Integrated Work-Based Learning Components

Career Awareness Activities
- Workplace Tours, Guest Speakers or Career Fairs
Contact:

Career Exploration Activities
- Job Shadowing, Site Visits, or Informational Interviews

Career Practice Activities
- Student Camps and Challenges, Student Enterprises or Service Learning

Professional Learning
- Internships and Industry Credentials

See back panel for more specific program requirements >>

Mechanical Engineering Pathway Model

Mechanical engineers design, develop, build, and test mechanical and thermal sensors and devices, including tools, engines, and machines.

Potential Careers in Mechanical Engineering
- Astrophysicist
- Biomedical engineer
- CAD technician
- Quality engineer
- Structural engineer
- Survey technician
- Systems engineer
- Rail Engineer
- Design Engineer
- Fluid Dynamics Engineer

Where Mechanical Engineers Work
National Companies
- The Boeing Company
- Ford Motor Company
- GE Aviation
- Google
- National Aeronautics and Space Administration (NASA)
- US Department of Energy
- Walt Disney Company

Illinois Companies
- John Deere
- Fermilab
- Siemens
- State of Illinois
- Caterpillar

Local Companies
- Aerotek
- Exelon
- UTC Aerospace Systems
- Fehr Graham
- Ballard Engineering
- Larson and Darby
- Chrysler Belvidere Plant
- UTC Aerospace Systems

2014 median pay nationwide - $83,060 annually for mechanical engineers

Did you know...

Industries that use mechanical engineers are involved in robotics, computer-aided design/manufacturing (CAD/CAM), automotive/transportation, air-conditioning and refrigeration, and machine-to-machine interaction or machine-to-human interaction.

Source: Department of Mechanical Engineering, College of Engineering and Engineering Technology, Northern Illinois University

Mechanical engineering is one of the broadest engineering disciplines.

Source: Bureau of Labor Statistics

In 2014, there were 3,919 open mechanical engineering jobs in Chicago

Source: Career Builder

Mechanical engineers are designing the next generations of vehicles and vehicle systems, such as hybrid-electric cars and clean diesel automobiles.

NIU College of Engineering and Engineering Technology has more than 25 scholarships for engineering students.

2014 median pay nationwide - $83,060 annually for mechanical engineers

NIU College of Engineering and Engineering Technology has more than 25 scholarships for engineering students.
Recommended Mechanical Engineering Pathway

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 9</td>
<td>Grade 10</td>
<td>Grade 11</td>
<td>Grade 12</td>
<td>Semester 1</td>
<td>Semester 2</td>
<td>Semester 3</td>
<td>Semester 4</td>
</tr>
</tbody>
</table>

Students must earn 48 total credits in order to graduate from Rockford Public Schools.

Dual Credit, Advanced Placement or Articulated Credit

- AP Chemistry, AP Physics or AP Biology

*Prerequisite Information

- These courses have specific course prerequisites that are not shown above and may require additional credit hours to be taken by the student.

Recommended Math/Science

- Pre-Calculus, Trigonometry or AP Calculus, Biology

- Calculus I with Analytic Geometry I (MTH 135), Calculus II with Analytic Geometry II (MTH 235), Calculus III with Analytic Geometry III (MTH 236), Differential Equations (MTH 248)

Recommended English/Social Studies

- Composition I (ENG-101)

Recommended Electives

- Recommended Electives

Professional Learning/Internships

- Professional Learning/Internships

Industry Credentials Earned

- Industry Credentials Earned

Degree Completion Information

- For more information about Rockford Public Schools — EMITT Academy Manufacturing Operations Pathway, contact Dave Carson Executive Director, College and Career Readiness dave.carson@rps205.com 815-966-3123

- For more information about the Rock Valley College Manufacturing Engineering Technology program, contact Ron Geary, Vice President, Career and Technical Education/Outreach r.geary@rockvalleymich.edu 815-921-3101

- For more information about NIU's Bachelor of Science, Applied Manufacturing Technology program, contact Amanda Walsh, Director, Academic Advising for College of Engineering and Engineering Technology awalsh8@niu.edu 815-753-8071

Local Entry Level Positions after Degree

- Local Entry Level Positions after Degree

Key

- Career-focused instructional sequence
- Academic Competencies
- Professional Learning