Manufacturing Engineer

ABOUT THIS OCCUPATION

Manufacturing engineers are involved with the process of manufacturing from planning to packaging of the finished product. They work with tools such as robots, programmable and numerical controllers, and vision system to fine tune assembly, packaging, and shipping facilities. They examine flow and the process of manufacturing, looking for ways to streamline production, improve turnaround, and reduce costs. Often, a manufacturing engineer will work with a prototype, usually created electronically with computers, to plan the final manufacturing process.

Manufacturing engineers have the task of making manufacturing processes better, faster, and cheaper. Their success or failure directly impacts the advancement of technology and the spread of innovation. A professional in this field constantly reviews the allocation of resources, analyzes productivity, and seeks ways to maximize production while minimizing cost. Manufacturing engineering careers offer challenging opportunities that never fail to engage intellectual curiosity and push the edge of innovative thinking.

EDUCATION, EXPERIENCE, SKILLS

Manufacturing engineering graduates may work in any field that produces goods -- from automobiles and boats and airplanes, to electronic products to educational toys, to food and clothing. They must have strong analytical stills and be detail oriented. In addition, they must work well in team situations as they are often called upon to work in a group setting with other engineers and with others outside of engineering. Many college programs offer courses to prepare you to meet these skills needed to be successful as a manufacturing engineer.

To achieve success in manufacturing engineering, a quality education is an absolute must. Engineers draw heavily on mathematical and scientific knowledge, and these are skills best developed in a manufacturing engineering degree program. A good manufacturing engineering degree program will provide students with an opportunity to fuse math and science with top-notch communications skills.

To find schools in your state or region that have manufacturing engineering programs, use the search feature in the "Preparing for an Advanced Manufacturing Career" tab.

Engineering students pursuing an associate's degree will discover opportunities in several engineering fields. Most associate's degree programs provide students with foundational knowledge of engineering technology.

The Bachelor of Science in Engineering is the foundation for the majority of manufacturing engineering careers. Most BSE programs focus heavily on the general concepts of engineering, math, science, and technology. Intense and rigorous, BS programs also emphasize the combination of strong engineering skills with the ability to effectively communicate. Students pursuing a BS in Engineering should also expect to study humanities, history, and ethics.

The Baccalaureate degree (4 year) in manufacturing engineering or related program with professional experience will prepare you to (1) apply knowledge of materials and engineering theory and methods to design, integrate, and improve manufacturing systems or related processes and (2) work with commercial or industrial designers to refine product designs to increase producibility and decrease

costs. The added depth and breadth of the 4 year degree provides a stronger base and a greater range of abilities to permit movement among a wide array of industries and to follow a path of promotion to high-level management positions.

After a few years of work experience, many engineers find it necessary to increase their knowledge of a specific niche of engineering in order to advance their careers. Thus, many manufacturing engineers pursue a Master of Science in Manufacturing Engineering. This degree program focuses on advanced technical skills, problem-solving abilities, and a sophisticated understanding of everything involved in the manufacturing process.

CERTIFICATION

Engineering certificate programs are a worthwhile option, both for new students seeking an introductory educational experience and for current manufacturing engineering professionals who want a more in-depth knowledge of their specialty. The Society of Manufacturing Engineers offers excellent opportunities to continue learning and be certified to demonstrate your knowledge bout your career such as for the Certified Manufacturing Technologist (CMfgT) and the Certified Manufacturing Engineer (CMfgE).

SALARIES AND TRENDS

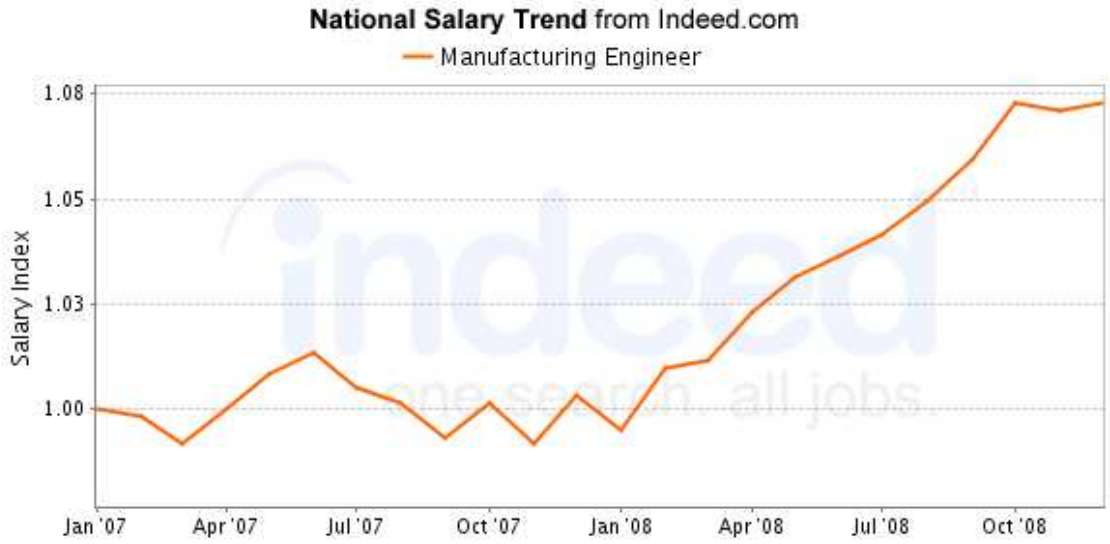
Manufacturers seeking to streamline costs and improve products are looking to manufacturing engineers to enhance the manufacturing process.

As a result, the demand for manufacturing engineers is strong in manufacturing centers across the United States. And, as many U.S. companies also have manufacturing locations abroad, manufacturing engineering graduates also have broad international career opportunities.

Earnings for engineers vary significantly by specialty, industry, and education. Even so, as a group, engineers earn some of the highest average starting salaries among those holding bachelor's degrees.

Manufacturing engineers work wherever products are manufactured -- in industry, government, research, service, and consulting. Manufacturing activities contribute more than 25% of the U.S. GDP, and according to the Federal Bureau of Labor Statistics, more than 60% of engineers employed in the United States are involved in manufacturing.

The national average starting salary for new manufacturing engineering graduates ranges from $45,000 to $59,000. According to the Society of Manufacturing Engineers, the average starting salary for a manufacturing engineering graduate (BS) is $44,837. The group estimates that the average salary of all manufacturing engineers is $57,683.



http://www.indeed.com/salary/Manufacturing-Engineer.html

The following information resource links provide the source for excellent discussion about the Manufacturing Engineer occupation described in this page. We encourage you to visit these links and other resources listed under the search results for this career.

http://www.sme.org/cgi-bin/certhtml.pl?/cert/students.htm&&SME&

http://www.careercornerstone.org/manueng/manueng.htm

http://www.worldwidelearn.com/online-education-guide/engineering/manufacturing-engineering-major.htm

http://www.indeed.com/salary/Manufacturing-Engineer.html