



P A T H S

in Civil Engineering

Career Paths



for Civil Engineers

Do you ever wonder what path you would follow to become a corporate chief executive officer ... or a public works director? How about a professor of civil engineering? A project engineer for a large consulting firm? Or a senior project manager for a construction management firm? This brochure explores many of the typical careers paths open to you as a civil engineer.

While there are no magic formulas to achieve your career goals, the career paths presented here were developed by civil engineers in these fields and represent their knowledge of a logical career progression.

This brochure illustrates only five of the dozens of paths possible in the broad and expanding field of civil engineering. Your individual interests, skills, and training will dictate the path you should follow. Over time, you may modify your career path based on personal interests, values, goals, experiences, and new opportunities that present themselves.

This document provides a tool to help you create a strategy for your own personal career development. Planning for advancement can make the difference between a mediocre job and obtaining your position of choice.



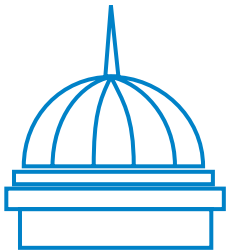
P A T H S
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ASCE

Look around you. You see buildings and roads; you drink clean water and breathe clean air. Civil engineers, together with other disciplines, make these aspects of everyday life possible!

Be a part of it! As a civil engineer, find creative solutions to problems while working on a wide range of local, regional, and/or global projects. Apply cutting edge math, science, and technology to make a difference in the world. Find a civil engineering career path that best suits you.

Government



Positively impact our public infrastructure, influence public policy, and affect codes and regulations.

This career path shows many of the options available for civil engineers who have chosen a career in government, such as local, state and federal agencies. Some leave the technical engineering path as they progress and move into government management. At this level, additional leadership training and education in public administration or business management is recommended. Whether planning to stay on the technical track or not, government engineers should seek additional training in their area of technical expertise to advance within their organizations. Government engineers are often involved in developing policy and standards for the profession and general public.

Entry-Level Engineer

→ Project Manager/Engineer

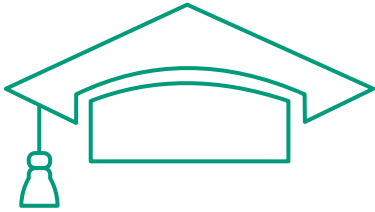
→ Senior Engineer /
Supervisory Engineer

→ Engineering Manager

→ Head of Government
Engineering Department

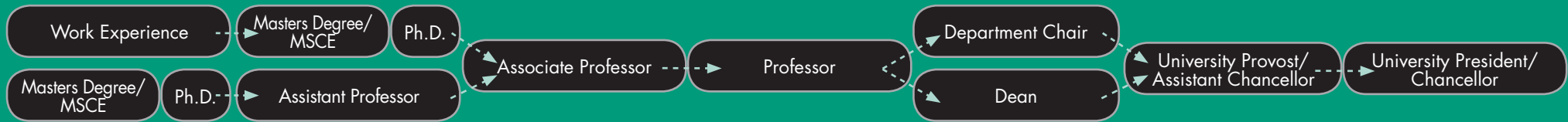
→ Government Department
or Agency Director

Education

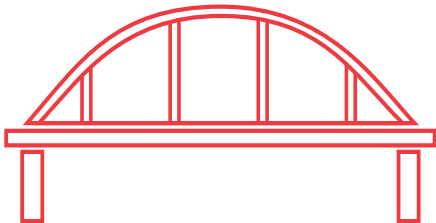


Shape the future of civil engineering and prepare the next generation of professionals.

Civil engineers in academia are involved with teaching the next generation of engineers and developing engineering curriculum that prepares students with the knowledge they need to succeed in their careers. This career path requires an advanced degree, including a doctorate in most cases. Engineering educators write grants to obtain research funding and work with graduate students to conduct research aimed at developing advancements in the field of engineering. At many academic institutions, publishing research findings and obtaining grant funding for your academic institution are key elements to success. Additionally, facilitating student learning and achieving recognition as a top performing teacher help make this a fulfilling career choice.



Consulting

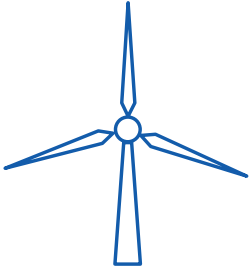


Devise and implement civil engineering design solutions for a wide variety of projects and an array of clients.

Consulting offers a multitude of career opportunities in firms ranging in size from less than 10 people to more than 1,000. At smaller firms, civil engineers have the opportunity to work on numerous varied projects, design challenges, and management-related activities. At larger firms, they have the opportunity to focus on specific projects, design expertise, and business management, depending on the core competence of the firm. Whether at a small or large firm, civil engineers in consulting generally start with basic engineering evaluations, computations, and design, which opens the door to many career paths and flexibility to change paths if they so choose.

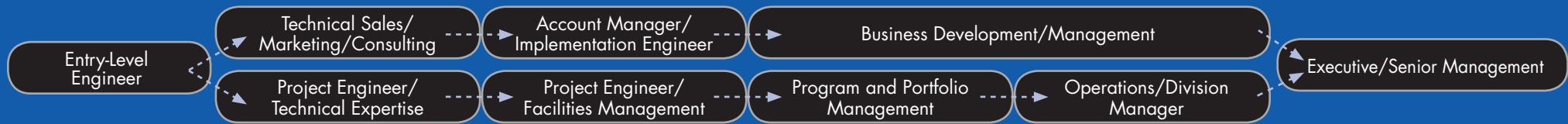


Industry



Use civil engineering to bring innovation to industry for more successful and cost-effective operations, processes, and products.

In industry, civil engineers work in diverse settings including manufacturing, technology, pharmaceuticals, public facilities and utilities, and many others providing goods and services to the public. They manage large plants, oversee the design/construction of facilities, and obtain critical environmental, construction, and operating permits. Civil engineers are instrumental in new ventures requiring environmental site assessments and feasibility studies. They make significant contributions to decrease costs, increase profits, and produce smaller environmental footprints by developing more efficient processes, implementing waste minimization programs, and finding creative solutions to a wide range of issues.

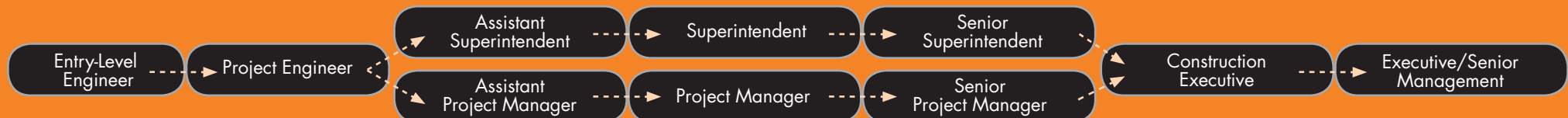


Construction



Build a sustainable future—ensuring safety and excellence in the built environment.

In construction, civil engineers may work for a contractor to create the built environment, transforming engineering and architectural design drawings from paper to reality. They are involved in projects of every size and complexity from airports, bridges, and tunnels to local roads and the water and wastewater lines to our homes. The core civil engineering curriculum provides an excellent foundation for the critical thinking necessary to work in the construction sector. Additional classes in project management, safety, scheduling, estimating, and risk management are recommended. As construction is hands on, early field experience is essential to building your career. Civil engineers in the construction sector are instrumental in building and maintaining the world we live in.



Basic Requirements

Steps for Success

- High School Math, Science, and Humanities Courses
- Bachelors Degree in Civil Engineering
- Pass the Fundamentals of Engineering (FE) Exam as soon as you are eligible

Steps for Advancement

- Work Experience
- Licensure as a Professional Engineer (PE) (requirements vary by state)
- Advanced degrees such as
 - » masters degree in civil engineering
 - » public administration
 - » business administration
 - » doctorate degree (Ph.D.)
- Advanced credentials as appropriate
- Continued professional development

Body of Knowledge

The *Civil Engineering Body of Knowledge for the 21st Century* is a guideline that describes the knowledge, skills, and attitudes necessary for entry into the practice of civil engineering at the professional level. For more information, visit www.asce.org/raisethebar.

Transition

Every career has twists and turns that cannot be charted, and you can transition from one career path to another. Here are some suggestions on how to find a path that works well for you:

- Develop a long-term vision.
- Have a short-term plan.
- Review your career plan annually.
- Enhance your ability to communicate.
- Listen to what others have done.
- Find a mentor.
- Improve your skills through continuing education.
- Don't be afraid to change.
- Be willing to take a risk.
- Challenge yourself.
- Have fun.

The Journey

Each of the career paths has inherently different benefits. Seek out the career path that best fits your goals and will be most satisfying to you. Enjoy the journey. You will be much happier in the long run.



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