

GEOLOGY

822*. Biogeochemistry
 Fall of even-numbered years. 3(3-0)
 P: 12 credits in CEM or BS; 6 credits in
 GLG R: Masters and Ph.D. only OR approval of
 department
 Carbon and nutrient cycling in the natural environ-
 ment; oxic 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-numbered years. 3(3-0)
 P: CEM 151 and 152; PHY 183 and 184,
 OR PHY 231 and 232. R: Masters and Ph.D. only
 Fundamentals of isotope behavior, fractionation, and
 interpretation and application of isotope data (C, O,
 S, N, H). Radiogenic isotopes include geochronology
 (ex: Rb/Sr) and environmental tracing.

831*. Quantitative Paleobiology
 Spring of even-numbered years. 3(2-2)
 Interdepartmental with the
 Department(s) of Zoology.
 P: GLG 431 OR ZOL 345 R: Masters and
 Ph.D. only
 Analysis of selected paleobiological problems using
 quantitative techniques. Examples may include
 cladistics, morphometrics, ordination techniques and
 stereology.

861*. Evolution of the Crust and Mantle
 Fall of even-numbered years. 3(3-0)
 P: GLG 461 R: Masters and Ph.D. only
 Origin and evolution of the Earth's crust and mantle.
 Petrology, tectonics and geophysics of the Earth.
 QP: GLG 462 QA: GLG 861

862*. Igneous Petrology
 Fall of odd-numbered years. 4(3-2)
 P: GLG 461 R: Masters and Ph.D. only
 Origin and evolution of magmatic systems. Relation-
 ship of igneous activity to tectonic setting.
 QP: GLG 462 QA: GLG 862

863*. Mineral-Water Interactions
 Spring of odd-numbered years. 4(3-2)
 Interdepartmental with the
 Department(s) of Crop and Soil
 Sciences.
 R: Masters and Ph.D. only GLG OR CSS
 Mineralogy, petrology and geochemistry of fluid-rock
 reactions in geologic, sedimentary and geochemical
 cycles, including rock and mineral weathering, soil
 formation, genesis and burial diagenesis of sediments
 and sedimentary rocks, and metamorphism.
 QA: GLG 898

871*. Seismology and Geodynamics(MTC)
 Fall of odd-numbered years, Spring of
 odd-numbered years. 3(3-0) May
 reenroll for a maximum of 6 credits.
 P: MTH 234, PHY 184 R: Masters and
 Ph.D. only
 Seismological theory, earthquakes, quantitative mod-
 eling of the applications to Earth structure, seismic
 source mechanisms and geodynamics. Behavior and
 deformation of the lithosphere.
 QP: MTH 215 PHY 289 QA: GLG 873 GLG
 877

871A*. Seismology: Theory, Observation and Computation
 Spring of odd-numbered years. 3(3-0)
 P: MTH 234, PHY 184 R: Masters and
 Ph.D. only
 Seismology of the Earth, earthquakes and Earth
 structure. The use of seismogram inversion to model
 the Earth's interior and earthquake source mecha-
 nisms.
 QP: MTH 215 PHY 289 QA: GLG 873

871B*. Geodynamics of the Lithosphere
 Fall of odd-numbered years. 3(3-0)
 P: MTH 234, PHY 184 R: Masters and
 Ph.D. only
 Application of seismological studies and numerical
 modeling to the study of geodynamic processes occur-
 ring within the lithosphere.
 QP: GLG 477 MTH 310PHY 289 QA: GLG
 877

881*. Sedimentary Petrology
 Fall of odd-numbered years. 4(3-2)
 P: GLG 431, GLG 461 R: Masters and
 Ph.D. only
 The origin of sedimentary particles and their chemical
 and physical alterations after deposition. Geochemical
 cycles in Earth history.

898*. Special Problems in Geological Sciences(MTC)
 Fall, Spring, Summer. 1 to 4 credits.
 May reenroll for a maximum of 6
 credits.
 R: Masters and Ph.D. only
 Individual study on problems in geochemistry, geo-
 physics, geodynamics, hydrogeology, paleobiology,
 petrology, sedimentology, structural geology and
 tectonics.
 QA: GLG 800

898A*. Special Problems in Geochemistry
 Fall, Spring, Summer. 1 to 4 credits.
 May reenroll for a maximum of 6
 credits.
 R: Masters and Ph.D. only
 Individual study on problems in geochemistry, includ-
 ing aqueous, biologic, and mineralogic aspects.
 QA: GLG 809

898B*. Special Problems in Geophysics and Geodynamics
 Fall, Spring, Summer. 1 to 4 credits.
 May reenroll for a maximum of 6
 credits.
 P: GLG 371 OR GLG 471 OR GLG 472
 R: Masters and Ph.D. only
 Individual study on problems in applied and
 solid-earth geophysics, global and regional geo-
 dynamics, and polar earth sciences.
 QP: GLG 375 GLG 474GLG 477 QA: GLG
 803 GLG 808

898C*. Special Problems in Hydrogeology
 Fall, Spring, Summer. 1 to 4 credits.
 May reenroll for a maximum of 6
 credits.
 P: GLG 411 OR GLG 421 R: Masters and
 Ph.D. only
 Individual study on the movement, occurrence and
 composition of groundwater in various geologic envi-
 ronments.

898D*. Special Problems in Paleobiology
 Fall, Spring, Summer. 1 to 4 credits.
 May reenroll for a maximum of 6
 credits.
 R: Masters and Ph.D. only OR approval
 of department
 Individual study on invertebrate, vertebrate and plant
 paleobiology.
 QA: GLG 807

898E*. Special Problems in Petrology
 Fall, Spring, Summer. 1 to 4 credits.
 May reenroll for a maximum of 6
 credits.
 P: GLG 461 R: Masters and Ph.D. only
 Individual study on current problems in petrology.
 QP: GLG 462 QA: GLG 802

898F*. Special Problems in Sedimentology
 Fall, Spring, Summer. 1 to 4 credits.
 May reenroll for a maximum of 6
 credits.
 R: Masters and Ph.D. only
 Individual study on problems in sedimentology.
 QP: GLG 491 GLG 898 QA: GLG 804 GLG
 805 GLG 806

898G*. Special Problems in Structural Geology and Tectonics
 Fall, Spring, Summer. 1 to 4 credits.
 May reenroll for a maximum of 6
 credits.
 P: GLG 351 R: Masters and Ph.D. only
 Individual study on rock deformation or major expres-
 sions of deformation. Two-seven weeks of field study
 during term breaks may be required.
 QA: GLG 801

899*. Master's Thesis Research
 Fall, Spring, Summer. 1 to 10 credits.
 May reenroll for a maximum of 10
 credits.
 R: Masters only Geological Sciences
 QA: GLG 899

999*. Doctoral Dissertation Research
 Fall, Spring, Summer. 1 to 36 credits.
 May reenroll for a maximum of 36
 credits.
 R: Ph.D. only Geological Sciences
 QA: GLG 999

GERMAN

GRM

101*. Elementary German I
 Fall. 4(4-1)

German language, civilization, and culture for stu-
 dents without prior exposure to German. Develop-
 ment of all language skills in modern German. Em-
 phasis on speaking German.
 QA: GRM 101 GRM 102

102*. Elementary German II
 Fall, Spring. 4(4-1)
 P: GRM 101 or placement

Continuation of GRM 101. German language, civiliza-
 tion, and culture. Development of all language skills
 in modern German. Emphasis on speaking German.
 QP: GRM 101 QA: GRM 102 GRM 103

200*. Second Year German Review
 Fall, Spring. 4(4-1)
 P: Placement or approval of department.
 R: Placement or approval of department
 Rapid review and strengthening of vocabulary, gram-
 mar, and communication skills for incoming freshmen
 and transfer students. Reading, viewing, and discus-
 sion of a broad range of cultural texts and materials
 from the German-speaking world.
 QA: GRM 200

201*. Second Year German I
 Fall, Spring. 4(4-0)
 P: GRM 102 or placement R: Not open to
 students with credit in GRM 200
 Further development of language skills acquired at
 the first-year level. Reading, viewing, and discussion
 of a broad range of cultural texts and materials from
 the German-speaking world.
 QP: GRM 103 QA: GRM 201 GRM 202

202*. Second Year German II
 Fall, Spring. 4(4-0)
 P: GRM 200 or GRM 201 or placement
 Strengthening of vocabulary, grammar, and oral and
 written communication skills. Special topics such as
 popular music, literature, film, current events, cul-
 ture. Transition course to advanced work in German
 studies.
 QP: GRM 201 QA: GRM 202 GRM 203

GERMAN

- 290*.** **Independent Study**
Fall, Spring, Summer. 1 to 4 credits.
May reenroll for a maximum of 8 credits.
R: Approval of the Department
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
QA: GRM 299
- 301*.** **Advanced German Language and Culture I**
Fall, Spring. 3(3-0)
P: GRM 202 or placement
Selected review of German grammar and syntax. Development of advanced language skills-speaking, listening comprehension, reading, writing- through intensive work with authentic texts dealing with issues relating to the German-speaking world.
QP: GRM 203 QA: GRM 321 GRM 322
- 302*.** **Advanced German Language and Culture II**
Fall, Spring. 3(3-0)
P: GRM 301 or designated score on German placement test. R: Not open to students with credit in GRM 312.
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. Oral reports and longer writing and listening compr
QP: GRM 321 QA: GRM 322 GRM 323
- 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. Not open to students with credit in GRM 301 or GRM 302.
Development of proficiency through readings, discussions, and assignments based on materials dealing with the German economic system and Germany in world trade. Taught entirely in German.
QP: GRM 203 QA: GRM 331 GRM 332
- 312*.** **Advanced German: Business Emphasis II**
Spring. 3(3-0)
P: GRM 311 or designated score on German placement test. R: Not open to freshmen. Not open to students with credit in GRM 302.
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.
QP: GRM 332 QA: GRM 332 GRM 333
- 320*.** **Appreciation of German Literature**
Spring. 3(3-0)
P: GRM 202 or placement
Close reading of selected shorter literary texts in German; discussion of literary values and the relationship of literature to the individual and society. Methods of better understanding texts and interpreting their meaning.
QP: GRM 203 QA: GRM 351 GRM 352 GRM 353
- 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 literary texts, documentary material, and film. Topics such as problems of recovery and prosperity, partition and reunification, and Germany in Europe.
QP: GRM 203 QA: GRM 353 GRM 337
- 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 before 1945.
QP: GRM 203 QA: GRM 336 GRM 351 GRM 352
- 400*.** **Reading German for Graduate Students**
Spring of odd-numbered years. 5(5-0)
R: Open only to graduate students, or approval of department. Not open to students with credit in GRM 101 or GRM 102.
German grammar and syntax, with emphasis on reading and translation in specialized fields.
QP: . QA: GRM 410 GRM 411
- 420*.** **Language through Media in Contemporary Germany**
Fall. 4(4-0) May reenroll for a maximum of 8 credits.
P: GRM 302 or GRM 312.
Written and oral analysis of issues in contemporary Germany as depicted in German media. Major writing project.
QP: GRM 323 OR GRM 333 QA: GRM 421 GRM 429
- 440*.** **German Life and Literature: Cultural Difference**
Fall. 3(3-0) May reenroll for a maximum of 6 credits.
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, cultural developments.
QP: GRM 353 OR GRM 337
- 441*.** **German Life and Literature: Mainstream Culture**
Spring. 3(3-0) May reenroll for a maximum of 6 credits.
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.
QP: GRM 353 OR GRM 337
- 450*.** **The Study of German Literature**
Fall of odd-numbered years, Spring of odd-numbered years. 3(3-0)
P: GRM 340 and GRM 341
Periodization, canon formation, interpretative approaches, genre and selective authors in the context of German literature from 800 A.D. to the present.
QP: GRM 353 OR GRM 337
- 460W*.** **Contrastive Analysis of German and English**
Fall of even-numbered years, Spring of even-numbered years. 3(3-0)
P: GRM 302 or GRM 312
Systematic examination of grammatical, lexical, and phonological differences between English and German. Cross-cultural awareness. Major writing assignment.
QP: GRM 323 OR GRM 333 QA: GRM 434
- 461*.** **Teaching German Language and Culture**
Spring of even-numbered years. 2(2-0)
P: GRM 302 or GRM 312 C: GRM 460
Didactic treatment of linguistic and cultural material introduced in GRM 460. Teacher education candidates in German.
QP: GRM 323 GRM 333
- 490*.** **Independent Study**
Fall, Spring, Summer. 1 to 4 credits.
May reenroll for a maximum of 8 credits.
R: Approval of the Department
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
QA: GRM 499
- 491*.** **Special Topics in German Studies**
Fall, Spring, Summer. 1 to 4 credits.
May reenroll for a maximum of 8 credits.
R: Approval of the Department
Special topics supplementing regular course offerings proposed by faculty on a group study basis.
QA: GRM 450
- 492*.** **Senior Seminar**
Spring. 4(4-0)
P: Two 400-level GRM courses. R: Open only to seniors in German. 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. 1 to 4 credits. May reenroll for a maximum of 4 credits.
P: GRM 102 or designated score on German placement test. R: Not open to freshmen and sophomores. Approval of department.
Exposure to German life and language through participation in an approved overseas internship program. Capstone experience integrating work in German.
- 499*.** **Senior Thesis Research**
Fall, Spring, Summer. 1 to 4 credits.
May reenroll for a maximum of 4 credits.
R: Approval of the 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.
- 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.
QA: GRM 801
- 805*.** **The German Language: Relationships, Development, and Varieties**
Spring of odd-numbered years. 3(3-0)
Linguistic study of German: methodology and sources. Periodization of German, development of phonology, morphology, syntax and lexicon, German dialects, social variants, expatriate German, relationship to other languages.
QA: GRM 435
- 810*.** **Theory and Practice of Teaching German**
Fall. 3(3-0)
Theory and practice of teaching university-level German language, literature and culture; includes teaching methods and developments in second language acquisition, constructive and error analysis, descriptive German grammar, materials development.
QA: GRM 810

GERMAN

830* **Germanic Languages and Linguistics(MTC)**
Spring of even-numbered years. 3(3-0)
 May reenroll for a maximum of 9 credits.
 P: GRM 805 or permission of department.
 Specialized topics in Germanic languages and linguistics, including Medieval German, Old Norse, German dialects and sociolects, and applied German linguistics.
 QP: GRM 435 QA: GRM 851

830A* **Medieval German**
Spring of even-numbered years. 3(3-0)
 Phonological, grammatical and lexical structure of Medieval German. Intensive reading of selected High and Low German prose and poetic texts from the 8th to the 13th centuries.

830B* **Old Norse**
Spring of even-numbered years. 3(3-0)
 Phonological, grammatical and lexical structure of Medieval Scandinavian and relations to other German languages. Intensive and extensive reading of selections from Icelandic sagas, Eddic and skaldic poetry and runic inscriptions.

830C* **German Dialects and Sociolects**
Spring of even-numbered years. 3(3-0)
 Variation of Modern German and its geographical and social conditions.

830D* **Functional Descriptions of German Grammar**
Spring of even-numbered years. 3(3-0)
 Investigation of the discourse or interactional functions associated with verbal forms in modern German. Methods of analyzing spoken and written German data from a functional perspective. Theories of functional grammar.

851* **German Life and Literature: Pre-18th Century Studies**
Spring of odd-numbered years. 3(3-0)
 May reenroll for a maximum of 9 credits.
 Exemplary study of the High Courtly Period, the Reformation Era, or the Baroque, in which several major movements are examined in a variety of discourses.
 QA: GRM 852

852* **German Life and Literature: 18th Century Studies**
Fall of odd-numbered years. 3(3-0)
 May reenroll for a maximum of 9 credits.
 Exemplary study of Enlightenment, Storm and Stress, Sentimentality, or Classicism within a variety of discourses.
 QA: GRM 853

853* **German Life and Literature: 19th Century Studies**
Spring of even-numbered years. 3(3-0)
 May reenroll for a maximum of 9 credits.
 Exemplary study of Romanticism, Biedermeier, Young Germany, Poetic Realism, or Naturalism within a variety of discourses
 QA: GRM 854

854* **German Life and Literature: 20th Century Studies**
Fall of even-numbered years. 3(3-0)
 May reenroll for a maximum of 9 credits.
 Exemplary study of selected periods and movements of German literature of the 20th century, such as Impressionism, Expressionism, the Third Reich, documentary literature, and contemporary literature.
 QA: GRM 855

861* **German Culture and Society(MTC)**
Spring. 3(3-0) May reenroll for a maximum of 9 credits.
 Values and beliefs of German-speaking people in selected historical periods as seen through written and visual textual records. Theory of cultural studies. Use of texts to present, propagate, criticize or revoke social standards and norms.
 QA: GRM 856

861A* **The Imperial City Around 1500**
Spring. 3(3-0)
 Values and beliefs of German urban culture around 1500 based on textual evidence from Nurnberg and neighboring cities; the common weal, the Reformation, the Peasants' War, criminality; Duerer, Willibald and Caritas Pirckheimer, Sachs, and Luther.
 QA: GRM 856

861B* **Witches' Worlds: Fantasy and Reality**
Spring. 3(3-0)
 Exploration of witch-hunt phenomenon in German-speaking areas of Europe from late medieval to early modern period from Feminist perspective. Required work with original documents in MSU Library's "Special Collections."
 QA: GRM 856

890* **Independent Study**
Fall, Spring, Summer. 1 to 6 credits.
 May reenroll for a maximum of 9 credits.
 R: Approval of the Department
 Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.
 QA: GRM 860

891* **Special Topics in German Studies**
Fall, Spring, Summer. 1 to 6 credits.
 May reenroll for a maximum of 12 credits.
 R: Approval of the 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) May reenroll for a maximum of 9 credits.
 P: GRM 801 and one other GRM 800-level course R: Permission of department
 Directed research on a common topic area in support of graduate course offerings and degrees. Student peer review and critique of findings. Collaborative or individual projects that may result in conference presentations or journal articles.
 QP: GRM 801 QA: GRM 981

899* **Master's Thesis Research-Plan A**
Fall, Spring, Summer. 1 to 6 credits.
 May reenroll for a maximum of 12 credits.
 R: Approval of the Department
 Directed research leading to a master's thesis, used in partial fulfillment of plan A master's degree requirements.
 QA: GRM 899

990* **Doctoral Independent Study**
Fall, Spring, Summer. 1 to 6 credits.
 May reenroll for a maximum of 12 credits.
 R: Approval of the Department
 Special projects, directed reading, and research arranged by an individual doctoral candidate and a faculty member in areas supplementing the regular course offerings.

991* **Special Topics in German**
Fall, Spring, Summer. 1 to 6 credits.
 May reenroll for a maximum of 12 credits.
 R: Approval of the Department
 Special topics supplementing regular course offerings proposed by faculty on a group study basis for doctoral candidates.

999* **Doctoral Dissertation Research**
Fall, Spring, Summer. 1 to 12 credits.
 May reenroll for a maximum of 36 credits.
 R: Approval of the Department
 QA: GRM 999

GREEK GRK

101* **Elementary Classical Greek I**
Fall of even-numbered years. 4(4-0)
 Fundamentals of orthography, pronunciation, vocabulary, grammar, and syntax. Translation of elementary readings.
 QA: GRK 101 GRK 102

102* **Elementary Classical Greek II**
Spring of odd-numbered years. 4(4-0)
 P: GRK 101 or approval of department.
 R: GRK 101 or placement
 Fundamentals of vocabulary, grammar, and syntax. Translation of elementary readings.
 QP: GRK 102 QA: GRK 103

290* **Independent Study**
Fall, Spring, Summer. 1 to 4 credits.
 May reenroll for a maximum of 4 credits.
 R: Approval of the Department
 Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.
 QA: GRK 299

301* **Homer and the Archaic Age**
Fall of odd-numbered years. 3(3-0)
 P: GRK 102 or approval of department.
 Homeric and Archaic Greek literature. Homer, Hesiod, Archilochos, Sappho, Alcman and others.
 QP: GRK 103

302* **Greek Poetry**
Spring of even-numbered years. 3(3-0)
 P: GRK 102 or approval of department.
 Classical Greek poetry. Aeschylus, Sophocles, Euripides, Aristophanes and others.
 QP: GRK 103

401* **Greek Prose**
Fall of even-numbered years. 3(3-0)
 P: GRK 301, GRK 302.
 Classical Greek prose literature; Aristotle, Plato, Lysias, Demosthenes, Isocrates, and others.
 QP: GRK 200

402* **Hellenistic Literature**
Spring of odd-numbered years. 3(3-0)
 P: GRK 301, GRK 302.
 Literature of the Hellenistic period through the second sophistic. Theocritus, Callimachus, Apollonius, Longus and others.
 QP: GRK 200