B.S. EARTH SYSTEM SCIENCE DEGREE REQUIREMENTS

Basic Requirements:

A. One course from the following:
   ESS 1____ 3____ 5____

   All of the following courses:
   ESS 51_____ 53_____ 55_____ 114_____ 116_____ 191_____ 192_____

   Math 2A_____ 2B_____
   Math 2D____ OR 3A____
   Chem 1A_____ 1B_____ 1C_____; 1LC_____ 1LD____ OR
   Chem H2A____ H2B____ H2C_____; H2LA_____ H2LB____ H2LC_____
   Physics 3A_____ 3B_____ 3C____; 3LB_____ 3LC____ OR
   Physics 7C____ 7E____; 7LC____

B. Additional Electives (seven courses from the following; at least 4 must be ESS courses)

   (ESS)       (ESS)       (ESS)       (ESS)

Earth System Science: Any four-unit upper-division course (100-199) except 114, 116,
190C, 198 or H198; (ESS 199/H199 may be counted only once)
Physics: 51A, 51B, 115A, 120, 134A, 137, 144, 145
Mathematics: 2D or 3A (may be counted only once), 3D, 105A, 112A, 115
Mechanical and Aerospace Engineering (MAE): 91, 130A, 164, 180, 185
Civil and Environmental Engineering (CEE): 156, 162, 171, 172, 176, 178
Biological Sciences: 93, 94, 98, D105, E106, E167, E179, E179L, E186, E189, M133
Criminology, Law and Society: C148;
Public Health: 161
Urban Planning and Public Policy (UPPP): 139
Computing Skills (one of the following may be counted toward the degree): ICS 31, EECS10, MAE 10,
Physics 53, or another approved programming course

Optional Specialization in Atmospheric Science
(Courses may be used to fulfill electives in section B, where overlap exists.)
Four courses from the following: ESS 101_____ 112____ 122____ 124____ 142____ 198/H198/199/H199A-B-C_____
(ESS 198/H198/199/H199A-B-C must be focused on atmospheric research and may be counted only once)
AND One advanced tools course selected from the following: ESS 118_____ 138_____ 150_____ 

Optional Specialization in Oceanography
(Courses may be used to fulfill electives in section B, where overlap exists.)
Four courses from the following: ESS 101_____ 112____ 130____ 144____ 148____ 170____ 198/H198/199/H199A-B-C_____
(ESS 198/H198/199/H199A-B-C must be focused on oceanographic research and may be counted only once)
AND One advanced tools course selected from the following: ESS 118_____ 138_____ 150_____ 

Optional Specialization in Hydrology and Terrestrial Ecosystems
(Courses may be used to fulfill electives in section B, where overlap exists.)
Four courses from the following: ESS 132_____ 140____ 164____ 168____ 174____ 198/H198/199/H199A-B-C_____
(ESS 198/H198/199/H199A-B-C must be focused on terrestrial research and may be counted only once)
AND One advanced tools course selected from the following: ESS 118_____ 134____ 138_____ 150_____ 

Optional Concentration in Geosciences Education with Secondary Teaching Certification
This concentration allows students pursuing the B.S. in Earth System Science to earn a bachelor’s degree and complete the required
course work and field experience for a California Preliminary Single Subject Teaching Credential at the same time. In addition to
the major requirements listed above, all of the following must be completed:
ESS 7____ OR 140____; Physics 20A____ OR 20B____; Physical Sciences 5_____ 105____;
Chemistry/Physics 193____; LPS 60
Education 55_____ 109____ 143A____ 143B____ 148_____ and two quarters of Education 158_____ ___

Effective Fall 2019