

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 _____

ESS 114 **OR** 115 _____ 116 _____ 192 _____

Math 2A _____ 2B _____ Stats 7 _____

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, 115, 116, 198 or H198;

(ESS 199/H199 may be counted only once)

Chemistry: 51A, 51B/LB, 51C/LC, 141

Physics: 115A

Mathematics: 2D, 3A, 3D, 105A, 112A, 115

Mechanical and Aerospace Engineering (MAE): 91, 130A, 164

Civil and Environmental Engineering (CEE): 162, 171, 172, 176, 178

Biological Sciences: 93, 94, 98, D105, E106, E120, E150, E179, E179L, E189

Public Health: 161, 163, 167, 171, 172, 173

Urban Planning and Public Policy (UPPP): 133, 139, 145

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.)

Three courses from the following: ESS 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 _____ 134 _____ 138 _____

Optional **Specialization in Oceanography**

(Courses may be used to fulfill electives in section B, where overlap exists.)

Three courses from the following: ESS 130 _____ 144 _____ 148 _____ 171 _____ 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 _____

Optional **Specialization in Hydrology and Terrestrial Ecosystems**

(Courses may be used to fulfill electives in section B, where overlap exists.)

Three courses from the following: ESS 132 _____ 133 **OR** 140 _____ 156 _____ 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 _____

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 _____ 143AW _____ 143BW _____ 148 _____ and two quarters of Education 158 _____