# SUSTAINABILITY

https://www.pacific.edu/academics/sustainability-degree-bs

## Degrees Offered

**Bachelor of Science**

## Majors Offered

**Sustainability (BS)**

The Bachelor of Science in Sustainability is an interdisciplinary, cross-college major at the University of the Pacific. Graduates of our program will be equipped to examine issues of growing concern (including climate change, economic inequality, community wellness, biodiversity loss) through future leadership roles in wide-ranging sectors including engineering, business, community development, environmental science, and health and wellness. Students will develop a foundational understanding of sustainability concepts (people, planet, prosperity and their interrelationships) and the problem-solving and leadership skills needed to develop and implement innovative solutions.

### Learning Outcomes

By the time a student graduates from this program, they will be able to:

1. Understand the multifaceted origins of sustainability challenges and the opportunities presented by their solutions.
2. Analyze sustainability challenges in the framework of dynamic and integrated environmental, economic, and social systems.
3. Embody sustainability principles to thrive personally and professionally.
4. Understand and ethically address issues in the context of thriving communities at multiple scales (local, regional, national, and global).
5. Use a systems approach to collect, analyze, and synthesize multi-disciplinary data to responsibly solve complex problems.
6. Effectively tell the stories of sustainability to a wide range of audiences across many media.
7. Collaborate on a team whose members collectively provide leadership and create an inclusive environment to implement lasting change.

## Bachelor of Science Major in Sustainability

Students must complete a minimum of 120 units with a Pacific cumulative and major/program grade point average of 2.0 in order to earn the bachelor of science in sustainability.

## I. General Education Requirements

For more details, see General Education (https://catalog.pacific.edu/uop/generalinformation/generaleducation/)

Minimum 28 units and 9 courses that include:

### A. CORE Seminars (2 courses)

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|---|---|---|
| CORE 001 | Problem Solving & Oral Comm | 3 |
| CORE 002 | Writing and Critical Thinking | 4 |

***Note: 1)*** CORE Seminars cannot be taken for Pass/No Credit. ***2)*** Transfer students with 28 or more transfer credits taken after high school are exempt from both CORE seminars.

### B. Breadth Requirement (7 courses, at least 3 units each)

At least one course from each of the following areas:

- Artistic Process & Creation
- Civic & Global Responsibility
- Language & Narratives
- Quantitative Reasoning
- Scientific Inquiry
- Social Inquiry
- World Perspectives & Ethics

***Note: 1)*** No more than 2 courses from a single discipline can be used to meet the Breadth Requirement.

### C. Diversity and Inclusion Requirement

All students must complete Diversity and Inclusion coursework (at least 3 units)

***Note: 1)*** Diversity and Inclusion courses can also be used to meet the breadth category requirements, or major or minor requirements.

### D. Fundamental Skills

Students must demonstrate competence in:

- Writing
- Quantitative Analysis (Math)

***Note: 1)*** Failure to satisfy the fundamental skills requirements by the end of four semesters of full-time study at the University is grounds for academic disqualification.

## II. Breadth Requirement

Students must complete 60 units outside the primary discipline of the first major, regardless of the department who offers the course(s) in that discipline. (This includes general education courses, transfer courses, CPCE/EXTN units, internships, etc.).

## III. Major Requirements

Students must complete all Sustainability core courses and four courses from a selected concentration.

**Sustainability Core**

| | | |
|---|---|---|
| SUST 010 | Sustainability Seminar | 1 |
| SUST 044 | Introduction to Sustainability | 4 |
| SUST 101 | Systems of Sustainability | 4 |
| SUST 151 | Methods in Sustainability | 4 |
| SUST 185 | Capstone in Sustainability 1 | 3 |
| SUST 186 | Capstone in Sustainability 2 | 3 |
| DATA 010 | Excel | 1 |
| DATA 011 | Tableau | 1 |
| DATA 012 | Power BI | 1 |
| COOP 188 | Career Search Essentials | 1 |
| GESC 103 | Earth's Changing Climate | 4 |
| MATH 037 | Introduction to Statistics and Probability | 4 |
| Select one of the following: | | |
| GESC 102 | Introduction to Geographic Information Systems (GIS) and Spatial Analysis | |
| DATA 053 | Applications of Data Science | |

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|---|---|---|
| Select one of the following Human- Environment Interactions courses: | | 3-4 |
| BIOL 035 | Environment: Concepts and Issues | |
| CIVL 171 | Water and Environmental Policy | |
| ENGL 126 | Environmental Health and Literature | |
| GESC 043 | Environmental Science for Informed Citizens | |
| HIST 052 | John Muir and the Environmental Movement | |
| POLS 174 | Global Environmental Policy | |
| Select one of the following Economic Drivers of Sustainability Decisions courses: | | 3-4 |
| BUSI 107 | Marketing Management | |
| CIVL 173 | Sustainable Engineering | |
| ECON 157 | Environmental and Natural Resource Economics | |
| Select one of the following Social Challenges in Sustainability courses: | | 3-4 |
| HLTH 080 | Foundations of Public Health and Community Wellness | |
| PHIL 035 | Environmental Ethics | |
| SOCI 041 | Social Problems | |
| SOCI 051 | Introduction to Sociology | |
| SOCI 111 | Environmental Justice | |
| SOCI 172 | Diversity, Equity and Inequality | |
| Select one of the following Storytelling courses: | | 3-4 |
| COMM 050 | Digital Communication | |
| COMM 155 | Persuasion | |
| DATA 101 | Data Visualization and Storytelling | |
| ENGL 039 | Introduction to Digital Humanities | |
| ENGL 106 | Content Engineering | |
| HIST 080 | Digital Narratives | |
| MPRO 005 | Principles of Storytelling | |
| **Communicating for Change Concentration (complete 4 courses)*** | | **14-16** |
| BUSI 175 | Leadership and Change | |
| COMM 045 | Communication & Health | |
| COMM 050 | Digital Communication | |
| COMM 117 | Public Advocacy | |
| COMM 134 | Documentary Film Production | |
| COMM 143 | Intercultural Communication | |
| COMM 155 | Persuasion | |
| DATA 101 | Data Visualization and Storytelling | |
| ENGL 039 | Introduction to Digital Humanities | |
| ENGL 106 | Content Engineering | |
| MPRO 003 | Media Tools | |
| MPRO 117 | Film Production | |
| HIST 080 | Digital Narratives | |
| **Healthy Futures Concentration (complete 4 courses)*** | | **14-16** |
| BIOL 148 | Emerging Infectious Diseases | |
| COMM 045 | Communication & Health | |
| ENGL 126 | Environmental Health and Literature | |
| GESC 043 | Environmental Science for Informed Citizens | |
| HLTH 080 | Foundations of Public Health and Community Wellness | |
| HLTH 180 | Epidemiology | |
| HLTH 183 | Global Health and Policy | |
| POLS 174 | Global Environmental Policy | |
| SOCI 041 | Social Problems | |
| SOCI 051 | Introduction to Sociology | |
| SOCI 111 | Environmental Justice | |
| SOCI 125 | Sociology of Health and Illness | |
| **Sustainable Communities Concentration (complete 4 courses)*** | | **14-16** |
| COMM 117 | Public Advocacy | |
| COMM 143 | Intercultural Communication | |
| ECON 125 | Economic Development | |
| HLTH 080 | Foundations of Public Health and Community Wellness | |
| HLTH 183 | Global Health and Policy | |
| POLS 104 | Urban Government | |
| POLS 174 | Global Environmental Policy | |
| SOCI 041 | Social Problems | |
| SOCI 051 | Introduction to Sociology | |
| SOCI 125 | Sociology of Health and Illness | |
| SOCI 161 | Urban Society | |
| SOCI 165 | Social Organizations | |
| **Sustainable Design Concentration (complete 4 courses)*** | | **14-16** |
| ARTH 101 | Design Thinking | |
| ARTS 171 | Advertising and Commercial Design | |
| CIVL 132 | Environmental Engineering | |
| CIVL 136 | Design of Water Quality Control Facilities | |
| CIVL 138 | Solid Waste Systems Design and Management | |
| CIVL 164 | Structural Timber Design | |
| CIVL 165 | Structural Steel Design | |
| CIVL 166 | Reinforced Concrete Design | |
| CIVL 173 | Sustainable Engineering | |
| ECON 157 | Environmental and Natural Resource Economics | |
| ECPE 163 | Energy Conversion | |
| EMGT 142 & 142L | Design and Innovation and Design and Innovation Lab | |
| EMGT 174 | Engineering Project Management | |
| EMGT 176 | Systems Engineering Management | |
| ENGR 045 & 045L | Materials Engineering and Materials Engineering Lab | |
| IDEA 040 | Engineering Design Thinking | |
| PDEP 046 | Material Processing and Selection | |
| PDEP 057 | AI for Designers | |
| **Sustainable Infrastructure Concentration (complete 4 courses)*** | | **14-16** |
| CIVL 132 | Environmental Engineering | |
| CIVL 136 | Design of Water Quality Control Facilities | |
| CIVL 138 | Solid Waste Systems Design and Management | |
| CIVL 164 | Structural Timber Design | |
| CIVL 165 | Structural Steel Design | |
| CIVL 166 | Reinforced Concrete Design | |
| CIVL 173 | Sustainable Engineering | |
| ECPE 163 | Energy Conversion | |
| EMGT 142 & 142L | Design and Innovation and Design and Innovation Lab | |
| EMGT 174 | Engineering Project Management | |
| EMGT 176 | Systems Engineering Management | |
| **Sustainable Planet Concentration (complete 4 courses)*** | | **14-16** |
| BIOL 035 | Environment: Concepts and Issues | |

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|---|---|---|
| BIOL 175 | Ecology | |
| BIOL 176 | Ecology and Conservation Biology | |
| CIVL 171 | Water and Environmental Policy | |
| CIVL 173 | Sustainable Engineering | |
| GESC 043 | Environmental Science for Informed Citizens | |
| GESC 093 | Special Topics | |
| GESC 148 | Critical Zone Science | |
| HIST 052 | John Muir and the Environmental Movement | |
| HLTH 180 | Epidemiology | |
| PHIL 035 | Environmental Ethics | |
| POLS 174 | Global Environmental Policy | |
| **Sustainability in Business Concentration (complete 4 courses)*** | | **14-16** |
| BUSI 053 | The Legal and Ethical Environment of Business | |
| BUSI 107 | Marketing Management | |
| BUSI 141 | Marketing Research | |
| BUSI 147 | Consumer Behavior | |
| COMM 143 | Intercultural Communication | |
| ECON 071 | Global Economic Issues | |
| ECON 121 | International Trade | |
| ECON 125 | Economic Development | |
| ECON 157 | Environmental and Natural Resource Economics | |
| EMGT 142 & 142L | Design and Innovation and Design and Innovation Lab | |
| EMGT 170 | Project Decision Making | |
| **Design your own Concentration (select 4 courses in any of the concentrations):Design your own Concentration (select 4 courses in any of the concentrations) Experiential Learning:** | | **14-16** |
| Select one of the following:** | | 4 |
| SUST 187 | Internship | |
| SUST 197 | Independent Research | |

* Courses taken in the Sustainability core may not count for concentrations.

** Students can also complete the Civic Action or Sustainability Fellows program.

***Note:*** *Only courses graded with a C- or better will count in the major.*