

The Vision for Civil Engineering in 2025 describes and outlines the profile of the engineer of the near future. The profile of the civil engineer in 2025 is the attributes possessed by the individual consistent with the profession's aspirational vision. Attributes may be defined as desirable knowledge, skills, and attitudes. The following are definitions of these attributes and the non-technical components of this profile as per the ASCE document.

Knowledge is largely cognitive and consists of theories, principles, and fundamentals.

Skill refers to the ability to do tasks. The civil engineer is **skillful**. He or she knows how to:

- **Apply basic engineering tools**, such as statistical analysis, computer models, design codes and standards, and project monitoring methods (more than knowledge)
- **Learn about, assess, and master new technology** to enhance individual and organizational effectiveness and efficiency
- **Communicate** with technical and non-technical audiences, convincingly and with passion, through listening, speaking, writing, mathematics, and visuals
- **Collaborate** on intra-disciplinary, cross-disciplinary, and multi-disciplinary traditional and virtual teams
- **Manage** tasks, projects, and programs to provide expected deliverables while satisfying budget, schedule, and other constraints
- **Lead** by formulating and articulating environmental, infrastructure, and other improvements and build **consensus** by practicing inclusiveness, empathy, compassion, persuasiveness, patience, and critical thinking.

Attitudes reflect an individual's values and determine how he or she perceives, interprets, and approaches the world. The civil engineer embraces **attitudes** conducive to effective professional practice. He or she exhibits:

- **Creativity** and **entrepreneurship** that leads to proactive identification of possibilities and opportunities and taking action to develop them
- **Commitment** to ethics, personal and organizational goals, and worthy teams and organizations
- **Curiosity**, which is a basis for continued learning, fresh approaches, development of new technology or innovative applications of existing technology, and new endeavors
- **Honesty** and **integrity**—telling the truth and keeping one's word.
- **Optimism** in the face of challenges and setbacks, recognizing the power inherent in vision, commitment, planning, persistence, flexibility, and teamwork
- **Respect** for and **tolerance** of the rights, values, views, property, possessions, and sensitivities of others
- **Thoroughness** and **self-discipline** in keeping with the public health, safety, and welfare implications for most engineering projects and the high-degree of interdependence within project teams and between teams and their stakeholders.