CATALOG DESCRIPTION
The Earth Sciences Department at City College of San Francisco consists of introductory-level coursework in geology, oceanography, paleontology, and geography. We serve students transferring to 4-year colleges, obtaining AA degrees, looking for educational enrichment, and needing job training. We also provide the resources, tools, and services necessary to help students be successful in our classes and make informed decisions about future educational and job-related goals within the Earth Sciences. The mission of our program is to provide our students with a rigorous high-quality educational experience in whichever of our classes they take. Whether our students take multiple courses from us or not, they should be able to use what they’ve learned to: 1) better understand the processes that impact Earth and the role they play in their stewardship and management; and (2) be academically prepared for more advanced courses at 4-year colleges should they qualify for transfer. Students who take a class in our department should be able to recognize and describe some basic scientific processes at work in the world around them, and have a scientifically based understanding of how humans interact with these same processes and the results of these interactions.

With the ever widening demand for natural resources, the realities of climate and ecosystem change, and the constant threat of natural disasters, students with expertise in Earth Science have the opportunity to contribute to the global community at many different levels.

MAJOR LEARNING OUTCOMES
A. Understand how scientists think and be able to think, analyze, and discuss issues with similar rigor, skepticism, evidencial support, etc.
B. Enjoy the process of learning science
C. Be open to learning from each other (from everyone)
D. Develop skills for learning about the Earth
E. Communicate effectively in a variety of ways, such as scientific writing, visual representation of data and ideas (e.g. express an idea in a graph; represent something by drawing it in Freehand or Illustrator), poster presentation, or oral communication
F. Locate and evaluate information
G. Read and critically evaluate relevant literature
H. Collect data, measure, analyze results, form hypotheses from data, test hypotheses
I. Solve quantitative problems
J. Tackle complex environmental problems
K. Understand the dynamic nature and limits of scientific knowledge
L. Collaborate well with other students
M. Experience field work including making observations at outcrops, understanding the difference between observations and interpretations, taking field notes they have to use; developing the “eyes of an Earth Scientist”
N. Start and finish projects
O. Begin or continue to develop a social network among peers and faculty
P. Understand the job market and opportunities in the Earth Sciences opps (future and current)
Q. Develop professional skills
R. Recognize the results of humans attempting to redirect or change the forces of nature; and understand the role each person plays in the politics and economics of this problem.
S. Successfully transfer to a 4-yr college, complete an AA, or transfer to a graduate program (depending on student’s interests)
T. Feel a continued connection to and support from our department as each student continues with their educational journey
U. Be successful in the next level of coursework, should they choose to continue on
V. Recognize the interdisciplinary nature of science
W. See things in the natural world around them that they didn't see before (new eyes)
X. Reason and visualize three-dimensionally (Geologists only)

RESOURCES available to achieve our student learning outcomes:
A. Geology program and all its courses (and majors to come)
B. Paleontology program (and majors to come)
C. Oceanography program and all its courses (and majors to come)
D. Geography program and all its courses (and majors to come)
E. Work Experience
F. Earth Sciences Club
G. Earth Sciences Mentoring and study sessions
H. Department website
I. Faculty office hours
J. Department functions (hikes and parties)
K. Alumni listserv
L. Alumni webpages
M. Course webpages
N. Department displays (in S45 and throughout Science Building)
O. Earth Sciences jobs webpages
P. Faculty webpages
Q. Transfer webpages
R. Student webpages
S. College offerings (other classes)
T. STEM
U. Scholarship webpages
V. Textbook
W. Textbook website
X. Loaner textbooks

UNIQUE ASSESSMENT METHODS:
1. Annual instructor yearly evaluation documents that allow instructors to review changes and updates they’ve made (and results) as well as ones they plan to make and expected results. Also an opportunity for instructors to get feedback on issues with which they need help.
2. Department e-mail whereby instructors can reach out to each other for help and/or new ideas.
3. Shared resources – fellow instructors willing to share ideas, materials, etc.
4. Current student survey
5. Alumni survey
6. At the end of each class: evaluation forms for students to complete and instructors to review after the end of the semester (mostly about their experience).
7. More creative methods to be determined as minds turn to the task