

DELTA COLLEGE
COUNSELING/ADVISING & CAREER SERVICES
MECHANICAL ENGINEER

Salary Range: \$45,170-\$104,900

Personal Interests: Activities of a scientific and technical nature

Work Environment: Working conditions vary according to industry and function

Description

Mechanical engineers research, develop, design, manufacture/test tools, engines, machines, and other mechanical devices. They work on power-producing machines such as electricity-producing generators, internal combustion engines, steam and gas turbines, and jet and rocket engines. They also develop power-using machines such as refrigeration and air-conditioning equipment, robots used in manufacturing, machine tools, materials handling systems, and industrial production equipment. Mechanical engineers also design tools needed by other engineers for their work.

Mechanical engineers work in many industries and their work varies by industry and function. Some specialties include applied mechanics, computer-aided design and manufacturing, energy systems, pressure vessels and piping, and heating, refrigeration, and air-conditioning systems. Mechanical engineering is the broadest engineering discipline, extending across many interdependent specialties. Mechanical engineers may work in production operations, maintenance, or technical sales; many are administrators or managers.

Working Conditions

Mechanical engineers usually work with other engineers, architects, technicians, managers, shop employees, production line workers and drafters. They work at

desks or CAD workstations in offices that are well lighted and climate controlled. Those working in maintenance, production, construction, or installation activities work in plants or outdoors. They may be exposed to plant conditions, such as noise, dust, fumes, and all kinds of weather.

Mechanical engineers generally work a 5-day, 40-hour week. They may work overtime if emergencies occur or if deadlines must be met. Those working in production or maintenance may work on weekends and be on call at other times. Self-employed engineers arrange their schedules for the convenience of their customers. They must also travel at times.

Training, Other Qualifications

A bachelor's degree in engineering is required for almost all entry-level engineering jobs. College graduates with a degree in a physical science or mathematics occasionally may qualify for some engineering jobs, especially in specialties in high demand. Most engineering degrees are granted in electrical, electronics, mechanical, or civil engineering. However, engineers trained in one branch may work in related branches.

Delta College offers a pre-engineering program that is transferable to several Michigan universities toward obtaining a bachelor's degree in engineering. Interested students need to check with

Counseling & Academic Advising for a list of universities that have a transfer agreement with Delta College for engineering.

Job Outlook

There were approximately 16,000 mechanical engineers employed in Michigan in 2004. Most worked in urban areas for manufacturing firms. Others worked for government agencies, educational institutions, and consulting engineering firms.

The employment of mechanical engineers in Michigan is expected to grow about as fast as the average for all occupations through the year 2014. An average of 587 annual openings is expected, with additional opening occurring as workers change jobs or occupations.

The need for mechanical engineers in Michigan is dependent upon economic activity, particularly in the automotive industry. New mechanical engineering openings are to be found with auto industry suppliers. The need for mechanical engineers will increase because of the growing demand for, and the increasing complexity of, industrial machinery and processes in every industry. In addition, the growth of fields such as transportation systems, environmental control, biomechanics, propulsion systems, communications, and energy conversion will provide job opportunities for mechanical engineers.

Earnings

Earnings of mechanical engineers depend on the engineer's experience, capabilities, job responsibilities, education, and the type, size, and location of the employing organization. Nationally, the median annual earnings

of all mechanical engineers were \$72,580 (2006). Average annual salaries of mechanical engineers in selected areas of Michigan in May 2006 were:

Area	Annual Average
Michigan	\$73,790
Ann Arbor	\$77,940
Bay City	\$67,300
Detroit	\$82,200
Flint	\$71,020
Grand Rapids	\$66,250
Jackson	\$70,370
Kalamazoo	\$68,140
Lansing	\$64,850
Muskegon	\$54,120
Saginaw	\$57,050

Related Occupations

Occupations related to mechanical engineer are electrical engineer, architect, nuclear engineer, safety engineer, civil engineer, manufacturing engineer and industrial engineer.

mechanical engineer.doc updated 10/07
Sources: Occupational Outlook Handbook, Michigan Occupational Information System, Delta College Catalog.

Career Center, D132
Bay City/Saginaw (989) 686-9072
Midland/Auburn (989) 495-4000 ext.9072
Frankenmuth, Birch Run, Reese & Vassar: (989) 758-3400, ext. 9072
<http://www.delta.edu/careercenter>

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