

# **Professional Practice Experience Transfer:**

## ***Classroom Enrichment Through Experiential Knowledge***

*by*

***Joseph F. Cemean, P.E.***

***Adjunct Professor***

***Central Connecticut State University  
School of Engineering Science & Technology***

# Presentation Overview

- Academic Fundamentals and Education
- Practitioners Within an Academic Community
- Merits of Technical and Professional Experience
- Student Preparation for Starting a Career
- Enhanced Student Educational Focus

# Academic Fundamentals and Education

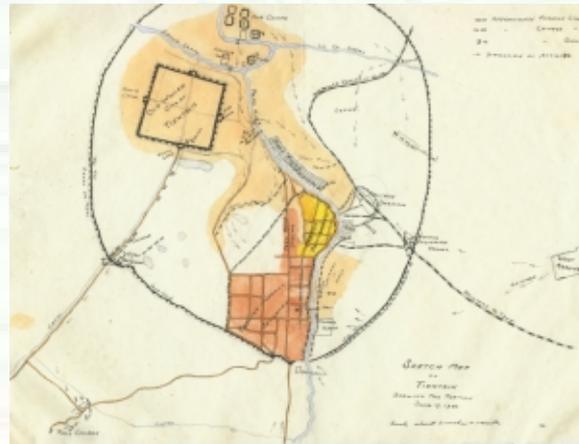
- Full Time Faculty
  - Focused on the Theory and Practice of Education
  - Classroom Environment and Academic Domain
- Adjunct Faculty
  - Professional Practice Subject Matter Experts
  - Commercial and Public Environment



# Practitioners Within an Academic Community



Herbert Hoover  
31st President (1929 – 1933)



Herbert Hoover Sketch 1900

*“It is a great profession. There is the fascination of watching a figment of the imagination emerge through the aid of science to a plan on paper. Then it moves to realization in stone or metal or energy. Then it brings jobs and homes to men. Then it elevates the standards of living and adds to the comforts of life. That is the engineer’s high privilege . . . “*

Herbert Hoover

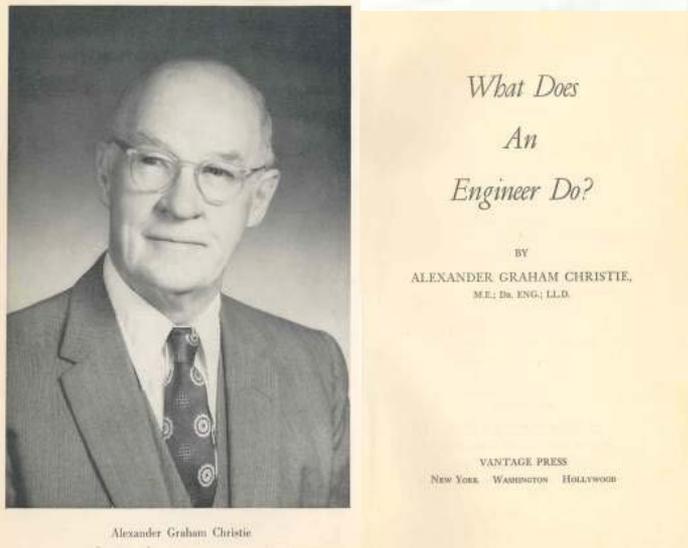


Henri B. vanZelm  
founder of van Zelm  
Engineers 1930

*Engineering design and consultation is our life’s work, but we never forget it is our clients whose interests we are dedicated to serve.*

# Practitioners Within an Academic Community

- The Engineering Method of Thinking
- “Engineers take over where the scientists stop...”
- “...a method of thinking and problem solving... designed to get results quickly and economically.”



Alan E. Nourse, M.D.

**Preparation to Conduct Research  
VS.  
Preparation for Professional Practice**

# Merits of Technical and Professional Experience

- Industry Lexicon

- Slope    – Pitch    – Weep    – Nipple    – Coupling
- Line    – Load    – Phase    – Fault    – Arc Flash
- Drips    – Pot Feeder    – Blowdown    – Quill    – Receiver

- Trade Associations

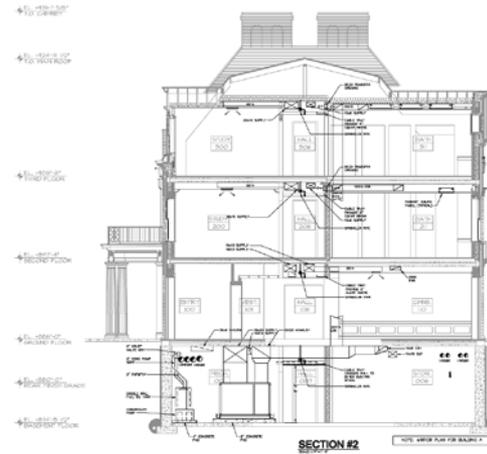
- ASME    – ASHRAE    – ASPE    – ASM    – SWE
- ASTM    – ANSI    – MSS    – AWS    – ASNT
- IEEE    – NFPA    – UL    – IES    – TIA

- Codes and Regulatory Bodies

- ICC    – OSBI    – OSFM    – DPH    – DEEP
- CFR    – EPA    – OSHA    – ACE    – ADA

# Merits of Technical and Professional Experience

- Term Projects Based on Actual Local Engineering and Construction Work Products
- Students work with actual design blueprints as a teaching tool
- Students mentored in researching means and methods of construction, materials, and products



*Flinn Hall and Edelman Hall, Lakeville, CT*

# Student Preparation for Starting a Career

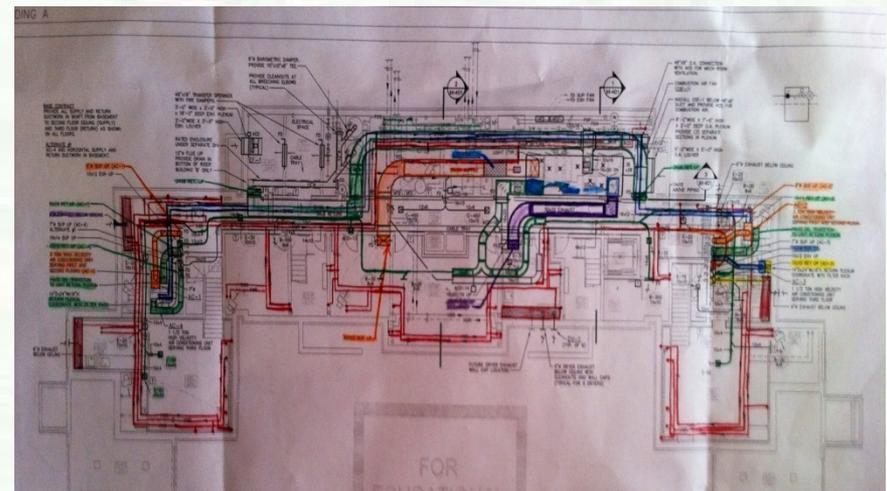
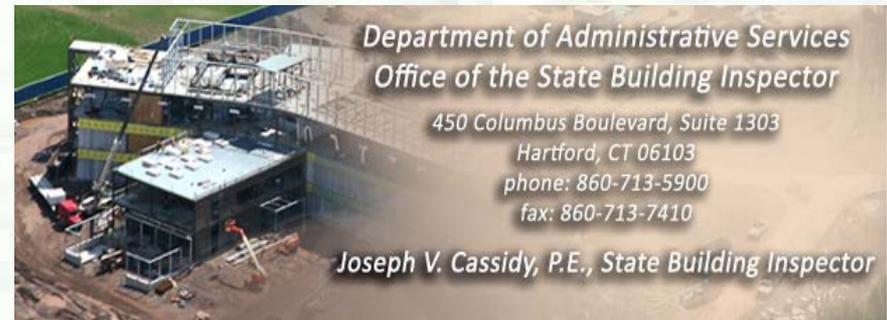


- Awareness of Project Delivery Systems
  - Design-Bid-Build
  - Design-Build
  - CM-at-Risk / Guaranteed Maximum Price (GMP)
- Knowledge of Commercial Domains
  - Products
  - Services
- Accepted Industry Sectors
  - Private Work / Public Work
  - Life-cycle projects
  - Speculative projects



# Enhanced Student Educational Focus

- Lectures Include Elements of Professional Practice
  - Codes and Standards
  - Ethics
  - Technical Concerns
- Term Project Based on An Actual Building
  - Overview of Complex Systems
  - Focused Examination of a Selected System
  - Written and Oral Presentation



***Thank You!***