Course Schedule - Fall 2005

Geology

100 ***Planet Earth*** credit: 3 hours.
(GEOL 100) Introduces non-science majors to physical aspects (earthquakes, volcanoes, floods, tsunamis, mountains, plate tectonics) and historical aspects (formation of earth and life, dinosaurs, ice age, evolution of climate) in earth science. Presents information on earth resources, natural hazards, and development of natural landscapes. Focuses on humanistic issues; provides context for understanding environmental change. Optional lab demonstrations and field trips with co-registration in GEOL 110. Credit is not given for both GEOL 100 and GEOL 101, GEOL 103, GEOL 107, or GEOL 111.

This course satisfies the General Education Criteria for a Physical Sciences course.

Students must register for one discussion and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
37467	discussion-recitation	AD1	09:00 AM - 09:50 AM	T	room 241 Natural History Bldg	Long, A; Altaner, S
37467: Physical Sciences course.						
37469	discussion-recitation	AD2	10:00 AM - 10:50 AM	T	room 241 Natural History Bldg	Long, A; Altaner, S
37469: Physical Sciences course.						
37470	discussion-recitation	ADA	11:00 AM - 11:50 AM	T	room 241 Natural History Bldg	Long, A; Altaner, S; Gao, L
37470: Physical Sciences course.						
37471	discussion-recitation	ADB	12:00 PM - 12:50 PM	T	room 241 Natural History Bldg	Long, A; Altaner, S; Henderson, C
37471: Physical Sciences course.						
37472	discussion-recitation	ADC	01:00 PM - 01:50 PM	T	room 241 Natural History Bldg	Long, A; Altaner, S
37472: Physical Sciences course.						
37473	discussion-recitation	ADD	02:00 PM - 02:50 PM	T	room 241 Natural History Bldg	Long, A; Altaner, S
37473: Physical Sciences course.						
37474	discussion-recitation	ADE	03:00 PM - 03:50 PM	T	room 241 Natural History Bldg	Long, A; Altaner, S; Butler, S
37474: Physical Sciences course.						
37475	discussion-recitation	ADF	04:00 PM - 04:50 PM	T	room 241 Natural History Bldg	Long, A; Altaner, S; Butler, S

37475: Physical Sciences course.						
37476	discussion-recitation	ADG	09:00 AM - 09:50 AM	W	room 241 Natural History Bldg	Long, A; Altaner, S; Henderson, C
37476: Physical Sciences course.						
37477	discussion-recitation	ADH	10:00 AM - 10:50 AM	W	room 241 Natural History Bldg	Long, A; Altaner, S; Henderson, C
37477: Physical Sciences course.						
37478	discussion-recitation	ADI	11:00 AM - 11:50 AM	W	room 241 Natural History Bldg	Long, A; Altaner, S; Wisseman, E
37478: Physical Sciences course.						
37479	discussion-recitation	ADJ	12:00 PM - 12:50 PM	W	room 241 Natural History Bldg	Long, A; Altaner, S
37479: Physical Sciences course.						
37480	discussion-recitation	ADK	01:00 PM - 01:50 PM	W	room 241 Natural History Bldg	Long, A; Altaner, S; Butler, S
37480: Physical Sciences course.						
37481	discussion-recitation	ADL	02:00 PM - 02:50 PM	W	room 241 Natural History Bldg	Long, A; Altaner, S; Butler, S
37481: Physical Sciences course.						
37482	discussion-recitation	ADM	03:00 PM - 03:50 PM	W	room 241 Natural History Bldg	Long, A; Altaner, S; Gao, L
37482: Physical Sciences course.						
37483	discussion-recitation	ADN	09:00 AM - 09:50 AM	R	room 241 Natural History Bldg	Long, A; Altaner, S; Wisseman, E
37483: Physical Sciences course.						
37484	discussion-recitation	ADO	10:00 AM - 10:50 AM	R	room 241 Natural History Bldg	Long, A; Altaner, S; Wisseman, E
37484: Physical Sciences course.						
37485	discussion-recitation	ADP	11:00 AM - 11:50 AM	R	room 241 Natural History Bldg	Long, A; Altaner, S; Gao, L
37485: Physical Sciences course.						
37486	discussion-recitation	ADQ	12:00 PM - 12:50 PM	R	room 241 Natural History Bldg	Long, A; Altaner, S; Henderson, C
37486: Physical Sciences course.						

37487	discussion-recitation	ADR	01:00 PM - 01:50 PM	R	room 241 Natural History Bldg	Long, A; Altaner, S
37487: Physical Sciences course.						
37489	discussion-recitation	ADS	02:00 PM - 02:50 PM	R	room 241 Natural History Bldg	Long, A; Altaner, S; Wisseman, E
37489: Physical Sciences course.						
37490	discussion-recitation	ADT	03:00 PM - 03:50 PM	R	room 241 Natural History Bldg	Long, A; Altaner, S; Wisseman, E
37490: Physical Sciences course.						
37491	discussion-recitation	ADU	09:00 AM - 09:50 AM	F	room 241 Natural History Bldg	Long, A; Altaner, S
37491: Physical Sciences course.						
37492	discussion-recitation	ADV	10:00 AM - 10:50 AM	F	room 241 Natural History Bldg	Long, A; Altaner, S
37492: Physical Sciences course.						
37492: Transition Students Only						
37493	discussion-recitation	ADW	11:00 AM - 11:50 AM	F	room 241 Natural History Bldg	Long, A; Altaner, S; Henderson, C
37493: Physical Sciences course.						
37498	discussion-recitation	ADX	12:00 PM - 12:50 PM	F	room 241 Natural History Bldg	Long, A; Altaner, S; Butler, S
37498: Physical Sciences course.						
37499	discussion-recitation	ADY	01:00 PM - 01:50 PM	F	room 241 Natural History Bldg	Long, A; Altaner, S; Gao, L
37499: Physical Sciences course.						
37501	discussion-recitation	ADZ	02:00 PM - 02:50 PM	F	room 241 Natural History Bldg	Long, A; Altaner, S; Gao, L
37501: Physical Sciences course.						
37465	lecture	AL1	10:00 AM - 10:50 AM	MW	room 228 Natural History Bldg	Altaner, S
37465: Physical Sciences course.						
37466	lecture	AL2	12:00 PM - 12:50 PM	MW	room 228 Natural History Bldg	Altaner, S
37466: Physical Sciences course.						

101 ***Introductory Physical Geology*** credit: 4 hours.
(GEOL 101) Focuses on physical features of our planet and their origin. Topics include: plate tectonics, mountain building, glaciers, earthquakes, volcanoes, coastlines, rivers, deserts, geologic structures, weathering, minerals, and rocks. Introduces fundamental methodology for observing and interpreting earth features. Intended for non-physical science majors. Credit is not given for both GEOL 101 and GEOL 100, GEOL 103, GEOL 107, or GEOL 111.

This course satisfies the General Education Criteria for a Physical Sciences course.

Intended for non-science students. Students must register for one lab-discussion and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
37542	lecture	AL1	01:00 PM - 01:50 PM	MWF	room 116 Roger Adams Laboratory	Chen, C
37542: Physical Sciences course.						
37531	laboratory-discussion	AY1	10:00 AM - 11:50 AM	M	room 251 Natural History Bldg	Chen, C; Long, A
37531: Physical Sciences course.						
37533	laboratory-discussion	AY2	02:00 PM - 03:50 PM	M	room 251 Natural History Bldg	Chen, C; Long, A; Brenizer, J
37533: Physical Sciences course.						
37534	laboratory-discussion	AY3	04:00 PM - 05:50 PM	M	room 251 Natural History Bldg	Chen, C; Long, A; Brenizer, J
37534: Physical Sciences course.						
37537	laboratory-discussion	AY5	01:00 PM - 02:50 PM	T	room 251 Natural History Bldg	Chen, C; Long, A; Berger, P
37537: Physical Sciences course.						
37538	laboratory-discussion	AY6	03:00 PM - 04:50 PM	T	room 251 Natural History Bldg	Chen, C; Long, A; Brenizer, J
37538: Physical Sciences course.						
37540	laboratory-discussion	AY7	10:00 AM - 11:50 AM	W	room 251 Natural History Bldg	Chen, C; Long, A; Berger, P
37540: Physical Sciences course.						
44108	laboratory-discussion	L1	02:00 PM - 03:50 PM	M	room 251 Natural History Bldg	Chen, C; Long, A; Brenizer, J
44108: Physical Sciences course.						
44108: Advisor Approval RequiredReserved for incoming freshmen only. If you have questions about your qualifications for this program please go to http://www.las.uiuc.edu/learningcommunity/						

44232	lecture	LC	01:00 PM - 01:50 PM	MWF	room 116 Roger Adams Laboratory	Chen, C
44232: Physical Sciences course.						
44232: Advisor Approval RequiredReserved for incoming freshmen only. If you have questions about your qualifications for this program please go to http://www.las.uiuc.edu/learningcommunity/						

103 ***Planet Earth QRII*** credit: 3 hours.
(GEOL 103) Topics covered are very similar to those of GEOL 101. Emphasis is in the application of quantitative methods in deriving geological knowledge. A weekly computer laboratory is an essential component of the course. Credit is not given for both GEOL 103 and GEOL 100, GEOL 101, GEOL 107, or GEOL 111.

This course satisfies the General Education Criteria for a Physical Sciences, and Quant Reasoning II course.

Students must register for one lab and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
32307	laboratory	AB1	11:00 AM - 11:50 AM	T	room 390 Lincoln Hall	Yang, Z; Stewart, M
32307: Physical Sciences, and Quant Reasoning II course.						
32308	laboratory	AB2	12:00 PM - 12:50 PM	T	room 390 Lincoln Hall	Yang, Z; Stewart, M
32308: Physical Sciences, and Quant Reasoning II course.						
32309	laboratory	AB3	01:00 PM - 01:50 PM	T	room 390 Lincoln Hall	Yang, Z; Stewart, M
32309: Physical Sciences, and Quant Reasoning II course.						
32310	laboratory	AB4	02:00 PM - 02:50 PM	T	room 390 Lincoln Hall	Yang, Z; Stewart, M
32310: Physical Sciences, and Quant Reasoning II course.						
32311	laboratory	AB5	03:00 PM - 03:50 PM	T	room 390 Lincoln Hall	Yang, Z; Stewart, M
32311: Physical Sciences, and Quant Reasoning II course.						
32312	lecture	AL1	01:00 PM - 01:50 PM	MW	room 223 Gregory Hall	Stewart, M
32312: Physical Sciences, and Quant Reasoning II course.						

104 ***Geology of the National Parks*** credit: 3 hours.
(GEOL 104) Develops geologic background, concepts, and principles through study of selected national parks and monuments. Examines the geologic framework and history, modern geologic processes, and factors influencing the present day landscape for each park area. Optional field trips.

This course satisfies the General Education Criteria for a Physical Sciences course.

Students must register for one lab and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
37543	laboratory	AB1	09:00 AM - 10:50 AM	W	room 259 Natural History Bldg	Chen, C; Bopp, C
37543: Physical Sciences course.						
37545	laboratory	AB2	01:00 PM - 02:50 PM	W	room 259 Natural History Bldg	Chen, C; Bopp, C
37545: Physical Sciences course.						
37546	laboratory	AB3	03:00 PM - 04:50 PM	W	room 259 Natural History Bldg	Chen, C; Wolfe, K
37546: Physical Sciences course.						
37548	laboratory	AB4	09:00 AM - 10:50 AM	R	room 259 Natural History Bldg	Chen, C; Bopp, C
37548: Physical Sciences course.						
37549	laboratory	AB5	11:00 AM - 12:50 PM	R	room 259 Natural History Bldg	Chen, C; Wolfe, K
37549: Physical Sciences course.						
37550	laboratory	AB6	02:00 PM - 03:50 PM	R	room 259 Natural History Bldg	Chen, C; Wolfe, K
37550: Physical Sciences course.						
37554	lecture	AL1	01:00 PM - 01:50 PM	TR	room 112 Chemistry Annex	Chen, C
37554: Physical Sciences course.						
37552	laboratory	BB1	11:00 AM - 12:50 PM	W	room 259 Natural History Bldg	Chen, C
37552: Discovery, and Physical Sciences course.First Year Discovery Program Course. Registration restricted to freshmen. Students should enroll in only one Discovery course. Students who enroll in more than one Discovery course may be dropped from the additional Discovery courses. For course descriptions, see the Discovery Program booklet. For a course listing of Discovery courses, see the front portion of this Class Schedule.						
40605	lecture	BL1	10:00 AM - 10:50 AM	TR	room 258 Natural History Bldg	Chen, C
40605: Discovery, and Physical Sciences course.First Year Discovery Program Course. Registration restricted to freshmen. Students should enroll in only one Discovery course. Students who enroll in more than one Discovery course may be dropped from the additional Discovery courses. For course descriptions, see the Discovery Program booklet. For a course listing of Discovery courses, see the front portion of this Class Schedule.						

107 ***Physical Geology*** credit: 4 hours.
(GEOL 107) Introduces Earth phenomena and processes. Includes minerals and rocks, continental drift, plate tectonics, rock deformation, igneous and sedimentary processes, geologic time, landscape evolution, internal structure and composition of the earth, groundwater, seismology and earthquakes, and formation of natural resources. Emphasizes the chemical and physical aspects of the Earth, and the basis for geological inference. Field trip required for geology majors, optional for others. Intended for science and science-oriented students. Credit may not be received for both GEOL 107 and GEOL 100, GEOL 101, GEOL 103, or GEOL 111.

This course satisfies the General Education Criteria for a Physical Sciences course.

Intended for Science and Science - Oriented students. Additional Field Trip Fee Required.

CRN	Type	Section	Time	Days	Location	Instructor
32315	lecture	AL1	11:00 AM - 11:50 AM	MWF	room 112 Chemistry Annex	Bass, J; Herrstrom, E
32315: Physical Sciences course.						
43940	lecture	AL2	11:00 AM - 11:50 AM	MWF	room 112 Chemistry Annex	Bass, J; Herrstrom, E
43940: Physical Sciences course.						
43940: Restricted to Geology Majors Only.						
32313	laboratory-discussion	AY1	08:00 AM - 09:50 AM	M	room 259 Natural History Bldg	Bass, J; Herrstrom, E
32313: Physical Sciences course.						
32313: LAS Field Trip 75.00 dollars.						
43017	laboratory-discussion	AY3	01:00 PM - 02:50 PM	M	room 259 Natural History Bldg	Bass, J; Herrstrom, E; Robison, D
43017: Physical Sciences course.						
43017: LAS Field Trip 75.00 dollars.						
43018	laboratory-discussion	AY4	03:00 PM - 04:50 PM	M	room 259 Natural History Bldg	Bass, J; Herrstrom, E; Robison, D
43018: Physical Sciences course.						
43018: LAS Field Trip 75.00 dollars.						
43019	laboratory-discussion	AY5	08:00 AM - 09:50 AM	T	room 259 Natural History Bldg	Bass, J; Herrstrom, E; Sun, X
43019: Physical Sciences course.						
43019: LAS Field Trip 75.00 dollars.						
44249	laboratory	AY6	10:00 AM - 11:50 AM	T	room 259 Natural History Bldg	Bass, J; Herrstrom, E; Sun, X

44249: Physical Sciences course.						
44249: LAS Field Trip 75.00 dollars.						
43021	laboratory-discussion	AY7	01:00 PM - 02:50 PM	T	room 259 Natural History Bldg	Bass, J; Herrstrom, E; Sun, X
43021: Physical Sciences course.						
43021: LAS Field Trip 75.00 dollars.						
43022	laboratory-discussion	AY8	03:00 PM - 04:50 PM	T	room 259 Natural History Bldg	Bass, J; Herrstrom, E; Robison, D
43022: Physical Sciences course.						
43022: LAS Field Trip 75.00 dollars.						

110 ***Exploring Geology in the Field*** credit: 1 hours.
(GEOL 110) Introduces practical techniques for identification of rocks, minerals, and fossils; interpretation of geologic maps and cross-sections; appreciation of Midwestern geologic history and geologic features and landforms in the field. Two field trips are required (a 1-day and a 3-day trip).

Additional Field Trip Fee Required.

CRN	Type	Section	Time	Days	Location	Instructor
32316	laboratory	1	01:00 PM - 01:50 PM	T	room 258 Natural History Bldg	Altaner, S; Berna, E
32316: LAS Field Trip 95.00 dollars.						
32316: Lab 1 and 2: Meet approximately half of the weeks during the term. Two Field trips required.						
32317	laboratory	2	02:00 PM - 02:50 PM	T	room 258 Natural History Bldg	Altaner, S; Berna, E
32317: LAS Field Trip 95.00 dollars.						
32317: Lab 1 and 2: Meet approximately half of the weeks during the term. Two Field trips required.						

111 ***The Dynamic Earth-Honors*** credit: 4 hours.
(GEOL 111) Study of the geological history and evolution of the earth, the formation of mountains and ocean basins, the making of continents and earth environments and resources. Typically, a three to four-day field trip is required. Course in the Campus Honors Program. Credit may not be received for both GEOL 111 and GEOL 100, GEOL 101, GEOL 103, or GEOL 107.

This course satisfies the General Education Criteria for a Physical Sciences course.

Additional Class Materials Fee required.

CRN	Type	Section	Time	Days	Location	Instructor

30368	laboratory	AB1	10:00 AM - 11:50 AM	F	room 251 Natural History Bldg	Bass, J; Herrstrom, E
30368: Camp Honors/Chanc Schol, and Physical Sciences course.						
30368: "For Chancellor's Scholars only. Other may only enroll with the approval of the faculty member and the Director of the Campus Honors Program."						
30370	lecture	AL1	01:00 PM - 01:50 PM	MWF	room 258 Natural History Bldg	Bass, J; Herrstrom, E
30370: Camp Honors/Chanc Schol, and Physical Sciences course.						
30370: "For Chancellor's Scholars only. Others may only enroll with the approval of the faculty member and the Director of the Campus Honors Program."LAS Field Trip 75.00 dollars.						

117 ***The Oceans*** credit: 3 hours.
(GEOL 117) Integrated introduction to oceanography and marine geology and geophysics. Topics include ocean-basin formation and evolution (in the context of plate tectonics), ocean ecology, the hydrologic cycle, water chemistry, currents and waves, the interaction of oceans with climate, coastal hazards, resources, pollution, and the Law of the Sea. Course is oriented toward students not majoring in science.

This course satisfies the General Education Criteria for a Physical Sciences course.

CRN	Type	Section	Time	Days	Location	Instructor
30375	lecture	B	12:00 PM - 12:50 PM	MWF	room 112 Gregory Hall	Stewart, M
30375: Physical Sciences course.						

118 ***Natural Disasters*** credit: 3 hours.
(GEOL 118) Introduces the nature, causes, risks, effects, and prediction of natural disasters including earthquakes, volcanoes, landslides, subsidence, global climate change, severe weather, coastal erosion, floods, mass extinctions, and meteorite impacts; covers geologic principles and case histories of natural disasters as well as human responses (societal impact, mitigation strategies, and public policy). Same as ENVS 180 and GLBL 118.

This course satisfies the General Education Criteria for a Physical Sciences course.

CRN	Type	Section	Time	Days	Location	Instructor
30379	lecture	A	02:00 PM - 02:50 PM	MWF	room 112 Gregory Hall	Altaner, S; Berna, E
30379: Physical Sciences course.						

143 ***History of Life*** credit: 3 hours.
(GEOL 143) Evolution of life from its beginning, illustrating changing faunas and floras through time; the invasion of land and of the skies; the effects of a changing atmosphere, changing climates, and continental drift. Emphasis on

dinosaur evolution, ecology, and extinction; also other vertebrates, including mammal-like reptiles, mammals, and the emergence of humans, as well as plants and invertebrates.

This course satisfies the General Education Criteria for a Life Sciences course.

Students must register for one lab and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
37555	laboratory	AB1	08:00 AM - 09:50 AM	T	room 120 Natural History Bldg	Fouke, B; Schickel, T
37555: Life Sciences course.						
37557	laboratory	AB2	10:00 AM - 11:50 AM	T	room 120 Natural History Bldg	Fouke, B; Schickel, T
37557: Life Sciences course.						
37558	laboratory	AB3	01:00 PM - 02:50 PM	T	room 120 Natural History Bldg	Hutchings, K; Fouke, B
37558: Life Sciences course.						
37560	laboratory	AB4	03:00 PM - 04:50 PM	T	room 120 Natural History Bldg	Hutchings, K; Fouke, B
37560: Life Sciences course.						
37561	laboratory	AB5	10:00 AM - 11:50 AM	W	room 120 Natural History Bldg	Fouke, B; Piggot, A
37561: Life Sciences course.						
37562	laboratory	AB6	08:00 AM - 09:50 AM	R	room 120 Natural History Bldg	Fouke, B; Piggot, A
37562: Life Sciences course.						
37564	laboratory	AB7	10:00 AM - 11:50 AM	R	room 120 Natural History Bldg	Fouke, B; Schickel, T
37564: Life Sciences course.						
37565	laboratory	AB8	01:00 PM - 02:50 PM	R	room 120 Natural History Bldg	Fouke, B; Piggot, A
37565: Life Sciences course.						
37573	laboratory	AB9	03:00 PM - 04:50 PM	R	room 120 Natural History Bldg	Hutchings, K; Fouke, B
37573: Life Sciences course.						
37574	lecture	AL1	02:00 PM - 02:50 PM	MW	room 100 Gregory Hall	Fouke, B
37574: Life Sciences course.						

199 ***Undergraduate Open Seminar*** credit: 1 to 5 hours.
(GEOL 199) May be repeated.

CRN	Type	Section	Time	Days	Location	Instructor
10244	independent study		ARRANGED			
10244: Instructor Approval Required						

390 ***Individual Study*** credit: 1 to 4 hours.
(GEOL 290) Research and individual study in geology. May be repeated. A maximum of 8 hours of GEOL 390 plus GEOL 391 may be counted toward graduation. Prerequisite: GEOL 108 or equivalent; consent of supervising faculty member.

CRN	Type	Section	Time	Days	Location	Instructor
10245	independent study		ARRANGED			
10245: Instructor Approval Required						

391 ***Individual Honors Study*** credit: 1 to 4 hours.
(GEOL 291) Research and individual study in geology for honors credit. May be repeated. A maximum of 8 hours of GEOL 390 plus GEOL 391 may be counted toward graduation. Prerequisite: GEOL 108 or equivalent; consent of supervising faculty member and of departmental honors advisor.

CRN	Type	Section	Time	Days	Location	Instructor
10248	independent study		ARRANGED			
10248: Instructor Approval Required						

411 ***Structural Geol and Tectonics*** credit: 4 hours.
(GEOL 311) Introduction to principles of rock deformation, stress, and strain; description and interpretation of geologic structures; study of methods for structural analysis; outline of geotectonic processes; three hours of lecture and a three-hour lab per week. Required four-day field trip. Prerequisite: GEOL 107 or consent of instructor.

Additional Field Trip Fee Required.

CRN	Type	Section	Time	Days	Location	Instructor

32324	laboratory	AB1	02:00 PM - 04:50 PM	W	room 251 Natural History Bldg	Marshak, S; Defrates, J
32324: LAS Field Trip 80.00 dollars.						
32325	laboratory	AB2	02:00 PM - 04:50 PM	R	room 251 Natural History Bldg	Marshak, S; Defrates, J
32325: LAS Field Trip 80.00 dollars.						
32326	lecture	AL1	10:00 AM - 10:50 AM	MWF	room 258 Natural History Bldg	Marshak, S; Defrates, J

415 ***Field Geology*** credit: 2 to 8 hours.
(GEOL 315) Group field study in a prominent geologic locality; includes in-class meetings, student-led presentation, and field trip; trips run during spring break, winter break, or intercession; dates depend on location. May be repeated. Prerequisite: GEOL 108 or equivalent; junior or senior standing or consent of instructor.

Additional Field Trip Fee Required.

CRN	Type	Section	Time	Days	Location	Instructor
10255	independent study		ARRANGED			
10255: Instructor Approval Required						
10255: Instructor Approval Required.						

432 ***Mineralogy and Mineral Optics*** credit: 4 hours.
(GEOL 332) Introduction to: crystallography; crystal optics; structure, composition, properties, stability and geological occurrences of minerals; and mineral identification. Credit is not given for both GEOL 333 and GEOL 432. Prerequisite: GEOL 108 and CHEM 104 and CHEM 105.

CRN	Type	Section	Time	Days	Location	Instructor
30384	laboratory	AB1	01:00 PM - 02:50 PM	TR	room 109 Natural History Bldg	Ianno, A; Li, J
30386	lecture	AL1	09:00 AM - 09:50 AM	TR	room 258 Natural History Bldg	Ianno, A; Li, J

450 ***Physics of the Earth*** credit: 3 hours.
(GEOL 352) Survey of the physical and chemical principles used to delineate the physical state and evolution of the Earth including its internal structure, composition, and mineralogy. Topics include seismology, gravity, magnetics, heat flow, geophysical exploration, high-pressure mineralogy, and composition of the mantle and core. Students in geophysics, engineering, or physics should enroll in GEOL 452. Credit is not given for both GEOL 450 and GEOL 452. Prerequisite: PHYS 211, GEOL 432, credit or concurrent registration in GEOL 411, or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
30392	lecture	A	03:30 PM - 04:50 PM	TR	room 258 Natural History Bldg	Chen, W

481 ***Earth Systems Modeling*** credit: 4 hours.
(GEOL 381) Same as ATMS 421, and GEOG 421. See ATMS 421.

CRN	Type	Section	Time	Days	Location	Instructor
37121	lecture-discussion	A	05:00 PM - 08:00 PM	W	room 22 ACES Lib, Info and Alum Ctr	Robinson, W; Hurst, S; Hannon, B; Gertner, G

492 ***Senior Thesis*** credit: 2 to 8 hours.
(GEOL 292) Research in geology, with thesis; a thesis must be submitted for credit to be received. May be repeated. No graduate credit. A maximum of 10 hours of GEOL 492 plus GEOL 493 may be counted toward graduation. Prerequisite: Consent of supervising faculty member.

CRN	Type	Section	Time	Days	Location	Instructor
10249	independent study		ARRANGED			
10249: Instructor Approval Required						

493 ***Honors Senior Thesis*** credit: 2 to 8 hours.
(GEOL 293) Research in geology with honors thesis; a thesis must be submitted for credit to be received. May be repeated. No graduate credit. A maximum of 10 hours of GEOL 492 plus GEOL 493 may be counted toward graduation. Prerequisite: Consent of supervising faculty member and of departmental honors advisor.

CRN	Type	Section	Time	Days	Location	Instructor
10252	independent study		ARRANGED			
10252: Instructor Approval Required						

497 ***Special Topics in Geology*** credit: 1 to 4 hours.
(GEOL 397) Seminar or lectures in subjects not covered by regular course offerings; for advanced undergraduates and graduate students. May be repeated. 1 to 4 graduate hours. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
10260	independent study		ARRANGED			
10260: Instructor Approval Required						

515 ***Advanced Field Geology*** credit: 2 to 4 hours.
(GEOL 415) Group field study in a prominent geologic locality; includes in-class meetings, student-led presentation, and field trip; written report required for some trips; trips run during spring break, winter break, or intercession; dates depend on location. May be repeated. Prerequisite: Consent of instructor.

Additional Field Trip Fee Required.

CRN	Type	Section	Time	Days	Location	Instructor
10263	independent study		ARRANGED			
10263: Instructor Approval Required						

560 ***Physical Geochemistry*** credit: 4 hours.
(GEOL 401) Introduction to geochemical thermodynamics and kinetics providing the background needed for more advanced courses in geochemistry, petrology, and mineralogy. Prerequisite: CHEM 104 and CHEM 105 and MATH 242; or equivalent, or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
30399	lecture-discussion	A	11:00 AM - 12:20 PM	TR	room 119 English Bldg	Johnson, T

563 ***Analytical Geochemistry*** credit: 4 hours.
Introduces principles and applications of chemical and isotopic analysis of geological materials, including x-ray spectroscopy, mass spectrometry and atomic spectroscopy. Lectures cover theory of analysis while practical laboratory based exercises focus on how instruments work and instrument operation. Individually tailored analysis project constitutes a major part of assessment. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
45921	lecture	AL1	ARRANGED			Lundstrom, C
45921: 4 hours						

591 ***Current Research in Geoscience*** credit: 1 hours.

(GEOL 491) Brings students up-to-date with current research over a broad spectrum of geoscience; improves students' oral presentation skills by practice and example. Required for all graduate students in Geology. May be repeated to a maximum of 12 hours. Approved for S/U grading only. Prerequisite: Graduate standing in Department of Geology or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
30405	lecture-discussion	A	12:00 PM - 12:50 PM	W	room 258 Natural History Bldg	Kirkpatrick, R

593 ***Advanced Studies in Geology*** credit: 1 to 8 hours.
(GEOL 493) Work may be taken in the following fields: (a) general geology; (b) engineering geology; (c) geomorphology and glacial geology; (d) clay mineralogy; (e) ground-water geology; (f) geomicrobiology; (g) geological fluid dynamics; (h) mineralogy and crystallography; (i) paleontology; (j) geochemistry: (k) geophysics; (l) petrography and petrology; (m) sedimentology; (n) stratigraphy; (o) oceanography; (p) submarine geology; (q) structural geology and geotectonics; (r) mathematical geology; (s) sedimentary petrography; (t) petroleum geology; (u) coal geology; (v) isotope geology and geochronology; (w) electron beam analysis; (x) vulcanology; (y) environmental geology; and (z) planetology. May be repeated. Approved for S/U grading only.

CRN	Type	Section	Time	Days	Location	Instructor
10267	independent study		ARRANGED			
10267: Instructor Approval Required						
46081	lecture	K8	ARRANGED			Bass, J
46081: "Current Research and Literature in Earth's Interior", 3 hours						

599 ***Thesis Research*** credit: 0 to 16 hours.
(GEOL 499) Individual research under supervision of members of the faculty in their respective fields. May be repeated. Approved for S/U grading only.

CRN	Type	Section	Time	Days	Location	Instructor
10271	independent study		ARRANGED			
10271: Instructor Approval Required						
41983	independent study		ARRANGED			
41983: Instructor Approval Required						