The Occupational Outlook Handbook (OOH) is compiled by the United States Bureau of Labor Statistics. It has the most up-to-date national data on thousands of careers. Here you can find almost everything you need to know about an occupation before you decide to take that path...Go to https://www.bls.gov/ooh/

From this page, you can view occupations by group using the left-side menu:

Or, you can search for a specific occupation by typing it into the search box at the top right of the screen:
Here, we searched for “mechanical engineering.” Links to the profiles of the most relevant matches for your search will appear. Click on the link for the occupation you want to learn more about:

This will open the “Summary” tab for that occupation where you can view some quick information about the occupation before diving deeper:
The “What They Do” tab outlines the typical job duties reported by people who work in this field and often describes sub-specialties within this career:

While the “Work Environment” tab shows you the typical places you will find these people working, number of hours worked, and other things about the job setting:
“How to Become One” is an important tab to read because it describes the typical educational requirements and any additional things you must complete in order to pursue this occupation. Many occupations require a Bachelor’s Degree or higher, and some require additional licensure or certification.

## How to Become a Mechanical Engineer

Mechanical engineers typically need a bachelor’s degree in mechanical engineering or mechanical engineering technology. Mechanical engineers who sell services publicly must be licensed in all states and the District of Columbia.

### Education

Mechanical engineers typically need a bachelor’s degree in mechanical engineering or mechanical engineering technology. Mechanical engineering programs usually include courses in mathematics and life and physical sciences, as well as engineering and design. Mechanical engineering technology programs focus on theory and more on the practical application of engineering principles. They may emphasize internships and co-ops to prepare students for work in industry.

Some colleges and universities offer 5-year programs that allow students to obtain both a bachelor's and a master's degree. Some 5-year or even 6-year cooperative plans combine classroom study with practical work, enabling students to gain valuable experience and earn money to finance part of their education.

ABET accredits programs in engineering and engineering technology. Most employers prefer to hire students from an accredited program. A degree from an ABET-accredited program is usually necessary to become a licensed professional engineer.

### Important Qualities

- **Creativity:** Mechanical engineers design and build complex pieces of equipment and machinery. A creative mind is essential for this kind of work.
- **Listening skills:** Mechanical engineers often work on projects with others, such as architects and computer scientists. They must listen and analyze different approaches made by others to complete the task at hand.
- **Math skills:** Mechanical engineers use the principles of calculus, statistics, and other advanced subjects in math for analysis, design, and troubleshooting in their work.

### Pay

The median annual wage for mechanical engineers was $88,430 in May 2019. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less. The lowest 10 percent earned less than $57,130, and the highest 10 percent earned more than $138,020.

In May 2019, the median annual wages for mechanical engineers in the top industries in which they worked were as follows:

- **Scientific research and development services:** $103,780
- **Computer and electronic product manufacturing:** $95,260
- **Architectural, engineering, and related services:** $90,560
- **Transportation equipment manufacturing:** $90,150
- **Machinery manufacturing:** $80,720

Most mechanical engineers work full time and some work more than 40 hours a week.

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Suggested citation:

And the “Job Outlook” tab outlines the projections on how/why this occupation may grow or decline in the future, as well as how you may improve your job prospects:

The “State & Area Data” tab is where you can see data on salary and number of jobs per state for the previous year. Click on the link to the occupation and then scroll down to the map.
California had the 2nd highest level of employment in the nation, representing more than 1 job in every thousand, with pay landing at over $100,000 annually in the mid-range:

Use the “Similar Occupations” tab to explore other occupations that share things in common with this occupation. You may find that there are other career paths you are interested in that you hadn’t considered:

<table>
<thead>
<tr>
<th>State</th>
<th>Employment</th>
<th>Employment per thousand jobs</th>
<th>Location quotient</th>
<th>Hourly mean wage</th>
<th>Annual mean wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michigan</td>
<td>43,850</td>
<td>10.09</td>
<td>4.83</td>
<td>$44.64</td>
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<td>1.24</td>
<td>$39.80</td>
<td>$82,780</td>
</tr>
</tbody>
</table>
And finally, the “More Info” tab provides links to valuable online references for this occupation, like professional organizations and student associations:

Career advising and additional resources are available at the Career Center!