

What's the Difference Between the BA and BS Degree in ES? 8.15.11

If you're currently thinking about a degree in Environmental Studies (ES) the first major decision you will have to make is choosing which degree to pursue, the Bachelor of Arts (BA) or Bachelor of Science (BS). Given that your decision will most likely be based on what you want to do after graduation, we thought it might be helpful to provide you a comparison of the academic requirements of these two degrees as well as highlight some of the possible career paths each degree might lead to. However, no matter which major you choose, it should be one you believe is right for yourself, as only you know what interests you and will make you happy.

While both majors are similar in that they stress the importance of understanding the interrelationships between the humanities, social sciences, and natural science disciplines, the ES Program offers two degree options which allow students to choose a major that will most appropriately fit their environmental interests and goals.

Simply put, the **BA degree** is the more interdisciplinary major, requiring a swath of introductory courses in the social, physical, and natural sciences. It stresses the importance of comprehending basic social, cultural, and scientific theories and understanding how they interact with one another and play an equal part of every environmental issue. Offers maximum flexibility when selecting ES electives and an outside concentration.

The goal of the **BS degree** is to train students to become proficient in the natural and physical sciences, as well as to be aware of social and cultural influences upon environmental problems facing society today.

The major curricular differences are in the amount of chemistry, calculus, biology and physics required. The majority of ES electives, as well as the outside concentration, are restricted to physical and natural science disciplines in order to enhance one's understanding of sciences and the role they play in environmental problems. *See other side for a comparison of the BA VS. BS degree requirements.*

What are the general employment differences between BA and BS majors?

Employment varies widely depending on individual course work taken by each student. However, given that some career fields are heavily dependent on a strong scientific background, those who pursue the BS degree tend to be more qualified for certain scientific/technical opportunities. BS majors tend to enter fields where the use of science is instrumental and experience with basic laboratory techniques is preferred. BA majors often pursue opportunities that deal largely with interdisciplinary social, political, and economic issues such as planning and law. These students often develop a higher degree of writing proficiency and general communication skills. Below are some example career fields one might pursue based on the ES degree chosen:

BA Degree	Both	BS Degree
-- Urban/Regional Planning	-- Environmental Education	-- Pollution Monitoring, Control and Prevention
-- Green Business	-- Environmental Policy	-- Waste Management Specialist
-- Environmental Law	-- Sustainable Agriculture	-- Environmental Toxicology/Health
-- Non-government Organizing	-- Environmental Consulting	-- Field Scientist/Technician
-- Energy Consultant	-- Environmental Health and Safety Management	-- Conservation/Restoration Biology
-- Environmental Justice	-- Local/State/National Government	-- Renewable Energy Designer/Professional
-- Environmental Media, Communication Specialist	-- Computing and Information Technologies	-- Natural Resource Management
-- Sustainability Management	-- Environmental Activism	-- Environmental Engineering
-- Environmental Economist	-- Landscape Designer/Architect	-- Soil Scientist
-- Parks/Recreation Management		-- Wildlife Biologist/Management
-- Waste Management		-- Environmental Risk Assessment
-- Environmental Historian		

Note: When thinking about jobs, remember many BA majors have secured "science" jobs and BS grads have become lawyers, politicians, and businessmen and women. The above is just a generalization!

ENVIRONMENTAL STUDIES MAJOR REQUIREMENTS: BA vs. BS

LOWER-DIVISION FOR THE MAJOR (1st and 2nd years)

Required for BOTH BA & BS	UCSB Course(s)
Three introductory Environmental Studies courses	ES 1, 2, 3
One introductory micro, macro, or intro Economics	Econ 1 or 2 or 109
One general or physical Geography or Earth Science	Geog 3A or 3B or Earth Sci. 1 or 2 or 4 or 20
One Intro to Statistics	Pstat 5A, 5LS, or 5E
One Intro to Ethics	Phil 3 or 4 or 6

Different Lower-division Requirements: BA vs. BS

	BA	BS
Social Sciences	Two social science courses from a list	One social science courses from a list
Math	Two quarters of Calculus: Math 34A or 3A and Math 34B or 3B or ES 25	Three quarters of Calculus: Math 3ABC
Intro Biology	One course intro Biology: MCDB 20 or EEMB 22	Three quarters of fundamental Biology w/labs: MCDB 1A/AL, 1B, EEMB 2/2L, 3-3L
Chemistry	Two courses: Chem 1A/AL and ES 15 “Env. Chem” or Three course Intro Chem w/lab (Chem 1ABC w/labs)	Three course of Intro Chemistry w/labs: Chem 1ABC w/labs
Physics	None	Three quarters of introductory Physics: Phys 1-2-3-3L or 6A/AL, 6B/BL, 6C/CL

Total Lower-division Units = 58 to 64

Total Lower-division Units = 85 to 86

UPPER – DIVISION FOR THE MAJOR (3rd and 4th years)

	Bachelor of Arts (BA)	Bachelor of Science (BS)
A	13 units of Required Upper-division ES courses: ENV5 100, 106 or 188, 115, and 190 (one unit)	17 units of Required Upper-division ES courses: ENV5 100, 106 or 188, 115, and 190 (one unit) AND 4 additional upper-division units of statistics/modeling.
B	28 Upper Division ES Elective units: Any environmental studies courses #101-199 for a total of 28 units	32 Upper Division ES Elective units: • B-1: 20 of which must be taken from a list of environmental “science” courses (see major sheet for list) • B-2: 12 units from any ES course #101-199 that are not already used above to satisfy the 20 units
C	20 Unit Outside Concentration: Complete any 20 upper-division units from any one College of L&S department or program (double major or official minor will satisfy this area). OR Choose an interdisciplinary concentration of courses from more than one department forming a coherent environmental emphasis of their choice. Students can use courses from any department/programs.	16 Unit Outside Concentration: Complete any 16 upper-division units from one of the following science departments (dbl. or minor o.k.): Biopsychology, Chemistry, EEMB and/or MCDB, Geography, Earth Sci., Math, Statistics, or Physics OR Choose an interdisciplinary concentration of courses from one or more of the departments <u>listed above</u> , forming a coherent environmental emphasis of choice.

Total Upper-division Units = 61

Total Upper-division Units = 65

By petition, upper-division Study Abroad and/or Environmental Field Studies units may be transferred and applied to satisfy the Outside Concentration; and no more than 12 EAP units to the Elective section.