**Geology at Queens College**

The Geology majors are intended to provide for students an in depth background on the processes controlling the evolution of the Earth, its environment, and life through time that take place in the lithosphere, hydrosphere, atmosphere, and biosphere. SEES issues both a BA and BS degrees in Geology as well as a MA and MS at the graduate level.

**Undergraduate studies in the Geological Sciences at SEES**

The undergraduate geology curriculum covers the core areas of geological sciences as well as provides opportunities for research and development based on the interests of the students. The undergraduate geology majors serves a wide range of needs of the students ranging from science credits for their education major, those intending to enter the work force in environmental areas, and those who intend to obtain a Ph D for becoming a scientist either in academia or in industry.

The BA degree requires completion of: Geology 101, 102, 201, 202, 208, 213, 214, 216, 239, 261, and 270; Mathematics 141 or 151, Chemistry 113, Physics 145; Computer Science 12 and a course in statistics. Students planning to attend graduate school in Geology are strongly advised to take a course in Optical Mineralogy (Geology 721) in their senior year.

GEOL 201. Earth Materials I. 2lec., 3 lab

GEOL 202. Earth Materials II 2 lec., 3 lab

GEOL 208. Surficial Processes and Products, 2 lec., 3 lab

GEOL213 Sedimentation and Stratigraphy, 2 lec., 3 lab

GEOL214 Earth’s Internal Process, 2 lec., 3 lab

GEOL216 Dynamics of the Oceans and Atmosphere, 2 lec., 3 lab

GEOL239W Evolution of Ecosystems, 2 lec., 3 lab

GEOL261 Geology in the Field, 2 lec., 3 lab

GEOL270 Geochemistry of the Global Environment, 3 lec., 3 lab

335. Petrography and Petrology (Earth Materials II)

 339. Paleontology. (Historical Geology)

342. Introduction to Meteorology (Calculus)

347. Principles of Hydrology. Physical Geology, Chemstiry, Physicis)

349. Environmental Geology. (Physical Geology)

364. Comparative Planetary Geology.(Historical Geology)

373. Geological Reasoning. (senior level class).

383. Special Topics in Geology. (for seniors)

391, 392, 393. Special Problems (student research)

Physical Geology, 3 lec, 3 lab

Historical Geology, 3 lec, 3 lab

Earth Materials I. 2lec., 3 lab

Earth Materials II 2 lec., 3 lab

Surficial Processes and Products, 2 lec., 3 lab

Sedimentation and Stratigraphy, 2 lec., 3 lab

Water Resources and Conservation

Earth’s Internal Process, 2 lec., 3 lab

Dynamics of the Oceans and Atmosphere, 2 lec., 3 lab

Evolution of Ecosystems, 2 lec., 3 lab

Geology in the Field, 2 lec., 3 lab

Geochemistry of the Global Environment, 3 lec., 3 lab

Physical Geology

Historical Geology

Earth Materials I. (Physical Geology)

Earth Materials II (Physical Geology, Earth Materials I.)

Surficial Processes and Products, (Physical Geology)

Sedimentation and Stratigraphy, (Physical Geology, Historical Geology)

Earth’s Internal Process, (Physical Geology)

Dynamics of the Oceans and Atmosphere, (Physical Geology)

Evolution of Ecosystems, (Physical Geology)

Geology in the Field, (Physical Geology)

Geochemistry of the Global Environment, (Physical Geology, chemistry recommended)

For the BS in Geology, students must: satisfy the requirements for the BA; complete Mathematics 152 (or equivalent), Chemistry 114, Physics 146; and have a total of at least 64 credits in courses applicable to the majors in biology, chemistry, computer science, geology, mathematics, and physics.

G**raduate studies in the Geological Sciences at SEES**

**M.A. Degree in Geology**

SEES offers a program leading to the Master of Arts degree in Geology with specialties in the areas of climatology/oceanography, economic geology, experimental mineralogy and petrology, geomorphology, and Quaternary studies, environmental geology, and geochemistry.

*Requirements for the Master of Arts in Geology*

These requirements are in addition to the general requirements for the Master of Arts degree.

1. Residence: A minimum of two full semesters, and 18 credits of coursework in the School of Earth and Environmental Sciences at Queens College.

 2. Satisfactory completion of an approved course of study for a minimum total of 30 credits in graduate geology courses (700 or higher), including a thesis. Individual programs are organized to permit specialization in most areas of geology and related earth sciences. Unless they have an undergraduate geology major, students must take Geology 701 and Geology 702 during their first year.

A student’s advisory committee, established in the first year, must approve his/her individualized course of study. At the discretion of the committee and the Graduate Advisor, courses in other science departments may be included in the course of study.

3. Thesis: The thesis problem and mentor must be approved by the Departmental Graduate Committee, which will also certify the acceptance of the completed thesis.

 4. Upon receipt of confirmation from the student’s Advisory Committee that the program of study, thesis and thesis defense have been completed, the Graduate Advisor will certify to the Office of Graduate Studies that the student is qualified to receive her/his degree.

**M.S. in Environmental Geotechnology**

The M.S. in Environmental Geotechnology is a professional degree program for the practitioner of the discipline, consisting of 31 credits of course work (10 courses) and a 6-credit internship. This program is relatively new, beginning in the fall of 2004.

**Advanced Graduate Certification Program in the Earth Sciences**

SEES also offers advanced graduate certification program in the Earth Sciences. This program is designed to provide background necessary to teach regents Earth Science. It is intended primarily for teachers who already licensed in another science and have therefore completed their required pedagogy courses.

*Program Requirements*

Geol 501: Earth Composition and Earth Processes (4 cr.)

Geol 502: Earth History and the Fossil Record (3 cr.)

Geol 520: Meteorology (3 cr.)

Geol 521: Oceanography (3 cr.)

Geol 522: Applied Geological Reasoning:

Geology of New York State (3 cr.)

Astr 501: Astronomy (4 cr.)

**PhD in Earth and Environmental Sciences at the Graduate Center of the City University of New York**

Although SEES does not offer degrees at the PhD level, many of the faculty advise Ph.D. students who are part of the Doctoral Program in Earth and Environmental Sciences at the Graduate Center at CUNY. The Doctoral Program in Earth and Environmental Sciences has identified itself with “promoting teaching and research in the study of the earth.” With faculty in atmospheric sciences, environmental sciences, geography and geology from many of the 17 colleges that comprise CUNY, the Earth and Environmental Sciences Program at CUNY spans a broad array of subjects focusing on the earth, its environments, human activities, and the linkages between them.

*Degree Requirements*

Upon passing or exempting out of the required core courses and completion of 45 credits, the student passes to level two, which requires formation of a thesis topic and supervising committee. After successfully completing 60 credits and passing the Second Examination and Computer Proficiency Requirement, the student moves up to Level III, with thesis completion and defense the last elements for the degree. The student is required to pass the Proposal Defense shortly after passing the Second Examination and movement to Level III.