Environmental, Energy, and Land Management, B.S.

Degree Offered

- Bachelor of Science

Nature of the Program

The Bachelor of Science in Environmental, Energy, and Land Management is designed to equip students with the skills and knowledge needed to lead in the dynamic fields of land development, environmental stewardship, and energy innovation. This interdisciplinary program explores the intricate connections between business, environmental science, and land management, including nature-based climate initiatives, energy production, and infrastructure development. With national accreditation and insights from our industry advisory board, students receive a high-quality, relevant education that prepares them for diverse career paths in private business, government, consulting, or entrepreneurial ventures in the environmental and energy sectors. The program offers comprehensive training in identifying, leasing, and purchasing lands for development, and navigating the ethical, regulatory, and environmental frameworks crucial to success. Through hands-on learning experiences and projects that mirror real-world challenges, students gain practical expertise and a strong foundation to make a meaningful impact on the world through sustainable and innovative land and energy solutions.

Admissions for 2025-2026

- First-Time Freshman are admitted directly into the Environmental, Energy, and Land Management major.
- Students transferring from another major within WVU are directly admitted into the Environmental, Energy, and Land Management major if they are in good academic standing (2.00 GPA).
- Students transferring from another institution are directly admitted into the Environmental, Energy, and Land Management major if they are in good academic standing (2.00 GPA).

Major Code: 1705

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	Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research	
or ENGL 103	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.

Curriculum Requirements

Code	Title	Hours
University Requirements		40
Environmental, Energy, and Land Management Major Requirements		80
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, 4, 5, 6, 7, and 8		24
ANRD 191	First-Year Seminar	1
General Electives		15
Total Hours		40

Environmental, Energy, and Land Management Major Requirements

Code	Title	Hours
Required Courses		
SUST 101 & 101L	Sustainable Earth and Sustainable Earth Laboratory (GEF 2)	4
MATH 124	Algebra with Applications (GEF 3)	3
Second Earth Science		**4**
Select one of the following (GEF 8):		
SUST 201 & 201L	Earth System Science and Earth System Science 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	
Spatial Systems		**6**
Select two of the following:		
FNRS 326	Remote Sensing of Environment	
RESM 440 & 440L	Foundations of Applied Geographic Information Systems and Foundations of Applied Geographic Information Systems Laboratory	
RESM 444	Advanced GIS for Natural Resource Management	
Land Coursework		
ENLM 150	Introduction to Environmental, Energy, and Land Management	3
or ARE 201	Principles of Resource and Energy	
ENLM 200	Principles of Environmental, Energy, and Land Management	3
ENLM 220	Energy Production & Operations	3
ENLM 300	Ethics and Negotiations for Land Managers	3
ENLM 390	Land and Lease Analysis	3
ENLM 400	Land Management Contracts 1	3
ENLM 420	Land Management Contracts 2	3
Environmental Coursework		**21**
Select seven of the following:		
ARE 382	Agricultural and Natural Resources Law	
ARE 450	Agriculture, Environmental and Resource Policy	
ENLM 415	Midstream Energy Planning and Development	
FNRS 312	Projects in Sustainable Land Reclamation Management	
FNRS 421	Renewable Resources Policy and Governance	
FNRS 444	Watershed Management	
RESM 405L	Drones in Resource Management	

RESM 450	Land Use Planning Law	
RESM 460	Energy Project and Program Management	
RESM 475	Solar PV Technology & Policy Fundamentals	
RESM 480	Environmental Regulation	
RESM 545	Spatial Hydrology and Watershed Analysis	
SUST 372	Sustainable Energy	
WMAN 200	Restoration Ecology	
Professional Development and Capstone		
ENLM 491	Professional Field Experience	3
ENLM 450	Land Management Strategic Planning	3
Business Perspective		**15**
Select one of the following minors:		
Agribusiness Management		
General Business		
Or select five of the following:		
ECON 200	Survey of Economics	
BCOR 320	Legal Environment of Business	
BCOR 330	Information Systems and Technology	
BCOR 340	Principles of Finance	
BCOR 360	Supply Chain Management	
BCOR 370	Principles of Management	
BCOR 380	Business Ethics	
ARE 110	Agribusiness Accounting	
ARE 482	Enterprise Operation Law	
ARE 204	Agribusiness Management	
ARE 431	Marketing Agricultural Products	
ARE 461	Agribusiness Finance	
Total Hours		80

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours	Spring	Hours
ENGL 101 (GEF 1)	3	ENLM 150 or ARE 201	3
MATH 124 (GEF 3)	3	Second Earth Science Choice (GEF 8)	4
SUST 101 & 101L (GEF 2)	4	GEF 5	3
ANRD 191	1	GEF 6	3
GEF 8	3	GEF 8	3
	14		16

Second Year

Fall	Hours	Spring	Hours
ENGL 102 (GEF 1)	3	ENLM 390	3
ENLM 200	3	Environmental Course	3
ENLM 220	3	Business Choice	3
Business Choice	3	GEF 7	3
Environmental Course	3	General Elective	3
	15		15

Third Year

Fall	Hours	Spring	Hours
ENLM 300	3	ENLM 400	3
Business Choice	3	Business Choice	3
Environmental Course	3	Environmental Course	3

Spatial Systems Choice		3 Environmental Course	3
GEF 4		3 General Elective	3
		15	15

Fourth Year

Fall	Hours	Spring	Hours
ENLM 420		3 ENLM 450	3
ENLM 491		3 Environmental Course	3
Spatial Systems Choice		3 Environmental Course	3
Business Choice		3 General Elective	3
General Elective		3 General Elective	3
		15	15

Total credit hours: 120

Major Learning Outcomes

ENVIRONMENTAL, ENERGY, AND LAND MANAGEMENT

This B.S. degree program and major will provide undergraduate students a knowledge-based framework that will develop skillsets essential to a successful career in land and resource management. Upon graduation from this degree program and major, students will be able to:

- Design operational plans that integrate industry and public stakeholder goals for sustainable land development
- Evaluate the types of interests in land resource ownership and demonstrate an understanding of the ownership, legal, and business issues related to environmental and energy management
- Explain and negotiate the key elements of energy- and environmental-related leases, contracts, and operating agreements under accepted standards of practice
- Develop budgets and financial projections associated with environmental and energy development and the economics related to multiple energy production systems
- Demonstrate critical thinking skills and problem solving abilities and effectively communicate with stakeholders, peers, and other professionals in both written and oral forms.