Careers in **Engineering**

Engineers play a vital role in developing and designing things that are a part of our everyday lives. Engineering is all around you, including:

- Buildings that we live, study, play, and work in

- Cars, airplanes, roads, and bridges that allow us to travel

- Systems that protect and enhance our environment

Golden Gate Bridge, California

Hoover Dam, Nevada

Empire State Building, New York

ENGINEERING EDUCATION
FOUNDATION OF AMERICA
A charitable organization of ACEC Minnesota

Overview of Engineering

Engineering can be divided into five main categories:

- **Chemical**: Chemical production, manufacture of products through chemical processes

- **Civil**: Roads, bridges, dams, tunnels, airports, rail, water supply, wastewater and stormwater

- **Electrical**: Electrical equipment, electronics and computers

- **Industrial**: Combines engineering with business practices to reduce costs, improve quality, and increase efficiency

- **Mechanical**: Mechanical systems and the design of devices in motion

Each category has several subcategories, providing a great range of career opportunities.

A bachelor's degree in engineering typically requires four or five years of post-secondary education. Students may choose to obtain additional specialization by pursuing a master's or doctorate degree. An associate's degree in engineering technology is another alternative. This is a two-year program that prepares students for employment as technicians or assistants in various engineering fields.

To become licensed, engineers must complete a bachelor's degree, work under a professional engineer for at least four years, pass two competency exams, and earn a license from their state's licensure board. Following that, they must maintain and improve their skills through continuing education courses to keep their license current.
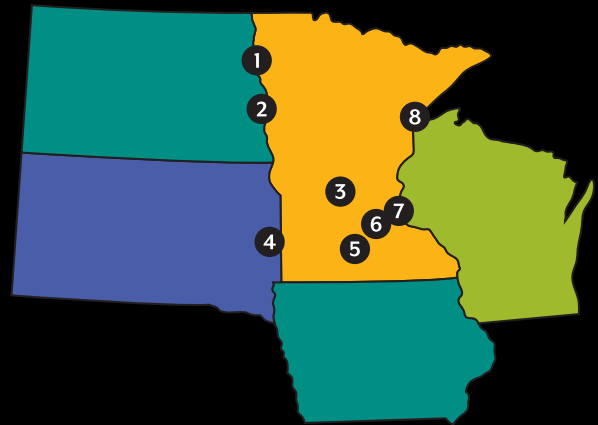
Engineers are employed by both public (local, state, and federal) agencies and private companies including consulting engineering firms.

An Engineering Education

Several universities in Minnesota and surrounding states are ABET (Accreditation Board for Engineering and Technology) accredited for post-secondary engineering education, including:

1. University of North Dakota
(Chemical, Civil, Electrical, Mechanical)

2. North Dakota State University
(Civil, Electrical, Industrial, Mechanical)

3. St. Cloud State University
(Electrical, Mechanical)

4. South Dakota State University
(Civil, Electrical, Mechanical)

5. Minnesota State University, Mankato
(Civil, Electrical, Mechanical)

6. University of Minnesota Twin Cities
(Chemical, Civil, Electrical, Industrial, Mechanical)

7. University of St. Thomas
(Civil, Electrical, Mechanical)

8. University of Minnesota Duluth
(Chemical, Civil, Electrical, Industrial, Mechanical)

About EEFA

The Engineering Education Foundation of America (EEFA) is a nonprofit established by the American Council of Engineering Companies of Minnesota. The Foundation focuses on and invests in promoting careers in the engineering field.

Our initiatives include:

- Support STEM education to inspire future engineers
- Build partnerships with post-secondary schools to promote engineering careers
- Support early career engineering professionals to promote workforce retention
- Provide continuing education opportunities for practicing engineers

Questions? Want to learn more? Visit www.engineeringfoundation.org or scan the QR code below.

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