

Table 1a. Requirements for B.S. in geology (Option A: Traditional geology)**Required courses**

Dept.	No.	Title	Credit	Semester
Geol	100	The Earth*	3	F/S/SS
Geol	100L	The Earth – Lab*	1	F/S
Geol	102	History of the Earth	3	S
Geol	102L	History of the Earth – Lab	1	S
Geol	302	Summer Field Studies	6	SS
Geol	311	Mineralogy and Earth Materials	5	F
Geol	356	Structural Geology	5	S
Geol	365	Igneous and Metamorphic Petrology	3	S
Geol	368	Stratigraphy and Sedimentation	4	F
Geol	479	Surficial Processes	3	F

9 credits of geology electives

Dept.	No.	Title	Credit	Semester
Geol	105X	Gems and Gemstones	1	F
Geol	109X	Exploring Iowa Geology	1-2	F
Geol	306	Geology Field Trip	1-2	F/S
Geol	402	Watershed Hydrology and Surf. Proc.	4	F
Geol	409	Field Methods in Hydrogeology	2	Alt. SS (08)
Geol	411	Hydrogeology	4	F
Geol	414	Applied Groundwater Flow Modeling	3	Alt. S (08)
Geol	415	Paleoclimatology	3	Alt. S (09)
Geol	416X	Hydrologic Modeling and Analysis	3	S
Geol	419	Environmental Geochemistry	3	F
Geol	420X	Mineral Resources	3	Alt. F (08)
Geol	426	Stable Isotopes in the Environment	3	Alt. F (09)
Geol	434	Contaminant Hydrogeology	3	S
Geol	451	Applied & Environmental Geophysics	3	S
Geol	452	GIS for Geoscientists	3	F
Geol	457	Exploration Seismology	3	Alt. F (08)
Geol	474	Glacial and Quaternary Geology	3	Alt. S (09)
Geol	507	Midwestern Geology Field Trip	1-4	F

* Geol 201 may be substituted for Geol 100, 100L

Required supporting courses

Dept.	No.	Title	Credit	Semester
Math	165	Calculus I	4	F/S/SS
	166	Calculus II	4	F/S/SS
<i>OR</i>				
Math	181	Calc. and Math. Mod. for the Life Sci.	4	F/S
	182	Calc. and Math. Mod. for the Life Sci.	4	F/S
Chem	177	General Chemistry	4	F/S/SS
	178	General Chemistry	3	F/S
Chem	177L	General Chemistry Lab	1	F/S/SS
	178L	General Chemistry Lab	1	F/S
Phys	111	General Physics	4	F/S/SS
	112	General Physics	4	F/S/SS
Engl	314 or 302	Technical Comm. or Business Comm.	3	F/S/SS
<i>OR</i>				
Jl MC	347	Science Comm.	3	S

Required supporting courses

Dept.	No. (credit)
An additional 6 credits of Math, Stat, Engineering, Agronomy, and Com S, which may include but are not limited to:	
Math	265(4), 266(3), 267(4), 307(3), 385(3)
Stat	101(4), 104(3)
Com S	107(3), 207(3)
CE	360(3)
Agron	360(3), 473(4)

Table 1b. Requirements for B.S. in geology (Option B: Environmental geology/hydrogeology)

Required courses					6 credits of geology electives				
Dept.	No.	Title	Credit	Semester	Dept.	No.	Title	Credit	Semester
Geol	100	The Earth*	3	F/S/SS	Geol	105X	Gems and Gemstones	1	F
Geol	100L	The Earth – Lab*	1	F/S	Geol	109X	Exploring Iowa Geology	1-2	F
Geol	102	History of the Earth	3	S	Geol	306	Geology Field Trip	1-2	F/S
Geol	102L	History of the Earth – Lab	1	S	Geol	402	Watershed Hydrology and Surf. Proc.	4	F
Geol	302	Summer Field Studies	6	SS	Geol	409	Field Methods in Hydrogeology	2	Alt. SS (08)
Geol	311	Mineralogy and Earth Materials	5	F	Geol	414	Applied Groundwater Flow Modeling	3	Alt. S (08)
Geol	356	Structural Geology	5	S	Geol	415	Paleoclimatology	3	Alt. S (09)
Geol	368	Stratigraphy and Sedimentation	4	F	Geol	416X	Hydrologic Modeling and Analysis	3	S
Geol	411	Hydrogeology	4	F	Geol	420X	Mineral Resources	3	Alt. F (08)
Geol	419	Environmental Geochemistry	3	F	Geol	426	Stable Isotopes in the Environment	3	Alt. F (09)
<i>OR</i>			3	F	Geol	434	Contaminant Hydrogeology	3	S
Geol	426	Stable Isotopes in the Environment			Geol	451	Applied & Environmental Geophysics	3	S
<i>OR</i>					Geol	452	GIS for Geoscientists	3	F
Geol	434	Contaminant Hydrogeology			Geol	457	Exploration Seismology	3	Alt. F (08)
Geol	479	Surficial Processes			Geol	474	Glacial and Quaternary Geology	3	Alt. S (09)
					Geol	507	Midwestern Geology Field Trip	1-4	F

* Geol 201 may be substituted for Geol 100, 100L

Required supporting courses

Dept.	No.	Title	Credit	Semester
Math	165	Calculus I	4	F/S/SS
	166	Calculus II	4	F/S/SS
<i>OR</i>				
Math	181	Calc. and Math. Mod. for the Life Sci.	4	F/S
	182	Calc. and Math. Mod. for the Life Sci.	4	F/S
Chem	177	General Chemistry	4	F/S/SS
	178	General Chemistry	3	F/S
Chem	177L	General Chemistry Lab	1	F/S/SS
	178L	General Chemistry Lab	1	F/S
Phys	111	General Physics	4	F/S/SS
	112	General Physics	4	F/S/SS
Engl	314 or 302	Technical Comm. or Business Comm.	3	F/S/SS
<i>OR</i>				
JI MC	347	Science Comm.	3	S

Required supporting courses

Dept.	No. (credit)
An additional 6 credits of Math, Stat, Engineering, Agronomy, and Com S, which may include but are not limited to:	
Math	265(4), 266(3), 267(4), 307(3), 385(3)
Stat	101(4), 104(3)
Com S	107(3), 207(3)
CE	360(3)
Agron	360(3), 473(4)

Table 2. Requirements for B.S. in Earth science

Required courses					8 credits in agronomy, astronomy, & environmental science				
Dept.	No.	Title	Credit	Semester	Dept.	No.	Title	Credit	Semester
Geol	100	The Earth*	3	F/S/SS	Agron	154	Fundamentals of Soil Science	3	F/S
Geol	100L	The Earth – Lab*	1	F/S	Agron	260	Soils and Environmental Quality	3	F/S
Geol	102	History of the Earth	3	S	Agron	406	World Climates	3	F
Geol	102L	History of the Earth - Lab	1	S	Agron	473	Soil Genesis and Landscape Rel.	4	S
Geol	302	Summer Field Studies	6	SS	Astro	120	The Sky and the Solar System	3	F/S/SS
Geol	311	Mineralogy and Earth Materials	5	F	Astro	150	Stars, Galaxies, and Cosmology	3	F/S
Geol	356	Structural Geology	5	S	EnSci	402	Watershed Hydrol. and Surf. Proc.	4	F
Geol	365	Igneous and Metamorphic Petrology	3	S	EnSci	409	Field Methods in Hydrogeology	2	Alt. SS (08)
Geol	368	Stratigraphy and Sedimentation	4	F	EnSci	411	Hydrogeology	4	F
Geol	479	Surficial Processes	3	F	EnSci	414	Applied Groundwater Flow Model.	3	Alt. S (08)
Mteor	206	Introduction to Meteorology	3	F/S	EnSci	415	Paleoclimatology	3	Alt. S (09)
					EnSci	416X	Hydrologic Modeling and Analysis	3	S
					EnSci	419	Environmental Geochemistry	3	F
					EnSci	426	Stable Isotopes in the Environment	3	Alt. F (09)
					EnSci	434	Contaminant Hydrogeology	3	S
					EnSci	451	Appl. & Environmental Geophys.	3	S

Plus 8 credits in related areas of agronomy, astronomy, environmental science, meteorology, and other approved areas 8

* Geol 201 may be substituted for Geol 100,100L

Required supporting courses

Dept.	No.	Title	Credit	Semester
Math	165	Calculus I	4	F/S/SS
	166	Calculus II	4	F/S/SS
<i>OR</i>				
Math	181	Calc. and Math. Mod. for the Life Sci.	4	F/S
	182	Calc. and Math. Mod. for the Life Sci.	4	F/S
Chem	177	General Chemistry	4	F/S/SS
	178	General Chemistry	3	F/S
Chem	177L	General Chemistry Lab	1	F/S/SS
	178L	General Chemistry Lab	1	F/S
Phys	111	General Physics	4	F/S/SS
	112	General Physics	4	F/S/SS
Engl	314 or 302	Technical Comm. or Business Comm.	3	F/S/SS
<i>OR</i>				
Jl MC	347	Science Comm.	3	S

Required supporting courses

Dept.	No. (credit)
Com S	107(3)
Stat	104(3)
<i>OR</i>	101(4)

Table 3. Requirements for B.A. in Earth science**Required courses****3 credits of a geology elective**

Dept.	No.	Title	Credit	Semester	Dept.	No.	Title	Credit	Semester
Geol	100	The Earth*	3	F/S/SS	Geol	105X	Gems and Gemstones	1	F
Geol	100L	The Earth – Lab*	1	F/S	Geol	109X	Exploring Iowa Geology	1-2	F
Geol	102	History of the Earth	3	S	Geol	306	Geology Field Trip	1-2	F/S
Geol	102L	History of the Earth - Lab	1	S	Geol	402	Watershed Hydrol. and Surf. Proc.	4	F
Geol	302	Summer Field Studies	6	SS	Geol	411	Hydrogeology	4	F
Geol	311	Mineralogy and Earth Materials	5	F	Geol	415	Paleoclimatology	3	Alt. S (09)
Geol	356	Structural Geology	5	S	Geol	419	Environmental Geochemistry	3	F
Geol	365	Igneous and Metamorphic Petrology	3	S	Geol	420X	Mineral Resources	3	Alt. F (08)
Geol	368	Stratigraphy and Sedimentation	4	F	Geol	426	Stable Isotopes in the Environment	3	Alt. F (09)
Mteor	206	Introduction to Meteorology	3	F/S	Geol	434	Contaminant Hydrogeology	3	S
Astro	120	The Sky and the Solar System	3	F/S/SS	Geol	451	Appl. & Environmental Geophys.	3	S
Astro	150	Stars, Galaxies, and Cosmology	3	F/S	Geol	452	GIS for Geoscientists	3	F
					Geol	457	Exploration Seismology	3	Alt. F (08)
					Geol	474	Glacial and Quaternary Geology	3	Alt. S (09)
					Geol	479	Surficial Processes	3	F
					Geol	507	Midwestern Geology Field Trip	1-4	F

* Geol 201 may be substituted for Geol 100, 100L

Required supporting courses

Dept.	No.	Title	Credit	Semester
Math	151 or 160 or 165 or 181	Calc. for Bus. and Soc. Sci., or Survey of Calc., or Calc. I, or Calc. and Math. Mod. for Life Sciences	3 or 4 or 4 or 4	F/S/SS
Chem	177	General Chemistry	4	F/S/SS
	178	General Chemistry	3	F/S
Chem	177L	General Chemistry Lab	1	F/S/SS
	178L	General Chemistry Lab	1	F/S
Phys	111	General Physics	4	F/S/SS
	112	General Physics	4	F/S/SS
Com S	107	Applied Computer Programming	3	F/S
<i>OR</i>				
Stat	101 or 104	Principles of Statistics, Intro. to Statistics	4,3	F/S/SS
Engl	314 or 302	Technical Comm. or Business Comm.	3	F/S/SS
<i>OR</i>				
JI MC	347	Science Comm.	3	S
Biol.		1 course in Biology, Botany, or Zoology		

Requirements for Teacher Certification (see pp. 338 for complete detail)

Dept.	Course Number
C I	202, 204, 280M, 333, 347, 406, 415, 418, 419, 426, 468J, 468K, and 417J
Engl	150 and 250
Psych	230 or HD FS 102
Lib	160
Spec. Ed.	450
	9 credits in Social Sciences
	6 credits in Humanities
	9 credits in Communication Skills
One additional course in interpersonal or group presentation (see approved list on Teacher Ed. website)	
<i>Note: Admission to the Teacher Ed. Program requires either the PPST exam or the CAAP exam</i>	

Table 4. Sequence of courses for the B.S. in geology (a. traditional geology; b. environmental geology/hydrogeology)

a. Year	Semester	Geology Requirement (cr.)	Math - Science Requirement (cr.)	Geology Elective (cr.)
1	Fall	100(3), 100L(1)	Math 181(4), Chem 177(4), 177L(1)	
	Spring	102(3), 102L(1)	Math 182(4), Chem 178(3), 178L(1)	
2	Fall	311(5)	Phys 111(4)	
	Spring	365(3)	Phys 112(4)	
3	Fall	368(4), 479(3)	Com S 107(3), Stat 101(4)	402(4) or 426(3) or 452(3) or 457(3)
	Spring	356(5)		414(3) or 415(3) or 434(3) or 451(3) or 474(3)
Summer		302(6)		
4	Fall			411(4) or 419(3)
	Spring			
b. Year	Semester	Geology Requirement (cr.)	Math – Science Requirement (cr.)	Geology Elective (cr.)
1	Fall	100(3), 100L(1)	Math 181(4), Chem 177(4), 177L(1)	
	Spring	102(3), 102L(1)	Math 182(4), Chem 178(3), 178L(1)	
2	Fall	311(5)	Phys 111(4)	
	Spring		Phys 112(4)	
3	Fall	368(4), 479(3)	Com S 107(3), Stat 101(4)	402(4) or 426(3) or 452(3) or 457(3)
	Spring	356(5)		414(3) or 415(3) or 451(3) or 474(3)
Summer		302(6)		
4	Fall	411(4), 419(3)		
	Spring			434(3)