The advanced manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products.

Today’s manufacturing occupations are clean and modern, controlled with high technology, automation and robots. Manufacturing offers excellent process improvement strategies to compete globally and help lead the country out of its economic downturn, employing a highly skilled, highly motivated workforce. Whether your interests lie in improving the layout and efficiency of a company through industrial engineering or designing custom tools that enable a company to produce its product through a case as a tool and die maker, the manufacturing sector has the career for a lifetime.

Over the past 10 years, much of the advanced manufacturing growth in the Greater New Orleans has been fueled by process and productivity improvement, often coupled with the introduction of new career pathways. As a result, employers do not always need more workers to meet increasing demand, but they do require a more skilled workforce. Low-skill production jobs often either moved offshore or were replaced through automation. Newly installed capital equipment requires more capable operators and skilled technicians to maintain the equipment.

There are many occupations within the manufacturing industry that require higher levels of education; however, there are also many that only require a high school diploma or equivalent. Most occupations in the manufacturing industry require employees to participate in continuous on-the-job training (OJT).

<table>
<thead>
<tr>
<th>CTE Program info:</th>
<th>Career Exploration:</th>
<th>Louisiana Jump Start Career Diploma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Careers in this Industry:</td>
<td>Guest Speakers</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Types of employment for this sector</th>
<th>HOURS/WEEK</th>
<th>WORK SCHEDULE</th>
<th>COMPENSATION</th>
<th>PAYMENT SCHEDULE</th>
<th>COMMON BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-Time</td>
<td>Usually 35+</td>
<td>Steady</td>
<td>Annual</td>
<td>Weekly or bi-weekly</td>
<td>Paid sick leave, vacation, health insurance, retirement savings</td>
</tr>
<tr>
<td>Part-Time</td>
<td>May vary</td>
<td>Hourly</td>
<td>Weekly or bi-weekly</td>
<td>Usually none</td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>As available</td>
<td>Varies</td>
<td>Hourly</td>
<td>Weekly or bi-weekly</td>
<td>Usually none</td>
</tr>
<tr>
<td>Self-Employed</td>
<td>Varies</td>
<td>Varies</td>
<td>As negotiated with clients</td>
<td>Upon completion of work or on a schedule of deliveries</td>
<td>None; must pay own taxes and health insurance</td>
</tr>
</tbody>
</table>

Some careers may have corresponding UNIONS that eligible workers can join. These groups typically require employers to pay higher than comparable salaries to members than those of non-union positions. Unions may also negotiate additional benefits with employers on behalf of their members.
**HIGH SCHOOL DIPLOMA**

- **Production Worker Helper** $13.63/hour
  - Help production workers by performing duties requiring less skill. Duties include supplying or holding materials and cleaning work areas.

- **Laborers & Material Movers** $12.68/hour
  - Move freight, stock, or other materials or perform other general labor.

- **Machine Operator** $12.83/hour
  - Operate machines to prepare products for storage or shipment. Includes caseworkers who pack food products.

- **Team Assembler** $28.76/hour
  - Work as part of a team having responsibility for assembling an entire product or component of a product.

**MAP KEY**
- **Louisiana Jump Start aligned programming available.**
- **Bright Outlook. Expected to grow faster than average between now and 2024.**
- **Licensing or certification required.**
- **Pay: Reflects median pay. Jobs that are primarily part-time are expressed as hourly pay; jobs that are primarily full-time are shown with annual pay. Those that could be either are shown both ways.**

**POST-SECONDARY TRAINING OR APPRENTICESHIP**

- **Metal and Plastic Layout Worker** $54,101/year
  - Lay out reference points and dimensions on metal or plastic stock or workpieces for further processing. Includes shopfitters.

- **Metal-Refining Furnace Op** $39,853/year
  - Operate or tend furnaces to melt and refine metals before casting or to produce specified type of steel.

- **Maintenance Worker** $17/hour
  - Install, maintain, and repair machinery and heavy equipment according to layout plans, blueprints, or other drawings.

- **Tool and Die Maker** $44,491/year
  - Assemble specifications on metal and steel; set up and operate machine tools to make and repair dies, casting tools, and other metal tools.

- **Welder** $45,427/year
  - Use hand-welding, flame-cutting, and brazing equipment or tools to join or cut metal or other materials. Includes welders, cutters, solderers, brazers, and billayers.

- **Machinist** $44,932/year
  - Set up and operate a variety of tools to produce precision parts and instruments. Fabricate and modify parts for industrial machine tools.

- **Computer Operator** $32,985/year
  - Operate computer-controlled machines or robots to perform one or more machine functions.

- **Structural Metal Fabricator** $42,764/year
  - Fabricate, position, align, and fit parts of structural metal products.

- **Machine Tool Setters** $32,622/year
  - Set up, operate, and tend various types of machine tools for the fabrication of metal and other materials.

- **Industrial Machinery Mech** $46,371/year
  - Repair, install, adjust, or maintain industrial production and pipeline distribution systems.

**ASSOCIATE’S DEGREE**

- **Electric Motor Repairman** $36,566/year
  - Repair, install, or maintain electric motors, wiring, or switches.

- **1st Line Extraction Worker Supervisor** $54,991/year
  - Directly supervise and coordinate activities of construction or extraction workers.

- **Electronics Engineering** $89,336/year
  - Lay out, build, test, troubleshoot, repair, or modify development and production electronic components, parts, equipment, systems, or systems.

- **Mechanical Engineering Tech** $66,893/year
  - Apply theory and principles of mechanical engineering to design, develop, test, or criticize machinery and equipment.

- **Machine Tool Technician** $47,216/year
  - Specialize in machines or machine tools used for manufacture of metal parts. Coordinate and control setup of machine tools.

- **Technical Writer** $64,106/year
  - Write technical materials, such as equipment manuals, apprentices, and operating or maintenance instructions.

- **Electro-Mechanical Technicians** $44,283/year
  - Operate, test, maintain, or calibrate electromechanical equipment.

- **Industrial Engineering Tech** $69,846/year
  - Apply engineering theory and principles to problems of industrial layout or manufacturing production, under direction of engineering or technical staff.

**BACHELOR’S DEGREE**

- **Mechanical Engineer** $95,663/year
  - Plan, design, and coordinate work activities and research for manufacturing or in accordance with cost constraints.

- **Chemical Engineer** $104,603/year
  - Design chemical plant equipment and device processes for manufacturing chemicals and products, by applying scientific principles.

- **Cost Estimator** $51,438/year
  - Prepare cost estimates for product manufacturing, construction projects, or services to aid in bidding on or determining price of product or service.

- **Architectural Drafter** $58,265/year
  - Prepare detailed drawings of architectural designs and plans for buildings and structures according to specifications provided by architects.

- **Industrial Production Manager** $102,838/year
  - Plan, direct, and coordinate work activities and resources for manufacturing or in accordance with cost constraints.

- **Software Developer** $87,826/year
  - Develop software for industrial applications, from low-level control of production processes to high-level management and logistic tasks.

- **Engineering Manager** $115,947/year
  - Oversees the development and implementation of manufacturing processes to maintain proper product functionality as well as cost efficiency.

**DID YOU KNOW?**

- **Cheap and abundant domestic natural gas will ensure that US-manufactured goods will remain competitive on the world market for many years to come.**
- **Many of the workers in the industry will retire soon resulting in many of the 3,297 job openings expected from 2011-2024.**
- **Manufacturing workers are more likely to have medical benefits and retirement packages compared to workers in other industries.**