

Descriptions—Geological Sciences of Courses

821. Aqueous Geochemistry

Fall of odd years. 3(2-2) P: CE 481 or CEM 383 or CSS 455 or FW 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. Oxidic 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(3-2) Interdepartmental with Crop and Soil Sciences. Administered by Crop and Soil Sciences. R: Open only to graduate students in College of Agriculture and Natural Resources, College of Engineering, or College of Natural Science.

Mineral structures. X-ray diffraction, pedogenic processes, and mineral transformations and stability.

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.

Survey of fossil plants: preservation, occurrence, geological relations, taphonomy, whole plant reconstruction, evolutionary history, and paleoecology.

831. Quantitative Paleobiology

Spring of even years. 3(2-2) 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 odd 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)

Paleogeographic evolution of sedimentary basins. Principles of facies analysis, subsidence history, thermal history and diagenesis. Methods of stratigraphic analysis.

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 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 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 rock deformation or major expressions of deformation. From two to seven weeks of field study during semester breaks may be required for certain research projects.

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.

Individual study on problems in environmental geosciences.

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

GRM

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.

- 102. Elementary German II**
Fall, Spring, Summer. 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 201 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 on 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 302 or GRM 312. 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) 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 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) A student may earn a maximum of 6 credits in all enrollments for this course. P: GRM 341 or GRM 342; 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. 0(3-0) A student may earn a maximum of 8 credits in all enrollments for this course. R: Approval of department.
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.

Descriptions—German of Courses

801. Introduction to Graduate Studies in German

Fall. 3(3-0)
History and current status of the discipline. Research methodology for literary and cultural study. Writing within the profession.

805. The German Language: Relationships, Development, and Varieties

Spring of odd years. 3(3-0)
Methodology and sources in the linguistic study of German. Periodization, phonology, morphology, syntax, and lexicon. Dialects, social variants, and expatriate German. Relationship to other languages.

810. Theory and Practice of Teaching German

Fall. 3(3-0)
Teaching of university-level German language, literature, and culture. Teaching methods and developments in second-language acquisition. Contrastive and error analysis, descriptive German grammar, and materials development.

820. German Literature and Culture: Theory and Practice

Spring. 3(3-0)
Theoretical approaches to the study of literature and culture and their application. Research methodologies for literary and cultural studies.

830. Germanic Languages and Linguistics (MTC)

Spring of even years. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: GRM 805 or approval of department.
Specialized topics in Germanic languages and linguistics such as Medieval German, Old Norse, German dialects and sociolects, and applied German linguistics.

862. German Studies: Constructions of Identity

Fall of odd years. 3(3-0)
Aesthetic representations of cultural strategies and theories of self-definition in selected historical periods. Theories of subjectivity. Development of the bourgeois individual. Identity and gender.

863. 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 Kulturation. Role of religious, regional, or linguistic affiliations. Formation of communities based on ethnicity, class, and gender.

864. 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.

865. German Studies: Culture in Context

Spring of odd years. 1 to 9 credits. A student may earn a maximum of 9 credits in all enrollments for this course.
Society and the dissemination of cultural knowledge, practices, and values in selected historical periods. Educational and political institutions and cultural politics. Literary and cultural marketplace.

890. Independent Study

Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Approval of department.
Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.

891. Special Topics in German Studies

Fall, Spring, Summer. 0(4-0) A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department.
Special topics supplementing regular course offerings proposed by faculty on a group study basis for graduate students.

892. Seminar

Fall, Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: GRM 801 and one other GRM 800-level course. R: Approval of department.
Directed original research on current topics in German studies.

898. Master's Research Project

Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
Directed research leading to a master's project in partial fulfillment of Plan B master's degree requirements.

899. Master's Thesis Research

Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department.
Directed research leading to a master's thesis, used in partial fulfillment of Plan A master's degree requirements.

990. Doctoral Independent Study

Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department.
Special projects, directed reading, and research arranged by an individual doctoral student and a faculty member in areas supplementing the regular course offerings.

991. Special Topics in German

Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department.
Special topics supplementing regular course offerings proposed by faculty on a group study basis for doctoral students.

999. Doctoral Dissertation Research

Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Approval of department.

GREEK

GRK

Department of Romance and Classical Languages College of Arts and Letters

101. Elementary Classical Greek I

Fall of even years. 4(4-0)
Fundamentals of orthography, pronunciation, vocabulary, grammar, and syntax. Translation of elementary readings.

102. Elementary Classical Greek II

Spring of odd years. 4(4-0) P: GRK 101 or approval of department.
Fundamentals of vocabulary, grammar, and syntax. Translation of elementary readings.

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.

301. Homer and the Archaic Age

Fall of odd years. 3(3-0) P: GRK 102 or approval of department.
Homeric and Archaic Greek literature. Homer, Hesiod, Archilochos, Sappho, Alcman and others.

302. Greek Poetry

Spring of even years. 3(3-0) P: GRK 102 or approval of department.
Classical Greek poetry. Aeschylus, Sophocles, Euripides, Aristophanes and others.

401. Greek Prose

Fall of even years. 3(3-0) P: (GRK 301 and GRK 302)
Classical Greek prose literature; Aristotle, Plato, Lysias, Demosthenes, Isocrates, and others.

402. Hellenistic Literature

Spring of odd years. 3(3-0) P: (GRK 301 and GRK 302)
Literature of the Hellenistic period through the second sophistic. Theocritus, Callimachus, Apollonius, Longus and others.

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.

HEBREW

HEB

Department of Linguistics and Germanic, Slavic, Asian and African Languages College of Arts and Letters

101. Elementary Hebrew I

Fall of even years. 4(4-1)
Spoken and written Hebrew for conversation, reading, and research. Basic grammatical analysis of biblical and modern Hebrew.