

Breadth Requirement for MS & PhD Students in Geological Sciences

Graduate students in Geological Sciences are required to satisfy a graduate breadth requirement by completing 3-4 courses from six categories as shown in the table below. Master's degree students must take three graduate breadth courses and PhD students must take four. Breadth credit will not be granted for more than one course per category. Courses listed in the table with ~~strike through font~~ are not in the current two-year teaching plan but may be counted for breadth credit for any student who has taken them in the past. The table is updated annually in the spring semester. Students may satisfy the requirement with any course offered for breadth credit in the time period of their matriculation. Students enrolled prior to fall 2019 have the option of adopting this requirement or finishing their degree under the old requirement.

Breadth Categories	Breadth Courses
Volcanology – Geochemistry – Petrology	GEOL 520 Isotope Geology and Geochronology* GEOL 725 Solid Earth Processes* GEOL/MSCI 521 Introduction to Geochemistry GEOL 650 Electron Microscopy & Microanalysis
Geophysics – Tectonics– Basins	GEOL 531 Plate Tectonics * GEOL 548 Environmental Geophysics GEOL 735 Regional Tectonics* GEOL 750 Basin Analysis Seminar* GEOL556 Seismic Reflection Interpretation *
Hydrology - Geomorphology	GEOL 570/770 Environmental Hydrogeology GEOL/MSCI 501 Principles of Geomorphology
Organic Geochemistry - Biogeochemistry	GEOL 715 Stable Isotope Geochemistry GEOL/MSCI 717 Organic Geochemistry* MSCI/BIO 752 – Marine Biogeochemistry * MSCI 503 / BIOL 502 Environmental Microbiology
Oceanography	GEOL/MSCI 711 Paleoclimatology GEOL/MSCI 545 Geological Oceanography MSCI 745 Geological Oceanography GEOL/MSCI 781 Physical Oceanography GEOL/MSCI 782 Chemical Oceanography GEOL/MSCI 785 Atmospheric Dynamics
Data Analysis - Geoscience Education	GEOL 542 Methods in Geoscience Education Research MSCI 509 MATLAB-Based Data Analysis in Oceanography GEOL 575/775 Numerical Modeling for Earth Sci Apps

*indicates courses not in the current 2-year teaching plan

Breadth Course Administration (February 2023)

All graduate-level GEOL and closely related courses on the current two-year teaching plan are eligible to be included in one breadth category. Instructors who wish to offer their course for breadth credit **should send a request** by email **to the SEOE Associate Director who updates the teaching plans and breadth-course list early in the spring semester**. **Please note that breadth courses must be suitable for students who will be outside of their areas of specialization**. Courses must be in the 2-year teaching plan at the time they are added to the breadth list. Any course that falls out of the teaching plan will be **noted on the list**. Students may satisfy the requirement with any course offered for breadth credit in the time period of their matriculation.

G&G Program Administration (October 2021)

All graduate-level GEOL and closely related courses on the current two-year teaching plan are eligible to be included in one breadth category. Instructors who wish to offer their course for breadth credit may petition by email the G&G PFAC representatives, who will update the list annually in the spring semester and in consultation with the SEOE Associate Director. Breadth courses must be suitable for students who will be outside of their areas of specialization. Courses must be in the 2-year teaching plan at the time they are added to the breadth list. Any course that falls out of the teaching plan will be automatically removed from the list. The program will maintain an annual record of approved breadth courses. Students may satisfy the requirement with any course offered for breadth credit in the time period of their matriculation.