# **NC STATE UNIVERSITY**

Office of Professional Development

Department of Construction, & Environmental

# CONSTRUCTION MANAGEMENT

Sponsored by NC State University's Civil, Construction, and Environmental Engineering Department

Designed for people engaged in the construction industry, with no formal education or training in Construction Engineering, that would like to enhance their construction management skills and validate their work experience, through an intense, six-day, hands-on workshop developed by successful and experienced construction industry professionals.

Register for individual classes or earn your diploma by completing six courses within a one-year period.

All classes take place from 8:15 a.m. - 4:30 p.m. at the McKimmon Conference & Training Center, NC State University, Raleigh, NC.

# The Construction Business, Planning, **Risk and Rewards** July 21, 2016

- · Construction Markets and Trends
- Assessing Opportunities, Threats, Strengths, Weaknesses
- Developing Business and Strategic Plans
- **Evaluating and Selecting** Risk Management Tools In Construction
  - o Business Entities
  - Contract Types and Project Delivery Methods
  - Subcontracting
  - o Bonding
  - o Insurance
  - Warranties

# **Construction Financial Management and Control**

#### August 5, 2016

- Assessing Accounting Systems and Methods
- Setting Up Job Costing
- Producing and Utilizing Financial Statements
  - o Balance Sheet Analysis
  - o Profit and Loss Analysis
  - o Financial Analysis of the Firm
  - o Cost-Volume-Profit Analysis
- Managing Project and Company Cash Flows
- Evaluating Company and Project Returns
- Developing Reliable Work in Progress Reports
- Tracking Project Progress and Performing "Post Mortem" Evaluations
- Developing Company and Project Budgets
- Determining Your Bondability and Bonding Capacity

# **Construction Estimating** August 12, 2016

- Go/No-Go Business Decision on Each Project
- Rough Order of Magnitude Estimates
- Estimate for Profits
  - o Company Overhead
  - o Profit
  - o Contingency
  - Markup
- Calculating Direct Costs:
  - o Labor Burden
  - o Equipment
  - o Materials
  - o General Conditions
- Construction Productivity
- Bidding Strategy
- Proposal Preparation and Value Added Proposals
- Estimating and Documenting Change Orders

# **Construction Contracts** and Legal Environment

# August 19, 2016

- Contract Reviews
- Hidden Aspects of General Conditions
- Understanding and Resolving Issues Concernina:
  - o Scope of Work
  - o Standard of Care
  - o Project Delivery Method
  - o Pricing, Payment Terms, Pay Applications, Contingency
  - Stopping Work
  - o Indemnification
  - Damages: Direct and Consequential
  - o Change Orders
  - o Lien and Bonds
  - Claims and Disputes, Delays, Acceleration
  - o Close-Out and Warranties

## Construction Scheduling August 26, 2016

- Integrating the Estimate and the Schedule
- Construction Productivity
- · Activity List, Duration
- Activity Logic and Construction Sequence
- Scheduling the Project
- · Critical Path
- · Crashing the Project
- Resource Loading the Project
- Tracking and Documenting Progress
- The Earned Value Method
- Legal Issues Associated with Scheduling

# **Construction Operations** September 16, 2016

- Requests for Information
- Shop Drawings and Legal Issues Concerning 'Delegated Design"
- Project Turnover
  - o "Buying" the Project
  - Schedule of Values
  - o Risks with "Front Loading and Unbalancing'
- Field Orders and Change Orders
- · Daily Reports
- Pay Applications
- · Certified Payroll
- Impact of OSHA Safety and Safety Plans
- Human Resources Top 10
  - o Employee Handbook
  - o Employment Laws and Compliance
  - o Employment Screening and Verification

#### Who Should Attend

- Business Owners and Managers
- Facilities Managers and Project Administrators
- Construction Project Managers and Project Engineers
- City, Town, Highway Project Officials and Program Managers
- Field Engineers and Owner Representatives
- Structural and Civil Engineers, Architects
- Project Managers and Project Engineers

#### **Your Instructors**

Robert Nunez, PE

Willy Stewart, PE

**Hudson Smelcer** 

Henry Stewart, PE

Chris Sellman, CPA

Brian Schoolman, Esa. Benjamin Buskirk, Esq., PE

Suzy Nisbet, SPHR

### **Registration Fee**

Class fee includes instruction. all course materials, and lunch.

\$285 per class when you register for individual classes

\$1,500 for all six classes when you register and pay for all six classes at one time

