrollments for this course.
QA: FOR 889

910. Modeling for Natural Resources Management
Spring of odd-numbered years. 3(2-2)
Interdepartmental with Resource Development.
P: AEC 9882.
Simulation and optimization models for developing resource management strategies. Decision and policy analysis.
QP: AEC 837 QA: D 960

938. Advanced Forest Genetics
Fall of odd-numbered years. 2(1-2) Interdepartmental with Horticulture, and Crop and Soil Sciences.
P: HRT 819 or HRT 836.
Applications of genetics, plant breeding, and biotechnology to the improvement, and preservation of diversity of tree species.

976. Multivariate Methods in Agriculture and Natural Resources
Spring. 4(4-0)
P: STT 422, MTH 314. R: Open only to graduate students in the College of Agriculture and Natural Resources and in the Interdepartmental Graduate Specializations in Ecology and Evolutionary Biology.
Application of multivariate methods to research problems. Hotelling's T-test, profile analysis, discriminant analysis, canonical correlation, principal components, principal coordinates, correspondence analysis, and cluster analysis.
QP: STT 423, MTH 334 QA: FOR 976

999. Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course.
R: Open only to Ph.D. students in Forestry.
QA: FOR 889

FRENCH

FRN

Department of Romance and Classical Languages
College of Arts and Letters

101. Elementary French I
Fall, Spring. 4(4-1)
R: No previous experience in French or designated score on French placement test. Not open to students with credit in FRN 150.
Practice in using and understanding French to develop listening, speaking, reading, and writing skills. Pronunciation, grammar, vocabulary, and cultural topics.
QA: FRN 101, FRN 102

102. Elementary French II
Fall, Spring. 4(4-1)
R: FRN 101 or designated score on French placement test. Not open to students with credit in FRN 150.
Further practice in using and understanding French to develop listening, speaking, reading, and writing skills. Pronunciation, grammar, vocabulary, and cultural topics.
QP: FRN 102 QA: FRN 102, FRN 103

150. Review of Elementary French
Fall, Spring. 3(3-1)
R: Open to students with high school credit in French and designated score on French placement test. Not open to students with credit in FRN 101 or FRN 102.
Review of college first-year French for students who had the language in high school and who need to strengthen communication skills, vocabulary, grammar, and pronunciation before study at the 200 level.
QA: FRN 190

A-67
Descriptions—French of Courses

201. Second-Year French I
Fall, Spring. 4(3-0)
P: FRN 102 or FRN 150 or designated score on French placement test.
Intermediate-level review and development of French comprehension, speaking, reading, and writing skills. Topics in the cultures of the French-speaking world.
QP: FRN 103 QA: FRN 201, FRN 202

202. Second-Year French II
Fall, Spring. 4(3-0)
P: FRN 201.
Further review and development of French comprehension, speaking, reading, and writing skills. Topics in the cultures of the French-speaking world.
QP: FRN 202 QA: FRN 202, FRN 203

290. Independent Study
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course.
R: Approval of department.
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
QA: FRN 299

320. Grammar and Composition
Fall, Spring. 3(3-0)
P: FRN 202 or designated score on French placement test.
Systematic review of grammar. Structured writing in French.
QP: FRN 203 QA: FRN 321, FRN 322

330. French Phonetics
Fall, Spring. 3(3-0)
P: FRN 202 or designated score on French placement test. Analysis of French pronunciation for listening and speaking.
QP: FRN 203 QA: FRN 300

340. Introduction to Reading French Literature
Fall, Spring. 3(3-0)
P: FRN 202 or designated score on French placement test.
Close reading and interpretation of French drama, poetry, fiction, and prose forms.
QP: FRN 203 QA: FRN 361

350. The Contemporary French Scene
Fall. 3(3-0)
P: FRN 320, FRN 340.
Institutions, history, arts, and major sociopolitical issues of France and its former colonies from 1848 to the present, with an emphasis on the Fifth Republic, class conducted in French.
QP: FRN 321, FRN 322 QA: FRN 327

355. French Literature in English Translation
Spring. 3(3-0)
P: FRN 320, FRN 340 or designated score on French placement test.
Representative works and themes of French literature. Major works of French literature translated into English.
R: Not open to freshmen.
QA: FRN 341

400. Reading French for Graduate Students
Spring. 3(3-0)
P: Not open to freshmen and sophomores. Intensive study of French for graduate students needing a reading knowledge of the language.
QA: FRN 411, FRN 412

410. Survey of French Literature I
Fall. 3(3-0)
P: FRN 320, FRN 340.
French literature from the Middle Ages to the Enlightenment.
QP: FRN 322, FRN 361 QA: FRN 362

420. Survey of French Literature II
Spring. 3(3-0)
P: FRN 320, FRN 340.
French literature from the Enlightenment to the present.
QP: FRN 322, FRN 361 QA: FRN 362

425. Advanced Studies in French Language
Fall. 3(3-0)
P: FRN 320, FRN 340.
Translation, stylistics, composition, creative writing, prescriptive grammar.
QP: FRN 322, FRN 361 QA: FRN 422, FRN 423

430. French Linguistics
Spring. 3(3-0)
P: FRN 320, FRN 330; LIN 401 or ROM 401.
Key issues in French linguistics and contrasitive structures of French and English.
QP: FRN 322, FRN 360, LIN 401 QA: FRN 420, FRN 421

440. Francophone Cultures and Civilizations
Spring. 3(3-0)
P: FRN 350.
Social, political, intellectual, and artistic life of France and the French-speaking world in relation to the French language, literatures, and other cultural media.
QP: FRN 327, FRN 361, FRN 322 QA: FRN 455

450. French Literature of the Middle Ages
Fall of even-numbered years. 3(3-0)
P: FRN 410, FRN 420.
Major currents of the Middle Ages as reflected in the writings of representative authors of the period.
QP: FRN 361, FRN 362, FRN 322 QA: FRN 450

455. French Literature of the 15th Century
Spring of even-numbered years. 3(3-0)
P: FRN 410, FRN 420.
Literature reflecting major currents of the Renaissance and Reformation.
QP: FRN 361, FRN 362, FRN 322 QA: FRN 455

460. French Literature of the 17th Century
Fall of odd-numbered years. 3(3-0)
P: FRN 410, FRN 420.
Literature reflecting major currents of the Baroque and classical periods.
QP: FRN 361, FRN 362, FRN 322 QA: FRN 460

465. French Literature of the 18th Century
Spring of odd-numbered years. 3(3-0)
P: FRN 410, FRN 420.
Literature reflecting major currents of the French Enlightenment.
QP: FRN 361, FRN 363, FRN 322 QA: FRN 465

470. French Literature of the 19th Century
Fall of even-numbered years. 3(3-0)
P: FRN 410, FRN 420.
Literature reflecting major currents of the nineteenth-century France.
QP: FRN 361, FRN 363, FRN 322 QA: FRN 470

475. French Literature of the 20th Century
Spring of even-numbered years. 3(3-0)
P: FRN 410, FRN 420.
Literature reflecting major currents of the twentieth-century France.
QP: FRN 361, FRN 363, FRN 322 QA: FRN 475

480. Literature of Quebec
Fall of odd-numbered years. 3(3-0)
P: FRN 410, FRN 420.
Major works of Quebec literature from the seventeenth-century to the present.
QP: FRN 361, FRN 363, FRN 322 QA: FRN 485

485. Francophone Literatures of the Third World
Spring of odd-numbered years. 3(3-0)
P: FRN 410, FRN 420.
Major works of Francophone literatures of West Africa, the Maghreb, Madagascar, the Caribbean, and Vietnam.
QP: FRN 361, FRN 363, FRN 322 QA: FRN 485

490. Independent Study
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course.
R: Not open to freshmen and sophomores. Approval of department.
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
QA: FRN 499

491. Special Topics in French
Fall, Spring. 3(3-0)
P: Not open to freshmen and sophomores. Approval of department.
Special topics supplementing regular course offerings proposed by faculty on a group study basis.

800. Current Approaches to French Instruction
Fall. 3(3-0)
Theoretical and practical view of methodologies of teaching French.
QA: FRN 800

801. Methods of Research in French Literature
Spring. 3(3-0)
Research tools in French literature.
QA: ROM 800

805. Evolution of the French Language
Fall of even-numbered years. 3(3-0)
Diachronic examination of the phonological, morphological, and syntactic developments of French as it evolved from Latin.
QA: FRN 805

806. Topics in French Linguistics
Spring of odd-numbered years. 3(3-0)
A student may earn a maximum of 9 credits in all enrollments for this course.
Key issues in theoretical and applied French linguistics. Syntax, morphology, phonology, and semantics.
Foreign language acquisition.
QA: FRN 806

807. Topics in the Development of French Culture
Spring of even-numbered years. 3(3-0)
A student may earn a maximum of 9 credits in all enrollments for this course.
French culture through the history of ideas, through the evolution of institutions, or through literature and the related arts.
QA: FRN 809

810. Studies in Medieval French Literature
Spring of odd-numbered years. 3(3-0)
A student may earn a maximum of 9 credits in all enrollments for this course.
Works of major writers of the French Middle Ages.
QA: FRN 862

815. Studies in 18th-Century French Literature
Fall of odd-numbered years. 3(3-0)
A student may earn a maximum of 9 credits in all enrollments for this course.
Works of major prose writers and poets of the Renaissance and Reformation.
QA: FRN 810

820. French Literature of the 17th Century
Spring of even-numbered years. 3(3-0)
A student may earn a maximum of 9 credits in all enrollments for this course.
Works of major writers of the seventeenth century.
QA: FRN 820

825. Studies in 18th-Century French Literature
Fall of odd-numbered years. 3(3-0)
A student may earn a maximum of 9 credits in all enrollments for this course.
Works of major writers of the French Enlightenment.
QA: FRN 830

890. Studies in 19th Century French Literature
Spring of odd-numbered years. 3(3-0)
A student may earn a maximum of 9 credits in all enrollments for this course.
Major authors and selected topics in poetry, prose, and drama of the nineteenth century.
QA: FRN 840

835. Studies in 20th Century Literature
Fall of odd-numbered years. 3(3-0)
A student may earn a maximum of 9 credits in all enrollments for this course.
Spiritual, intellectual, psychological, and aesthetic conflicts in texts with world-wide impact.
QA: FRN 855
447. Hospitality Law  
Fall, Spring. 3(3-0)  
P: GBL 365. R: Open only to seniors and graduate students in Hotel, Restaurant and Institutional Management.  
Legal aspects of hospitality industry, including contracts and sales, torts, commercial paper, and organization. Dynamics of the changing work force and employment discrimination, franchising.  
QF: GBL 450 QA: GBL 447

451. Law of Commercial Transactions  
Spring. 3(3-0)  
P: GBL 395. R: Open only to seniors and graduate students in the College of Business.  
Law of contracts and sales, commercial paper, secured transactions, consumer transactions, consumer credit, and debtor-creditor relationships.  
QF: GBL 450 QA: GBL 451

460. International Law and Business  
Spring. 3(3-0)  
P: GBL 395. R: Open only to seniors and graduate students in the College of Business.  
The impact of international law on business practices. Government regulation of international business.  
QF: GBL 450 QA: GBL 460

490. Independent Study  
Fall, Spring, Summer. 1 to 3 credits.  
A student may earn a maximum of 6 credits in all enrollments for this course.  
Q: GBL 490 QA: GBL 490

499. Doctoral Dissertation Research  
Fall, Spring, Summer. 1 to 24 credits.  
A student may earn a maximum of 24 credits in all enrollments for this course.  
R: Approval of department.  
Q: GBL 499 QA: GBL 499

GENERAL BUSINESS AND BUSINESS LAW  

GBL

Department of General Business and Business Law  
The Eli Broad College of Business and The Eli Broad Graduate School of Management

395. Law, Public Policy, and Business  
Fall, Spring, Summer. 3(3-0)  
R: Open only to juniors and seniors in the College of Business or in programs that list GBL 395 as a catalog requirement. Not open to students with credit in GBL 395H.  
Structure of the legal system. Basic concepts of constitutional law, torts, contracts, and product liability. Administrative law and government regulation of business.  
QF: GBL 431, GBL 341, GBL 450

395H. Law, Public Policy, and Business-Honors  
Fall. 3(3-0)  
R: Open only to Honors College juniors and seniors, or approval of department. Not open to students with credit in GBL 395.  
Structure of the legal system and basic concepts of constitutional law, torts, contracts, and product liability. Administrative law and government regulation of business.  
QF: GBL 431, GBL 341, GBL 450

490. Role of Law and Lawyers in Society  
Fall. Spring. 3(3-0)  
P: GBL 395. R: Open only to seniors and graduate students in the College of Business.  
QF: GBL 430