AEROSPACE ENGINEERING
The College of Engineering and Mineral Resources

The Aerospace Engineering program provides a background education in mathematics and the basic sciences as well as a broad education in the fundamental aerospace engineering sciences. In addition, the program provides a balanced education in communications skills, humanities, and social sciences to prepare students for well-rounded careers with potential for leadership.

The Aerospace Engineering undergraduate program in the College of Engineering and Mineral Resources is recognized by industry as ranking among the best in the nation, and has been named a Program of Excellence by the WVU Board of Governors. A dual major in Mechanical and Aerospace Engineering is available.

Accreditation
All Engineering programs at West Virginia University are accredited by the Accreditation Board for Engineering and Technology, the sole agency for accreditation of educational programs leading to degrees in engineering.

College of Engineering and Mineral Resources
Located on the Evansdale Campus, overlooking Morgantown, the College of Engineering and Mineral Resources is housed in three buildings. While the Engineering Sciences Building and the Mineral Resources Building are used mostly for classes and office space, the Engineering Research Building contains laboratories used for research by faculty and students.

Using modern teaching techniques, faculty members use Web-based courses, guest lectures by visiting authorities, and team projects to enhance the learning experience. Teaching facilities are equipped with modern laboratories and computers designed to give students the best education possible.

Various activities supplement every student's education, including student chapters of professional engineering societies. Through these organizations, the College sponsors trips to professional meetings, giving students tremendous exposure to engineers, managers, and executives. These groups have received national recognition and have won awards for their activities.

Admission
To be eligible for admission to the College of Engineering and Mineral Resources, all prospective students must be qualified for admission to the University. Early application is strongly encouraged. The College of Engineering and Mineral Resources requires that incoming freshmen meet or exceed the following admission requirements:

Engineering, Pre-Computer Science, and Pre-Biometric Systems:
- A minimum high school GPA of 3.0.
- A minimum math ACT/SAT score of 27/620.

General Engineering:
- A minimum high school GPA of 2.5.
- A minimum math ACT/SAT score of 23/540.

Scholarships
Scholarships for freshmen are offered to top students by the College of Engineering and Mineral Resources and by WVU. In addition, the MAE Department offers scholarships to sophomore, junior, and senior students majoring in AE or ME. Departmental scholarships are based on academic performance at WVU.

Co-Op and Internship Programs
Since WVU is located near major coalfields, unique opportunities are offered. Summer employment, hands-on learning experiences, research projects, internships, and cooperative education (co-op) programs are just a few benefits of WVU's advantageous location.

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Aerospace Engineering

Curriculum

During the freshman year, all Engineering majors study in the Freshman Engineering Program. Students take three introductory engineering courses, which introduce eleven fields of engineering, computer science, and biometric systems, and help to develop communication and problem-solving skills through class projects and computer use. After completing Math 155 with at least a C, and Chem 115, Engr 101, Engr 199, Engr 102, and Engl 101 with a minimum GPA of 2.0, students choose a major from one of the eleven areas. During the second year, Aerospace Engineering students take courses that are the fundamentals of aerospace engineering, such as thermodynamics and aerodynamics. Then they take specific courses, including propulsion and structural analysis, that deal with the application of aerospace engineering principles to specific fields of aerospace engineering study. Computational and experimental experiences are provided through hands-on assignments in the laboratory and as students participate in national competitions. Laboratory and project classes also help to build communication and presentation skills, management skills, teamwork, and creativity.

Throughout the undergraduate program, design projects are stressed; for example, students become involved in a new military aircraft design or the design of an electrically powered model plane. In the senior year, elective courses enable Aerospace Engineering majors to examine technical subjects, including composite materials and flight simulation and controls. Aerospace Engineering provides a broad foundation so that graduates will be prepared for employment in a wide variety of industries or for graduate study. Graduates have the tools and motivation to continue their education formally or informally as technology evolves in the future.

Course Work

Please see the current *WVU Undergraduate Catalog* for complete course descriptions. http://coursecatalog.wvu.edu/

Academic Common Market

The Academic Common Market (ACM) is a cooperative tuition-reduction agreement among 14 Southern Regional Education Board states. If you are a resident of Delaware, you can study Aerospace Engineering at WVU while paying in-state tuition. The Mechanical and Aerospace Engineering dual major is another ACM program. Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia are the participating states. Periodic changes are made to this list.

Majors in the College of Engineering and Mineral Resources

Aerospace Engineering:	B, M, D
Biometric Systems:	B
Chemical Engineering:	B, M, D
Civil Engineering:	B, M, D
Computer Engineering:	B, D
Computer Science:	B, M, D
Electrical Engineering:	B, M, D
Engineering:	M
Industrial Engineering:	B, M, D
Industrial Hygiene:	M
Mechanical Engineering:	B, M, D
Mining Engineering:	B, M, D
Occupational Safety & Health:	D
Petroleum & Natural Gas Engineering:	B, M, D
Safety Management:	M
Software Engineering:	M

B = Bachelor's; M = Master's; D = Doctorate

For more information, visit
http://www.mae.cemr.wvu.edu/

Salary Range

Starting salaries for entry-level BSAE holders vary with region and employer, but average about $50,000. MSAE graduates start at $65,000, while PhD graduates start at $75,000.

Graduate School Opportunities

Roughly half of all AE graduates return to school for advanced degrees. WVU offers both MS and PhD degrees in Aerospace Engineering. Highly qualified students receive tuition waivers and research or teaching assistantships. Graduates are widely recruited by top-ranking graduate schools throughout the eastern half of the United States.

Career Opportunities

Aerospace engineers hold about 70,000 jobs. Almost 55% are in the aircraft, guided missile, and space vehicle manufacturing industries. Federal government agencies, primarily the Department of Defense and the National Aeronautics and Space Administration (NASA), provide more than one out of ten jobs. Business services, engineering and architectural services, research and testing services, and communications equipment manufacturing firms account for most of the remainder.