

**HEALTH SCIENCE**  
**Environmental/Occupational Health and Safety Option, B.S. (120 Units)**  
Valid for Catalog Years: 2014/2015 to 2018/2019

<b>Health Science Core Program Requirements</b>	<b>15 Units</b> □
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- PH 92: Public Health Statistics (3) \_\_\_\_\_
- PH 109: Epidemiology of Disease (3) (*Pre-Requisite:* PH 92, MATH 11, PSYCH 42, or DS 73) \_\_\_\_\_
- PH 135: Introduction to Human Disease (3) \_\_\_\_\_
- PH 161: Environment and Human Health (3) (**GE Area IB – Catalog Year 2018 and After**) \_\_\_\_\_
- PH 163: Public Health Administration (3) \_\_\_\_\_

<b>Environmental/Occupational Health and Safety Option Requirements</b>	<b>12 Units</b> □
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- PH 143: Occupational Safety (3) \_\_\_\_\_
- PH 160: Principles of Toxicology (3) \_\_\_\_\_
- PH 162A: Environmental Health Concepts (3) (**FALL ONLY**) \_\_\_\_\_
- PH 168A: Occupational Health Concepts (3) (**FALL ONLY**) \_\_\_\_\_

<b>Environmental/Occupational Health and Safety Additional Requirements</b>	<b>38-42 Units</b> □
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- BIOL 1A: Introductory Biology (4) (**GE Area B2**) \_\_\_\_\_
- BIOL 1B/1BL: Introductory Biology + Laboratory (4) \_\_\_\_\_
- OR** BIOL 33: Introductory Human Anatomy and Physiology (5) \_\_\_\_\_
- BIOL 20: Introductory Microbiology (4) \_\_\_\_\_
- OR** BIOL 120: Microbiology (4) \_\_\_\_\_
- CHEM 1A/1AL: General Chemistry 1A + Laboratory (5) \_\_\_\_\_
- CHEM 1B/1BL: General Chemistry 1B + Laboratory (4) \_\_\_\_\_
- CHEM 8: Elementary Organic Chemistry (3) \_\_\_\_\_
- OR** CHEM 128A: Organic Chemistry (3) \_\_\_\_\_
- MATH 70: Calculus for Life Sciences (4) \_\_\_\_\_
- OR** MATH 75: Calculus 1 (4) (**GE Area B4**) (*Pre-Requisite:* Calculus Placement Required) \_\_\_\_\_
- PHYS 2A: General Physics (4) (**GE Area B1**) (*Pre-Requisite:* MATH 6 or DS 71 or MATH 75 or MATH 70) \_\_\_\_\_
- PHYS 2B: General Physics (4) (*Pre-Requisite:* PHYS 2A) \_\_\_\_\_
- PH 175I: Environmental Internship (4) (*Pre-Requisite:* Completion of 21 units in Core and Environmental Option Courses) \_\_\_\_\_

<b>Environmental/Occupational Health and Safety Option Elective Requirements</b>	<b>9 Units</b> □
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*Select a minimum of three courses (9 units)*

- PH 105: Risk Assessment and Analysis (3) (**FALL ONLY**) \_\_\_\_\_
- PH 135: Introduction to Human Disease (3) \_\_\_\_\_
- PH 141: Applied Ergonomics (3) (**FALL ONLY**) \_\_\_\_\_
- PH 143: Occupational Safety (3) \_\_\_\_\_
- PH 145: Occupational and Environmental Systems Management (3) \_\_\_\_\_
- PH 151: Health Law and Legislation (3) (**FALL ONLY**) \_\_\_\_\_
- PH 162B: Environmental Health Application (3) \_\_\_\_\_
- PH 166T: Topics in Environmental Health (3) \_\_\_\_\_
- PH 167: Public Health Laboratory Techniques (3) \_\_\_\_\_
- PH 168B: Occupational Health Evaluation (3) (**SPRING ONLY**) \_\_\_\_\_
- PH 170: Air Pollution and Health (3) \_\_\_\_\_

<b>Total Units Required in Major</b>	<b>74-78 units</b>
<b>Total Units Required in General Education</b>	<b>49 units</b>
<b>Electives needed</b>	<b>0-9 units</b>

## HEALTH SCIENCE

### Environmental/Occupational Health and Safety Option, B.S. (120 Units)

Valid for Catalog Years: 2014/2015 to 2018/2019

For assistance or to schedule an advising appointment, please contact the **CHHS Advising and Career Development Center:** 559-278-5027, McLane Hall 194

Student Name: \_\_\_\_\_

Student ID: \_\_\_\_\_

Catalog Year: \_\_\_\_\_

	Year 1 (Freshman)		Year 2 (Sophomore)		Year 3 (Junior)		Year 4 (Senior)	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
<b>Major</b>	<b>GE Area B4</b> <b>MATH 70</b> or <b>75</b> (4 Units)	<b>PH 92</b> (3 Units)	<b>GE Area B1</b> <b>CHEM 1A/1AL</b> (5 Units)	<b>PH 109</b> (3 Units)	<b>CHEM 8 or CHEM 128A</b> (3 Units)	<b>BIOL 20 or BIOL 120</b> (3-4 Units)	<b>PHYS 2A</b> (4 Units)	<b>PHYS 2B</b> (4 Units)
	<b>GE Area B2</b> <b>BIOL 1A</b> (4 Units)	<b>BIOL 1B/L or BIOL 33</b> (4-5 Units)		<b>CHEM 1B/1BL</b> (5 Units)	<b>GE Area IB</b> <b>PH 161</b> (3 Units)	<b>PH 160</b> (3 Units)	<b>PH 143</b> (3 Units)	<b>PH 175</b> (1-4 Units)
	<i>Lower Division GE</i>	<i>Lower Division GE</i>	<i>Lower Division GE</i>					
	<i>Lower Division GE</i>	<i>Lower Division GE</i>	<i>Lower Division GE</i>		<i>Lower Division GE</i>	<i>UDWS (W Course or Exam)</i>	<i>PH Elective</i>	<b>PH 162A</b> (3 Units)
	<i>Lower Division GE</i>	<i>General Elective</i>	<i>Lower Division GE</i>	<i>Lower Division GE</i>	<i>Multicultural International (MI)</i>	<i>Upper Division GE</i>	<b>PH 168A</b> (3 Units)	<i>General Elective</i>
<b>Milestones</b>		<b>PH 92 Completed</b>			<b>Additional Requirements Completed</b>		<b>Completion of Core Courses</b>	

**Elective Options:**

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#### **Biology Minor Requirements**

##### **Required Courses (22 Units)**

- BIOL 1A – Introductory Biology (4 units)
- BIOL 1B and 1BL – Introductory Biology/Laboratory (4 units)
- BIOL 101 – General Ecology (4 units)
- BIOL 102 – Genetics (3 units)
- BIOL 103 – Cellular Biology (3 units)
- BIOL 104 – Genetics and Cell Biology Lab (1 unit)
- BIOL 105 – Evolution (3 units)

#### **Chemistry Minor Requirements**

##### **Required Courses (11-12 Units)**

- CHEM 1A & 1AL – General Chemistry and Laboratory (5 units)
- CHEM 8 – Elementary Organic Chemistry (3 units)
- CHEM 105 – Quantitative Analysis Laboratory (4 units)

**Additional Upper Division Chemistry Courses (9-10 Units)**

#### **Advising Notes**

1. A minimum grade of C is required in all Health Science core courses and all core option courses.
2. CR/NC grading is not permitted in courses for the Health Science major, except in those courses which are designated CR/NC grading only.
3. Courses taken within the Public Health major may be used toward general education requirements, a minor (see departmental minors) or a supplemental credential. Consult the appropriate department advisor for further information.

# 2018-2019 GENERAL EDUCATION (G.E.) REQUIREMENTS

NOTES: **A minimum of 49 G.E. units are required.** All classes are three or more semester units.  
Engineering and Liberal Studies majors complete a different G.E. pattern--consult department advisor.

## ◆ FOUNDATION

Four courses: One in A1, one in A2, one in A3, & one in B4 for a minimum of 12 units.  
**FOUNDATION** courses must be satisfied with a minimum "C" grade.

### Area A - Fundamental Skills and Knowledge

- A1 Oral Communication:** Communication 3, 7, 8  
**A2 Written Communication:** (Prerequisite for English 5B is passing 5A) English 5B, 10  
**A3 Critical Thinking:** Africana Studies 20; Anthropology 30; Chicano & Latin American Studies 30; College of Science & Math 10; Communication 5; Computer Science 1; Geography 25; Interdisciplinary 50; Natural Science 4; Philosophy 25, 45; Sociology 3, 3S; Women's Studies 12  
**B4 Quantitative Reasoning:** (Co-requisite or prerequisite Math courses may be required. Check with advisors) Criminology 50, Decision Sciences 71; **Mathematics** 11, 11L, 45, 45L, 70, 75, 75A

Course/Units/Grade

A1 \_\_\_\_\_  
 A2 \_\_\_\_\_  
 A3 \_\_\_\_\_  
 B4 \_\_\_\_\_

## ◆ BREADTH

### Area B - Physical Universe and Its Life Forms

Two courses: One in B1 and one in B2--see above for B4

- B1 Physical Sciences:** (Prerequisite: Completion of B4) Chemistry 1A & 1AL, 3A, 10; Earth & Environmental Sciences 1, 1V, 4; Physical Science 21; Physics 2A, 4A & 4AL, 10  
**B2 Life Sciences:** Biology 1A, 10, 11, 12  
**B3 Laboratory Component:** B1 or B2 must have a lab (All B1 and B2 courses taken at Fresno State have a mandatory lab component.)

B1 \_\_\_\_\_  
 B2 \_\_\_\_\_  
 B3 \_\_\_\_\_

### Area C - Arts and Humanities

Three courses: One in C1, one in C2, and a third from C1 or C2

- C1 Arts:** Armenian Studies 20; Art 1, 20, 40, 50; Art History 10, 11; Chicano & Latin American Studies 9; Drama 22, 62; English 41, 43, 44; Music 9, 74, 75  
**C2 Humanities:** Arabic 1A, 1B; Armenian 1A, 1B, 2A; Chinese 1A, 1B; Communicative Sciences & Deaf Studies 90, 92; English 20, 30; French 1B, 2A, 2B; German 1B, 2A, 2B; Greek 1A, 1B; Hebrew 1A, 1B; Hmong 1A, 1B; Humanities 10, 11, 15, 20; Italian 1A, 1B, 2A, 2B; Japanese 1A, 1B; Latin 1A, 1AH, 1B; Linguistics 10; Persian 1A, 1B; Philosophy 1, 2, 10, 20; Portuguese 1A, 1B; Spanish 1B, 2A, 2B, 3, 4A, 4B

C1 \_\_\_\_\_  
 C2 \_\_\_\_\_  
 C1 or  
 C2 \_\_\_\_\_

### Area D - Social, Political & Economic Institutions & Behavior, Historical Background

One course in each sub-area (Prerequisite: GE Foundation A2 for students in English college-readiness Category III and IV)

- D1 American History:** History 11, 12  
**D2 American Government:** Political Science 2  
**D3 Social Science:** Africana Studies 10, 15, 27; Agricultural Business 1; American Indian Studies 50; Anthropology 2, 3; Armenian Studies 10; Asian American Studies 15; Child & Family Studies 31; Chicano & Latin American Studies 3, 5; Communicative Sciences & Deaf Studies 98; Criminology 10; Economics 25, 40, 50; Geography 2, 4, 81; History 20, 21; Industrial Technology 20; Jewish Studies 10; MCJ 1; Middle East Studies 10; Political Science 1; Psychology 10; Sociology 1 or 1S; Women's Studies 10

D1 \_\_\_\_\_  
 D2 \_\_\_\_\_  
 D3 \_\_\_\_\_

### Area E - Lifelong Understanding and Self-Development One course

- E Lifelong Understanding & Self-Development:** Animal Science 67; Art 13; Child & Family Studies 38, 39; College of Science & Math 15S; Dance 16, 70; Drama 32; Finance 30; Gerontology 10S, 18, 111; Kinesiology 32 & concurrent enrollment in any KAC course; Linguistics 30; Nutrition 53; Peace and Conflict Studies 110; Psychology 61; Public Health 90, 91, 110; Recreation Administration 80; University 1; Women's Studies 18

E \_\_\_\_\_

## UPPER DIVISION G.E. CONSISTS OF 12 UNITS

IB, IC, and ID courses can be taken no sooner than the term in which 60 units of course are completed.

## ◆ INTEGRATION Three upper division courses--one in each area

- IB Physical Universe and Its Life Forms:** (Prerequisite: Completion of FOUNDATION and Area B) Anthropology 161; Chemistry 170; Computer Science 100; Earth & Environmental Sciences 112, 167, 168; Geography 115, 128; Natural Science 115, 120, 121, 125; Physical Science 131, 168; Physics 100; Plant Science 105; Public Health 161  
**IC Arts and Humanities:** (Prerequisite: Completion of FOUNDATION and Area C) Africana Studies 129; Armenian 148; Art 102; Arts & Humanity 105; Dance 171; Drama 163; English 101, 102, 103, 112, 113, 114, 174; French 109, 149; Humanities 104, 108, 110, 118; Interdisciplinary Art Studies 108; Linguistics 115, 130, 138; Music 170A, 171, 187; Philosophy 120, 150, 151; Spanish 125, 129  
**ID Social, Political and Economic Institutions and Behavior, Historical Background:** (Prerequisite: Completion of FOUNDATION and Area D) Africana Studies 144; Agricultural Business 155; American Indian Studies 103; Anthropology 116W, 145; Chicano & Latin American Studies 114; Criminology 101, 120, 120S, 153; Economics 146, 167, 176, 183; Geography 173, 184; Gerontology 100; History 101, 154; Jewish Studies 154; Kinesiology 111; Media, Communications and Journalism 178; Peace and Conflict Studies 100; Social Science 110; Sociology 131, 143, 163; Women's Studies 101, 149

IB \_\_\_\_\_  
 IC \_\_\_\_\_  
 ID \_\_\_\_\_

TOTAL UNITS \_\_\_\_\_

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# Graduation Requirements

## PLANNING YOUR DEGREE

- ❑ **Meet with an Academic Counselor to complete a My Degree Plan (roadmap)**
- ❑ **Units per semester to graduate:**  
4 years: 15 units x 8 semesters = 120 units  
5 years: 12 units x 10 semesters = 120 units
- ❑ **Complete your upper-division writing skills during your junior year (60-90 units)**
- ❑ **Complete your Application for Degree & pay the fee during the first four weeks of your final semester**

- **120 unit minimum - comprised of:**
  - 49 General Education (or modified version per Major)
  - Major
  - Electives if needed to reach 120 units (minor/certificate/other)
- **2.00 GPA in:**
  - Major
  - Campus units
  - Cumulative units
- **Specific course requirements:**
  - English Composition (English 5A & 5B, 10 or equivalent)
  - US History (History 11, 12 or equivalent)
  - US and California Constitution (Political Science 2, 102 or equivalent)
  - Multicultural/International course

### Multicultural/International courses

Africana Studies **150, 164**; Anthropology **105W, 120, 123, 125**; Asian American **110**; Business Administration **104**; Chicano & Latin American Studies **160, 170**; Communication **164**; Communicative Sciences & Deaf Studies **139**; Economics **181**; Geography **167**; Gerontology **161**; History **186**; Humanities **105, 140**; Interdisciplinary Capstone **177, 188S**; Linguistics **147**; Media, Communications and Journalism **175, 176, 179**; Marketing **100S**; Nursing **141, 141LS**; Public Health **104, 128S**; Philosophy **131, 132**; Political Science **120**; Recreation Administration **130**; Sociology **111, 142**; Social Science **180**; Social Work **136**; Womens Studies **110, 120S, 135**;

- **Writing Skills Requirement:**
  - Upper-division writing skills (exam or course with a “W”)

### W courses

Africana Studies **104W**; Anthropology **105W, 116W**; Business Administration **105W**; Chemistry **161W**; Chicano & Latin American Studies **102W**; Child and Family Science **130W\***; Economics **102W**; Earth and Environmental Sciences **135W**; English **115W, 117W\*, 160W**; Health & Human Services **116W**; History **100W**; Industrial Technology **198W**; Jewish Studies **100W**; LEE **180W**; Linguistics **110W, 111W**; Media, Communications and Journalism **102W\***; Philosophy **133W**; Plant Science **110W**; Sociology **130W**;

Note: a few majors require a specific “W” course; see catalog requirement for your major

\*Enrollment may be restricted or have additional prerequisites. Check the course description in the catalog or my.fresnostate.edu.

### Fresno State Residency unit minimums:

- 30 units
  - 24 upper-division units
  - 12 units in major
  - 9 General Education units
-