Manufacturing Engineering, BS

TSMEGRBS

Program Description

Successful manufacturing enterprises balance design, sustainability and quality with production to prosper in the global marketplace. Manufacturing engineering combines manufacturing processes (e.g., how materials are altered in either shape or properties) and the processes of manufacturing (e.g., design and management of manufacturing systems).

The BS program in manufacturing engineering prepares graduates to:

- analyze, synthesize and control manufacturing operations using statistical methods
- collaborate across disciplines to design and build solutions to real-world problems
- design innovative products and the equipment, tooling and environments necessary for their manufacture
- model, simulate and analyze manufacturing production processes for both small- and large-scale environments
- provide technological leadership

The curriculum is project-based, hands-on, teamwork-oriented and delivered in outstanding fabrication facilities. Graduates of this program become key team members who create and implement processes for making such varied products as airplanes, surgical instrument, toys and foodstuffs.


This major is eligible for the Western Undergraduate Exchange (WUE) program at the following location: Polytechnic campus. Students from Western states who select this major and campus may be eligible for reduced nonresident tuition at a rate of 150 percent of Arizona resident tuition plus all applicable fees. See more information and eligibility requirements on the Western Undergraduate Exchange (WUE) program.

At a Glance

- **College/School:** Ira A. Fulton Schools of Engineering
- **Location:** Polytechnic campus
- **Additional Program Fee:** Yes
- **Second Language Requirement:** No
- **First Required Math Course:** MAT 265 - Calculus for Engineers I
- **Math Intensity:** Substantial

**Required Courses (Major Map)**

2018 - 2019 Major Map
Major Map (Archives)

**Accelerated Degrees**

This program allows students to obtain both a bachelor's and master's degree in as little as five years. It is offered as an accelerated bachelor's and master's degree with:

- Manufacturing Engineering, MS

Acceptance to the graduate program requires a separate application. During their junior year, eligible students will be advised by their academic departments to apply.

**Admission Requirements**

**General University Admission Requirements:**

All students are required to meet general university admission requirements.

- [Freshman](#) | [Transfer](#) | [International](#) | [Readmission](#)

**Change of Major Requirements**

A current ASU student has no additional requirements for changing majors. Students should refer to [https://students.asu.edu/changingmajors](https://students.asu.edu/changingmajors) for information about how to change a major to this program.

**Global Opportunities**

**Global Experience**

With over 250 programs in more than 65 countries (ranging from one week to one year), study abroad is possible for all ASU students wishing to gain global skills and knowledge in preparation for a 21st century
Students earn ASU credit for completed courses, while staying on track for graduation, and may apply financial aid and scholarships toward program costs. https://mystudyabroad.asu.edu/.

**Career Opportunities**

Engineers collaborate on transdisciplinary teams to design, manufacture and deliver innovative technological products and services. The Bachelor of Science in Engineering program in manufacturing engineering enables students to develop sophisticated technical skills in tandem with the professional skills of communication, teamwork and collaboration, and self-motivation and adaptability that many employers seek. Graduates are prepared to work in large corporations, government agencies, small businesses, as well as to go on to graduate school to pursue advanced degrees. The program’s emphasis on open-ended design and project-based learning supports the development of entrepreneurial skills and attitudes, and some students start companies of their own.

Graduates typically work as manufacturing engineers in a variety of companies, large and small. They are often members of design and development teams, cooperating with other people within and outside of their company. Career employment opportunities include direct manufacturing support, manufacturing management, and quality control and assurance. Due to a strong, broad and practical engineering skill set, graduates are highly valuable in small or new startup companies. Program graduates are well-placed and command top salaries.

Career examples include but are not limited to those shown in the following list. Advanced degrees or certifications may be required for academic or clinical positions.

<table>
<thead>
<tr>
<th>Career</th>
<th>Growth</th>
<th>Median Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biofuels Production Manager      ✨</td>
<td></td>
<td>$100,580</td>
</tr>
<tr>
<td>Cost Estimator                    ✿</td>
<td>10.5%</td>
<td>$63,110</td>
</tr>
<tr>
<td>Engineering Manager               ✨</td>
<td>5.5%</td>
<td>$137,720</td>
</tr>
<tr>
<td>Human Factors Engineer            ✿</td>
<td>9.7%</td>
<td>$85,880</td>
</tr>
<tr>
<td>Hydroelectric Production Manager  ✨</td>
<td></td>
<td>$100,580</td>
</tr>
<tr>
<td>Industrial Engineer               ✿ ✿</td>
<td>9.7%</td>
<td>$85,880</td>
</tr>
<tr>
<td>Manufacturing Plant Manager       ✨</td>
<td></td>
<td>$100,580</td>
</tr>
<tr>
<td>Methane System Operator           ✨</td>
<td></td>
<td>$100,580</td>
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<tr>
<td>Position</td>
<td>Salary</td>
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<tr>
<td>Power Plant Manager</td>
<td>$100,580</td>
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<tr>
<td>Power Production Manager</td>
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<tr>
<td>Quality Control Manager</td>
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<tr>
<td>Supply Chain Engineer</td>
<td>6.4%</td>
<td>$97,250</td>
</tr>
<tr>
<td>Validation Engineer</td>
<td>6.4%</td>
<td>$97,250</td>
</tr>
</tbody>
</table>

* Data obtained from the Occupational Information Network (O*NET) under sponsorship of the U.S. Department of Labor/Employment and Training Administration (USDOL/ETA).

🌞 Bright Outlook 🌿 Green Occupation

**Contact Information**

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