

# Major: Geological Sciences

## (Science of Earth Systems [SES] Option)

Offered by: Department of Earth and Atmospheric Sciences

2124 Snee Hall, 255-5466, [www.ea.scornell.edu](http://www.ea.scornell.edu)

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### Introduction to Engineering Courses

ENGR1 122 Earthquake! (recommended)

### Engineering Distributions

ENGRD 201 Introduction to the Physics and Chemistry of the Earth (required)

ENGRD 2XX To be chosen from the list of engineering distribution courses

#### Required Major Courses

BIOEE 261 Ecology and the Environment

BIO G 101/103 Biological Sciences, Lecture and Lab

(or BIO G 109)

BIO G 102/104 Biological Sciences, Lecture and lab

(or BIO G 110)

EAS 331 Climate Dynamics

(or ASTRO 331)

EAS 302 Evolution of the Earth System

EAS 321 Introduction to Biogeochemistry

(or NTRES 321)

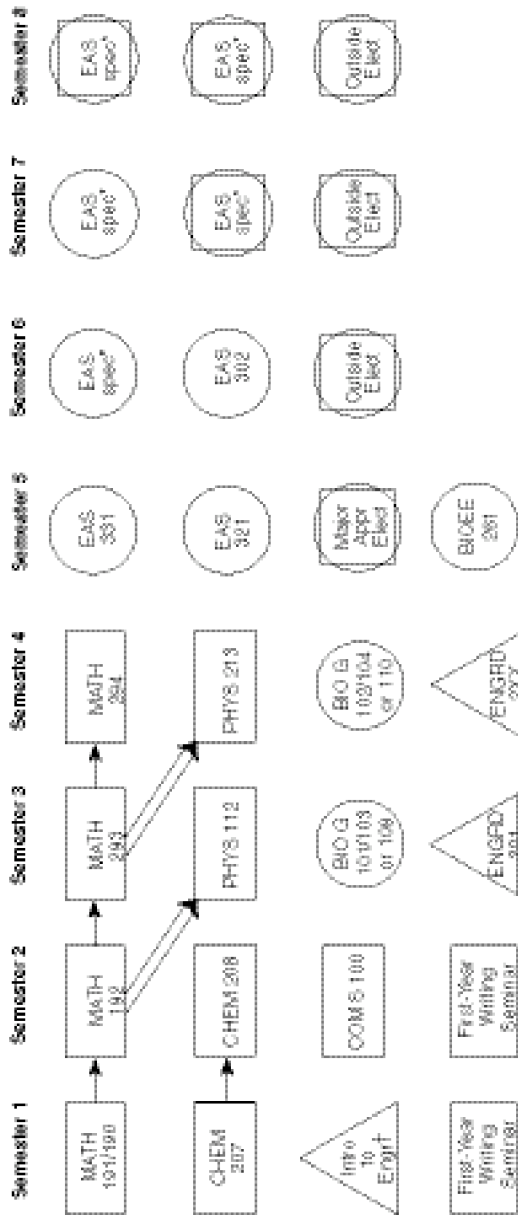
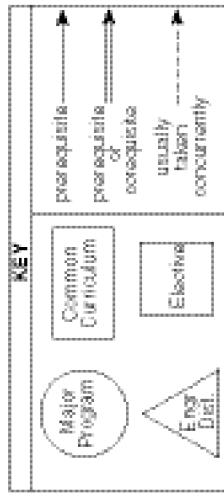
### Specialization Courses and Electives

Five specialization courses selected with advisor's approval (two count as Major-required courses; three count as Major-approved electives). SES specialization areas include, but are not limited to: Biogeochemistry, Climate Dynamics, Ecological Systems, Environmental Biophysics, Environmental Geology, Hydrological Systems, Ocean Sciences, and Soil Sciences

Four additional electives: One counts as a Major-approved elective; three courses, the Major-complementary courses, must be outside the Major.

**GEOLOGICAL SCIENCES MAJOR (Geo S)  
Science of Earth Systems (SES) Option**

\* Major core requirement based on track  
† Recommended: ENGR 122



## Geological Sciences Major Checklist

### Science of Earth Systems Option

	<i>Min.</i> <i>Credit Hours</i>	<i>✓ When Done</i>
MATH 191	4	n
MATH 192	4	n
MATH 293	4	n
MATH 294	4	n
CHEM 207 (or 215)	4	n
CHEM 208 (or 216)	4	n
PHYS 112 (or 116)	4	n
PHYS 213 (or 217)	4	n
COM S 100	4	n
Intro. to Engr.: ENGR 122 (recommended)	3	n
Engr. Dist. 1: ENGRD 201 (required)	3	n
Engr. Dist. 2	3	n
First-Year Writing Seminar 1†	3	n
First-Year Writing Seminar 2	3	n
Liberal Studies Distribution—6 courses (18-credit minimum)‡		
Lib. Studies 1		n
Lib. Studies 2		n
Lib. Studies 3		n
Lib. Studies 4		n
Lib. Studies 5		n
Lib. Studies 6		n
Approved Elective (2 courses, 6-credit minimum)		n
Approved Elective		n
Physical Education (2 semesters) and swim test		
<b>Required Major Courses (51-credit minimum)‡</b>		
BIOEE 261	4	n
BIO G 101/103 (or 109)	4	n
BIO G 102/104 (or 110)	4	n
EAS 331	4	n
EAS 302	4	n
EAS 321	4	n
Specialization§		
EAS Specialization (major required)	3/4	n
EAS Specialization (major required)	3/4	n
EAS Specialization (major-approved elective)	3/4	n
EAS Specialization (major-approved elective)	3/4	n
EAS Specialization (major-approved elective)	3/4	n
Electives		
Major-approved elective	3/4	n
Outside Major elective	3/4	n
Outside Major elective	3/4	n
Outside Major elective	3/4	n
<b>Total Required Credits</b>	<b>126 min.</b>	<hr/>
Engineering Application Requirements		n
†Technical Writing Course		

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†In addition to the first-year writing seminars, a technical writing course must be taken as an engineering distribution, liberal studies, approved elective or Major course.

‡Approved courses must be chosen from at least three of the following six groups: (1) Cultural Analysis (CA), (2) Historical Analysis (HA), (3) Literature and the Arts (LA), (4) Knowledge, Cognition, and Moral Reasoning (KCM), (5) Social and Behavioral Analysis (SBA), (6) Foreign Languages (not literature courses). At least two courses must be from the first three groups (CA, HA, LA). At least two of the six courses must be at 200-level or higher.

#Nine credits of Major-complementary courses must be outside the Major.

§Specialization areas currently include Biogeochemistry, Climate Dynamics, Ecological Systems, Environmental Biophysics, Environmental Geology, Hydrological Systems, Ocean Sciences, and Soil Sciences.