Programs

Bachelor of Science
• Automation Engineering Technology
• Construction Management
• Electrical Engineering Technology
• Manufacturing Engineering Technology
• Materials Science & Engineering coming Fall 2024!
• Materials Science Engineering Technology coming Fall 2024!
• Mechanical Engineering Technology coming Fall 2025!
• Technology & Engineering Education

Bachelor of Arts
• Technology Management
• Graphic Technology
Applied Engineering Building (AEB)

- Undergoing a $43.9 million complete renovation & expansion.
- Anticipated opening: **January-March 2024**
- Building was first constructed in 1974 to educate industrial technology teachers.
What makes us UNIque?

• **Lecture/lab courses**
  - Applied, hands on coursework.

• **Many students graduate in three and a half years.**

• **Awarded nearly $50,000 in scholarships last year.**

• **Course taught by professors, not TA’s.**

• **Highest average starting salary on campus!**

• **Students are taking major courses their first semester.**

• **High demand careers***
  - Manufacturing (Industrial) engineers projected 12% job growth.
  - Construction managers projected 5% job growth.
  - Electrical engineers projected 5% job growth.

Instagram Account

applied_engineering_at_UNI
Construction Management Highlights

• Only Construction Management program in Iowa.
• Graduates become Project Managers or Project Engineers in the commercial or heavy highway construction industries.
• Average starting salary: $65,000-$75,000
• Students typically have jobs lined up 6-9 months before graduation.
• Construction Management Club
• Pairs well with Real Estate & General Business Concepts minors or Entrepreneurship certificate.
Other Department Highlights

• Graphic Technology
  • Similar to a graphic design program – less art, more technical and production based.
  • Will be making curriculum adjustments towards packaging.

• Technology & Engineering Education
  • One of two programs in the state to provide middle schools and high schools with licensed Industrial Technology teachers.
  • Largest program in the state.

• Technology Management Online
  • Developed for transfer students.
  • For students with an Associate of Applied Science (A.A.S.) degree from a community college, this is a 100% online industrial management program.
  • Different from a traditional business program – students take courses in Statistical Quality Control, Lean Manufacturing & Technical Project Management.
What is an engineer?

- **Engineer**
  - Focused on theory and conceptual design.
  - Typically require additional, higher-level mathematics, including multiple calculus and calculus-based theoretical science courses.
  - Often pursue entry-level work involving conceptual design or research and development.
  - Typically do not have experience in the field.

- **Engineering Technology**
  - Focused on application and implementation.
  - Typically focus on applied calculus, and other courses that are more practical than theoretical in nature.
  - Enter positions in sectors such as manufacturing, product design, testing, or technical services and sales.
  - More likely to get a ‘hands-on’ job in a lab or in the field.
Engineering Career Spectrum

What is Engineering Technology?
The Engineering Career Spectrum

More Theoretical
Complex Analysis
Complex Design
Development
Product Design
Test & Evaluation
Manufacturing & Production
Operations
Service & Maintenance
Distribution & Sales
More Applied
Research
Engineering Technology Highlights

- Extremely hands-on.
- Only ABET-Accredited MET & EET programs in the state.
  - MET is similar to a mechanical engineering program.
  - EET is similar to an electrical engineering program.
- Automation Engineering Technology program started in Fall 2022.
  - Think robotics.
- Starting salaries in excess of $65,000.
- John Deere
  - Part-time Student Engineer program.
- Students choose these programs over traditional engineering programs due to less math standards and more hands-on elements of engineering.
Recent Graduates

- Tori, 2022 EET graduate – Electrical Engineer, BAE Systems, Cedar Rapids
- Christopher, 2020 EET graduate – Electrical Engineer, RFA Engineering, Dubuque
- Matt, 2021 MET graduate – Manufacturing Engineer II, John Deere, Dubuque
- Nate, 2020 MET graduate – Quality Engineer, Spartan Light Metal Products, Sparta, IL
- Mary, 2022 MET graduate – Quality Manufacturing Engineer, Mercury Marine, Fond du Lac, WI
- Rob, 2021 EET graduate – Factory Automation Engineer, John Deere, Waterloo
- Maria, 2020 MET graduate – Process Engineer, Carley Foundry, Blaine, MN
- Zachary, 2021 EET graduate – Engineer I, John Deere, Ankeny
- Taite, 2019 MET graduate – Technical Support Engineer, MAGMA Foundry Technologies, Schaumburg, IL
Materials Science & Engineering

- Incorporates elements of physics, chemistry & engineering.
- Studies the fundamental properties of materials in order to improve current, or develop new materials.
- Also help select materials for specific needs or projects.
- Allows materials to be stronger, lighter, more cost-effective, environmentally-friendly, less waste, etc.
- Can include metals and alloys, ceramics, glass, plastics, and composites.
What does a Materials Engineer do?

• In short – develop new, or enhance current, materials.

• Examples of Materials Engineering breakthroughs:
  • Artificial skin for burn victims.
  • Nanotechnologies that make cell phones smaller, faster, have more battery life, etc.
  • Allow solar panels to harvest more energy.
  • Produce stronger & lighter materials for the aerospace industry.
  • Food-grade packaging – lighter, better & cheaper.
Titan

- On June 18, 2023 the OceanGate Titan submersible imploded on an expedition to the Titanic.
- Because the expedition occurred in international waters, it was not subject to safety regulations.
- Many experts, including materials science engineers, expressed doubts with the safety of the design and materials used.
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