



***The Issues of  
the Future Engineering  
Professions in US  
Construction Industry***

**Construction & Economy  
Institute of Korea**

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# Communicate<sup>3</sup>





# Outline



- 1. Profession**
- 2. Body of Knowledge**
- 3. Continuing Education**
- 4. Summary**



# ***A Profession\****

**Organization**

**Licensure**

- Public, health, and safety

**Professional Societies**

- ASCE

**Ethic of  
Professional Service**

**Body of Knowledge**

**ASCE**

American Society of Civil Engineers

## **Code of Ethics**

### **Fundamental Principles<sup>4</sup>**

Engineers uphold and advance the integrity, honor and dignity of the engineering profession by:

1. using their knowledge and skill for the enhancement of human welfare and the environment;
2. being honest and impartial and serving with fidelity the public, their employers and clients;
3. striving to increase the competence and prestige of the engineering profession; and
4. supporting the professional and technical societies of their disciplines.

### **Fundamental Canons**

1. Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the principles of sustainable development<sup>2</sup> in the performance of their professional duties.
2. Engineers shall perform services only in areas of their competence.
3. Engineers shall issue public statements only in an objective and truthful manner.
4. Engineers shall act in professional matters for each employer or client as faithful agents or trustees, and shall avoid conflicts of interest.
5. Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others.
6. Engineers shall act in such a manner as to uphold and enhance the honor, integrity, and dignity of the engineering profession.
7. Engineers shall continue their professional development throughout their careers, and shall provide opportunities for the professional development of those engineers under their supervision.

\* Lawson, W.D. (2004). "Professionalism: The Golden Years." *Journal of Professional Issues in Engr* (ASCE).



# *A Profession\**

## Licensure

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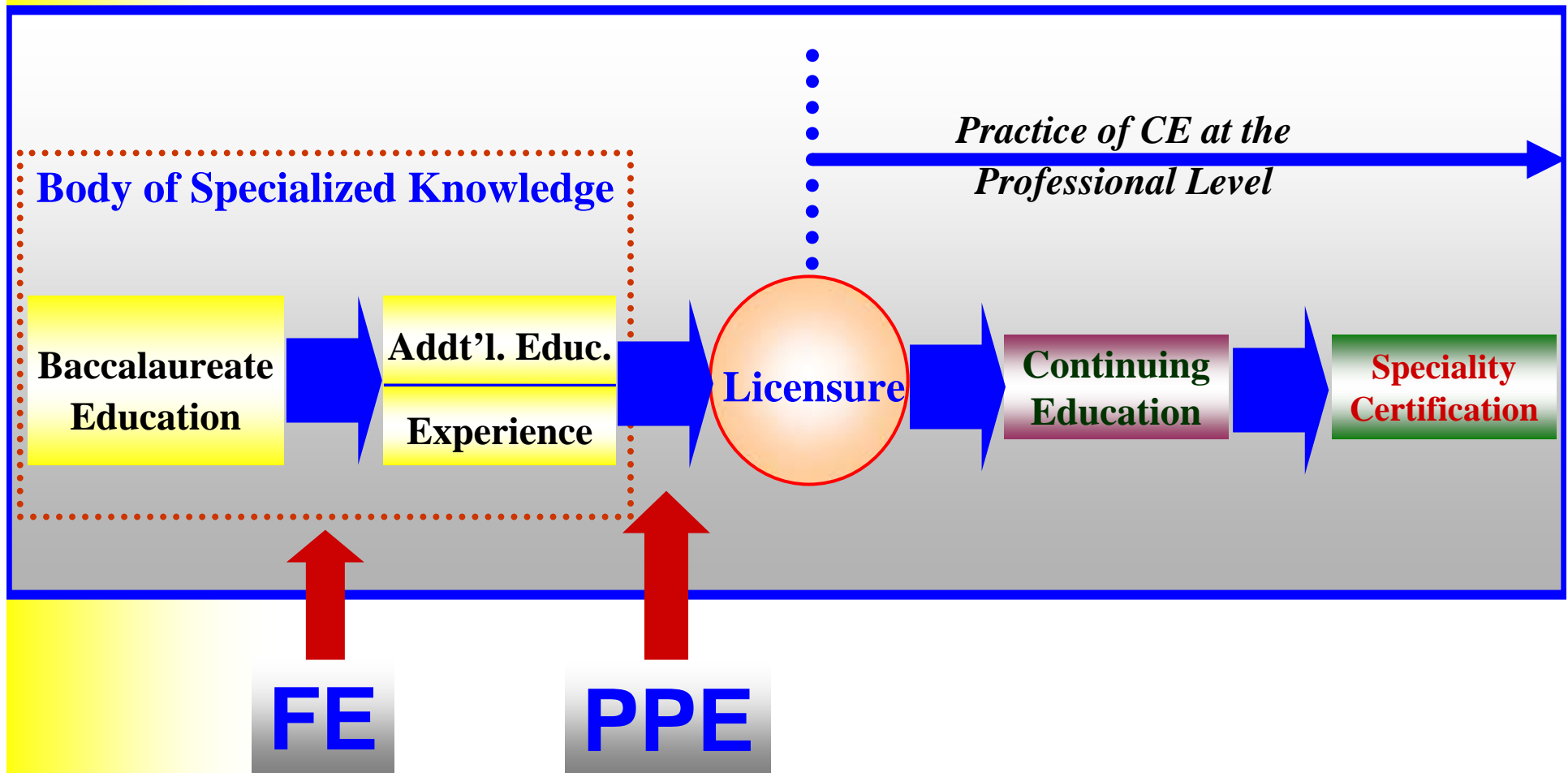


***Knowledge, skills, and attitudes***  
**necessary to enter the practice**  
**of civil engineering at the**  
**professional level.**





# ***View of Career CE***







# ***Civil Engineering Body of Knowledge***

## **TECHNICAL**

**Technical core**

**Experimentation**

**Design**

**Engineering problems**

**Engineering tools**

**Specialized area of civil  
engineering**

**Project management,  
construction, and asset mgmt.**

## **PROFESSIONAL**

**Inter-disciplinary teams**

**Professional & ethical standards**

**Communication**

**Impact of engineering**

**Life-long learning**

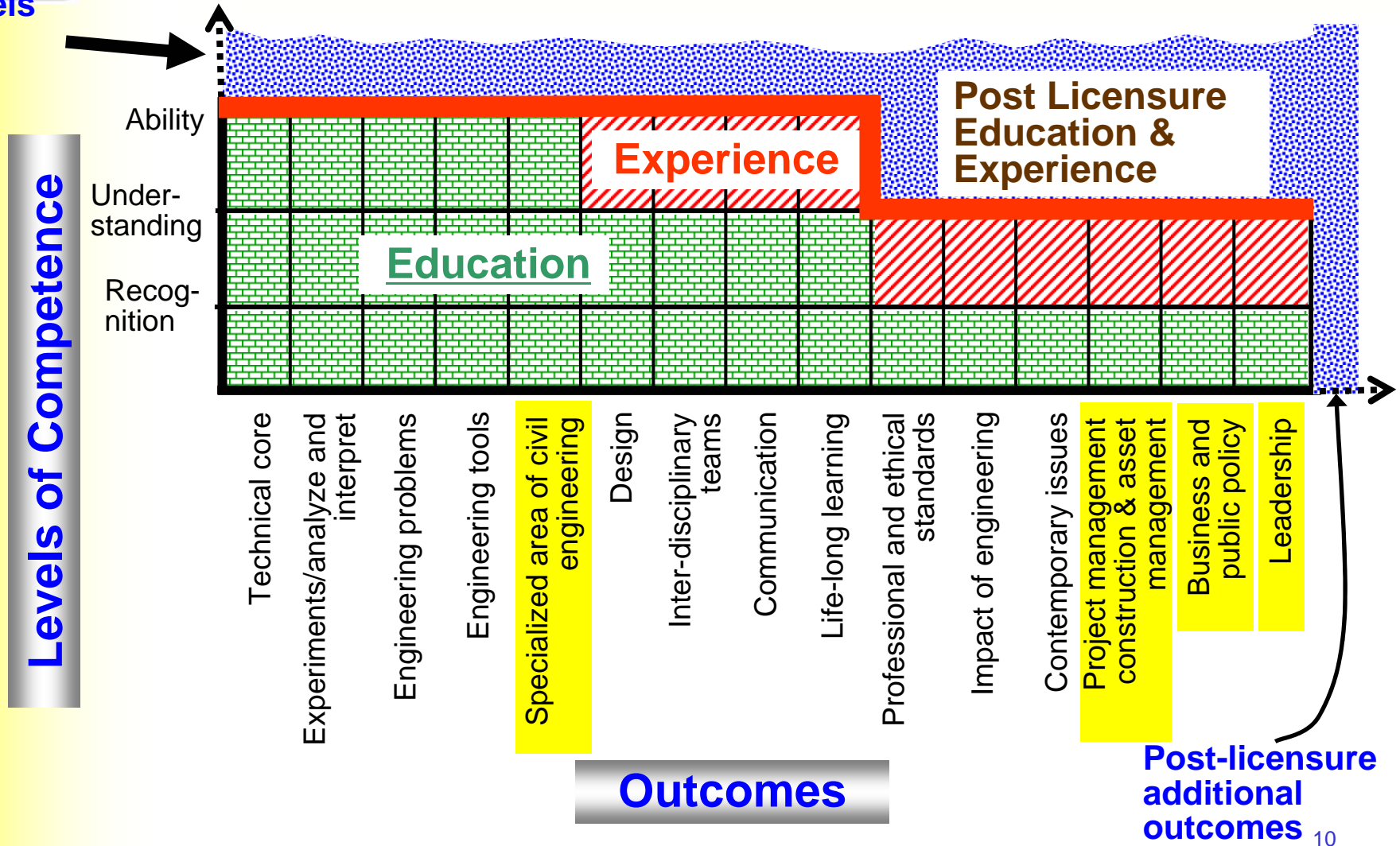
**Contemporary issues**

**Business & public policy**

**Leadership**



# BOK Profile





# ***BOK Fulfilled***

**BOK**

*Fulfilled by*

**B + M/30 & E**  
***(Formal  
Education)***



# ***BOK Fulfilled***

**BOK**

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B + M<sup>ABET</sup> & E

*Fulfilled by*

B<sup>ABET</sup> + 30 & E



# ***Continuing Education***

- **History**
- **Continuing Professional Competence (CPC)**
- **Professional Development Hours (PDH)**



# ***Expectations of Future Engineers***

- **Breadth and depth**
- **Creative**
- **Innovators**
- **Entrepreneurs**
- **Lifelong learners**



# Changes

## Today

**Educ.**

**BS**

**Exper.**

**4 years**

**Exams**

**16 hours**

**Continuing  
Education**

**Some**

**Speciality  
Certification**

**Limited**

## Future

**BS+M/30**

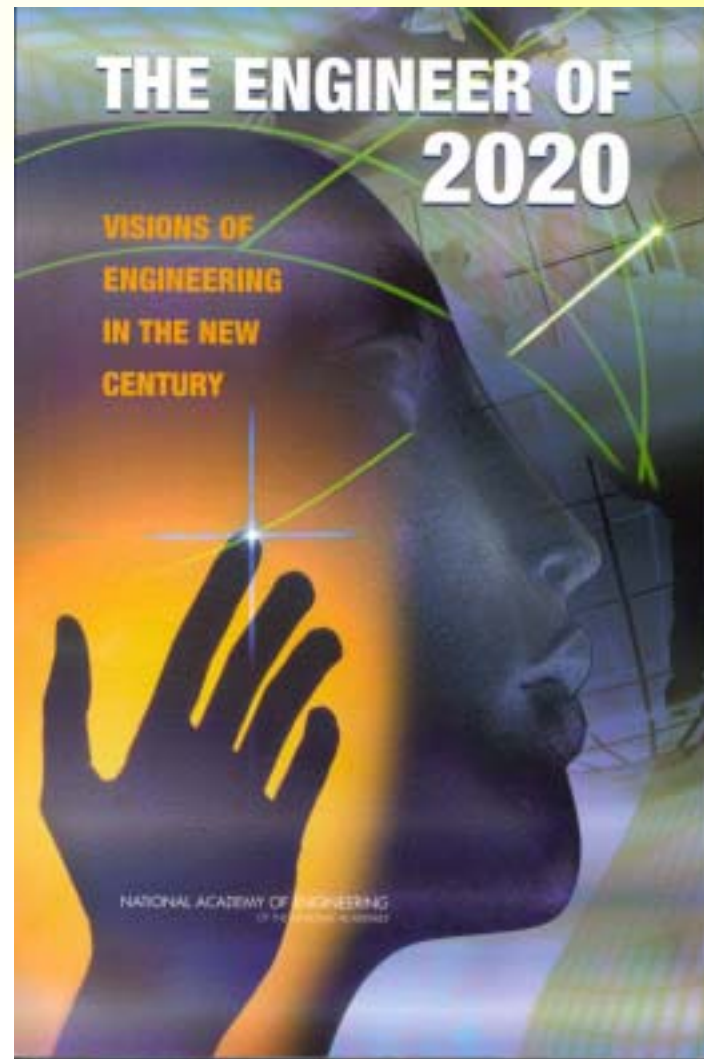
**More Structured  
4 years**

**24 hours**

**Required and more**

**More prevalent**







# **The Past      The Future**

**“The empires of  
the future are the empires  
of the mind.”**

**– Sir Winston Churchill**



# Information and Knowledgeable Points of Contact

***[www.asce.org/raisethebar](http://www.asce.org/raisethebar)***

If you have questions or comments, please contact

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