

Geological Sciences - B.A.

College of Arts and Sciences

The earth and environmental sciences encompass a wide variety of studies of our planet, including the study of its composition, structure, prehistoric life, internal and surficial processes, and history. These studies have important implications for understanding how our planet functions, as well as for understanding the interactions between humans and their environment. The discipline includes numerous applications in the discovery and use of mineral, energy, and water resources; in the protection and restoration of the environment; and in planning for the impacts of natural hazards (earthquakes, landslides, etc.) and climate change on global societal development. Students undertake the study of earth and environmental sciences in the classroom, laboratory, and field.

Students in earth and environmental sciences earn the Bachelor of Science or Bachelor of Arts degree with a major in Geological Sciences. The B.S. program is designed for students who plan a career as a professional geologist or who plan to attend graduate school. The B.A. program is designed for students planning a career in public policy relating to earth science and environmental issues, earth-science education, business (environmental consulting), environmental law, or environmental medicine.

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the major requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree in the *Arts and Sciences* section of the 2015-2016 *Undergraduate Bulletin*.

UK Core Requirements

See the *UK Core* section of the 2015-2016 *Undergraduate Bulletin* for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity

Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities

Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences

Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences

Fulfilled by Premajor Requirement – CHE 105/CHE 111

V. Composition and Communication I

CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II

CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations

Fulfilled by Premajor Requirement – MA 123 or MA 113

VIII. Statistical Inferential Reasoning

Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA

Choose one course from approved list 3

X. Global Dynamics

Choose one course from approved list 3

UK Core hours **24**

Graduation Composition and Communication Requirement (GCCR)

EES 235 Fundamentals of Geology II 3
EES 461 Igneous and Metamorphic Petrology 4

Graduation Composition and Communication Requirement hours (GCCR) 7

College Requirements

I. Foreign Language (*placement exam recommended*) 0-14
II. Disciplinary Requirements
 a. Natural Science (*completed by Major Requirements*) 6
 b. Social Science (*can be partially fulfilled by Major Requirements*) 6
 c. Humanities 6
III. Laboratory or Field Work (*completed by Premajor Requirement*) 6
IV. Electives 6

College Requirement hours: **18-32**

Premajor Requirements

*CHE 105 General College Chemistry I 4
*CHE 111 Laboratory to Accompany General Chemistry I 1
EES 220 Principles of Physical Geology 4
EES 295 Geoscience Orientation 1
*MA 123 Elementary Calculus and its Applications
 or
*MA 113 Calculus I 4
*PHY 211 General Physics
 or
*PHY 231/241 General University Physics/Lab 5

Premajor hours: **19**

Major Requirements

Major Core Requirements

EES 230 Fundamentals of Geology I 3
EES 235 Fundamentals of Geology II 3
EES 350 Regional Historical Geology 3
EES 360 Mineralogy 4
EES 420G Structural Geology 4
EES 450G Sedimentary Geology 4
EES 461 Igneous and Metamorphic Petrology 4

Major Core hours: **25**

Other Course Work Required for the Major From the Major Department:

Elective I 6
Choose six hours of EES courses at the 400+ level, not to include EES 495 or 496
Elective II 6
Choose six additional hours of 300+ EES or related courses

NOTE: Fourteen hours at the 200 level or higher must be completed outside Geological Sciences. Partial fulfillment of this requirement can be completed by the PHY and EES Elective II Requirements 3-14

Other Major hours: **0-17**

Total Minimum hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

University of Kentucky is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate, baccalaureate, masters, and doctorate degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097, call 404-679-4500, or online at www.sacscoc.org for questions about the accreditation of University of Kentucky.

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120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. A complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, see the *Arts and Sciences* section of the 2015-2016 *UK Bulletin*.

UK Core Requirements

See the *UK Core* section of the 2015-2016 *Undergraduate Bulletin* for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity

Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities

Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences

Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences

Fulfilled by Premajor Requirement – CHE 105/CHE 111

V. Composition and Communication I

CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II

CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations

Fulfilled by Premajor Requirement – MA 113

IX. Community, Culture and Citizenship in the USA

Choose one course from approved list 3

X. Global Dynamics

Choose one course from approved list 3

UK Core hours **24**

Graduation Composition and Communication Requirement (GCCR)

EES 235 Fundamentals of Geology II 3
EES 461 Igneous and Metamorphic Petrology 4

Graduation Composition and Communication Requirement hours (GCCR)

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College Requirements

I. Foreign Language (*placement exam recommended*) 0-14

II. Disciplinary Requirements

a. Natural Science (*completed by Major Requirements*)

b. Social Science 3

c. Humanities 3

III. Laboratory or Field Work (*completed by Premajor Requirement*)

IV. Electives 6

College Requirement hours: **12-26**

Premajor Requirements

*MA 113 Calculus I 4

MA 114 Calculus II 4

*CHE 105 General College Chemistry I 4

*CHE 111 Laboratory to Accompany General Chemistry I 1

CHE 107 General College Chemistry II 3

CHE 113 Laboratory to Accompany General Chemistry II 2

EES 220 Principles of Physical Geology 4

EES 230 Fundamentals of Geology I 3

EES 235 Fundamentals of Geology II 3

EES 295 Geoscience Orientation 1

Premajor hours: **29**

Major Requirements

Major Core Requirements

EES 323 Field Work in Regional Geology 6

EES 360 Mineralogy 4

EES 420G Structural Geology 4

EES 450G Sedimentary Geology 4

EES 461 Igneous and Metamorphic Petrology 4

EES 490 Earth Dynamics 3

Major Core hours: **25**

Other Course Work Required for the Major

From the Major Department:

Elective I 6

Choose six hours of EES courses at the 400+ level, not to include EES 495 or 496

Elective II 6

Choose six additional hours of 300+ EES or related courses

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From the Physics Department

*PHY 211/213 General Physics or

*PHY 231/232/241/242 General University Physics 10

NOTE: Fourteen hours at the 200 level or higher must be completed outside Geological Sciences. Partial fulfillment of this requirement can be completed by the PHY Sequence and EES Elective II Requirements 0-4

Other Major hours: **0-18**

Total Minimum hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement or Graduation Writing Requirement.*