

WBFAA Semester One Syllabus – CORE Textbook Sixth Edition

New Module 00100 - Build Your Future in Construction

- 1.0.0 Overview of the Construction Industry
 - 1.1.0 What is Construction?
 - 1.2.0 History of Construction
- 2.0.0 Benefits of a Career in Construction
 - 2.1.0 Making a Difference
 - 2.2.0 Construction Career Benefits and Opportunities
- 3.0.0 Construction Craft Careers
 - 3.1.0 Construction Industry Sectors
 - 3.2.0 Types of Construction Careers
- 4.0.0 Starting Your Construction Career
 - 4.1.0 Career and Technical Education
 - 4.2.0 Craft Training and Apprenticeships
 - 4.3.0 Community Colleges and Universities

S1W1 – Basic Communication Skills

Module 00107

- 1.0.0 Communication
 - 1.1.0 The Communications Process
 - 1.2.0 Active Listening on the Job
 - 1.2.1 Barriers to Listening
 - 1.3.0 Speaking on the Job
 - 1.3.1 Placing Telephone Calls
 - 1.3.2 Receiving Telephone Calls
- 2.0.0 Reading and Writing
 - 2.1.0 The Importance of Reading and Writing Skills
 - 2.2.0 Reading on the Job
 - 2.3.0 Writing on the Job
 - 2.3.1 Emails
 - 2.3.2 Texting

S1W2 – Basic Employability Skills

Module 00108

- 1.0.0 Opportunities in the Construction Industry
 - 1.1.0 The Construction Business
 - 1.2.0 Entering the Construction Workforce
- 2.0.0 Critical Thinking and Problem Solving
 - 2.1.0 Critical Thinking and Barriers
 - 2.2.0 Solving Problems Using Critical Thinking
 - 2.3.0 Planning and Scheduling Problems
- 3.0.0 Relationship and Social Skills
 - 3.1.0 Personal and Social Skills
 - 3.2.0 Conflict Resolution
 - 3.3.0 Giving and Receiving Criticism
 - 3.4.0 Social Issues in the Workplace
 - 3.5.0 Teamwork and Leadership

S1W3 – Basic Safety Part I

Module 00101

- 1.0.0 Safety and Hazard Recognition
- 1.1.0 Incidents and Accidents
- 1.2.0 Incident and Accidents Causes
 - 1.2.1 Failure to Communicate
 - 1.2.2 At-Risk Work Habits
 - 1.2.3 Alcohol and Drug Abuse
 - 1.2.4 Lack of Skill
 - 1.2.5 Intentional Acts
 - 1.2.6 Unsafe Acts
 - 1.2.7 Rationalizing Risk
 - 1.2.8 Unsafe Conditions
 - 1.2.9 Poor Housekeeping
 - 1.2.10 Management System Failure
- 1.3.0 Hazard Recognition, Evaluation and Control
- 2.0.0 Elevated Work and Fall Protection
 - 2.1.0 Fall Types and Hazards
 - 2.2.0 Fall Arrest
 - 2.3.0 Ladders and Stairs

S1W4 – Basic Safety Part II

Module 00101

- 2.4.0 Scaffolds
 - 2.4.2 Inspecting Scaffolds
- 3.0.0 Struck By and Caught-In-Between Hazards
 - 3.1.0 Struck By Hazards
 - 3.2.0 Caught-In and Caught-Between Hazards
- 4.0.0 Energy Release Hazards
 - 4.1.0 Electrical Safety Guidelines
 - 4.2.0 Lockout/Tagout Requirements
- 5.0.0 Personal Protective Equipment
 - 5.1.0 PPE Items
 - 5.2.0 Respiratory Hazards and Protection
- 6.0.0 Job Site Hazards
 - 6.1.0 Job-Site Exposure Hazards
 - 6.2.0 Environmental Extremes
 - 6.4.0 Fire Hazards and Fire Fighting
 - 6.5.0 Confined Spaces

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S1W5 – Introduction to Construction Math Part I

Module 00102

- 1.0.0 Whole Numbers
- 1.1.0 Place Values of Whole Number
- 1.2.0 Adding and Subtracting Whole Numbers
- 1.3.0 Multiplying and Dividing Whole Numbers
- 2.0.0 Fractions
- 2.1.0 Equivalent Fractions and Lowest Common Denominators
- 2.2.0 Improper Fractions and Mixed Numbers
- 2.3.0 Adding and Subtracting Fractions
- 2.4.0 Multiplying and Dividing Fractions

S1W6 – Introduction to Construction Math Part II

Module 00102

- 3.0.0 The Decimal System
- 3.1.0 Decimals
- 3.2.0 Adding, Subtracting, Multiplying and Dividing Decimals
- 3.3.0 Converting Decimals, Fractions and Percentages
- 4.0.0 Measuring Length
- 4.1.0 Reading English and Metric Rulers
- 4.2.0 The Measuring Tape

S1W7 – Introduction to Construction Math Part III

Module 00102

- 6.0.0 Introduction to Geometry
- 6.1.0 Angles
- 6.2.0 Shapes
- 6.2.1 Rectangle
- 6.2.2 Square
- 6.2.3 Triangle
- 6.2.4 Circle
- 6.3.0 Calculating the Area of Shapes
- 6.4.0 Volume of Three-Dimensional Shapes

S1W8 – MID-TERM LAB AND EXAM

1. CPR Training (Handouts, Lab)
3. Aerial Work (Section 1; 2.3.0, Lab)
4. Fire Safety (Section 1; 6.4.0)
5. Use of Fire Extinguisher (Section 1; 6.4.5 Lab)
6. Midterm Review
7. Midterm Exam

S1W9 – Introduction to Hand Tools Part I

Module 00103

- 1.0.0 Common Hand Tools
- 1.1.0 Hammers and Demolition Tools
 - 1.1.1 Claw Hammer
 - 1.1.2 Drywall Hammer
 - 1.1.3 Ball Peen Hammer
 - 1.1.4 Sledgehammers
 - 1.1.5 Nail Pullers
 - 1.1.6 Safety and Maintenance
- 1.2.0 Chisels and Punches
 - 1.2.3 Safety and Maintenance
- 1.3.0 Screwdrivers
 - 1.3.1 Screwdriver: Safety and Maintenance
- 1.4.0 Wrenches
 - 1.4.3 Socket Wrenches
 - 1.4.4 Wrenches: Safety and Maintenance
- 1.5.0 Pliers and Wire Cutters
 - 1.5.6 Pliers: Safety and Maintenance
- 2.0.0 Measurement and Layout Tools
 - 2.1.0 Rules and Other Measuring Tools
 - 2.2.0 Levels and Layout Tools
 - 2.2.4 Level Safety and Maintenance

S1W10 – Introduction to Hand Tools Part II

Module 00103

- 2.2.5 Squares
- 2.2.6 Squares: Use and Maintenance
- 2.2.7 Plumb Bob
- 2.2.8 Chalk Lines
- 3.0.0 Other Common Hand Tools
- 3.1.0 Saws
 - 3.1.1 Handsaws
 - 3.1.2 Saws: Safety and Maintenance
- 3.2.0 Clamps
 - 3.2.1 Clamps: Safety and Maintenance
- 3.3.0 Files and Utility Knives
 - 3.3.1 Files and Rasps
 - 3.3.2 Utility Knives
 - 3.3.3 Safety and Maintenance
- 3.4.0 Shovels and Picks
 - 3.4.1 Shovels: Safety and Maintenance

S1W11 – Basic Rigging Part I

Module 00106

- 1.0.0 Basic Rigging Equipment
- 1.1.0 Slings
 - 1.1.1 Sling Tagging Requirements
 - 1.1.2 Synthetic Slings
 - 1.1.3 Alloy Steel Chain Slings
 - 1.1.4 Wire Rope Slings
- 1.2.0 Sling Inspection
- 1.3.0 Rigging Hardware
 - 1.3.1 Shackles
 - 1.3.2 Eyebolts
 - 1.3.3 Lifting Clamps
 - 1.3.4 Rigging Hooks

S1W12 – Basic Rigging Part II

Module 00106

- 1.4.0 Hoists
 - 1.4.1 Operation of Chain Hoists
 - 1.4.2 Hoist Safety and Maintenance
- 1.5.0 Hitches
 - 1.5.1 Vertical Hitch
 - 1.5.2 Choker Hitch
 - 1.5.3 Basket Hitch
 - 1.5.4 The Emergency Stop Signal

S1W13 – Introduction to Construction Drawings Part I

Module 00105

- 1.0.0 Construction Drawings and Their Components
 - 1.1.1 Title Block
 - 1.1.2 Border
 - 1.1.3 Drawing Area
 - 1.1.4 Revision Block
 - 1.1.5 Legend
 - 1.1.6 North Arrow

S1W14 –Construction Drawings Part II

Module 00105

- 1.2.0 Drawing Elements
 - 1.2.1 Lines of Construction
 - 1.2.2 Abbreviations, Symbols, and Keynotes
 - 1.2.3 Using Gridlines to Identify Plan Locations
- 1.3.0 Dimensions and Drawing Scale
 - 1.3.1 Dimensions
 - 1.3.2 Scale
- 1.4.0 Measuring Scales
- 1.5.0 Six Types of Construction Drawings
 - 1.5.1 Civil Plans
 - 1.5.2 Architectural Plans
 - 1.5.3 Structural Plans
 - 1.5.4 Mechanical Plans
 - 1.5.5 Plumbing/Piping Plans
 - 1.5.6 Electrical Plans
 - 1.5.7 Other Drawings and Documents

S1W15 – Introduction to Power Tools

Module 00104

- 1.0.0 Power Drills/Drivers
 - 1.1.0 Basic Power Tool Safety Guidelines
 - 1.2.0 Types of Power Drills/Drivers
 - 1.3.0 Hammer Drills and Impact Drivers
 - 1.4.0 Pneumatic Drills and Impact Wrenches
- 2.0.0 Power Saws
 - 2.1.0 Circular Saws
 - 2.2.0 Jigsaws and Reciprocating Saws
 - 2.3.0 Portable Band Saws
 - 2.4.0 Miter and Cutoff Saws
- 3.0.0 Grinders and Oscillating Multi-Tools
 - 3.1.0 Grinders
 - 3.2.0 Grinder Attachments and Accessories
 - 3.3.0 Oscillating Multi-Tools

S1W16 – FINAL LAB/EXAM

1. Introduction to Blueprints (Section 5; 1.5.0, 1.5.1, 1.5.2, 1.5.3, 1.5.4, 1.5.5, 1.5.6, 1.5.7 Lab)
2. Introduction to Blueprints (Section 5; 1.1.1, 1.1.2, 1.1.3, 1.1.4, 1.1.5, 1.1.6, Lab)
3. Working with Measurements (Section 5; 1.4.1, 1.4.2, 1.4.3, Lab)
4. Scale (Section 5; 1.3.1, 1.3.2, Lab)
5. Introduction to Blueprints (Section 5; 1.2.1, 1.2.2, 1.2.3, Lab)
6. Final Exam Review
7. Final Exam