

Instructor:

Phone:

E-mail:

**TEXTBOOK AND SUPPLIES:**

- NCCER CORE, Introduction to Basic Construction Skills, 6th Edition, ISBN-13: 9780137483341
- NCCER, Construction Craft Laborer, Level 1, 3<sup>rd</sup> Edition, ISBN-13: 9780134130941
- NCCER, Construction Craft Laborer, Level 2, 3<sup>rd</sup> Edition, ISBN-13: 9780134130965

**PREREQUISITE:** None

**OTHER REGISTRATION RESTRICTION(S):** It is highly recommended that students be registered with DOL by their Sponsor (employer).

**COURSE DESCRIPTION:** The course is an overview of the construction industry careers; OSHA 10 certification; construction math, drawings, hand, and power tools; materials handling; basic communication skills; building materials, fasteners/adhesives, heavy equipment/crane and rough terrain forklift safety, and orientation to basic oxyfuel cutting and safety to equip them with skills needed on the job.

**Upon successfully completing this course, students should be able to:**

1. Obtain OSHA 10 certification
2. Select the correct building materials to perform a specific task and perform calculations using industry-standard methods
3. Use job-specific hand, measurement, layout, power tools, and construction drawings to identify symbols and markers for floor and all finishes
4. Identify standard equipment and hitches used in rigging, including emergency hand signal
5. Demonstrate tying common knots used in material handling and safe manual lifting techniques
6. Set up, adjust, and field-test leveling instruments; determine site and building elevations and transfer elevations up a structure using the correct tools and procedures
7. Describe types of rough-terrain forklifts, chassis components, in-cab controls, start-up, and operating procedures, and safety guidelines for working around heavy equipment
8. Perform basic oxyfuel cutting following safety guidelines

**COURSEWORK:**

- **Weekly Homework:** You are expected to come to class prepared with your weekly readings and assignments.
- **Pre-Post Assessments, Weekly Quizzes:** Take and submit online in Canvas.
  - A pre- and post-assessment will be taken on the first and last day of class to measure progress
  - Weekly quizzes will be taken online in Canvas. You are allowed two attempts with the higher score recorded.
- **Attendance/Participation:** Attendance is expected and crucial to understanding the material and participating in classroom activities. Attendance and participation will be recorded daily and

included in your coursework grade. 95% attendance is required, so you are allowed three excused absences.

- **Final Exam:** The final exam will be a comprehensive examination.
- **Lab Projects:** Completion of related lab projects will be required. Missed projects must be coordinated with the instructor and made up.

**GRADES:** Final grades will be calculated using the following scale and weights.

A	93% and above	B-	80% - 82.9%
A-	90% – 92.9%	C+	77% - 79.9%
B+	87% – 89.9%	C	73% - 78.9%
B	83% – 86.9%		

Homework	20%	Weekly Projects	25%
Pre-Post Assessments, Quizzes	20%	Attendance/participation/class work	10%
Final Exam	25%		

**Schedule** (Subject to change)

WEEK	DAY 1	DAY 2	ASSIGNMENTS
1	<ol style="list-style-type: none"> <li>Class Introduction</li> <li>Building Your Future in Construction               <ol style="list-style-type: none"> <li>Industry Overview</li> <li>Construction career benefits</li> <li>Construction Craft Careers</li> <li>Starting your construction career</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>OSHA 10               <ol style="list-style-type: none"> <li>Falls</li> <li>Struck by and Caught-in-Between Hazards</li> </ol> </li> </ol>	TBD
2	<ol style="list-style-type: none"> <li>OSHA 10               <ol style="list-style-type: none"> <li>Struck by and Caught-in-Between Hazards</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>OSHA 10               <ol style="list-style-type: none"> <li>Health Hazards</li> <li>PPE</li> </ol> </li> </ol>	TBD
3	<ol style="list-style-type: none"> <li>OSHA 10 (Electives)               <ol style="list-style-type: none"> <li>Stairways &amp; Ladders</li> <li>Excavation</li> <li>Cranes</li> <li>Scaffolds</li> <li>Materials Handling</li> <li>Cranes</li> <li>Tools</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>Intro to Construction Math               <ol style="list-style-type: none"> <li>Whole numbers</li> <li>Fractions</li> <li>Decimal Systems</li> </ol> </li> </ol>	TBD
4	<ol style="list-style-type: none"> <li>Intro to Construction Math               <ol style="list-style-type: none"> <li>Measuring Length</li> <li>Metric and inch-pound measurement systems</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>Intro to Construction Math               <ol style="list-style-type: none"> <li>Geometry</li> </ol> </li> </ol>	TBD
4	<ol style="list-style-type: none"> <li>Intro to Hand Tools               <ol style="list-style-type: none"> <li>Common hand tools</li> <li>Measurement and layout tools</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>Intro to Hand Tools               <ol style="list-style-type: none"> <li>Other common hand tools</li> </ol> </li> </ol>	TBD
5	<ol style="list-style-type: none"> <li>Intro to Power Tools</li> </ol>	<ol style="list-style-type: none"> <li>Intro Power Tools</li> </ol>	TBD

WEEK	DAY 1	DAY 2	ASSIGNMENTS
	<ul style="list-style-type: none"> <li>a. Power drills and drivers</li> <li>b. Power saws</li> </ul>	<ul style="list-style-type: none"> <li>a. Grinders and oscillating multi-tools</li> <li>b. Miscellaneous power tools</li> </ul>	
6	<ul style="list-style-type: none"> <li>1. Intro to Construction Drawings <ul style="list-style-type: none"> <li>a. Construction drawings and their components</li> <li>b. Basic components of construction drawings</li> <li>c. Drawing elements</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>1. Intro to Construction Drawings <ul style="list-style-type: none"> <li>a. Dimensions and drawing scale</li> <li>b. Measuring scales</li> <li>c. Six types of construction drawings</li> <li>d. Mechanical plans</li> </ul> </li> </ul>	TBD
7	<ul style="list-style-type: none"> <li>1. Intro to Basic Rigging <ul style="list-style-type: none"> <li>a. Slings</li> <li>b. Alloy steel chain slings</li> <li>c. Sling inspection</li> <li>d. Rigging hardware</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>1. Intro to Basic Rigging (cont'd) <ul style="list-style-type: none"> <li>a. Lifting clamps</li> <li>b. Hoists</li> <li>c. Hitches</li> <li>d. Basket hitch</li> </ul> </li> </ul>	TBD
8	<ul style="list-style-type: none"> <li>1. Intro to Materials Handling <ul style="list-style-type: none"> <li>a. Material Handling Basics</li> <li>b. Materials Handling Safety</li> <li>c. Knots for Material Handling</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>1. Introduction to Materials Handling <ul style="list-style-type: none"> <li>a. Material handling equipment</li> </ul> </li> </ul>	TBD
9	<ul style="list-style-type: none"> <li>1. Building Materials, Fasteners, and Adhesives (Level 1) <ul style="list-style-type: none"> <li>a. Building materials and their uses</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>1. Building Materials, Fasteners, and Adhesives (cont'd) <ul style="list-style-type: none"> <li>a. Safety precautions with building materials</li> <li>b. Handling and storing building materials</li> </ul> </li> </ul>	TBD
10	<ul style="list-style-type: none"> <li>1. Building Materials, Fasteners, and Adhesives (cont'd) <ul style="list-style-type: none"> <li>a. Calculate lumber panel and concrete quantities</li> <li>b. Fasteners, anchors, and adhesives</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>1. Site Layout I: Diff Leveling <ul style="list-style-type: none"> <li>a. Construction drawings, control points, and hand signals</li> <li>b. Differential leveling tools and equipment</li> <li>c. Field notes</li> </ul> </li> </ul>	TBD
11	<ul style="list-style-type: none"> <li>1. Site Layout I: Diff Leveling (cont'd) <ul style="list-style-type: none"> <li>a. Differential leveling applications</li> </ul> </li> <li>2. Heavy Equipment and Crane Safety <ul style="list-style-type: none"> <li>a. Job site safety</li> <li>b. Types of heavy equipment</li> <li>c. Safety precautions</li> <li>d. Personal safety</li> <li>e. Soil and demolition dust</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>1. Heavy Equipment and Crane Safety <ul style="list-style-type: none"> <li>a. Soil contamination, fire, and explosion hazards</li> <li>b. Equipment operator's daily checklist</li> <li>c. Moving heavy equipment on public roads</li> <li>d. Maintenance and fueling</li> <li>e. Crane Safety</li> </ul> </li> </ul>	TBD
12	<ul style="list-style-type: none"> <li>1. Heavy Equipment and Crane Safety <ul style="list-style-type: none"> <li>a. Working around power lines</li> <li>b. Site hazards and restrictions</li> <li>c. Wind and lightning hazards</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>1. Steel Erection <ul style="list-style-type: none"> <li>a. Hazardous conditions on steel-erection job sites</li> <li>b. Clothing and PPE</li> </ul> </li> </ul>	TBD

WEEK	DAY 1	DAY 2	ASSIGNMENTS
		<ul style="list-style-type: none"> <li>c. Fall protection in steel-erection environments</li> <li>d. Personal fall arrest systems (PFAS)</li> <li>e. Controlled decking zone</li> <li>f. Observe all warning signs</li> <li>g. Contaminated and dangerous areas</li> <li>h. Hazardous materials</li> <li>i. Falling and flying objects</li> <li>j. Tool safety</li> <li>k. Welding safety</li> <li>l. Crane safety precautions</li> <li>m. Power line hazards</li> <li>n. Materials handling and storage</li> </ul>	
13	1. Rough Terrain Forklifts	1. Intro to Oxyfuel Cutting – Safety, Orientation, and Cutting	TBD
14	1. Elevated Masonry <ul style="list-style-type: none"> <li>a. Elevated workspace dangers</li> <li>b. Prevent slips and falls</li> <li>c. Ground fault circuit interrupter (GFCI)</li> <li>d. Calculating fall clearance distance</li> <li>e. Falling objects</li> <li>f. Personnel lifts</li> <li>g. Access zones</li> </ul>	1. Working from Elevations <ul style="list-style-type: none"> <li>a. Types of fall protection</li> <li>b. Preventing slips and falls</li> <li>c. Personal fall-arrest systems</li> <li>d. Body harness labeling</li> <li>e. Complete personal fall-arrest system</li> <li>f. Typical anchor point</li> <li>g. Positioning anchor points</li> <li>h. Full body harness</li> <li>i. Installing the body harness</li> <li>j. Donning a common full-body harness</li> <li>k. Suspension trauma strap</li> <li>l. Optional components</li> <li>m. Carabiner</li> <li>n. Double-locking snap hooks</li> <li>o. Lanyards</li> <li>p. Shock-absorbing lanyard</li> <li>q. Non-shock absorbing lanyard</li> <li>r. Y-configured shock-absorbing lanyard</li> <li>s. Self-retracting lanyards</li> <li>t. Rescue after a fall</li> <li>u. Other fall protection system</li> </ul>	TBD
15	1. Communication <ul style="list-style-type: none"> <li>a. Communication process</li> <li>b. Listening and speaking skills</li> <li>c. Active listening on the job</li> </ul>	1. Employability Skills <ul style="list-style-type: none"> <li>a. Employment opportunities</li> <li>b. Critical thinking and problem-solving</li> </ul>	TBD

WEEK	DAY 1	DAY 2	ASSIGNMENTS
	<ul style="list-style-type: none"> <li>d. Speaking on the job</li> <li>e. Receiving telephone calls</li> <li>f. Reading and writing</li> <li>g. Writing on the job</li> <li>h. Emails</li> </ul>	<ul style="list-style-type: none"> <li>c. Planning and scheduling problems</li> <li>2. Relationship &amp; Social Skills               <ul style="list-style-type: none"> <li>a. Personal and social skills</li> <li>b. Planning and scheduling problems</li> <li>c. Social issues in the workplace</li> <li>d. Teamwork and leadership</li> </ul> </li> </ul>	
16	<ul style="list-style-type: none"> <li>1. Working with multi-generational teams</li> <li>2. Professionalism and ethics</li> </ul>	<ul style="list-style-type: none"> <li>1. Wrap up</li> <li>2. Final</li> </ul>	TBD

**WITHDRAWAL POLICY:** The College's withdrawal schedule is followed. No withdrawals will be approved beyond the drop date.

**COMMUNICATION and FEEDBACK EXPECTATIONS:** Email is the best way to communicate with your instructor through the Canvas Inbox. You can expect to receive responses to emails within 24 business hours. Projects and exams will be graded and recorded within one week of when the assignment was submitted. Keep the line of communication open to avoid any misunderstandings.

**ELECTRONIC DEVICES IN THE CLASSROOM:** No video or audio recording in the classroom is allowed without written authorization from the instructor. Cell phones and other electronic devices should be silent and off the desk during class except to take notes if it is not distracting to classmates. In an emergency, exit the classroom to use your cell phones. Disruptive behavior will cause you to be excused from class and lose participation points. Please inform your instructor of any special circumstances at the start of the semester.