

Howard R. Hughes College of Engineering

Majoring in Mechanical Engineering

For further information, please visit <http://www.me.unlv.edu>

Mechanical Engineering involves the planning, design, manufacture, and operation of a number of devices, machines and systems. Mechanical Engineering is a broad discipline at the forefront of technological advancements in energy conversion, manufacturing, machine design, fluid mechanics, and aerospace systems. Virtually all facets of modern life are directly affected by the work of mechanical engineers. Today's mechanical engineers are routinely working on a variety of new ideas and innovations including robotics, laser systems, new energy sources, and automatic controls. They are also involved in applications related to space technology and aircraft design, orthopedic biomechanics, pollution control, automobile design and combustion engines, robot vision, problems of heating and lubrication, and the development of microprocessors and computer-based computational algorithms. Mechanical engineers continue to work toward meeting the demands of an increasingly complex technological society.

The Curriculum

The Mechanical Engineering curriculum at UNLV is molded on the recommendations of the American Society of Mechanical Engineers and is fully accredited by the Accreditation Board for Engineering and Technology (ABET).

The program of 125 credits leads to the degree of Bachelor of Science in Engineering with a major in Mechanical Engineering. In order to meet the requirements of ABET, the program contains specified components in mathematics, chemistry, physics, English, humanities, social science, computer science, engineering science, and engineering design. All students are required to take the Fundamentals of Engineering Examination during their final year of study, a major step toward registration as a Professional Engineer. All states require such registration because engineers are responsible for competent planning and design but also for the safety of the public that depends on their works.

Extra-Curricular Activities

Student chapters of the American Society of Mechanical Engineers (ASME), the Society of Auto-

motive Engineers (SAE), the American Institute of Aeronautics and Astronautics (AIAA), and the Nevada Society of Professional Engineers sponsor social events, student contests, field trips, and speakers on topics of interest to students. Our ASME Student chapter consistently receives top awards in the Human-Powered Vehicle Competition.

Local chapters of national organizations encourage student participation at their meetings. Such activities often provide the first non-academic contact by students with practicing professionals and offer insight into the "real world" of mechanical engineering.



Career Opportunities

Mechanical engineering graduates from UNLV have gone on to rewarding careers with industry, utility companies, consulting engineers and local, state and federal agencies. Many students decide to continue their education in graduate school at UNLV or at

other fine universities. The long-term outlook for employment of mechanical engineers appears to be excellent both regionally and throughout the country. Salaries and advancement prospects compare favorably with many other professions. Current starting salaries are in excess of \$55,000.



Facilities and Faculty

The Department of Mechanical Engineering is one of six departments and schools that make up the Howard R. Hughes College of Engineering all located in the Thomas T. Beam Engineering Complex, a modern facility of some 101,000 square feet, which includes classrooms, laboratories, and offices. A new Science, Engineering, and Technology Building is expected to be completed by Spring 2008.

Students and faculty at UNLV have access to a family of computers ranging from PCs to supercomputers. Mechanical engineering equipment and instrumentation are located throughout the departmental labs. Educational laboratories are continuously going through a process of upgrades to ensure they are up-to-date and can reflect the rapid changes in the mechanical engineering field.

The mechanical engineering faculty of 15 and professional staff of 2 is a dedicated and competent group with strong commitments to effective teaching and quality research. All faculty hold the doctorate degree, many have achieved professional registration. Faculty participate in the activities of technical and professional societies. Three faculty members hold the rank of ASME Fellow. Research programs are expanding rapidly. Current research activities include materials, fluid dynamics, aerodynamics, renewable energy, acoustics, robotics, control theory, and computer-aided design. Most research projects offer undergraduate students unique research opportunities.



High School Preparation

A career in mechanical engineering depends on a successful learning experience beginning with solid high school preparation. High school students thinking about engineering should be in a college prep program which includes the following high school courses: 4 years of English with

emphasis on composition, rhetoric, and literature; 4 years of mathematics, including algebra, geometry, trigonometry, and analysis; 3 years of Science including chemistry, physics, and biology; 3 years of social science and history; and 1 year of Computer Science. Speech, drafting, typing, and two years of foreign language also would be helpful. ACT and or SAT scores and a high school grade point average of 2.5, are required for freshman admission to UNLV. Students must demonstrate proficiency in mathematics, English, and chemistry prior to selecting a major.

The Freshman Year

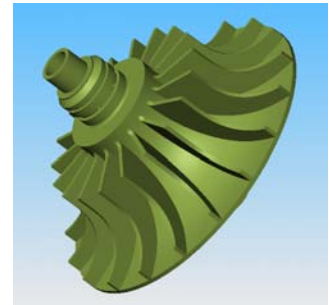
The Freshman year of study for all engineering programs at UNLV is essentially equivalent. The selection of a major is an important decision, which a student should make only after studying the alternatives and taking advantage of the counseling opportunities available through the university. A student should contact an adviser and work together in designing a class schedule. A freshman year program for a fully prepared student includes:

<i>First Year – Fall</i>	<i>Cr.</i>
Intro. To Mechanical & Aerospace Egr.	3
Calculus I	4
General Chemistry I	4
English Composition I	3
Constitutions Requirement	$\frac{4}{18}$
<i>First Year – Spring</i>	<i>Cr.</i>
Engineering Statics	3
Calculus II	4
Physics I	4
English Composition II	3
UNLV Core Elective	$\frac{3}{17}$

Additional information is available from the UNLV *Undergraduate Catalog* and from:

University of Nevada, Las Vegas
 Howard R. Hughes
 College of Engineering
 Center for Academic Advising

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 Phone (702) 895-2522
www.egr.unlv.edu/egr/pwelcome.cfm



The UNLV Campus

The University of Nevada, Las Vegas is committed to academic excellence in each of its more than 165 undergraduate and graduate programs. Following a decade of unprecedented growth in enrollment and facilities, the campus is now focusing its resources on enhancing the qualities of the university.

The university's commitment to learning is reflected in the core curriculum required of every student. The core provides a solid background in the humanities, fine arts, mathematics, science, English, and social sciences. Its purpose is to broaden the knowledge of all students, regardless of major.

Over 28,000 students attend classes at UNLV's 335-acre campus, located in the nation's fastest growing city. While most students are Nevada residents, a lively mixture of international and out-of-state students add to the cosmopolitan quality of the campus.

Residence halls on the UNLV campus are the home of more than 1,500 students. Each double-room arrangement shares a full bathroom. The complex is complete with recreational facilities, mail services, fitness rooms, and computer labs.

All academic programs at UNLV are fully accredited by the Northwest Association of Schools and Colleges.