CEM Graduate Program Structure

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What is the Objective of CEM Graduate Education?
What Roles Do We Want our Graduates to Play in Industry/Academia?
Industry: Project Integrators
Academia: Innovators
Body of Knowledge

Construction Logistics

- Supply Chain Management
- Scheduling
- Site Safety
- Site Layout
- Quality Management
Body of Knowledge

Construction Operations and Productivity

- Production Planning
- Modeling Construction Operations
- Simulation of Construction Operations
- Productivity Measurement and Improvement
Body of Knowledge

Design and Construction Law

- Liability Issues
- Risk Management
- Construction Contracts
- Claims
- Alternative Dispute Resolution
Sustainable Construction

- Life Cycle Analysis
- Environmental Impact Assessment
- Environmental Impact Mitigation
- LEED
Integrated Project Delivery

- Integrated Project Delivery Theory
- Structural Systems
- Mechanical Systems
- Electrical Systems
- Constructability
Financial Management

• Life Cycle Costing
• Uncertainty and Risk Analysis
• Monte Carlo Simulation
• Cost Estimating
• Bidding Strategies
• Corporate Finance
Leadership

- Personality Types
- Developing Talent/Engaging Employees
- Influencing People
- Effective Communications/Conflict Resolution
- Leadership and Management
- Strategic Planning
Body of Knowledge

Research Methods

• The Research Process
• Hypothesis Development
• Objectives, Scope, and Limitations
• Literature Review
• Research Methods
• Research Validation
Body of Knowledge

Teaching Methods

• Learning Theories
• Course Development
• Learning Techniques
TA & RA Experience

- RA: Proposal Development, Publication Development
- TA: Selective Lecturing, Grading, Recitations
Graduate Degree Structure

• Thesis
• Non-Thesis
How to Teach

- Project-Based Learning
- Interdisciplinary Teams
- Case Studies
- Educational Games