Model Programs of Study Guide:
Manufacturing & Engineering

**ORIENTATION / INTRODUCTION**
Grades 9-10

Introduction to Manufacturing & Engineering

**SKILL DEVELOPMENT**
Grades 10-12

Foundations of Production & Manufacturing Processes
Principles of Engineering

**CAPSTONE / ADVANCED**
Grades 12

Advanced Production & Manufacturing Processes
Computer Integrated MFG

**POSTSECONDARY COURSES**
Recommended 1st Year

CNC Programming
Manufacturing Materials and Processes
Industrial Electricity

**POSTSECONDARY OPTIONS**

WELDING

Precision Machining & Production

MACHINING & PRODUCTION

Precision Machining & Production

MAINTENANCE & PROCESS OPERATIONS

Industrial Maintenance

PROCESS OPERATIONS

Industrial Maintenance AAS

ENGINEERING & AUTOMATION

Computer Integrated Manufacturing & Mechatronics

Guided Transfer: Engineering

**SELECTED OCCUPATIONS, WAGES, & JOB GROWTH**

<table>
<thead>
<tr>
<th>Program</th>
<th>Typical Job</th>
<th>Near or Above Living Wage Threshold for 1 Adult + 1 Child</th>
<th>Median Hourly Wage</th>
<th>Growth in IL: Annual Job Openings</th>
<th>Growth in IL: % Change Over 10 years</th>
<th>Stackable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Welding</td>
<td>Welders, Cutters, Welder Fitters</td>
<td>$19.18</td>
<td>1,540</td>
<td>5%</td>
<td>Not Typically Stackable</td>
</tr>
<tr>
<td>2</td>
<td>Machine Tool Technology</td>
<td>Tool and Die Makers</td>
<td>$25.34</td>
<td>450</td>
<td>-5%</td>
<td>Typically Stacks to Related Bachelor's Program at Select 5 Universities</td>
</tr>
<tr>
<td>3</td>
<td>Precision Machining</td>
<td>Machinists</td>
<td>$10.44</td>
<td>3,630</td>
<td>4%</td>
<td>Typically Stacks to Further Certificates or an AAS</td>
</tr>
<tr>
<td>4</td>
<td>Industrial Maintenance</td>
<td>Industrial Machinery Mechanics</td>
<td>$25.65</td>
<td>160</td>
<td>18%</td>
<td>Typically Stacks to Related Bachelor's Program at Select 5 Universities</td>
</tr>
<tr>
<td>5</td>
<td>Process Technology</td>
<td>Chemical Equipment Operators and Tenders, Biofuel Processing</td>
<td>$24.95 - $33.87</td>
<td>200</td>
<td>7% - 3%</td>
<td>Not Typically Stackable</td>
</tr>
<tr>
<td>6</td>
<td>Computer Integrated Manufacturing &amp; Mechatronics</td>
<td>Manufacturing Engineering Technologists, Electromechanical Engineering Technologists, Robotics Technicians</td>
<td>$30.26 - $30.48</td>
<td>460</td>
<td>5%</td>
<td>Typically Stacks to Related Bachelor's Program at Most IL Universities</td>
</tr>
<tr>
<td>7</td>
<td>Guided Transfer: Engineering</td>
<td>Engineers in Various Branches: Mechanical, Civil, Electrical, Chemical, Mechatronics, Industrial</td>
<td>$40.65 - $44.55</td>
<td>3,760</td>
<td>4% - 12%</td>
<td>Typically Stacks to Related Bachelor's Program at Most IL Universities</td>
</tr>
</tbody>
</table>

1. Living wage calculations are based on MIT's Living Calculator (https://livingwage.mit.edu/), where the "Living Wage" for 1 Adult + 1 Child is $26.27/hour for the state of Illinois.
2. "Hour" defined as 85% of the statewide living wage, which is $22.33/hour

**DRAFT FOR PUBLIC COMMENT**