GEOLOGY (GLY)

The Department of Geology offers programs leading to Bachelor of Arts, Bachelor of Science, Master of Science, and Doctor of Philosophy degrees. Geology is one of the broadest of all sciences because of its dependence on fundamentals of biology, chemistry, mathematics, and physics as applied to the study of the earth. As a result, undergraduate students are expected to obtain a broad background in the other sciences as well as a concentration in geology.

The Bachelor of Science degree program provides the student with a hands-on foundation in the fundamentals of the geosciences. The Bachelor of Arts program is designed primarily for the liberal arts student who has an interest in the subject but who is not preparing for a career in the field, or for the pre-professional school student. A student who elects the B.A. program and decides to pursue the geology profession or attend graduate school will need at least physics and field geology in his/her program.

The graduate program in geology allows the student to pursue advanced studies in nearly all areas of geology. As a result of faculty interests and geographic location, several geologic subdisciplines are emphasized, including applied geophysics, coastal geology, geomorphology, geochemistry, hydrogeology, paleontology, and petrology.

Prerequisites (State Mandated Common Prerequisites)

Students wishing to transfer to USF should complete the A.A. degree at the community college. Some courses required for the major may also meet General Education Requirements thereby transferring maximum hours to the university. If students transfer without an A.A. degree and have fewer than 60 semester hours of acceptable credit, the students must meet the university's entering freshman requirements including ACT or SAT test scores, GPA, and course requirements.

The transfer student should also be aware of the immunization, foreign language, and continuous enrollment policies of the university.

Students should complete the following prerequisite courses listed below at the lower level prior to entering the University. If these courses are not taken at the community college, they (or their equivalents) must be completed before the degree is granted. Unless stated otherwise, a grade of C is the minimum acceptable grade.

CHM 1045/1045L General Chemistry I (with lab)
or CHM 1040 & CHM 1041 or CHM 1045C or CHM 1045E
CHM 1046/1046L General Chemistry II (with lab)
or CHM 1046C or CHM 1046E
GLY 2010C Introduction to Physical Geology
MAC 2311 Calculus I
PHY 2048C General Physics and Laboratory I
or PHY 2048/2048L or PHY 2053C
PHY 2049C General Physics and Laboratory II
or PHY 2049/2049L or PHY 2054C
XXX XXXX - Historical Geology strongly recommended

The choice physics sequence depends on the area of geology specialization.

Requirements for the Major in Geology (BS)

1. Geology courses (36 hours):

   a. Introductory Sequence* (4 hours):
      1. One course chosen from GLY 2010, GLY 2030, GLY 2038, GLY 2040, GLY 2050, and OCE 2001 (3)
      2. GLY 2015L (1)

   b. Junior-level sequence (20 hours):
      GLY 3104 Geologic Time (4)
      GLY 3311 The Solid Earth: Petrology and Geochemistry (4)
      GLY 3420C The Earth's Surface (4)
      GLY 3554C The Earth's Surface (4)
      or GLY 3720C The Fluid Earth (4)

   c. Senior-Level Sequence (12 hours):
      GLY 4145 Computational Geology (3)
      GLY 4921 Geocommunications (3)
      and either:
      GLY 4947L Practical and Applied Geology (6)
   or
      A Geologic Field Course and/or Summer Research Experience, as defined and approved by the Department Undergraduate Committee. Non-traditional research experiences (i.e., NSF-supported Research Experiences for Undergraduates summer programs) are acceptable provided the student concurrently registers for six hours of Geologic Field Studies (GLY 4780) to meet credit hour requirements, and their research supervisor provides the Undergraduate committee with an assessment of student activities during the program.

2. Supporting Courses for the B.S. Degree (32 hours):

   a. Liberal Arts Requirements.
   b. Supporting Courses for the B.S. Degree (32 hours):
      MAC 2281, MAC 2282 (recommended)
or MAC 2311, MAC 2312
      BSC 2010, 2010L, BSC 2011, 2011L
      CHM 2010, 2010L, CHM 2045, 2045L, CHM 2046, 2046L
      PHY 2048, 2048L, PHY 2049, 2049L (recommended)
or PHY 2053, 2053L, 2054, 2054L

Requirements for the Major in Geology (BA)

1. Geology courses (36 hours):

   Required courses include the introductory requirement and Junior-level sequence (24 hours), plus GLY 4145 and GLY 4921 (6 hours)

2. Supporting Courses for the B.A. Degree (24 hours):

   a. Supporting Courses for the B.A. Degree (24 hours):
      CHM 2045, 2045L, CHM 2046, 2046L
      MAC 2233, 2234 or MAC 2311, 2312 or MAC 2281, 2282

   b. Liberal Arts Requirements
      All students are required to complete the University's Liberal Arts Requirements.

   c. Free Electives (19-25 hours)
      The student will choose, in consultation with his/her geology advisor, such courses in the natural sciences that support his/her major interest in the field of geology. Courses in computer programming and additional mathematics are of particular value. Those students who anticipate continuing for a doctorate in graduate school are encouraged to take a foreign language, preferably French, German, or Russian.

      D and F grades earned in attempting to satisfy major requirements will be used in calculating the major GPA.

Geology Honors Program

The purpose of the Honors Program is to provide a select group of undergraduate geology majors an opportunity to undertake an intensive, individualized research experience. The culmination of the program is the completion and presentation of an honor's thesis. To apply, interested students should contact the geology undergraduate advisor during the
second semester of the student's junior year. Admission to the program requires a GPA of 3.5 in the major and an overall GPA of 3.2.

Requirements for the Minor in Geology
16 credit hours are required, which must include the completion of the introductory sequence courses (4 hours) and any three of the Junior-level sequence courses (12 hours).

Teacher Education Programs
Prospective elementary and secondary school teachers desiring to teach science should include basic courses in geology and related sciences as part of their curriculum.