

Benchmarking: Climate, Environmental Justice, and Sustainability Programs

Prepared for The Evergreen State College

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In the following report, Hanover assesses demand for undergraduate programs in Climate, Environmental Justice, and Sustainability. This report includes an examination of student and labor market demand and a benchmarking analysis of comparable programs across the country.



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Climate, Environmental Justice, and Sustainability Undergraduate Programs

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Executive Summary

Climate, Environmental Justice, and Sustainability Undergraduate Programs

Introduction

The Evergreen State College (Evergreen) has asked Hanover Research to investigate the viability of climate, environmental justice, and sustainability programs as an opportunity for undergraduate, interdisciplinary pathway development. This report studies the types of programs already in existence and their attributes and trends. It also evaluates other indicators of student and labor market demand. The report is accompanied by an Excel Data Supplement that provides additional insight into the benchmarked programs.

Recommendations

Based on an analysis of labor market demand, comparable programs, and secondary literature, Hanover recommends that (Evergreen):

1 Pursue a Climate Justice pathway to complement existing Environment and Sustainability studies pathways.

Labor demand indicators are positive, while student and community need for climate, environmental justice, and sustainability education is clear and growing. Trends among benchmarked programs suggest that a program focused on Climate Environmental Justice would be optimal to provide Evergreen with a competitive advantage and complement current programs.

2 Leverage existing partnerships with local community bodies to develop environmental justice and sustainability internships or service-learning opportunities.

Few benchmarked programs offer students the occasion to get real-world experience. Evergreen can leverage this opportunity by partnering with local agencies to help students' future careers and serve the community's environmental needs.

Fast Facts



Labor demand for related occupations in the Far West is expected to grow 20.7 percent by 2026



Solar and Wind energy sectors lead the growth of "green jobs" in the region with around 100 percent growth rates by 2026



Almost all benchmarked programs include coursework addressing human-environment interactions



Fourteen of nineteen benchmarked programs cost less than \$20,000 per year



More than half of related employment opportunities require a bachelor's or a high school diploma

Key Findings and Program Demand Forecast

For undergraduate climate, environmental justice and sustainability programs in the Far West region

Occupations closely-related to climate, environmental justice and sustainability are projected to experience above-average growth between 2016 and 2026.

The fastest-growing occupations among these closely-related groups are Solar Photovoltaic Installers, Wind Turbine Service Technicians and Environmental Scientists and Specialists. This growth corresponds to the fast growing solar and wind energy industries and the need of businesses to comply with environmental regulations.

Interest on climate, environmental justice, and sustainability-related issues is growing among new generations, thus increasing the need for educational programs.

Students, universities, community members and governments are increasingly adopting initiatives to adjust to environmental and sustainability needs. These initiatives will boost demand for education programs aimed at understanding and finding solutions to climate, environmental justice and sustainability issues.

Less than half of benchmarked programs focus on environmental justice, meaning that Evergreen will face few competitors in this field.

Although all benchmarked programs provide coursework aimed at the study of environment – human interactions, more than half focus their coursework on environmental and sustainability studies. Evergreen can leverage this opportunity to fill the existing gap in environmental justice programs.

Student and Community Demand Analysis

Climate, Environmental Justice, and Sustainability Undergraduate Programs

University Climate Initiatives and Student Interest

Intrinsic motivation is high among students in climate, environment, and sustainability-related fields, making it an attractive and modern discipline.

Student demand is likely to grow as interest in fighting against climate change increases in [younger generations](#). This growing interest, as well as a lack of curricular options to serve it, has been [noted](#) since the late 2000s. Each generation of university students will be more affected by climate change than the last. The powerful drive of self-preservation alone will likely fuel enrollments in, and enthusiasm for related fields. For example, university students have already taken the lead to make their [campuses go greener](#) across the nation.

Universities are also boosting their involvement in resilience and sustainability research and practice, especially within their local areas, and involving students in these efforts.

Some of the institutions involved in the University Climate Change Coalition (UC3) achieve their community action goals through service-learning or internship opportunities wherein students learn crucial skills while also helping develop a resilient community. Climate change-related service-learning courses have been shown to lead to students with a “sense of personal responsibility and [agency](#).”

Demand Spotlight: University Climate Accords



Many universities have entered into climate change-related accords, which translates to growth in the field.

The [University Climate Change Coalition](#) and the [Second Nature Climate Leadership Network](#) are both groups of colleges and universities across the United States and Mexico that have signed commitments to take action to combat climate change.

Environmental Justice Initiatives

Several initiatives at local, national, and international levels attest to the need for environmental justice education programs.

Federal Agencies

- In the 1980’s, [Environmental Justice](#) became widespread at the intersection of environmentalism and social justice, inspired by the Civil Rights movement.
- In 2015, the Environmental Protection Agency ([EPA](#)), launched an initiative to start building the federal environmental justice infrastructure, which included the need and importance of environmental justice training and connecting with communities.
- EPA’s Educate Motivate Innovate ([EMI](#)) Climate Justice Initiative. showcases student projects that address the relationship between climate change and its impacts on minorities and underserved communities.

International Organizations

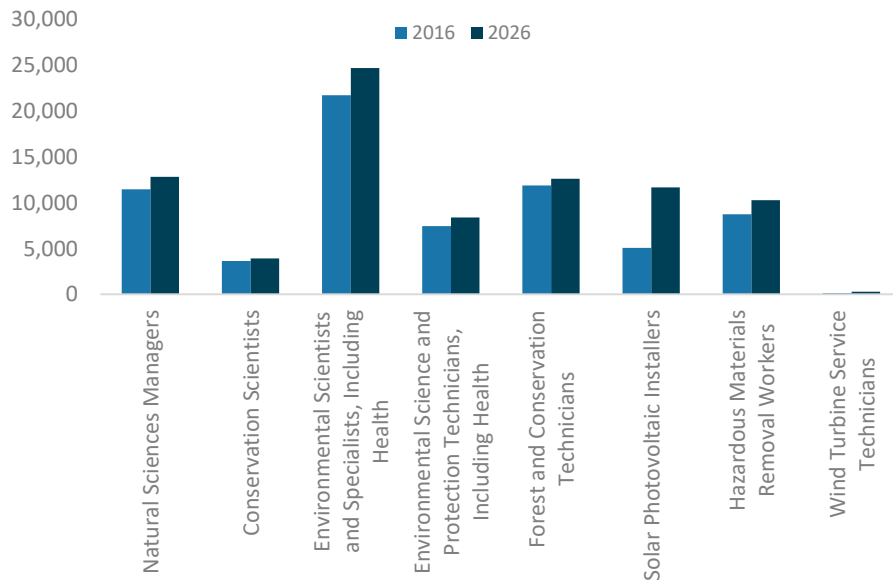
- The recognition of the links between human rights and the environment, and the need to guarantee these rights, have increased worldwide.
- According to the [United Nations](#) Special Rapporteur on human rights and the environment, the number and scope of international and domestic laws, judicial decisions, and academic studies on the relationship between human rights and the environment have grown rapidly..
- UN’s system has incorporated elements to achieve environmental justice throughout the [Sustainable Development Goals](#).

Communities

- Community members are actively seeking for a more sustainable future through initiatives like the [Climate Justice Alliance](#), which promotes community resilience, economic equity and climate stability by creating new climate jobs, and sustainable, zero- waste energy efficient communities.
- The National Association for the Advancement of Colored People (NAACP) has also launched the [Environmental and Climate Justice Program](#) aimed at addressing the disproportionate impact of climate change on communities of color and low income communities in the nation.

Regional Current and Projected Job Availability: Close Match Occupational Groups

Regional close match climate, environmental justice, and sustainability-related positions as of 2016 and 2026 (projected)



Total Labor Market: Close Match Groups

Aggregate close match climate, environmental justice, and sustainability-related job availability by geographic level

| | Washington | Far West | National |
|------------------------------|--------------|--------------|---------------|
| 2016 | 10,320 | 70,190 | 302,000 |
| 2026 | 12,050 | 84,740 | 332,100 |
| Growth Rate | 16.8% | 20.7% | 10.0% |
| Total Annual Openings | 1,280 | 9,150 | 37,700 |
| Average Growth | 17.0% | 11.5% | 5.2% |

Source: [Projections Central](#)

Analysis of Findings

Based on a review of relevant jobs postings via JobsEQ database, climate, environmental justice, and sustainability-related occupations are projected to experience above-average growth in all geographic areas.

This growth is especially robust at the regional and national levels, where the corresponding projected growth of 20.7 percent and 10.0 percent are close to double the projected growth across all occupations (11.5 percent and 5.2 percent, respectively).

Solar Photovoltaic Installers are projected to grow the fastest at the regional and national levels.

Of these close match groups, Solar Photovoltaic Installers are projected to grow by 129.3 percent in the Far West region and by 62.2 percent at the national level. Furthermore, this occupation is particularly strong in the region, as of the 9,700 Solar Photovoltaic Installers employed in the country, more than half (5,090) were employed in the Far West region in 2018. According to the Bureau of Labor Statistics ([BLS](#)), the continued expansion and adoption of solar panel installation, due to the decrease of PV panels costs and the increasing popularity of solar leasing plans, is expected to create new jobs.

“Green Jobs” Growth

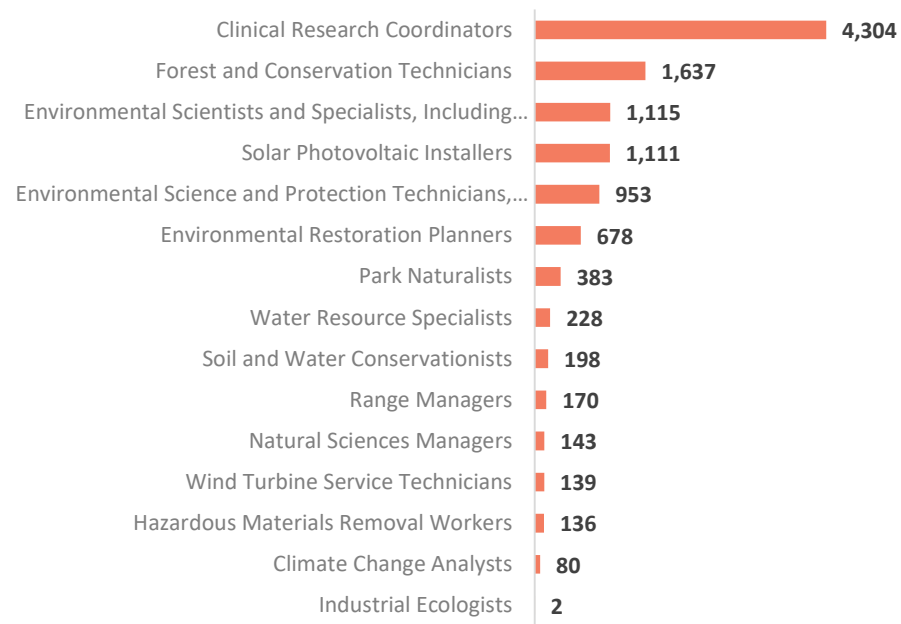
Employment projections for occupations related to helping the environment or conserving natural resources are very positive. According to the Environmental Defense Fund ([EDF](#)), the number of people employed in the renewable energy sector compares to the size of the telecommunications industry, as energy jobs related to the solar and wind sectors outnumber coal and gas jobs in 30 states.



Likewise, [BLS](#) projects employment growth for environmental science and protection technicians in the industry of management, scientific and technical consulting services. This is because more businesses and governments are expected to use consulting services to help them monitor and comply with environmental regulations.

Regional Close Match Job Postings Analysis

Regional close match climate, environmental justice, and sustainability-related positions by occupational group during the past 180 days as of January 2020



Analysis of Findings

Among close match occupational groups, Natural Science Managers can expect the highest salaries and the most opportunities.

Clinical Research Coordinators, a subfield of Natural Science Managers, make up 65.19 percent of regional real-time job postings among close match groups. The average salary for Natural Science Managers is more than twice the average salary across all occupations, at both the regional and national levels. Additionally, most close match groups can expect lower-than-average unemployment rates, except Solar Photovoltaic Installers, Hazardous Materials Removal Workers and Wind Turbine Service Technicians, whose unemployment rates are above the average.

Regional Employment Facts

Regional climate, environmental justice, and sustainability-related positions by occupational group

| Occupation | Average Salary | | Unemployment | |
|--|-----------------|-----------------|--------------|-------------|
| | Regional | U.S. | Regional | U.S. |
| Natural Sciences Managers* | \$151,600 | \$139,700 | 1.3% | 1.2% |
| Conservation Scientists** | \$75,300 | \$65,300 | 0.5% | 0.4% |
| Environmental Scientists and Specialists, Including Health*** | \$85,400 | \$77,600 | 2.4% | 2.1% |
| Environmental Science and Protection Technicians, Including Health | \$57,900 | \$50,400 | 3.3% | 3.0% |
| Forest and Conservation Technicians | \$42,800 | \$40,100 | 3.3% | 3.0% |
| Solar Photovoltaic Installers | \$47,000 | \$46,000 | 9.2% | 8.9% |
| Hazardous Materials Removal Workers | \$50,400 | \$47,100 | 6.5% | 6.2% |
| Wind Turbine Service Technicians | \$56,800 | \$58,000 | 8.6% | 7.3% |
| Average Across All Occupational Groups | \$56,100 | \$51,700 | 4.2% | 3.7% |

*Includes Clinical Research Coordinators and Water Sources Specialists

**Includes Soil and Water Conservationists, Range Managers and Park Naturalists

***Includes Climate Change Analysts, Environmental Restoration Planners and Industrial Ecologists



Less than half of the jobs require a bachelor's degree. While only 4.2 percent require a graduate degree, 44.3 percent of the postings require a bachelor's and 12.0 percent a high school diploma or equivalent.



Environmental science is a major academic program required. Biology, Science, Environmental Science, Forestry and Engineering are the top five academic programs.



Government agencies and academic institutions are the main regional employers. The US Department of Agriculture, Stanford University, University of California San Francisco and the State of Washington are the top employers for climate, environmental justice and sustainability-related positions.

Examples of Real-Time Job Postings for Climate, Environmental Justice and Sustainability

Climate, Environmental Justice, and Sustainability Undergraduate Programs

Job Title: Urban Forestry Specialist



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Forest and Conservation Technicians



Employer Description

State government agency



Requirements

Bachelor's degree in relevant field



Duties

Provide support to citizen advisory boards, tree advocacy groups, and non-profit organizations engaged in urban forestry

Job Title: Environmental Specialist



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Environmental Scientists and Specialists, Including Health



Employer Description

Industrial goods and metal fabrication company



Requirements

BS in related field and 3 years previous environmental management experience



Duties

Ensure that operations align with regulatory and environmental codes

Job Title: Installation Technician



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Solar Photovoltaic Installers



Employer Description

Solar energy company



Requirements

High school diploma with 1-2 years of experience in solar installation and roofing



Duties

Install the racking system and solar panels on residential roofs

Job Title: Water Resources Planner



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Water Resource Specialists (under Natural Sciences Managers)



Employer Description

Planning, engineering, landscape architecture, and environmental sciences consulting firm



Requirements

Coursework or exposure to water allocation, reservoir operation, water system hydrologic and temperature model



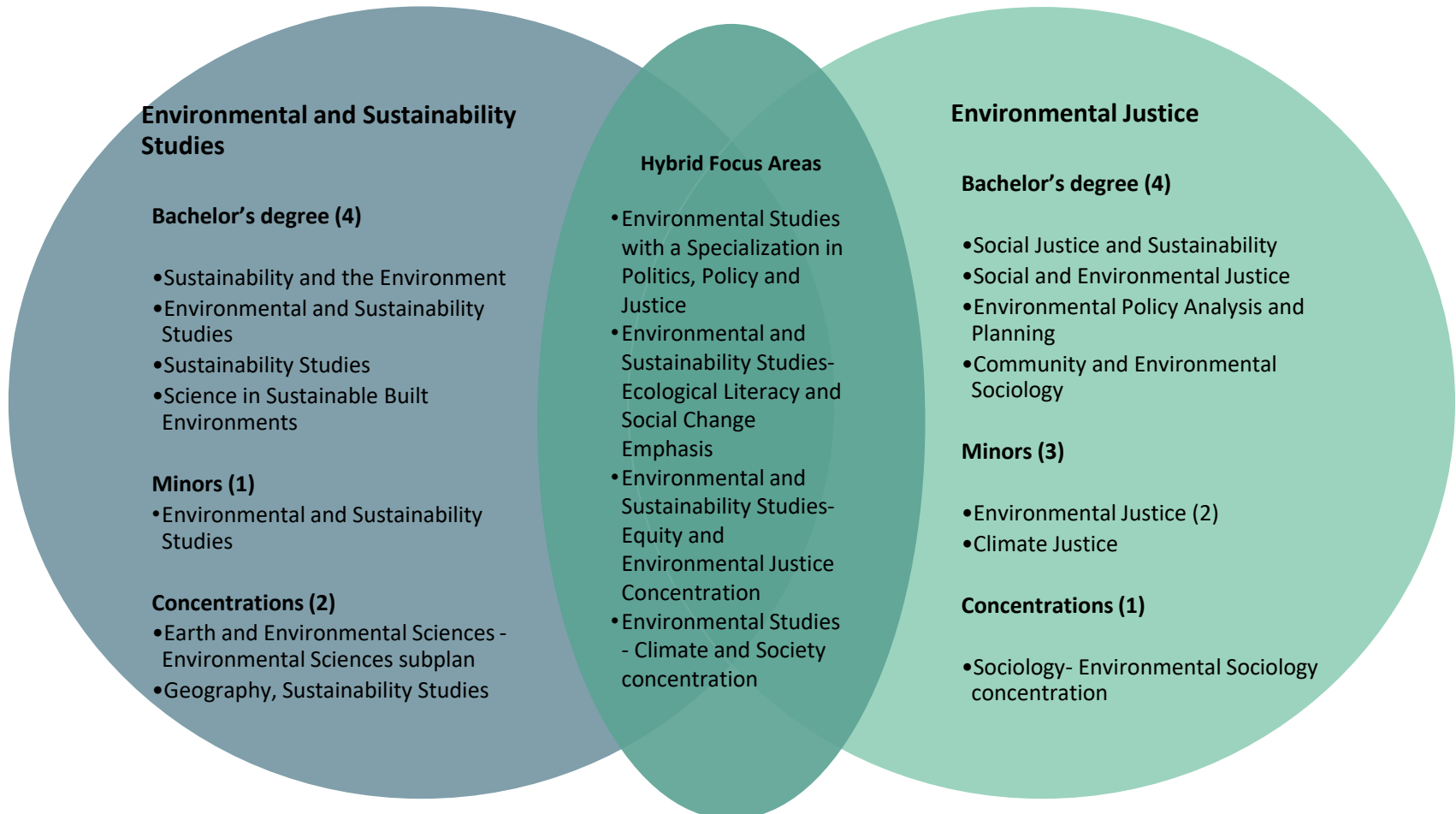
Duties

Support design of water supply, flood control, and environmental restoration projects

Most Common Focus Areas

While minors and concentrations more heavily focus on environmental justice, bachelor's degrees tend to focus on environmental and sustainability studies.

Overall, science-focused bachelor's degrees offer studies in environmental and sustainability studies, and some of them include concentration areas that focus on environmental justice. Hybrid degrees, environmental and sustainability studies bachelor's degrees with environmental justice concentrations, make up more than 20 percent of reviewed programs. Two of the three sole concentrations analyzed also focus on environmental sciences, while most of minors focus on environmental justice.



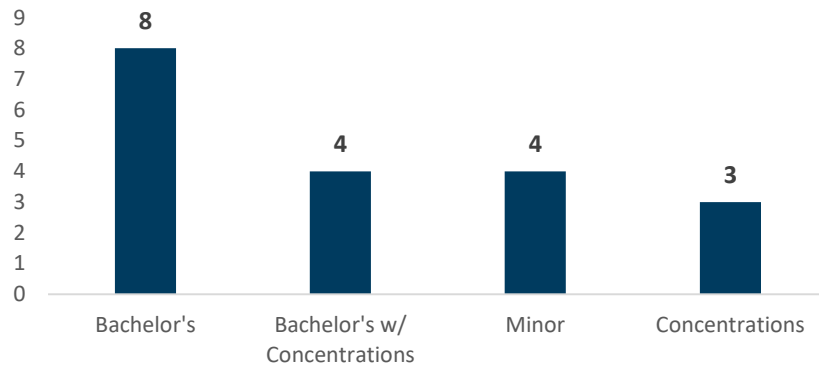
Benchmarking Key Findings – Program Types and Features

Climate, Environmental Justice, and Sustainability Undergraduate Programs

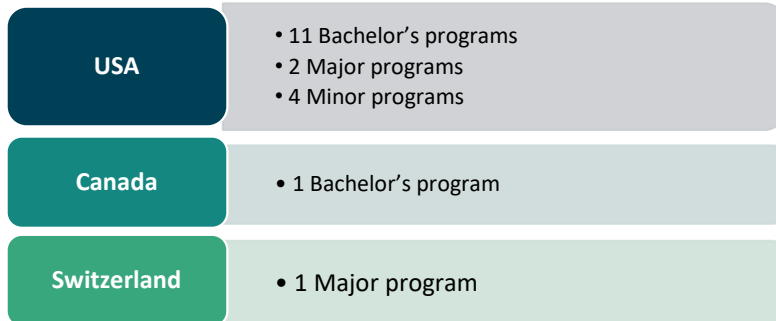
Program Types

Hanover analyzed 19 undergraduate programs including bachelor's degrees, concentrations, and minors.

Bachelor's degrees (with and without concentrations) are the main source of undergraduate educational opportunities for climate, environmental justice and sustainability. However, sole concentrations and minors also offer students the opportunity to focus on these fields and pursue further studies or a professional career in environment and sustainability.



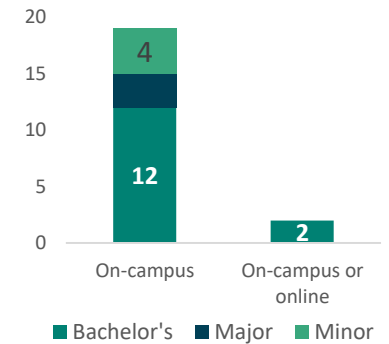
Geographic Location



Delivery Modality

Only two benchmarked programs offer both on-campus and online delivery modalities.

All benchmarked programs follow the traditional face-to-face delivery method. Florida International University and University of Arizona offer students an additional option to take the bachelor's degree online.



Experiential Opportunities Spotlight

University of Washington stands out for offering students of the Environmental Studies Major a wide range of options to get hands-on experience:



Sustainability Studio Course: students partner with faculty and staff in applied, campus-based projects.



UW Friday Harbor Laboratories: offers students the opportunity to study and construct research at UW's marine Biology station in San Juan Islands.



International Environmental Exploration Seminars: Program on the Environment Peru, Environmental and Forest Sciences Costa Rica, Wild Places and Forest Lands in Spain, and Oceanography in Micronesia.

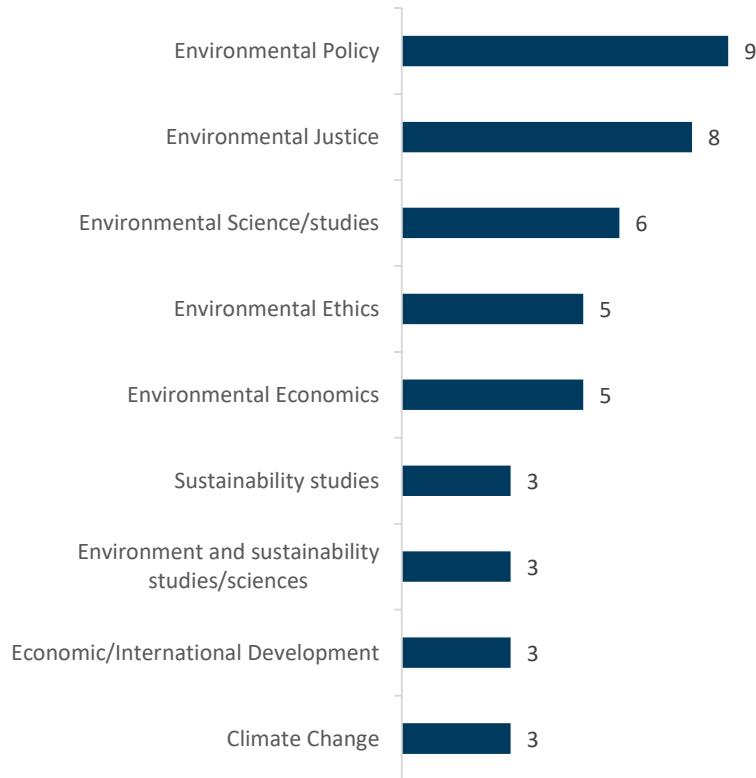
Benchmarking Key Findings – Curriculum and Program Emphasis

Climate, Environmental Justice, and Sustainability Undergraduate Programs

Curriculum

While benchmarked programs include a wide range of courses, Hanover identified nine common subjects.

Regardless of the program type, the most common subjects are typically related to the study of environmental and sustainability issues from different standpoints. The following nine subjects are commonly included in benchmarked programs either as core or elective courses.



Other Common Coursework

Other common courses depend on the focus of the program. Environmental and sustainability studies-related courses include science subjects in their curricula, while environmental justice-related programs include specialized course on law and sociology.



Environment and Sustainability studies:

- Ecology
- Oceanography
- Land Use Planning
- Water, Energy and Society
- Population Geography
- Natural Resource Management
- Geographic Information Systems (GIS)



Environmental Justice

- Environmental Crime
- Food Justice
- Social Change/Movements and Community Activism
- Social Inequality
- Teaching for Sustainability Literacy
- Wildlife Crime

Program Emphasis

Benchmarked programs focus on the study of human-nature interactions.

All benchmarked programs place an emphasis on studying the impacts of human society on the environment and natural resources. However, environmental and sustainability studies-related programs prioritize the study of the ecosystems, while environmental justice-related programs focus on developing skills to solve conflicts generated by the uneven distribution of natural resources in human societies.



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