

MC3 Curricula Organization

Last updated 12/29/2021

Introduction:

This document was developed to provide an “at a glance” overview of the units within NABTU’s MC3 Learning Management System. What follows is a description of material provided in the Traditional units; those intended for Live Face to Face classes. Material provided in the Totally Online (asynchronous) units are comprised of the same learning objectives and similar, but different, instructional materials. Some exercises and videos are embedded within the lesson plans and not listed below.

The content of these units is subject to change over time, as additional materials are resources are added over time.

Unit 1: Orientation and Industry Awareness

- Lesson Plan: Included
- Construction Industry Overview
 - *Learning Objectives:* Students will be able to...
 - Explain how the construction industry operates
 - Identify the different trades and professions in the construction industry and what they do
 - Describe the demographics and composition of those who work in the construction trades
 - Familiarize themselves with the wages and benefits of construction industry jobs
 - Identify and emulate behaviors that lead to a successful career in construction
 - Make an informed decision about whether to make a career in the construction industry
 - Readings:
 - Instructor Text book
 - PowerPoints:
 - Construction Industry Facts and Figures
 - Practices for Success in Construction: Attitudes and Behavior
 - Overview of the Construction Industry
 - Handouts and Exercises
 - Different Trades Overview Worksheet
 - Videos:
 - *More than Just a Building*
 - *Core Communications 1*
 - *Core Communications 2*
 - *Respect Scenario*
 - *Workplace Respect*
 - *Ethics and Honesty Scenario*
 - *Conflict Scenario*

- Misc. Resources
 - Helmets to Hardhats brochure
- Trade Unions and Apprenticeship
 - *Learning Objectives:* Students will be able to...
 - Explain what a union is and identify the benefits and services it provides
 - Explain what it means to be a union member and identify member roles and responsibilities to the union
 - Explain what construction trades apprentices are and do
 - Explain the rights and responsibilities of an apprentice
 - Explain the process for becoming an apprentice
 - Develop a plan for setting and achieving SMART goals to attain a construction career
 - Readings
 - Text book (Flipbook)
 - PowerPoints:
 - Unions: What They Do
 - Apprenticeship 101
 - Apprenticeship Yesterday and Today
 - Apprenticeship and You
 - Interview Skills
 - Motivation and Setting Goals
 - Handouts and Exercises
 - Attributes Interviewers Assess in Candidates
 - Interview Rating Worksheet
 - Interview Tip Sheet
 - Illegal Interview Questions
 - Videos:
 - MI trades construction career video series
 - Cleveland Building Trades Council video
 - San Diego Building Trades Council video
 - Miscellaneous Resources:
 - Collective bargaining agreements (IBEW and LIUNA)
 - NABTU Affiliates' Codes of Conduct
 - Interview Skills Sample Volunteer Invitation Letter
 - Why a Union Apprenticeship
 - NABTU Apprenticeship Readiness Brochure

Unit 2: Tools and Materials

- Lesson Plan: No lesson plan included; Instruction options noted below
- *Learning Objectives:* Students will be able to...
 - Identify the common tools and materials on construction sites
 - Handle construction tools in a safe manner
- Readings
- PowerPoints:

- Tool Classification
- Bits and Blades
- Handouts and Exercises
- Videos:
- Miscellaneous Resources
 - Hands on Training Suggestions

Unit 3: Construction Health and Safety

- OSHA 10
 - Lesson Plan: No lesson plan included
 - *Learning Objectives:* Student will be able to...
 - Receive an OSHA 10 card
 - Readings: All readings and other teaching aides provided within OSHA 10
 - PowerPoints
 - Handouts and Exercises
 - Videos
 - Miscellaneous Resources:
 - Smart Mark OSHA 10 Instructions. Information about accessing NABTU's endorsed Smart Mark program via their building trades partners OR accessing a different approved program using a certified instructor
- First Aide- CPR
 - Lesson Plan:
 - *Learning Objectives:* Students will be able to
 - Receive a 1 year Community CPR certificate
 - Receive a 3 year Community First Aid certificate
 - Readings
 - PowerPoints
 - Handouts and Exercises
 - Videos
 - Miscellaneous Resources
 - Instructions for meeting First Aide CPR objectives using American Red Cross delivery
- Health and Safety Issues for Women
 - Lesson Plan: 1 hour and 4 hour lesson plans included
 - *Learning Objectives:* Students will be able to...
 - Describe why gender matters in health and safety in construction
 - Describe how health and safety issues are impacted by gender
 - Describe how issues that are specific to gender can be safety concerns
 - Demonstrate what individuals can do to protect themselves and their co-workers

- Promote equitable health and safety practices and policies in the workplace
- Readings
- PowerPoints:
 - Construction Health and Safety: Women in the Construction Workplace
- Handouts and Exercises
 - Health and Safety for Women Quiz and Answer key
- Videos
- Miscellaneous Resources:
 - Link for Construction PPE resources for female workers

Unit 4: Blueprint Reading

- Lesson Plans: 4 hour, 8 hour and 16 hour lesson plans in the form of Instructor Notes/PowerPoints
- Basic Blueprint Reading Principles: 4 hour lesson plan (Instructor notes)
 - *Learning Objectives* Students will be able to
 - Define blueprint and blueprint reading
 - Define plans and specifications
 - Describe how plans and specifications are prepared
 - Describe the proper handling of plans
 - Describe the purpose and the importance of a set of plans
 - Identify and describe the features of the cover page and title block
 - Readings:
 - Basic Blueprint Reading Principles: Introduction manual
 - PowerPoints:
 - Manual in PPT format
 - Instructor notes in PPT format
 - Handouts and Exercises
 - Assessment questions and answer key
 - Day One Exercise Questions
 - Videos
 - Miscellaneous Resources
 - IUPAT HQ Plans
 - Sample house plans (CAD and hand drawn)
- Plans and Drawings: 8 hour lesson plan (Instructor notes)
 - *Learning objectives:* Students will be able to...
 - Identify the various views of a drawing that are included in a set of plans and their relationship to each other.
 - Identify and define the various parts of a set of plans, such as details, etc.
 - Identify and define material symbols, abbreviations, and lines used in drawings

- Demonstrate proper handling procedures for a printed set of plans and drawings
 - Define the meaning of “scale.”
 - Use a fractional rule to calculate measurements.
 - Readings:
 - Blueprint Reading Principles: Plans and Drawings manual
 - PowerPoints:
 - Manual in PPT format plus instructor notes
 - Handouts and Exercises
 - Assessment questions and answer key
 - Miscellaneous Resources:
- Scales and Dimensions (16 hour lesson plan)
 - *Learning Objectives:* Students will be able to...
 - Identify the difference between engineer (civil) and architect scales.
 - Describe the use and purpose of scales and measurements on architectural and shop drawings.
 - Use a scale to measure objects shown on architectural or shop drawings and interpret the results.
 - Read and utilize shop drawings and describe their use and purpose.
 - Describe the use and importance of specifications.
 - Determine accurate dimensions using the scale on a full view architectural drawing and shop drawing.
 - Readings: Blueprint Reading Principles: Architectural Shop Drawings and Specifications manual
 - PowerPoints: Manual in PPT format plus instructor notes
 - Handouts and Exercises
 - : Assessment questions and answer key
 - Miscellaneous Resources:
 - Drywall finishing specs
 - Glazier specifications: General and Glass
 - Painters specifications
 - IUPAT HQ building shop drawings

Unit 5: Math

- Lesson Plan: Included
- *Learning Objectives:* Students will be able to....
 - Trace the history of mathematics and identify systems of measurement
 - Perform mathematical operations with whole numbers
 - Perform mathematical operations with common fractions
 - Perform mathematical operations with decimal fractions
- Readings:

- Instructor textbook: Construction Mathematics for Craftworkers
- Student workbook
- PowerPoints:
 - Course Introduction
 - Whole numbers
 - Common Fractions
 - Decimals Fractions
 - Measurement
- Handouts and Exercises
 - : Assignments sheets and tests
- Videos: PPTs are animated
- Miscellaneous Resources
 - Self-paced electronic math refreshers
 - Addition, Subtraction, Multiplication and Division
 - Basic math measurements
 - Fractions (basic)
 - Decimals, percents and geometry
 - Additional math resources sheet for construction math

Unit 6: Heritage of the American Worker

- Lesson Plan: Included with supplemental speaking points
- Learning Objectives:
 - describe the “artisan system” of work and skills training in the early years of the American republic, including different roles in this system performed by master craftsmen, journeymen and apprentices;
 - describe why building and construction tradesmen joined forces in the late 19th century to improve their situations and the reasons these workers chose trade or craft unions as the best types of organizations to achieve their goals
 - describe the impact of government policy and federal involvement in labor issues on the building trades
 - identify and define the purpose of key pieces of federal legislation affecting the building trades, such as the Fitzgerald Act, and the Taft Hartley Act.
 - describe how many Building Trades locals tried to limit access to training programs to friends, family members, and other insiders; how this limited access kept out racial minorities; and how these practices undermined the reputation of the Buildings Trades around the country
 - be familiar with the steps that policy makers and Building Trades leaders took to address the lack of diversity in the trades, and why these changes were slow in coming at the local level
 - describe the series of attacks by powerful business interests throughout labor history to push back against growing strength of the building trades.
 - Describe new initiatives of the building trades intended to recruit new members and increase diversity among apprentices and in the general membership,

through programs such as the Multi-Craft Core Curriculum, Helmets to Hardhats, the NABTU Tradeswomen Committee and others.

- Readings:
 - Workers' Heritage in the Building Trades (flipbook)
- PowerPoints:
 - Workers' Heritage in the Building Trades
- Handouts and Exercises:
 - Glossary of terms
 - Dig Where You Stand activity sheet
- Videos:
 - Listing of links to individual construction union history videos
- Miscellaneous Resources
 - Discussion questions

Unit 7: Diversity Awareness and Sexual Harassment

- **Diversity**
 - Lesson Plan: Included
 - Learning Objectives: Students will be able to...
 - Explain the importance of a diverse workforce in the construction industry
 - Identify the importance of the construction industry to diverse populations
 - Identify the historical and social roots of under-representation of women and minorities in the trades
 - Explain the barriers and challenges to building a diverse construction workforce and an equitable worksite
 - Explain what it means to be a culturally competent person and organization
 - Identify equal employment opportunity and non-discrimination rights in the workplace and classroom
 - Readings
 - PowerPoints
 - Cultural Competency
 - Cultural Competency and the High Performing Workplace
 - Gender Lens: Images and Words are Powerful
 - Handouts and Exercises
 - Myths and Facts about Women in the Trades
 - Gender Lens Myths and Quiz
 - Identifying Gender Neutral Terms (Exercise)
 - Springboard for Discussing Discrimination
 - 10 Myths of Affirmative Action
 - History of Affirmative Action
 - Gender Equity Quiz and answer key
 - Videos:
 - Sisters in the Brotherhood (*available only upon request*)

- Respectful Workplaces
 - Widen the Screen
 - Cleveland Building Trades and Diversity
- Miscellaneous Resources
 - Putting a Gender Lens on the MC3 PPT
 - Be that One Guy
- **Preventing Sexual harassment**
 - Lesson Plan: included
 - *Learning Objectives:* Students will be able to...
 - Identify respectful practices and behaviors in the workplace
 - Distinguish between legal application of sexual harassment and workplace policies for acceptable behavior.
 - Recognize and define different forms of sexual harassment.
 - Explain why sexual harassment is a problem in the construction workplace.
 - Identify who is harmed by sexual harassment.
 - Demonstrate action steps to take in response to witnessing or experiencing sexual harassment
 - Readings
 - PowerPoints: Sexual Harassment: Being Part of the Solution
 - Handouts and Exercises:
 - Impact of Sexual Harassment review sheet
 - Myths and Stereotypes activity sheet and answer guide
 - Scenario activity sheets
 - Sexual Harassment Wrap-up Quiz and answer key
 - Videos
 - Sista in the Brotherhood (*available only upon request from NABTU*)
 - Women workers put construction industry on notice (ABC news article and clip)
 - Miscellaneous Resources:
 - EEOC Case study (Hill Construction)
 - ENR Me Too in Construction article
 - NYT article: Why victims aren't believed

Unit 8: Green Construction

General

- Lesson Plans: 4 hour and 8 hour versions
- *Learning Objectives:* Students will be able to:
 - Describe the basics elements of green construction and green buildings and the part they will play as a construction worker on green job sites.
 - Understand basic green building terms
 - Describe the role of green building certification and how it works.

- Recognize green awareness on construction projects, including sustainable site development, efficient use of water resources, energy conservation, the use of sustainable building materials, reducing and recycling construction waste and protecting indoor and outdoor environmental quality.
- Readings:
 - Fundamentals of Building Green Workbook
- Powerpoints
 - Chapter PPTs (1-2 and 3-5) related to Part A: Sustainability (with notes)
 - Chapter PPTs (6-10 and 11-13) related to Part B: Green Building Practice (with notes)
- Handouts
- Videos
- Miscellaneous Resources
 - FUND Instructors' Guidelines
 - Link to several videos on green construction from the CA State Building Trades Council

Offshore Wind Construction

- Lesson plan: Included
- Readings:
 - Will Floating Turbines Usher in a New Wave of Offshore Wind?
- PowerPoints
 - Offshore Wind Supplemental Lesson
- Handouts and Exercises
 - Offshore Wind Proposed Investments Interactive Map
- Videos
 - How it all comes together at sea: Installing an offshore wind farm
 - Floating Offshore Wind Turbine Installation- Kincardine project Scotland
- Miscellaneous Resources
 - Offshore Wind 101: diagrams and definitions
 - Wind Farm Assembly Documentary:
 - U.S. Department of Energy Offshore Wind Report:
 - Wildlife and Wind Power:
 - The Economic Impact of U.S. Offshore Wind Power

Unit 9: Financial Literacy

- Lesson Plans: 4 hour and 8 hour lesson plans included
- *Learning Objectives:* Students will be able to...
 - Participants will be able to identify the rationale for understanding financial literacy
 - Participants will be able to construct a budget
 - Participants will be able to devise a strategy for savings and debt management

- Participants will be able to define financial services and products for financial security
- Readings
- PowerPoints
 - Building a Foundation for Financial Security
- Handouts
 - Where to Stash Your Cash
 - Budget planning Worksheet and Exercise
 - Ways to Save Money
 - Stock market exercise worksheet
- Videos
- Miscellaneous Resources
 - Glossary of terms
 - Helpful resources
 - Your Money Your Goals Toolkit

MC3 Required vs. Elective Topics/Hours*

Required Topics/Hours	Elective Topics/Hours
Construction Industry Awareness- 8 hrs	Blueprint Reading - 4-8 hrs
Construction Trades Awareness- 8 hrs	Green Construction - 4-8 hrs **
Construction Health and Safety – 20 hrs (CPR and First Aid – 8 hrs/OSHA 10 – 10 hrs/Women's Health and Safety – 2 hrs)	Financial Literacy - 4-8 hrs
Tools and Materials - 8 hrs (must include hands on component)	*All MC3 programs must have a minimum of 120 instructional hours. Programs may add more hours at their discretion
Construction Math - 40 hrs	
Heritage of the American Worker- 8 hrs	** All California programs receiving SB1 funding MUST include 8 hours of Green Construction
Diversity in the Construction Industry - 12 hrs (Diversity Awareness - 4 hrs/ Sexual Harassment - 8 hrs)	
Total 104 Hours	Total Elective Hours = 16