Energy Land Management, B.S.

Degree Offered

- Bachelor of Science

Nature of the Program

This major focuses on energy land management and how it relates to energy development with an emphasis on the management, coordination, and development of surface and mineral interests. This program provides a strong foundation in the key aspects of energy land management and produces trained professionals that are critically needed in the energy and regulatory sectors. Upon completion of this program, students will understand how energy lands are managed and associated energy resources can be developed and used for maximum social, economic, and environmentally responsible benefit. Students will develop a detailed knowledge related to the identification and leasing of mineral estates; be proficient in drilling site development, transportation planning, pipeline development, and route planning; will have a thorough knowledge of post-processing planning and infrastructure development; and comprehend the ethical, regulatory, and environmental framework in which they must operate.

Admissions

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

ADMISSION REQUIREMENTS 2024-2025

The Admission Requirements above will be the same for the 2024-2025 Academic Year.

Major Code: 0732

Click here to view the Suggested Plan of Study (p. 3)

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	Introduction to Composition and Rhetoric	
& ENGL 102	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		34
Energy Land Management Program Requirements		56
Energy Land Management Major Requirements		30
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		21
ANRD 191	First-Year Seminar	1
General Electives		12
Total Hours		34

Energy Land Management Program Requirements

Code	Title	Hours
Energy Land Track		**14**
GEOL 101 & 101L	Planet Earth and Planet Earth Laboratory (GEF 2B)	
GEOL 103 & 103L	Earth Through Time and Earth Through Time Laboratory (GEF 8)	
STAT 211	Elementary Statistical Inference (GEF 8)	
MATH 124	Algebra with Applications (GEF 3)	
Geology		**3**
GEOL 472	Sustainable Energy	
Policy		**3**
Select one of the following:		
FNRS 421	Renewable Resources Policy and Governance	
FNRS 438	Human Dimensions Natural Resource Management	
ARE 450	Agriculture, Environmental and Resource Policy	
Computer		**3**
CS 101	Intro to Computer Applications	
or FNRS 240 & 240L	Introduction to Computing in Natural Resources and Introduction to Computing in Natural Resources Laboratory	
Natural Resource Management		**18**
Select six from the following:		
ESWS 455	Reclamation of Disturbed Soils	
ARE 220	Introductory Environmental and Resource Economics	
ARE 360	Current Issues In Agriculture	
ARE 382	Agricultural and Natural Resources Law	
ARE 410	Environmental and Resource Economics	
ESWS 460 & 460L	Environmental Impact Assessment and Environmental Impact Assessment Laboratory	
FNRS 444	Watershed Management	
FNRS 212	Forest Ecology	
FNRS 212L	Forest Ecology Laboratory	
FNRS 140	West Virginia's Natural Resources	
FNRS 326	Remote Sensing of Environment	
RESM 480	Environmental Regulation	
FNRS 422	Harvesting Forest Products	
FNRS 422L	Harvesting Forest Products Laboratory	

FNRS 445	Bio-based Energy Systems	
WMAN 150	Principles of Conservation Ecology	
WMAN 200	Restoration Ecology	
ARE 201	Principles of Resource and Energy	
WMAN 160	Ecology of Invading Species	
ESWS 155	Elements of Environmental Protection	
ENLM 415	Midstream Energy Planning and Development	
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		56

Energy Land Management Major Requirements

Code	Title	Hours
A minimum grade of C- or higher is required in Energy Land Management Major coursework.		
ENLM 150	Introduction to Energy Land Management	3
ENLM 200	Principles of Energy Land Management	3
ENLM 220	Energy Production & Operations	3
ENLM 300	Ethics and Negotiations for Energy Land Managers	3
ENLM 390	Land and Lease Analysis	3
ENLM 400	Energy Land Management Contracts 1	3
ENLM 420	Energy Land Management Contracts 2	3
ENLM 442	GIS Skills for Energy Land Management	3
ENLM 450	Energy Land Management Strategic Planning (Capstone Experience and fulfills Writing and Communication Skills requirement)	3
ENLM 491	Professional Field Experience	3
Total Hours		30

SUGGESTED PLAN OF STUDY

First Year

Fall	Hours	Spring	Hours
ENGL 101 (GEF 1)	3	GEOL 103 & 103L (GEF 8)	4
MATH 124 (GEF 3)	3	ENLM 150	3
GEOL 101 & 101L (GEF 2B)	4	General Elective	3
ANRD 191	1	GEF 5	3

GEF 8	3	GEF 6	3			
	14		16			
Second Year						
Fall	**Hours**	**Spring**	**Hours**			
ENGL 102 (GEF 1)	3	Natural Resource Management 1	3			
ENLM 200	3	FNRS 240	3			
STAT 211 (GEF 8)	3	General Elective	3			
Business Choice	3	ENLM 390	3			
ENLM 220	3	GEF 7	3			
	15		15			
Third Year						
Fall	**Hours**	**Spring**	**Hours**	**Summer**	**Hours**	
Natural Resource Management 2	3	ENLM 400	3	ENLM 491		3
ENLM 300	3	Natural Resource Management 3	3			
ENLM 442	3	GEOL 472	3			
Business Choice	3	Business Choice	3			
GEF 4	3	General Elective	3			
	15		15			3
Fourth Year						
Fall	**Hours**	**Spring**	**Hours**			
Natural Resource Management 4	3	Business Choice	3			
Natural Resource Management 5	3	ENLM 450	3			
Policy	3	General Elective	3			
ENLM 420	3	Natural Resource Management 6	3			
Business Choice	3					
	15		12			

Total credit hours: 120

Major Learning Outcomes

ENERGY LAND MANAGEMENT

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

- Effectively communicate with stakeholders, peers, and other professionals in both written and oral forms.
- Design operational plans that integrate industry and public stakeholder goals as to minimize impacts of energy development on local environments and create a positive community relationship
- Evaluate the types of interests in energy resource ownership including explaining the differences between mineral and surface estates, as well as the ability to interpret mineral and surface deeds
- Demonstrate professional knowledge and be able to negotiate the key elements of energy-related leases and operating agreements under accepted standards of practice
- Develop budgets and financial projections associated with energy development and the economics related to multiple energy production systems