Engineering, A.S.

Degree Offered

Associate of Science

Nature of the Program

An Associate of Science in Engineering prepares the student for a variety of engineering fields, including civil, electrical, mechanical, aerospace, and computer engineering. The 60 credit hours in the Engineering program contains 17 credits of Fundamentals of Engineering coursework, with an additional 16 credits of specialized foundation instruction covering advanced calculus classes and general physics. The remaining 27 credits are split between Education Foundation courses and technical and scientific electives that align with the major of the student's choice in the Statler College of Engineering.

Upon completion of the Engineering Associate of Science degree and the Fundamentals of Engineering Coursework, students can apply for admission to specific engineering degree programs in the Statler College of Engineering. A 2.5 GPA in engineering coded courses is required for admission.

Career Opportunities

Engineering is a diverse discipline offering numerous opportunities. These include:

- artificial intelligence
- cybersecurity
- robotics
- · aircraft and spacecraft systems
- pollution control
- new materials development
- · coal and mineral mining
- transportation systems
- building construction
- computer development
- · electronic systems
- oil/gas production and transportation
- · communication and information systems
- noise control and acoustics
- solar energy
- and just about anything else you can think of!

Visit the WVU Statler College Fundamentals of Engineering Program page (https://fep.statler.wvu.edu/faqs/) for more information

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
GEF Elective 5, 6, or 7		3
ENGL 101	Introduction to Composition and Rhetoric (GEF 1)	3
ENGL 102	Composition, Rhetoric, and Research (GEF 1)	3
MATH 155	Calculus 1 (GEF 3)	4
MATH 156	Calculus 2 (GEF 8)	4
MATH 251	Multivariable Calculus	4
MATH 261	Elementary Differential Equations	4
CHEM 115	Fundamentals of Chemistry 1	4
& 115L	and Fundamentals of Chemistry 1 Laboratory (GEF 2)	
PHYS 111	General Physics 1	4
& 111L	and General Physics 1 Laboratory (GEF 8)	
ECON 201	Principles of Microeconomics (GEF 4)	3
ENGR 101	Engineering Problem Solving 1	2
ENGR 102	Engineering Problem Solving 2	3
ENGR 191	First-Year Seminar	1
Science Elective		4
Technical Electives		13
General Elective		1
Total Hours		60

SCIENCE ELECTIVES

Code	Title	Hours
BIOL 115 & 115L	Principles of Biology and Principles of Biology Laboratory	4
CHEM 116 & 116L	Fundamentals of Chemistry 2 and Fundamentals of Chemistry 2 Laboratory	4
PHYS 112 & 112L	General Physics 2 and General Physics 2 Laboratory	4
GEOL 101 & 101L	Planet Earth and Planet Earth Laboratory	4

TECHNICAL ELECTIVES

Code	Title	Hours
MAE 241	Statics	3
MAE 242	Dynamics	3
EE 223	Electrical Circuits	4
& 223L	and Electrical Circuits Laboratory	
CPE 271	Introduction to Digital Logic Design	3
Any 200-level or above in MAE, CE, CS, CPE, EE, PNGE, IENG, or AE.		

Suggested Plan of Study

First Year			
Fall	Hours	Spring	Hours
ENGR 101		2 ENGR 102	3
ENGL 101 (GEF 1)		3 ENGL 102 (GEF 1)	3

	16	13
General Elective	1	
Technical Electives	7 GEF 5, 6, or 7	3
Science Elective (GEF 8)	4 Technical Electives	6
MATH 251	4 MATH 261	4
Fall	Hours Spring	Hours
Second Year		
	14	17
ENGR 191	1 ECON 201 (GEF 4)	3
& 115L (GEF 2)	& 111L (GEF 8)	
CHEM 115	4 PHYS 111	4
MATH 155 (GEF 3)	4 MATH 156 (GEF 8)	4

Total credit hours: 60

Major Learning Outcomes

ENGINEERING

Upon completion of the program, graduates would be able to:

- 1. Apply appropriate communication skills
- 2. Effectively use scientific terminology
- 3. Explain the connections among major, society, and the environment
- 4. Describe the relationship between scientific structure and function