

Sustainability Studies, B.A.

Degree Offered

- Bachelor of Arts

Nature of the Program

Students in the Bachelor of Arts in Sustainability Studies will explore core concepts in sustainable global futures, including development, resilient communities, and global humanitarianism. Graduates of the Sustainability Studies will be prepared to solve global challenges using critical systems thinking and a vision of peace, human rights, promoting cultures of resilience and sustainability and advancing sustainable development in Appalachia and globally. Students will be prepared in career pathways that include Local, Regional, and International Development, Disaster/Humanitarian Relief Assessment and Advocacy, Social Studies Education, Urban/Regional Planning, Environmental/Energy/Labor/International Law, Journalism, Social Entrepreneurship, Public Administration, Business Administration, Public Health, International Diplomacy, and Professional/Academic Geography.

Students in the Sustainability BA will take courses that that combine geoscience, environmental, social, and humanities research methods that involve geospatial analysis, mapping, development practice, and community engagement. They will also be well prepared for admission to graduate and professional schools.

Minors

All students have the possibility of earning one or more minors; a list of all available minors and their requirements (<http://catalog.wvu.edu/undergraduate/minors/>) is available. Please note that students may not earn a minor in their major field.

FACULTY

CHAIR

- Brent McCusker - Ph.D. (Michigan State University)

ASSOCIATE CHAIR

- Joseph Lebold - Ph.D. (West Virginia University)

PROFESSORS

- Kathleen Benison - Ph.D. (The University of Kansas)
Regular Graduate Faculty, Sedimentary Geology - Planetary Geology
- Dengliang Gao - Ph.D. (Duke University)
Regular Graduate Faculty, Exploration Geophysics, Petroleum and Structural Geology
- Amy Hessel - Ph.D. (University of Arizona)
Regular Graduate Faculty, Biogeography, Forest Ecosystems, Climate Variability
- Brent McCusker - Ph.D. (Michigan State University)
Regular Graduate Faculty, Livelihood Systems & Climate Change, Africa, Policy Making
- Brenden McNeil - Ph.D. (Syracuse University)
Regular Graduate Faculty, GIS, Environmental modeling, Forest Ecosystem Services
- Shikha Sharma - Ph.D. (University of Lucknow)
Regular Graduate Faculty, Isotope Geochemistry
- Jaime Toro - Ph.D. (Stanford University)
Regular Graduate Faculty, Structure and Tectonics
- Dorothy Vesper - Ph.D. (Pennsylvania State University)
Regular Graduate Faculty, Aqueous Geochemistry, Hydrogeology

ASSOCIATE PROFESSORS

- Jamison Conley - Ph.D. (Pennsylvania State University)
Regular Graduate Faculty, Spatial Analysis, Geocomputation, Health Geography
- Karen Culcasi - Ph.D. (Syracuse University)
Regular Graduate Faculty, Geopolitics, Identity, Middle East
- Cynthia Gorman - Ph.D. (Rutgers University)
Regular Graduate Faculty, Gender, Migration, Human Rights, Refugee Communities
- James Lamsdell - Ph.D. (The University of Kansas)

Regular Graduate Faculty, Paleobiology, Arthropods, Macroevolution, Heterochrony, Paleocology, Phylogenetics

- Rick Landenberger - Ph.D. (West Virginia University)
Forest ecology, Land use Management and Restoration
- Joseph Lebold - Ph.D. (West Virginia University)
Regular Graduate Faculty, Paleocology, Paleontology, Regional Geology
- Maria Alejandra Perez - Ph.D. (University of Michigan)
Regular Graduate Faculty, Cultural Geography, Science & Technology Studies, Speleology, Latin America and the Caribbean
- Amy Weislogel - Ph.D. (Stanford University)
Regular Graduate Faculty, Sedimentology
- Bradley Wilson - Ph.D. (Rutgers University)
Regular Graduate Faculty, Social Movements, Local/Global Food Systems, Food Justice

ASSISTANT PROFESSORS

- Michael Harman - Ph.D. (West Virginia University)
3D visualization, modeling complex landforms and processes, GIS
- Jacob Hileman - Ph.D. (University of California, Davis)
Environmental Science, Sustainability
- Aaron Maxwell - Ph.D. (West Virginia University)
Regular Graduate Faculty, Geospatial Instruction, Remote Sensing, Image Analysis, Spatial Modeling
- Holly Moulton - Ph.D. (University of Oregon)
Feminist political ecology, Gender, Climate change adaptation, Indigenous studies, Critical development studies, ice loss, and Andean communities

PROFESSOR EMERITI

- Robert Behling - Ph.D. (The Ohio State University)
- Timothy Carr - Ph.D. (University of Wisconsin - Madison)
- Joe Donovan - Ph.D. (Pennsylvania State University)
- Greg Elmes - Ph.D. (Pennsylvania State University)
- Trevor Harris - Ph.D. (University of Hull)
- Thomas Kammer - Ph.D. (Indiana University)
- Steven Kite - Ph.D. (University of Wisconsin)
- Kenneth C. Martis - Ph.D. (Michigan University)
- Henry Rauch - Ph.D. (Pennsylvania State University)
- Robert C. Shumaker - Ph.D. (Cornell University)
- Richard Smosna - Ph.D. (University of Illinois)
- Timothy Warner - Ph.D. (Purdue University)
- Thomas Wilson - Ph.D. (West Virginia University)

Admissions for 2026-2027

- First-Time Freshmen are admitted directly to the major.
- Students transferring from other majors or another institution are admitted directly to the major if they have at least a 2.0 overall GPA.

Major Code: 14F7

General Education Foundations

Please use this link to view a list of courses that meet each GEF requirement. (<http://registrar.wvu.edu/gef/>)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

| Code | Title | Hours |
|---------------------------------------|---|-------|
| General Education Foundations | | |
| F1 - Composition & Rhetoric | | 3-6 |
| ENGL 101 & ENGL 102 or ENGL 103 | Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research Accelerated Academic Writing | |
| F2A/F2B - Science & Technology | | 4-6 |

| | |
|--|-------|
| F3 - Math & Quantitative Reasoning | 3-4 |
| F4 - Society & Connections | 3 |
| F5 - Human Inquiry & the Past | 3 |
| F6 - The Arts & Creativity | 3 |
| F7 - Global Studies & Diversity | 3 |
| F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree) | 9 |
| Total Hours | 31-37 |

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Degree Requirements

Students must complete WVU General Education Foundations requirements, Eberly Edge Program requirements, major requirements, and electives to total a minimum of 120 hours.

Departmental Requirements for the B.A. in Sustainability Studies

- **Calculation of Major GPA:** A minimum GPA of 2.0 is required in all courses applied to major requirements, with a minimum grade of C- in SUST 102, SUST 202/SUST 202L, and SUST 207/SUST 207. If a course is repeated, all attempts will be included in the calculation of the GPA, unless the course is eligible for a D/F repeat.
- **Writing and Communication Requirement:** Sustainability Studies Bachelor of Arts students fulfill the Writing and Communication Skills requirement by completing ENGL 101 and ENGL 102 (or ENGL 103) and two additional **SpeakWrite Certified Courses™** certified course.
- **Areas of Emphasis:** Sustainability Studies majors will choose a curriculum from one of these Areas of Emphasis: Environmental Studies; GIS Methods; Sustainable Development
- **Capstone Requirement:** The university requires the successful completion of a Capstone requirement. In Sustainability Studies, based on their Area of Emphasis and with permission from their advisor, students will select the capstone section of SUST 402, GEOG 411, GEOG 415, or GEOG 452. The course selected for the capstone should not be already used to meet any other major requirement.

Curriculum Requirements

| Code | Title | Hours |
|------|---|-------|
| | University Requirements | 68 |
| | Eberly Edge Requirements | 15 |
| | Sustainability Studies Major Requirements | 37 |
| | Total Hours | 120 |

University Requirements

| Code | Title | Hours |
|----------|--|-------|
| | General Education Foundations (GEF) 1, 2, 3, 4, 5, 6, 7, and 8 (31-37 Credits) | |
| | Outstanding GEF Requirements 1, 3, 5, 6, and 8 | 21 |
| SUST 191 | First-Year Seminar | 1 |
| | General Electives | 46 |
| | Total Hours | 68 |

Eberly Edge Program Requirements

| Code | Title | Hours |
|------|--|-------|
| | EDG 1: Data and Society | 3 |
| | EDG 2: Effective and Civil Communication | 3 |
| | EDG 3: Ethics and Civil Responsibility | 3 |
| | EDG 4: Global and Regional Perspectives (SUST 102) | |
| | EDG 5: Practicing Arts & Sciences (ARSC 380) | 3 |
| | EDG 6: High Impact Experience | 3 |
| | Total Hours | 15 |

Sustainability Studies Major Requirements

| Code | Title | Hours |
|--|---|-----------|
| CORE COURSES: | | 16 |
| SUST 102 | Global Sustainability | |
| SUST 202 & 202L | Just Sustainable Development and Sustainable Development Laboratory | |
| SUST 207 & 207L | Climate System Science and Climate System Science Laboratory | |
| SUST 250 & 250L | Digital Earth and GIS and Digital Earth and GIS Laboratory | |
| SUST 388 | Careers in Sustainability | |
| AREA OF EMPHASIS: | | 15 |
| Select one of the following: | | |
| Environmental Studies | | |
| GIS Methods | | |
| Sustainable Development | | |
| UPPER-DIVISION ELECTIVE: | | 3 |
| Any GEOG, GEOL, or SUST course at the 300 level or above | | |
| CAPSTONE: * | | 3 |
| Select from of the following, based on the AoE: | | |
| GEOG 411 | Rural and Regional Development | |
| GEOG 415 | Global Environmental Change | |
| GEOG 452 | Geographic Information Science: Applications | |
| SUST 402 | Climate and Environmental Justice | |
| Total Hours | | 37 |

*
SUST course(s) selected to fulfill the Capstone should not already fulfill another SUST major requirement.

Suggested Plan of Study

First Year

| Fall | Hours | Spring | Hours |
|--|-------|---------------------------|-------|
| F3 | | 3 ENGL 101 (F1) | 3 |
| F6 | | 3 SUST 250 & 250L (F2B) | 4 |
| SUST 102 (EDG 4 & F7) | | 3 EDG 1: Data and Society | 3 |
| SUST 191 | | 1 General Elective | 3 |
| EDG 2: Effective and Civil Communication | | 3 General Elective | 2 |
| General Elective | | 2 | |
| | | 15 | 15 |

Second Year

| Fall | Hours | Spring | Hours |
|--|-------|--------------------|-------|
| SUST 202 & 202L (GEF 4) | | 4 ENGL 102 (GEF 1) | 3 |
| SUST 207 & 207L (F8 Course 1)* | | 4 F5 | 3 |
| EDG 3: Ethics and Civil Responsibility | | 3 F8 Course 2 | 3 |
| General Elective | | 4 General Elective | 3 |
| | | General Elective | 3 |
| | | 15 | 15 |

Third Year

| Fall | Hours | Spring | Hours |
|----------|-------|----------------|-------|
| SUST 388 | | 1 AoE Course 2 | 3 |

| | | |
|------------------|--------------------|----|
| AoE Course 1 | 3 AoE Course 3 | 3 |
| ARSC 380 (EDG 5) | 3 General Elective | 3 |
| F8 Course 3* | 3 General Elective | 3 |
| General Elective | 3 General Elective | 3 |
| General Elective | 2 | |
| <hr/> | | |
| | | 15 |
| | | 15 |

Fourth Year

| Fall | Hours | Spring | Hours |
|-------------------------------|--------------|---------------------------|--------------|
| AoE Course 4 | | 3 Capstone Course | 3 |
| AoE Course 5 | | 3 Upper-Division Elective | 3 |
| EDG 6: High Impact Experience | | 3 General Elective | 3 |
| General Elective | | 3 General Elective | 3 |
| General Elective | | 3 General Elective | 3 |
| <hr/> | | | |
| | | 15 | 15 |

Total credit hours: 120

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Students completing a minor, a double major or a dual degree already fulfill GEF 8.

Areas of Emphasis

- Environmental Studies (p. 5)
- GIS Methods (p. 5)
- Sustainable Development (p. 6)

Environmental Studies Area of Emphasis Curriculum

| Code | Title | Hours |
|--|---|--------------|
| ENVIRONMENTAL STUDIES CORE COURSES: | | 10 |
| SUST 101 & 101L | Sustainable Earth and Sustainable Earth Laboratory | |
| GEOL 365 | Environmental Geology | |
| GEOG 415 | Global Environmental Change | |
| ENVIRONMENTAL STUDIES ELECTIVES: | | 6 |
| Select 2 courses from the following: | | |
| GEOG 455 & 455L | Introduction to Remote Sensing and Introduction to Remote Sensing Laboratory | |
| GEOL 321 | Geomorphology | |
| GEOL 463 | Physical Hydrogeology | |
| GEOL 466 | Cave and Karst Geology | |
| SUST 302 | Research for Sustainable Development | |
| SUST 305 | Sustainable Governance | |
| SUST 308 | Climate Modeling | |
| SUST 340 | Urban Sustainability | |
| SUST 402 | Climate and Environmental Justice | |
| <hr/> | | |
| Total Hours | | 16 |

GIS Methods Area of Emphasis Curriculum

| Code | Title | Hours |
|----------------------------------|---|--------------|
| GIS METHODS CORE COURSES: | | 10 |
| GEOG 350 & 350L | Geospatial Problem Solving and Geospatial Problem Solving Laboratory | |
| GEOG 451 | Introduction to GIS Programming | |

| | | |
|--------------------------------------|---|----------|
| GEOG 455 & 455L | Introduction to Remote Sensing and Introduction to Remote Sensing Laboratory | |
| GIS METHODS ELECTIVES: | | 6 |
| Select 2 courses from the following: | | |
| GEOG 300 | Geographical Data Analysis | |
| GEOG 409 | Applied International Development | |
| GEOG 452 | Geographic Information Science: Applications | |
| GEOG 453 | Spatial Databases | |
| GEOG 454 | Environmental Geographic Information Systems | |
| GEOG 456 | Remote Sensing Applications | |
| GEOG 457 | Open-Source Spatial Analytics | |
| GEOG 461 | Web GIS | |
| GEOG 462 | Digital Cartography | |
| SUST 302 | Research for Sustainable Development | |
| Total Hours | | 16 |

Sustainable Development Area of Emphasis Curriculum

| Code | Title | Hours |
|--|---|-----------|
| SUSTAINABLE DEVELOPMENT CORE COURSES: | | 12 |
| SUST 302 | Research for Sustainable Development | |
| SUST 305 | Sustainable Governance | |
| SUST 402 | Climate and Environmental Justice | |
| SUST 403 | Sustainability, Planning and Development | |
| SUSTAINABLE DEVELOPMENT ELECTIVES: | | 3 |
| Select 1 course from the following list: | | |
| GEOG 300 | Geographical Data Analysis | |
| GEOG 302 | Political Geography | |
| GEOG 303 | Cultural Geography | |
| GEOG 309 | Introduction to International Development | |
| GEOG 312 | Migration and Human Rights | |
| GEOG 409 | Applied International Development | |
| GEOG 411 | Rural and Regional Development | |
| GEOG 415 | Global Environmental Change | |
| SUST 340 | Urban Sustainability | |
| SUST 372 | Sustainable Energy | |
| Total Hours | | 15 |

Degree Progress

Majors are expected to maintain a 2.0 GPA overall and a 2.0 in all SUST, GEOG, and GEOL courses applied to major requirements.

- By the end of their fourth semester in the major, students should have completed their required 100 and 200 level courses with the requisite grade.
- Students should complete SUST 388 (Careers in Sustainability) by their sixth semester in the major.
- In the advising appointment prior to the senior year, students will select an appropriate capstone option.
- All majors must meet with their departmental advisor each semester to evaluate progress.

Students who do not meet these benchmarks may be removed from their major.

Major Learning Outcomes

SUSTAINABILITY STUDIES

1. Understand Earth systems and society relations and their relevance to address sustainability challenges.
2. Describe the cultural diversity and complexity of human-environment relationships.
3. Analyze the spatial dimensions and impacts of political and economic activities.

4. Compare different approaches to social and environmental justice.
5. Evaluate the local, regional, national, and global contributions to sustainability by key agents and institutions.
6. Collect, analyze, evaluate, and visualize data to enable evidence-based decision-making for sustainable futures.
7. Communicate clearly and effectively in written, oral, graphical, and cartographic form about social, environmental, and sustainability issues to audiences of diverse backgrounds.