821. Aqueous Geochemistry
Fall of odd years. 3(2-2) P: CE 481 or CEM 383 or CSS 455 or PW 472 or GLG 421 or GLG 422. R: Open only to graduate students.
Controls on the chemical and isotopic nature of water (fresh, marine, brine) and its solutes. Data acquisition and synthesis. Chemical modeling and evolution of water masses.

822. Analytical Applications for Biogeochemical Research
Fall of even years. 3(3-0) P: 12 credits in biological science, biochemistry, or chemistry; 6 credits in geological sciences. Carbon and nutrient cycling in the natural environment. Oxid and anoxic processes. Flows of carbon in lacustrine, marine, terrestrial and global ecosystems. Development of the carbon cycle over geologic time.

823. Isotope Geochemistry
Spring of even years. 3(3-0) P: CEM 151; CEM 152; PHY 183, PHY 184, or PHY 231, PHY 232. R: Open only to graduate students.
Fundamentals of isotope behavior, fractionation, and interpretation and application of isotope data. Radiogenic isotopes including geochronology and environmental tracing.

825. Clay Mineralogy and Soils Genesis
Spring of even years. 4(3-3) Interdepartmental with Crop and Soil Sciences. Administered by Crop and Soil Sciences. R: Open only to graduate students. Approval of department. Survey of fossil plants: preservation, occurrence, geological relations, taphonomy, whole plant reconstruction, evolutionary history, and palaeoecology.

830. Paleobotany
Fall of even years. 3(2-3) Interdepartmental with Botany and Plant Pathology. Administered by Botany and Plant Pathology. R: Open only to graduate students. Approval of department.

831. Quantitative Paleobiology
Spring of even years. 3(2-3) Interdepartmental with Zoology. P: GLG 431 or ZOL 345. Analysis of paleobiological problems using quantitative techniques such as cladistics, morphometrics, ordination, and stereology.

861. Evolution of the Crust and Mantle
Fall of even years. 3(3-0) P: GLG 461. R: Open only to graduate students.
Origin and evolution of the Earth’s crust and mantle. Petrology, tectonics and geophysics of the Earth.

862. Igneous Petrology
Fall of odd years. 4(3-2) P: (GLG 361)
Origin and evolution of magmatic systems. Relationship of igneous activity to tectonic setting.

863. Mineral-Water Interactions
Spring of even years. 4(3-2) Interdepartmental with Crop and Soil Sciences. R: Open only to graduate students in Crop and Soil Sciences or Geological Sciences or Geography.
Mineralogy, petrology and geochemistry of fluid-rock reactions in geologic, sedimentary and geochemical cycles. Rock and mineral weathering, soil formation, genesis and burial diagenesis of sediments and sedimentary rocks, and metamorphism.

871. Seismology and Geodynamics (MTC)
Fall of even years. Spring of even years. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. P: MTH 234, PHY 184.
Seismological theory, earthquakes. Quantitative modeling of the applications to Earth structure, seismic source mechanisms and geodynamics. Behavior and deformation of the lithosphere.

881. Sedimentary Petrology
Fall of even years. 4(3-2) P: (GLG 361 and GLG 431)
Origin of sedimentary particles and their chemical and physical alterations after deposition. Geochemical cycles in Earth history.

882. Basin Analysis
Spring of even years. 3(3-0) P: (GLG 351 and GLG 431)

891. Special Problems in Geochemistry
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in the Department of Geological Sciences. Approval of department.
Individual study on problems in geochemistry, including aqueous, biologic, and mineralogic aspects.

892. Special Problems in Geophysics and Geodynamics
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: GLG 371 or GLG 471 or GLG 472. R: Open only to graduate students in Geological Sciences. Approval of department.
Individual study on problems in applied and solid-earth geophysics, global and regional geodynamics, and polar earth sciences.

893. Special Problems in Hydrogeology
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: GLG 411 or GLG 421. R: Open only to graduate students in Geological Sciences. Approval of department.
Individual study on the movement, occurrence and composition of groundwater in geologic environments.

894. Special Problems in Paleobiology
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in Geological Sciences. Approval of department.
Individual study on invertebrate, vertebrate and plant paleobiology.

895. Special Problems in Petrology
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: GLG 461. R: Open only to graduate students in Geological Sciences. Approval of department.
Individual study on current problems in petrology.

896. Special Problems in Sedimentology and Stratigraphy
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in the Department of Geological Sciences. Approval of department.
Individual study on problems in sedimentology and stratigraphy.

897. Special Problems in Structural Geology and Tectonics
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: GLG 351. R: Open only to graduate students in the Department of Geological Sciences. Approval of department.
Individual study on problems in environmental geosciences.

898. Special Problems in Environmental Geosciences
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in the Department of Geological Sciences. Approval of department.

899. Master’s Thesis Research
Fall, Spring, Summer. 1 to 10 credits. A student may earn a maximum of 24 credits in all enrollments for this course. R: Open only to master’s students in the Department of Geological Sciences. Approval of department.

999. Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 48 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to doctoral students in the Department of Geological Sciences. Approval of department.

GERMAN

Department of Linguistics and Germanic, Slavic, Asian and African Languages

College of Arts and Letters

101. Elementary German I
Fall, Spring, Summer. 4(4-1) R: No previous experience in German or designated score on German Placement Test. Not open to students with credit in GRM 150.
German language, civilization, and culture for beginning students. Work on all language skills with emphasis on speaking.
290. Independent Study
Fall, Spring. 4(4-1) P: GRM 101 or designated score on German placement test. Not open to students with credit in GRM 150. Further study of German language, civilization, and culture for beginning students. Continued work on all language skills with emphasis on speaking.

150. Review of Elementary German
Fall, Spring. 4(4-1) R: Open only to students with high school credit in German and designated score on German Placement Test. Not open to students with credit in GRM 101 or GRM 102. Review of first-year college German for students who had German in high school and who need to strengthen communication skills, vocabulary, grammar and pronunciation before study at the 200 level.

200. Second-Year German I with Review
Fall. 4(4-1) P: Designated score on German placement test or approval of department. Not open to students with credit in GRM 102 or GRM 201. Rapid review and strengthening of vocabulary, grammar, and communication skills for incoming freshmen and transfer students. Reading, viewing, and discussion of a broad range of cultural texts and materials from the German-speaking world.

201. Second-Year German I
Fall, Spring. 4(4-0) P: GRM 102. Not open to students with credit in GRM 200. Not open to students with credit in GRM 200. Intermediate-level development of all language skills. Reading, viewing, and discussion of a broad range of cultural materials from the German-speaking world.

202. Second-Year German II
Fall, Spring. 4(4-0) P: GRM 200 or GRM 101 or designated score on German placement test. Further intermediate-level work on all language skills, based on topics such as popular music, literature, film, current events, and culture. Transition course to advanced work in German studies.

290. Independent Study
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 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.

301. Advanced German Language and Culture I
Fall, Spring. 3(3-0) P: GRM 202 or designated score on German placement test. Work on advanced speaking, listening comprehension, reading, and writing skills through intensive work with authentic texts dealing with contemporary issues relating to the German-speaking world. Selected review of grammar and syntax.

302. Advanced German Language and Culture II
Fall, Spring. 3(3-0) P: GRM 301. Further work in advanced speaking, listening comprehension, reading and writing skills, through intensive work with original texts dealing with contemporary issues relating to the German-speaking world.

311. Advanced German: Business Emphasis I
Fall. 3(3-0) P: GRM 202 or designated score on German placement test. R: Not open to freshmen. Development of proficiency through readings, discussions, and assignments based on materials dealing with the German economic system and Germany in world trade. Taught in German.

312. Advanced German: Business Emphasis II
Spring. 3(3-0) P: GRM 311. R: Not open to freshmen. Further readings, discussions, and assignments based on materials dealing with key areas of German business such as management and corporate hierarchies. Taught in German. Research paper required.

340. German Life and Literature: Contemporary Period
Fall, Spring. 3(3-0) P: GRM 202 or designated score on German placement test. Post-World War II Germany through analysis of selected literary texts, documentary material, and film. Topics such as problems of recovery and prosperity, partition and reunification, and Germany in Europe.

341. German Life and Literature: Historical Perspectives
Fall, Spring. 3(3-0) P: GRM 202 or designated score on German placement test. Historical, social, and cultural developments in the German-speaking world as revealed in textual material in German, including literature, essays, and film. Focus on at least three historical epochs prior to 1945.

400. Reading German for Graduate Students
Spring of even years. 5(5-0) R: Open only to graduate students, or approval of department. German grammar and syntax, with emphasis on reading and translation in specialized fields.

420. Language through Media in Contemporary Germany (W)
Fall. 4(4-0) P: GRM 300 or GRM 202. R: Completion of Tier I writing requirement. Written and oral analysis of relevant issues in contemporary Germany as depicted in German media. Major writing project.

440. German Life and Literature: Cultural Differences
Fall. 3(3-0) P: GRM 300 or designated score on German placement test. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department. Values and beliefs of marginalized groups in German society including religious minorities and foreign workers, and of youth and women. German immigrants in the United States as seen through their writings. Influence of historical and cultural developments.

441. German Life and Literature: Mainstream Culture
Spring. 3(3-0) P: GRM 300 or designated score on German placement test. A student may earn a maximum of 6 credits in all enrollments for this course. P: GRM 340 or GRM 341; HST 205 or HST 206. Values and beliefs of mainstream German cultural and political figures, as seen through the writings of religious and political leaders, educators, writers, and philosophers. Influence of historical and cultural developments.

450. The Study of German Literature
Fall of odd years. Spring of odd years. 3(3-0) P: GRM 340, GRM 341. Issues relevant to the study of German literature. Periodization, canon formation, interpretative approaches, and genre, selected authors in the context of German literature since 800.

460. Contrastive Analysis of German and English
Fall of even years. Spring of even years. 3(3-0) P: GRM 302 or GRM 312. Grammatical, lexical, and phonological differences between English and German. Cross-cultural awareness. Major writing assignment.

461. Teaching German Language and Culture
Fall of even years. Spring of even years. 2(2-0) P: GRM 302 or GRM 312. R: Open only to students with a teacher certification option in German. C: GRM 460 concurrently. Didactic treatment of linguistic and cultural material introduced in GRM 460.

490. Independent Study
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Not open to freshmen. Approval of department. Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.

491. Special Topics in German Studies
Fall, Spring. 3(3-0) P: Two 400-level GRM courses. Special topics supplementing regular course offerings proposed by faculty on a group study basis.

492. Senior Seminar (W)
Spring. 4(4-0) P: Two 400-level GRM courses. R: Open only to seniors in German. Completion of Tier I writing requirement. Approval of department. Capstone seminar. Integration of literary and cultural themes. Synthesis of the student's academic experiences in German studies. Major writing project.

493. Overseas Internship
Fall, Spring, Summer. 1 to 4 credits. Fall: Germany, Austria, Switzerland. Spring: Germany, Austria, Switzerland. A student may earn a maximum of 4 credits in all enrollments for this course. P: GRM 102. R: Not open to freshmen and sophomores. Approval of department. Experience of German life and language through participation in an approved overseas internship program. Capstone experience integrating work in German.

499. Senior Thesis Research
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. An individual research project supervised by a faculty member that demonstrates the student's ability to do independent research and submit or present a major paper.
362. German Studies: Constructions of Identity
Fall of odd years. 3(3-0)

363. German Studies: Constructions of Community
Spring of even years. 3(3-0)
Aesthetic representations of group identification in selected historical periods. Nationalism. Concept of the Kulturreiche. Role of religious, regional, or linguistic affiliations. Formation of communities based on ethnicity, class, and gender.

364. German Studies: Cultural Norms and Values
Fall of even years. 3(3-0)
A student may earn a maximum of 9 credits in all enrollments for this course. Literary and non-literary texts as affirmation, subversion, or critique of aesthetic and social norms in selected historical periods. Role of the artist or intellectual in society. "High" versus "low" culture. Consumerism.