

Science Studies, BS

Academic Plans

Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to students majoring in science studies.

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Science Studies, BS

- Biology Emphasis [p. 1]
- Chemistry Emphasis [p. 2]
- Earth Science Emphasis [p. 3]
- Physics Emphasis [p. 4]

Biology Emphasis

Course	Title	Hours
Academic Career		
Any Semester		
Students will choose a secondary emphasis area from chemistry, earth science, or physics.		
GE CLAS Core: Sustainability ^a		
Hours		0
First Year		
Fall		
CHEM:1070 or CHEM:1110	General Chemistry I ^b or Principles of Chemistry I	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric: Writing and Communication	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
CSI:1600	Success at Iowa	1
Hours		15-17
Spring		
BIOL:1411	Foundations of Biology	4
GE CLAS Core: Understanding Cultural Perspectives ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		14-15
Second Year		
Fall		
BIOL:1412	Diversity of Form and Function	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric: Writing and Communication	3 - 4
GE CLAS Core: Quantitative or Formal Reasoning ^e		3
GE CLAS Core: World Languages Third Level Proficiency or elective course ^c		4 - 5
Hours		14-16

Spring

BIOL:2512	Fundamental Genetics	4
SIED:4103	Societal and Educational Applications of Biological Sciences ^f	4
Major: secondary emphasis area course ^g		3 - 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Hours		15-17

Third Year

Fall

BIOL:3172	Evolution	4
SIED:4102	Societal and Educational Applications of Earth Science and Environmental ^f	4
BIOL:3343 or HHP:3500	Animal Physiology or Human Physiology	3
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
GE CLAS Core: Social Sciences ^e		3
Hours		17

Spring

BIOL:2374 or BIOL:2673	Biogeography or Ecology	3
Major: secondary emphasis area course ^g		3 - 4
GE CLAS Core: Historical Perspectives ^e		3
GE CLAS Core: Values and Society ^e		3
Elective course ^d		3
Hours		15-16

Fourth Year

Fall

SIED:4135	The Nature of Science	4
Major: approved biology or biochemistry course ^h		3
Major: secondary emphasis area course ^g		3 - 4
Elective course ^d		3
Elective course ^d		3
Hours		16-17

Spring

Major: secondary emphasis area course ^g		3 - 4
Major: secondary emphasis area course (if needed) ^g		3 - 4
GE CLAS Core: International and Global Issues ^e		3
Elective course ^d		3
Elective course (if needed) ^d		2 - 3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) ⁱ		
Hours		14-17
Total Hours		120-132

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative or Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Society.

b Enrollment in chemistry courses requires completion of a placement exam.

c Students who have completed four levels of a single language or two levels of two different languages in high school or college have satisfied the GE CLAS Core World Languages requirement. Students who have completed

three levels of a single language may complete a fourth-level course in the same language or may choose an approved World Language and Cultural Exploration course. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course. Contact your academic advisor or CLAS Undergraduate Programs Office with questions concerning the World Languages requirement.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students must take two of the applications courses SIED:4102, SIED:4103, SIED:4105, or SIED:4106, or SIED:4110.

g Students must complete 15 semester hours in their secondary emphasis area.

h Choose from BMB:3110, BIOL:2723, BIOL:3233, or BIOL:3363. Some courses are offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

i Please see Academic Calendar, on Office of the Registrar website, for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Degree Services.

Chemistry Emphasis

Course	Title	Hours
Academic Career		
Any Semester		

Students will choose a secondary emphasis area from biology, earth science, or physics.

GE CLAS Core: Sustainability ^a

Hours		0
First Year		
Fall		
CHEM:1110	Principles of Chemistry I ^b	4
RHET:1030 or ENGL:1200	Rhetoric: Writing and Communication or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
CSI:1600	Success at Iowa	1
Hours		15-17
Spring		
CHEM:1120	Principles of Chemistry II	4
GE CLAS Core: Understanding Cultural Perspectives ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		14-15
Second Year		
Fall		
CHEM:2210	Organic Chemistry I	3
Major: secondary emphasis area course ^f		3 - 4

RHET:1030 or ENGL:1200	Rhetoric: Writing and Communication or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Third Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3

Hours 16-19

Spring

CHEM:2220	Organic Chemistry II	3
Major: secondary emphasis area course ^f		3 - 4
GE CLAS Core: Quantitative or Formal Reasoning ^e		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3

Hours 16-18

Third Year

Fall

CHEM:2410	Organic Chemistry Laboratory	3
Major: applications course ^g		4
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
GE CLAS Core: Social Sciences ^e		3
Elective course ^d		3

Hours 16

Spring

CHEM:3250	Inorganic Chemistry	3
Major: applications course ^g		4
GE CLAS Core: Historical Perspectives ^e		3
GE CLAS Core: Values and Society ^e		3
Elective course ^d		3

Hours 16

Fourth Year

Fall

CHEM:3110 or BMB:3110 or CHEM:4431	Equilibria and Electrochemistry or Biochemistry or Chemical Thermodynamics	3
SIED:4135	The Nature of Science	4
Major: secondary emphasis area course ^f		3 - 4
Elective course ^d		3
Elective course ^d		3

Hours 16-17

Spring

Major: secondary emphasis area course ^f		3 - 4
Major: secondary emphasis area course (if needed) ^f		3 - 4
GE CLAS Core: International and Global Issues ^e		3
Elective course ^d		3
Elective course (if needed) ^d		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

Hours 15-17

Total Hours 124-135

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative or Formal Reasoning; Social Sciences; Historical Perspectives;

- International and Global Issues; Literary, Visual, and Performing Arts; or Values and Society.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Students who have completed four levels of a single language or two levels of two different languages in high school or college have satisfied the GE CLAS Core World Languages requirement. Students who have completed three levels of a single language may complete a fourth-level course in the same language or may choose an approved World Language and Cultural Exploration course. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course. Contact your academic advisor or CLAS Undergraduate Programs Office with questions concerning the World Languages requirement.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students must complete 15 semester hours in their secondary emphasis area.
- g Students must take two of the applications courses SIED:4102, SIED:4103, SIED:4105, SIED:4106, or SIED:4110.
- h Please see Academic Calendar, on Office of the Registrar website, for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Degree Services.

Earth Science Emphasis

Course	Title	Hours
Academic Career		
Any Semester		
Students will choose a secondary emphasis area from biology, chemistry, or physics.		
GE CLAS Core: Sustainability ^a		
Hours		0
First Year		
Fall		
SEES:1040	Evolution and the History of Life	4
RHET:1030 or ENGL:1200	Rhetoric: Writing and Communication or The Interpretation of Literature	3 - 4
GE CLAS Core: Social Sciences ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSI:1600	Success at Iowa	1
Hours		15-17
Spring		
SEES:1030 or SEES:1050	Introduction to Earth Science or Introduction to Geology	3 - 4
GE CLAS Core: Understanding Cultural Perspectives ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3

Elective course ^d		3
Hours		16-18
Second Year		
Fall		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental ^e	4
SEES:1080	Introduction to Environmental Science	4
RHET:1030 or ENGL:1200	Rhetoric: Writing and Communication or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Third Level Proficiency or elective course ^c		4 - 5
Hours		15-17
Spring		
SEES:3840 or SEES:2831 or SEES:3330	Structural Geology or Geologic Field Methods or Sedimentary Geology	4
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: Quantitative or Formal Reasoning ^b		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Hours		14-15
Third Year		
Fall		
SIED:4103	Societal and Educational Applications of Biological Sciences ^e	4
SEES:3080 or SEES:3070	Introduction to Oceanography or Marine Ecosystems and Conservation	3
Major: secondary emphasis area course ^f		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
Elective course ^d		3
Hours		16-17
Spring		
SEES:4010 or SEES:1290	Field Methods in Physical Geography or Energy and the Environment	3
Major: secondary emphasis area course ^f		3 - 4
GE CLAS Core: Values and Society ^b		3
Elective course ^d		3
Elective course ^d		3
Hours		15-16
Fourth Year		
Fall		
SIED:4135	The Nature of Science	4
SEES:3210 or SEES:3360 or SEES:3020	Principles of Paleontology or Soil Genesis and Geomorphology or Earth Surface Processes	3
Major: secondary emphasis area course ^f		3 - 4
Elective course ^d		3
Elective course ^d		3
Hours		16-17
Spring		
Major: secondary emphasis area course ^f		3 - 4

Major: secondary emphasis area course (if needed) ^f	3 - 4
GE CLAS Core: International and Global Issues ^b	3
Elective course ^d	3
Elective course (if needed) ^d	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) ^g	
Hours	15-17
Total Hours	122-134

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative or Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Society.

b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

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d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Students must take two of the applications courses SIED:4102, SIED:4103, SIED:4105, SIED:4106, or SIED:4110.

f Students must complete 15 semester hours in their secondary emphasis area.

g Please see Academic Calendar, on Office of the Registrar website, for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Degree Services.

Physics Emphasis

Course	Title	Hours
Academic Career		
Any Semester		
Students will choose a secondary emphasis area from biology, chemistry, or earth science.		
GE CLAS Core: Sustainability ^a		
Hours		0
First Year		
Fall		
MATH:1850	Calculus I ^{b, c}	4
PHYS:1611 or PHYS:1701	Introductory Physics I or Physics I	4
RHET:1030 or ENGL:1200	Rhetoric: Writing and Communication or The Interpretation of Literature	3 - 4

GE CLAS Core: World Languages First Level Proficiency or elective course ^d	4 - 5	
CSI:1600	Success at Iowa	1
Hours	16-18	

Spring

MATH:1860	Calculus II ^b	4
PHYS:1702 or PHYS:1612	Physics II or Introductory Physics II	4
GE CLAS Core: Social Sciences ^e		3
GE CLAS Core: Understanding Cultural Perspectives ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Hours	18-19	

Second Year

Fall

PHYS:3710 or PHYS:2703	Intermediate Mechanics or Physics III	3 - 4
Major: applications course ^f		4
RHET:1030 or ENGL:1200	Rhetoric: Writing and Communication or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Third Level Proficiency or elective course ^d		4 - 5
Hours	14-17	

Spring

GE CLAS Core: Historical Perspectives ^e		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
Elective course ^g		3
Elective course ^g		3
Hours	13-14	

Third Year

Fall

ASTR:1771	Fundamental Astronomy I: The Solar System and Exoplanets	4
PHYS:1200	Physics of Everyday Experience	3
Major: secondary emphasis area course ^h		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
Elective course ^g		3
Hours	16-17	

Spring

Major: applications course ^f		4
Major: secondary emphasis area course ^h		3 - 4
GE CLAS Core: Values and Society ^e		3
Elective course ^g		3
Elective course ^g		3
Hours	16-17	

Fourth Year

Fall

SIED:4135	The Nature of Science	4
PHYS:3850 or PHYS:3811	Electronics or Electricity and Magnetism I	3 - 4
Major: secondary emphasis area course ^h		3 - 4
Elective course ^g		3

Elective course ^g	3
Hours	16-18
Spring	
Major: secondary emphasis area course ^h	3 - 4
Major: secondary emphasis area course (if needed) ^h	3 - 4
GE CLAS Core: International and Global Issues ^e	3
Elective course ^g	3
Elective course (if needed) ^g	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) ⁱ	
Hours	15-17
Total Hours	124-137

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative or Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Society.

b MATH:1850 and MATH:1860 are corequisites for required courses.

c Enrollment in math courses requires completion of a placement exam.

d Students who have completed four levels of a single language or two levels of two different languages in high school or college have satisfied the GE CLAS Core World Languages requirement. Students who have completed three levels of a single language may complete a fourth-level course in the same language or may choose an approved World Language and Cultural Exploration course. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course. Contact your academic advisor or CLAS Undergraduate Programs Office with questions concerning the World Languages requirement.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students must take two of the applications courses SIED:4102, SIED:4103, SIED:4105, SIED:4106, or SIED:4110.

g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

h Students must complete 15 semester hours in their secondary emphasis area.

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