Integrated Work-Based Learning Components

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

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

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

Source: Occupational Outlook Handbook

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

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.

Source: Occupational Outlook Handbook

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

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<th>Year 1</th>
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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,
- Calculus W/Analytic Geometry I (MTH 135), Calculus W/Analytic Geometry II (MTH 235), Calculus W/Analytic Geometry III (MTH 236), Differential Equations (MTH 240)

### Recommended Math/Science
- Pre-Calculus, Trigonometry or AP Calculus, Biology

### Recommended English/Social Studies
- Composition I (ENG-101)

### Recommended Electives
- Recommended Technology Electives
  - Choice of more than 20 electives based on area of emphasis

### Professional Learning/Internships
- Career-related and workplace experiences after school, weekends, and summers.

### Industry Credentials Earned
- Industry Credentials Earned

### Degree Completion Information
- 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

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