EARTH AND PLANETARY SCIENCES, BACHELOR OF ARTS

Earth and Planetary Sciences Major Requirements (B.A.)

(Also see Requirements for a Bachelor's Degree. (https://e-catalogue.jhu.edu/ksas-wse/undergraduate-policies/academic-policies/requirements-bachelors-degree/))

The Bachelor of Arts in Earth and Planetary Sciences is for undergraduates interested in the study of the physical, chemical, and biological processes that shape the Earth and the other planets, drawing on the disciplines of geology, geochemistry, geophysics, hydrology, ecology, geobiology, oceanography, and atmospheric science.

Students must design a specific plan of appropriate courses in consultation with their advisor and the EPS Director of Undergraduate Studies (DUS). Those who wish to be majors may proceed directly to the introductory courses at the 200-level, but depending on the student's background, it may be appropriate initially to take a freshman seminar or 100-level course designed for the non-major. Our courses provide a broad educational base in the Earth, planetary, and environmental sciences and enable exploration of a set of electives at the 300- and 400-level, depending on the area of interest. Students who plan to attend graduate school are strongly encouraged to engage in undergraduate research and complete a senior thesis under the supervision of a department faculty member.

The department requires a total of 9-11 credits at the 100-level or above and 12 credits at the 300-level or above in Earth, planetary, and environmental sciences (numbered AS.270.xxx), as well as science and math foundation courses from other departments. No more than one environmental studies course numbered AS.271.xxx can be counted as an EPS elective for the major. Courses taken at another institution that are not directly equivalent to a JHU course may not apply towards these requirements without permission of the Director of Undergraduate Studies. All courses must be taken for a letter grade, and students must earn a grade of C- or better to apply the course to the major.

Major Requirements

Code	Title	Credits
EPS Core Courses		
AS.270.224	Oceans & Atmospheres	3
AS.270.220	The Dynamic Earth: An Introduction to Geology	3
AS.270.221	The Dynamic Earth Laboratory	2
EPS Elective Courses [1]		
One course at the 100-level or above (1-3 credits)		1-3
Four courses at the 300-level or above (at least 3 credits each)		12
Other Science & Math Courses		
AS.030.101	Introductory Chemistry I	3
AS.110.106	Calculus I (Biology and Social Sciences)	4
or AS.110.108	Calculus I (Physical Sciences & Engineering)	
AS.110.107	Calculus II (For Biological and Social Science)	4
or AS.110.109	Calculus II (For Physical Sciences and Engineering)	
or AS.110.113	Honors Single Variable Calculus	
AS.171.101	General Physics: Physical Science Major I	4
or AS.171.103	General Physics I for Biological Science Majors	
or AS.171.107	General Physics for Physical Sciences Majors (AL)	
AS.171.102	General Physics: Physical Science Major II	4
or AS.171.104	General Physics/Biology Majors II	
or AS.171.108	General Physics for Physical Science Majors (AL)	
Total Credits		**40-42**

[1] Only one environmental studies course numbered AS.271.xxx may apply towards the EPS major. Courses taken at another institution that are not directly equivalent to a JHU course may not apply towards these EPS elective course requirements without permission of the Director of Undergraduate Studies.

Other courses recommended to enrich the educational background of the major:

Code	Title	Credits
AS.030.102	Introductory Chemistry II	3
AS.020.151	General Biology I	3
AS.020.152	General Biology II	3
Laboratory courses in the natural sciences		
EN.553.291	Linear Algebra and Differential Equations	4
Courses in Environmental Studies (AS.271.xxx) and/or Environmental Engineering (EN.570.xxx)		

Sample Program of Study

First Year

First Semester	Credits	Second Semester	Credits
AS.110.108	4	AS.110.109	4
AS.270.220	3	AS.270.224	3
AS.270.221	2		
	9		**7**

Second Year

First Semester	Credits	Second Semester	Credits
AS.171.101	4	AS.171.102	4
AS.030.101	3	AS.270.1xx-4xx	3
	7		**7**

Third Year

First Semester	Credits	Second Semester	Credits
AS.270.3xx-4xx	3	AS.270.3xx-4xx	3
	3		**3**

Fourth Year

First Semester	Credits	Second Semester	Credits
AS.270.3xx-4xx	3	AS.270.3xx-4xx	3
	3		**3**

Total Credits 42

Honors in the Major

To earn honors in the major, students must meet the following criteria:

- Earn a GPA of 3.50 or higher in the major requirements by the end of the senior year.

- Complete a total of 6 credits of AS.270.510 Senior Honors Thesis taken over two or more semesters. A grade of B or better must be earned for the first 3 credits to register for additional thesis credits. A grade of B+ or better must be earned in the final semester in order to qualify for honors.
- Complete a senior thesis research project rated very good or excellent by the student's thesis committee.
- Present the results of the thesis orally in the Department of Earth and Planetary Sciences.