To be qualified for admission to graduate study with a major in geology, students must have completed an undergraduate degree in geology or a related field. A proficiency in the other sciences and mathematics, equivalent to that required for the bachelor's degree in geology (Calculus I and II, two semesters of chemistry, and two semesters of physics) is expected of graduate students in geology.

Candidates must complete thirty semester hours of graduate courses including six semester hours of thesis. For the M.S. degree, at least twelve semester hours of the 24 graded course hours of credit must be earned from 5000-level courses, excluding 5V99, as part of the graduate program. No more than six semester hours of credit may be earned in special problems, 5V90. GEO 5050 Geology Technical Sessions is required for four semesters during residency. A thesis (GEO 5V99 Thesis for six semester hours) is required of all students. An oral examination is required.