1. Course Number and name

CE2335 Geological Engineering/ GEOL 3321

2. Credits and contact hours

a. 3 credit hours; 2 Lecture hours and 3 Lab hours

3. Instructor's or course coordinator's name

a. Diane Doser

4. Textbook: No text book required

a. NO text is required for the lecture part of course. Supplemental lecture material (e.g, copies of lecture power points, study guides, handouts) and lab manual will be available *at the class Blackboard site.* BUT this also means you need to take good notes and read material posted in Blackboard!

b. Other supplemental materials: AutoCAD and/or ARCGIS

5. Specific Course information

a. **Catalog Description**: The objective of the course is to introduce students to the principles of physical geology and their applications in the civil engineering profession. At the end of the course, students will have a foundation in geology such that they will be able to communicate with geologists and geophysicists or read geological reports that are pertinent to engineering projects. Emphasis in laboratories will be placed on practical engineering problems that require the use of geology and geophysics.

b. **Prerequisites**: None

c. **Required**; C or better and junior standing in Civil Engineering or department approval

7. Specific goals of the course

a. The objectives of course are:
   - Know how to read topographic and geologic maps
   - Locate yourself on a map or aerial photograph
   - Be able to construct topographic and geologic cross sections
   - Be able to predict properties of a rock by how it appears in hand sample/outcrop
   - Conduct simple geophysical surveys
   - Communicate geology to colleagues and the general public (throughout the course through written and oral assignments)

b. Connection with Students outcomes: a, b, d, e, g, k, 1, 2, 3, 4.

8. Topics covered:

a. Development of the Earth, Plate Tectonics
b. Minerals
c. Rock Cycle
d. Igneous Rocks, Volcanic Hazards
e. Sedimentary Rocks
f. Metamorphic Rocks
g. Rock Properties
i. Weathering and Soils
j. Stratigraphy and Geologic Time
k. Structural Geology
l. Earthquakes and Geophysics
m. River Systems
n. Groundwater
o. Slope Stability