MCAA
OUTREACH & EDUCATION

THE COMPLETE BINDER

MASONRY FOUNDATIONS *for* EDUCATORS.

All five coordinated documents in one volume: program map, curriculum reference, hands-on training plan, take-home overview, and prerequisite self-study guide for Career and Technical Education instructors entering masonry instruction.

5 DOCUMENTS | 43 PAGES | 3.5-DAY PROGRAM | NCCER ALIGNED

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DOC 00 — PROGRAM MAP

DOC 01 — SELF-STUDY GUIDE

DOC 02 — COURSE OUTLINE

DOC 03 — LAB ACTIVITIES

DOC 04 — PROGRAM BOOKLET

TABLE OF CONTENTS

FIVE DOCUMENTS, *ONE PROGRAM.*

Read in the order presented — start with the Program Map to orient, complete the prerequisite Self-Study Guide before in-person training, then use the Course Outline, Lab Activities, and Program Booklet during and after the 3.5-day workshop.

Doc 00 — **PROGRAM MAP** — INDEX & READING ORDER | MASTER DOC — BEGINS PG 03

Doc 01 — **SELF-STUDY GUIDE** — PREREQUISITE SELF-STUDY | AUXILIARY DOC — BEGINS PG 07

Doc 02 — **COURSE OUTLINE** — CURRICULUM REFERENCE | PRIMARY DOC — BEGINS PG 15

Doc 03 — **LAB ACTIVITIES** — HANDS-ON TRAINING PLAN | PRIMARY DOC — BEGINS PG 28

Doc 04 — **PROGRAM BOOKLET** — TAKE-HOME OVERVIEW | AUXILIARY DOC — BEGINS PG 36

HOW TO READ

Document 00 (Program Map) orients you to the set. Document 01 (Self-Study Guide) is required pre-work — complete it before attending. Document 02 (Course Outline) is your curriculum reference. Document 03 (Lab Activities) is the in-person playbook for the 3.5-day workshop. Document 04 (Program Booklet) is the take-home pocket reference. **Each document keeps its own internal numbering** — flip to one and its page numbers restart at 01.

DOCUMENT

00

PROGRAM MAP

Index & Reading Order — start here to orient.

MASTER DOC

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THE FIVE DOCS

FIVE DOCUMENTS. *ONE PROGRAM.*

Each document plays a distinct role. Primary documents carry the curriculum and training plan; auxiliary documents handle prerequisite study and a take-home overview.

00 MASTER PROGRAM MAP

READ FIRST

This document. Index and reading order for the set.

01 AUX · PREREQUISITE SELF-STUDY GUIDE

BEFORE IN-PERSON

Six self-study modules with PowerPoint files, NCCER readings, study steps, and a completion checklist. Module 5 is in-person only.

02 PRIMARY · CURRICULUM COURSE OUTLINE

USE AS REFERENCE

Lesson-by-lesson curriculum. Module objectives, topics, activities, NCCER crosswalk, appendices, completion requirements.

03 PRIMARY · TRAINING PLAN LAB ACTIVITIES

DURING IN-PERSON

Day-by-day, session-by-session hands-on training plan. Goals, schedules, assessments, materials, staffing.

04 AUX · OVERVIEW PROGRAM BOOKLET

TAKE-HOME

Pocket-sized overview of the whole program. Six modules at a glance, all four lab days, real Melgaard quote, take-home toolkit.

READING ORDER

FROM ORIENTATION *to* TAKE-HOME.

A five-step path through the document set, from first orientation to the take-home overview you carry into your classroom.

STEP 01 — 00 MASTER

ORIENT YOURSELF

Read DOC 00 (this document). Understand which doc does what, the reading order, and how primary and auxiliary documents fit together.

STEP 02 — 01 AUXILIARY

COMPLETE THE PREREQUISITE SELF-STUDY

Work through DOC 01 / Self-Study Guide. Six modules, each with PowerPoint slides and NCCER readings. Module 5 is in-person only. Use the completion checklist to confirm you're ready.

STEP 03 — 02 PRIMARY

REVIEW THE CURRICULUM

Read DOC 02 / Course Outline to understand the full curriculum: module objectives, topics, activities, NCCER alignment, appendices, and completion requirements. Use as ongoing reference.

STEP 04 — 03 PRIMARY

RUN THE IN-PERSON TRAINING

Use DOC 03 / Lab Activities as the daily playbook during the 3.5-day in-person training. Day-by-day schedules, session content, assessments, materials and staffing lists.

STEP 05 — 04 AUXILIARY

TAKE IT BACK TO THE CLASSROOM

Carry DOC 04 / Program Booklet as your pocket reference. Six modules at a glance, all four days outlined, take-home toolkit summary. Share with colleagues to introduce the program.

ONE PROGRAM.
FIVE DOCUMENTS.

Together these five documents prepare CTE instructors with no formal masonry background to teach masonry components within their existing programs. The five-doc set works as a system: each document handles a distinct phase, color-coded for quick reference.

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DOCUMENT

01

SELF-STUDY GUIDE

Prerequisite Self-Study — complete before in-person training.

AUXILIARY DOC

MASON CONTRACTORS ASSOCIATION OF AMERICA
MASONCONTRACTORS.ORG

PURPOSE

COMPLETE *before* IN-PERSON.

This guide provides step-by-step instructions for completing the self-study portion of the program before the in-person training. Modules are organized in folders, each containing its PowerPoint presentation (except Module 5, which is in-person only). All NCCER reading assignments are noted where applicable.

REQUIRED MATERIALS

- Access to each module's PowerPoint presentation.
- Notebook or digital notes document.
- NCCER Masonry Level 1, 5th Edition textbook.
- Reliable device with PowerPoint or PowerPoint Viewer.

BEFORE YOU BEGIN

- Work through the modules in order (1–6).
- Take detailed notes for later reference.
- Pause on any unfamiliar term and look it up in the masonry glossary provided in Appendix C of the Course Outline (DOC 02).
- Complete any NCCER textbook reading assignments before moving to the next module.
- Prepare questions for your instructor about unclear concepts.

06	5	1	L1
MODULES	ONLINE + READING	IN-PERSON ONLY	NCCER TEXTBOOK

For program overview see DOC 04; for the lesson-by-lesson Course Outline see DOC 02; for the day-by-day Hands-On Training Plan see DOC 03.



SIX MODULES — FOUR ON YOUR OWN, ONE AT THE WALL

STUDY *first.* BUILD NEXT.

Five modules pair a PowerPoint presentation with NCCER textbook readings; Module 5 (Cleaning & Maintenance) is in-person only. Each module ends with a stated goal so you know when you're ready.

M1 MASONRY SAFETY & PPE

File: Module 1 Masonry Safety and PPE.pptx

NCCER READING

- 28101 Introduction to Masonry — Safety sections
- 28107 Basic Masonry Safety — Entire module

STUDY STEPS

1. Open the presentation and read each slide in sequence.
2. Review OSHA masonry safety requirements.
3. Learn the correct PPE for eye, hand, foot, hearing, and respiratory protection.
4. Review hazard prevention for dust, lifting, and falling objects.
5. Follow any instructions in the slides to reference the NCCER textbook for expanded explanations.

GOAL Understand required safety practices, PPE selection, and hazard prevention in masonry.

M2 TOOL & EQUIPMENT IDENTIFICATION

File: Module 2 Tool and Equipment Id.pptx

NCCER READING

- 28102 Tools and Equipment — Entire module
- 28108 Materials Handling — Tool handling and safety sections

STUDY STEPS

1. Identify each tool in the slides by name and use.
2. Compare similar tools and note differences.
3. Learn safe handling, cleaning, and storage procedures.
4. Complete any slide prompts to review illustrations in the NCCER textbook for visual reinforcement.

GOAL Confidently identify, use, and care for masonry tools.

M3 MODERN MASONRY MATERIALS & MORTAR PREPARATION

File: Module 3 Modern Masonry Materials and Mortar Preparation.pptx

NCCER READING

- 28101 Introduction to Masonry — Materials overview
- 28104 Mortar — Entire module

STUDY STEPS

1. Review types of masonry units (brick, block, stone).
2. Learn mortar types (M, N, S, O), uses, and mixing ratios.
3. Study safe handling and storage practices.
4. Follow slide prompts to review mixing charts and illustrations in the NCCER text.

GOAL Identify masonry materials, understand mortar classifications, and follow correct mixing procedures.

M4 BRICK & BLOCK LAYING FUNDAMENTALS & TECHNIQUES

File: Module 4 Brick and Block Laying Fundamentals.pptx

NCCER READING

- 28101 Introduction to Masonry — Basic laying techniques
- 28105 Masonry Units and Installation Techniques — Entire module

STUDY STEPS

1. Learn key terminology (bed joint, head joint, bond, course, plumb).
2. Review step-by-step laying process, buttering, leveling, spacing.
3. Practice identifying bond patterns using images in slides and NCCER text.
4. Note setup and use of line blocks, corner poles, and levels.

GOAL Apply foundational brick/block laying techniques with proper alignment and bonding.

M5 CLEANING & MAINTENANCE

IN-PERSON ONLY

No self-study PowerPoint. This module is taught in-person during the lab.

NCCER READING

- 28105 Masonry Units and Installation Techniques — Cleaning and maintenance sections

STUDY PREP STEPS

1. Review textbook sections on cleaning masonry tools and structures.
2. Be familiar with maintenance schedules for tools and work areas.
3. Bring any questions to the in-person cleanup demonstration.

GOAL Follow correct cleaning protocols and maintain tools and workspace.

M6 INSTRUCTIONAL STRATEGIES & STUDENT ASSESSMENT

File: Module 6 Instructional Strategies and Student Assessment.pptx

NCCER READING

- 00107 Basic Communication Skills — Teaching communication
- 00108 Basic Employability Skills — Classroom application

STUDY STEPS

1. Review effective teaching and assessment methods for masonry.
2. Learn to create rubrics, scaffold lessons, and evaluate skills.
3. Complete any slide activities related to lesson planning.

GOAL Apply effective instructional and assessment strategies for teaching masonry.

BEFORE IN-PERSON TRAINING

CONFIRM *you* ARE READY.

Use this checklist to confirm you've completed the prerequisite self-study work before arriving for the in-person training.

- ☐ Completed all assigned module presentations.
- ☐ Completed all NCCER reading assignments.
- ☐ Took notes on each module's key points.
- ☐ Prepared questions for hands-on training.

BRING WITH YOU TO THE IN-PERSON TRAINING

- Your notebook (with module notes).
- Your NCCER Masonry Level 1, 5th Edition textbook.
- Your prepared questions list.
- PPE if provided in advance; otherwise PPE will be issued at the lab.



STUDY *first.*
BUILD NEXT.

Complete the six self-study modules before arriving at the in-person training. Bring your notes, your NCCER textbook, and your questions. Module 5 (Cleaning & Maintenance) is taught in-person.

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DOCUMENT

02

COURSE OUTLINE

Curriculum Reference — lesson-by-lesson, use throughout.

PRIMARY DOC

MASON CONTRACTORS ASSOCIATION OF AMERICA
MASONCONTRACTORS.ORG

PROGRAM OVERVIEW

BUILDING *the* NEXT GENERATION *of* MASONRY EDUCATORS.

A six-module instructor training pathway designed to equip current CTE instructors with the foundational masonry knowledge, hands-on skill, and instructional strategy required to teach the trade with confidence.

This training program is designed to equip current Career and Technical Education (CTE) instructors in fields like Building Construction Technologies with the foundational knowledge and instructional strategies needed to effectively teach the masonry components integrated into their existing programs.

Participants will gain hands-on masonry experience, learn instructional techniques aligned to the NCCER Masonry Level 1 curriculum, and leave with a certificate of completion and a complete implementation toolkit ready for classroom and shop use.

OUTCOMES

- Hands-on masonry technique practice across six core modules.
- Instructional strategies, sample rubrics, lesson plans, and assessment templates.
- A certificate of completion and full implementation toolkit.

PROGRAM SPECS

TOTAL MODULES
6

FORMAT
Hybrid · Prerequisite online work + in-person workshops

AUDIENCE
Career and Technical Education instructors with no formal masonry background

ALIGNMENT
NCCER Masonry Level 1, 5th Edition

CREDENTIAL
Certificate of Completion · MCAA

BEFORE YOU ARRIVE Complete the six self-study modules & NCCER readings before in-person. Module 5 is in-person only. Full plan: **DOC 01 / Self-Study Guide**.

TABLE OF CONTENTS

WHAT'S IN THIS DOCUMENT

Twelve sections across three parts: module overview with detailed lesson plans, supporting appendices, and implementation guidance.

—	Prerequisite Self-Study (Before You Arrive) — see DOC 01	02
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M3	Modern Masonry Materials	05
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MODULE OVERVIEW WITH DETAILED LESSON PLANS

Each module pairs a knowledge objective with hands-on lab activities and a built-in assessment strategy designed for the CTE classroom.

06	3.5	CTE	L1
CORE MODULES	DAY LAB PLAN	INSTRUCTOR FOCUS	NCCER ALIGNED

M1 | MASONRY SAFETY & PPE

OBJECTIVE	Understand and apply fundamental masonry safety practices.
TOPICS	OSHA standards · PPE usage · jobsite hazards · Safety Data Sheets
ACTIVITIES	› Watch OSHA safety videos and participate in a discussion. › Identify correct PPE for various masonry tasks. › Role-play emergency scenarios using SDS protocols.
RESOURCES	Example masonry PPE.

M2 | TOOL & EQUIPMENT IDENTIFICATION

OBJECTIVE	Identify and correctly use basic masonry tools.
TOPICS	Hand tools · power tools · specialty masonry tools (trowels, jointers, levels)
ACTIVITIES	› Hands-on lab rotating through tool stations. › Instructor demonstration and practice with sample tools.
RESOURCES	Tool glossary · instructional videos.

M3 | MODERN MASONRY MATERIALS

OBJECTIVE Discuss mortar and assess its consistency using practice mortar.

TOPICS Practice mortar mixing & consistency · mortar types covered during the learning session.

ACTIVITIES
- Instructor-led mortar mixing demo.
- Small group mortar mixing and application to test wall sections.

ASSESSMENT Observation checklist of correct mixing techniques.

RESOURCES Mixing ratio charts · sample mortar tools · safety guidelines.



FIG. 1 — MORTAR MIXING & CONSISTENCY PRACTICE.



FIG. 2 — TEST WALL APPLICATION PRACTICE.

M4 | BRICK & BLOCK LAYING FUNDAMENTALS & TECHNIQUES

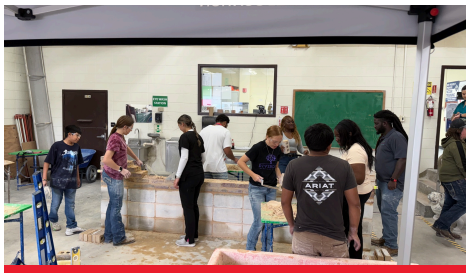
OBJECTIVE Lay basic brick and block structures using proper technique.

TOPICS Dry bond · bed joints · buttering · spacing · alignment.

ACTIVITIES
- Step-by-step instructor demo.
- Partner bricklaying exercise on practice wall.
- Peer feedback and alignment checks.
- Lab activity: build short sections with different bonds.
- Setup and use of line blocks and corner poles.
- Use spirit levels of various lengths on mock walls.
- Group challenge to plumb and square a section of wall.

ASSESSMENT Rubric-based evaluation of small wall build.

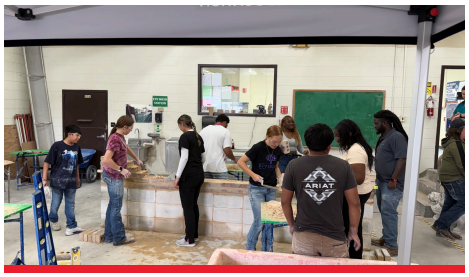
RESOURCES Practice bricks · blocks · mortar boards · layout diagrams.



BOND & BED JOINTS.



WALL BUILD PRACTICE.



COURSE ALIGNMENT.

M5 | CLEANING AND MAINTENANCE

OBJECTIVE	Maintain clean and safe masonry tools and workspaces.
TOPICS	Cleaning protocols · maintenance schedules.
ACTIVITIES	› Tool cleaning stations and timed cleanup exercise. › Discussion: best practices for classroom shop cleanup.
ASSESSMENT	Checklist-based cleanup task.
RESOURCES	Safety gear · cleaning tools.

M6 | INSTRUCTIONAL STRATEGIES & STUDENT ASSESSMENT

OBJECTIVE	Develop instructional tools and evaluation methods for student masonry work.
TOPICS	Lesson planning · instructional strategies · rubric creation.
ACTIVITIES	› Review and calibrate sample student rubric.
RESOURCES	Planning templates · rubric samples · peer feedback form.

FROM INSTRUCTOR TO PRACTITIONER

Modules 5 and 6 are where masonry technique becomes a teaching practice. Educators move from learning the trade to designing assessments and feedback loops their own students will rely on for years to come.

APPENDIX A

CROSSWALK TABLE

Crosswalk between the six instructor modules and the corresponding modules of the NCCER Masonry Level 1, 5th Edition curriculum. Use this table to align classroom delivery with national standards.

INSTRUCTOR MODULE	ALIGNED NCCER LEVEL 1 MODULE(S)
M1 — Masonry Safety & PPE	28101 Introduction to Masonry · 28107 Basic Masonry Safety
M2 — Tool & Equipment Identification	28102 Tools and Equipment · 28108 Materials Handling
M3 — Modern Masonry Materials	28101 Introduction to Masonry · 28104 Mortar
M4 — Brick & Block Laying Fundamentals & Techniques	28101 Introduction to Masonry · 28105 Masonry Units and Installation Techniques
M5 — Cleaning and Maintenance	28105 Masonry Units and Installation Techniques
M6 — Instructional Strategies & Assessment	00107 Basic Communication Skills · 00108 Basic Employability Skills



FIG. 3 — PRACTICE WALL BUILD DURING A HANDS-ON INSTRUCTOR LAB.

APPENDIX B

SAMPLE BRICKLAYING RUBRIC

Criteria for assessing a basic bricklaying task. Calibrated for use in CTE shop and lab settings; designed to be photocopied or distributed digitally as a student-facing scoring guide.

CRITERIA	EXCELLENT (5)	GOOD (4)	FAIR (3)	NEEDS IMPROVEMENT (1-2)
Wall Alignment	Consistently level and plumb	Minor imperfections	Some misalignment	Major issues with level or plumb
Mortar Joint Quality	Uniform thickness, clean	Slight variations	Irregular joints	Gaps, poor adhesion
Tool Usage	Safe and effective use	Occasional correction needed	Frequent errors	Unsafe or ineffective use
Worksite Cleanliness	Maintains clean area throughout	Mostly clean	Some clutter	Poor housekeeping
Time Management	Completed on time	Slightly over time	Incomplete or rushed	Significantly over time or not finished

CALIBRATION NOTE

Score each criterion independently before averaging. Rubric users should run a norming session with at least one peer instructor to establish shared interpretation of "minor imperfections" vs. "some misalignment" before scoring student work.

APPENDIX C

MASONRY GLOSSARY

BED JOINT

The horizontal layer of mortar on which a masonry unit is laid.

BOND

The pattern in which masonry units are laid.

BUTTER

To spread mortar on the end of a masonry unit.

COURSE

A continuous horizontal layer of similarly sized building material.

PLUMB

Perfectly vertical, as measured by a plumb bob or level.

STRIKE

To finish a mortar joint with a specific profile.

TROWEL

A flat-bladed hand tool used to apply mortar.

MORTAR MIX TYPES

M, N, S, O — each with varying strength and application.

APPENDIX D

RECOMMENDED TOOLS & MATERIALS

Recommended kit for stocking a CTE masonry classroom or shop. Quantities will scale with student count.

- ☐ NCCER Masonry Level 1, 5th Edition Textbook
- ☐ Brick trowels
- ☐ Margin trowels
- ☐ Masonry jointers (concave, V-joint)
- ☐ Line blocks and mason's line
- ☐ Levels (8", 2', 4')
- ☐ Tape measure and folding rule
- ☐ Mixing pans and hoes
- ☐ Wheelbarrows
- ☐ Mortar boards (hawkbill or wood)
- ☐ Rubber mallets
- ☐ PPE: gloves, goggles, dust masks
- ☐ Cleaning buckets and brushes
- ☐ Sample brick / block units
- ☐ Pre-packaged mortar mix
- ☐ Safety cones and caution tape
- ☐ Visual posters: tool functions & bond types

SECTION E

EXPANDED SUPPORTING MATERIALS

The following materials are provided to support successful implementation of the Masonry Foundations for Educators training program. They are designed to be customized, reproduced, and integrated into existing CTE programs.

1. INSTRUCTOR TOOLKIT

- Safety checklist for masonry shop and classroom.
- Tool identification chart with images and names.
- Mortar Mixing Document with ratios and consistency guidance.
- Visual reference handouts for common masonry bond patterns.
- Sample lesson plans and project outlines.
- Jobsite signage and safety labels templates.

2. ASSESSMENT TEMPLATES

- Bricklaying skill rubrics (task-specific).
- Checklists for tool use and site safety.
- Written quiz templates on safety, tools, and techniques.
- Student self-assessment forms.
- Peer feedback forms for group work evaluation.



INSTRUCTOR DEMO OF TROWEL TECHNIQUE.



GROUP INSTRUCTION DURING WORKSHOP.

SECTION F

PROGRAM COMPLETION REQUIREMENTS

To complete the Masonry Foundations for Educators training program and earn a certificate of completion, participants must fulfill the following requirements.

1. ATTENDANCE AND PARTICIPATION

- Attend all required in-person or virtual training sessions.
- Engage actively in discussions, labs, and peer activities.
- Demonstrate consistent application of safety and instructional best practices.

2. TEACHING PRACTICE SUBMISSION

- Submit a sample instructional unit aligned with BCT standards.
- Include lesson plan, assessment tools, and teaching materials.
- Participate in a peer review session and revise accordingly.

3. PORTFOLIO DOCUMENTATION

- Upload photos and documentation of hands-on lab activities.
- Submit a reflection describing implementation strategies and challenges.
- Include before-and-after samples of student work, if applicable.

4. FINAL ASSESSMENT

- Complete a written or digital exam demonstrating understanding of key content areas.
- Rubric-scored evaluation of brick laying and wall construction tasks.
- Feedback from instructors and peers on practical demonstrations.

CLOSING

CERTIFICATE OF COMPLETION

Participants who meet all of the requirements outlined in Section F will receive a Certificate of Completion issued by the program sponsor (MCAA). This certificate acknowledges readiness to teach foundational masonry concepts aligned to Building Construction Technology (BCT) standards.

CERTIFICATE

CERTIFIED *to* TEACH. EQUIPPED *to* LEAD.

Awarded upon completion of all attendance, teaching practice, portfolio, and final assessment requirements. The recipient is recognized by MCAA as ready to deliver foundational masonry instruction in a CTE setting.

— MASON CONTRACTORS ASSOCIATION OF AMERICA

DOCUMENT

03

LAB ACTIVITIES

Hands-On Training Plan — the in-person 3.5-day playbook.

PRIMARY DOC

MASON CONTRACTORS ASSOCIATION OF AMERICA
MASONCONTRACTORS.ORG

PROGRAM OVERVIEW

THREE *and a* HALF DAYS *at the* WALL.

A practical, in-person training plan structured around safety, tools, mortar, and the daily rhythm of the masonry shop. Built for Career and Technical Education instructors with no formal masonry background.

3.5	06	CTE	∞
DAY PLAN	MODULES PRACTICED	INSTRUCTOR FOCUS	WALL BUILDS

ABOUT THIS PLAN

This document is the practical companion to the Course Outline. It maps each module to the time, materials, and lab structure required to deliver the training in-person.

Each day opens with a stated goal, breaks into morning and afternoon sessions, and closes with a built-in assessment. Materials lists at the end of the document specify per-person and shared kit requirements.

AUDIENCE & PREREQUISITES

- **Audience:** Career and Technical Education instructors with no formal masonry background.
- **Prerequisite:** Completion of all online and bookwork modules prior to training.
- **Format:** In-person, hands-on, with peer review and rubric-based feedback.

AT A GLANCE

DAY 1
Foundations: Safety, Tools, & Mortar

DAY 2
Brick & Block Basics

DAY 3
Patterns, Plumb & Practice

DAY 4
Finishing, Instructional Practice & Assessment

01
DAY

FOUNDATIONS

SAFETY, TOOLS & *MORTAR.*

Goal: *Establish foundational skills in masonry safety, tool use, and mortar mixing.*

AFTERNOON SESSION 1:00 PM – 4:00 PM

BLOCK 1
1:00 – 1:45

M1 SAFETY & PPE

- Walkthrough of masonry-specific PPE.
- Demonstration: jobsite hazards, safety signage, SDS application.
- Practice: PPE identification and emergency role-play.

BLOCK 2
1:45 – 2:45

M2 TOOL IDENTIFICATION & USE

- Rotating tool stations: trowels, levels, jointers, etc.
- Hands-on use with demonstrations at each station.

BLOCK 3
3:00 – 4:00

M3 MORTAR MIXING

- Describe practice mortar and its role in training; briefly reference mortar types covered in the learning session.
- Lab groups: mix and test consistency, adjust water ratios.
- Apply small test batches to brick boards.

ASSESSMENT ✓ Safety quiz · tool ID practical · mixing technique observation checklist.

ANCHOR THE DAY

Day 1 sets the tone for the entire training. Slow down on safety and mortar consistency — instructors who rush the basics on day one struggle when patterns and plumb get added later in the week.

02 DAY

BRICK & BLOCK BASICS

to THE WALL.

Goal: *Begin brick and block laying with emphasis on technique, spacing, and structure.*

MORNING SESSION — 8:30 AM – 12:00 PM

BLOCK 1
8:30 – 10:00

M4 BRICK & BLOCK LAYING FUNDAMENTALS

- Demo: bed joints, buttering, alignment.
- Spread mortar.
- Dry-bond practice walls.

BLOCK 2
10:15 – 12:00

M4 HANDS-ON PRACTICE

- Hands-on practice laying starter courses on demo walls.

AFTERNOON SESSION — 1:00 PM – 4:30 PM

BLOCK 3
1:00 – 4:30

M4 PAIRED WALL BUILDS

- Begin paired wall builds.
- Focus on clean jointing, spacing, and alignment.
- Peer review and instructor check-ins throughout the afternoon.

ASSESSMENT ☑ Rubric-based wall evaluation: alignment · joints · safety · cleanliness.

COACHING CUE

Pair instructors who learn quickly with those who need more reps. The slower learner gets immediate peer feedback; the faster learner deepens understanding by teaching. Both leave the session more confident than they came in.

03
DAY

PATTERNS, PLUMB & PRACTICE

BONDS & *PRECISION.*

Goal: *Explore common bonds and improve precision with layout and leveling.*

MORNING SESSION — 8:30 AM – 12:00 PM

BLOCK 1
8:30 – 10:00

M4 MASONRY BONDS & PATTERNS

- Quick game: bond pattern ID challenge.
- Build short wall sections using running, stack, and Flemish bonds.
- Sketching and structural application discussion.

BLOCK 2
10:15 – 12:00

M4 LAYOUT & PLUMB TECHNIQUES

- Use chalk lines, story poles, mason's line.
- Group competition: lay out a plumb, square, and level wall.

AFTERNOON SESSION — 1:00 PM – 4:30 PM

BLOCK 3
1:00 – 4:30

M4 PRECISION BUILD & REFLECTION

- Continue build with precise layout techniques.
- Troubleshooting: common errors with squareness and plumb.
- Daily cleanup and reflection.

ASSESSMENT ☑ Bond visual check · layout accuracy rubric · peer / self feedback.

04
DAY

FINISHING & INSTRUCTION

WRAP, REFLECT, *CERTIFY.*

Goal: *Wrap up builds, practice instruction, and reflect on classroom implementation.*

MORNING SESSION — 8:30 AM – 12:00 PM

BLOCK 1
8:30 – 10:00

M5 CLEANING & MAINTENANCE

- Timed tool and workspace cleanup stations.
- Best practices for classroom and shop maintenance.

BLOCK 2
10:15 – 12:00

M6 INSTRUCTIONAL STRATEGIES

- Mini-lesson peer teaching, based on completed online plans.
- Review sample student work and practice rubric scoring.

AFTERNOON & WRAP-UP — 1:00 PM – 4:00 PM

FINAL
1:00 – 3:00

FINAL EVALUATIONS & REFLECTIONS

- Skill check: finish bricklaying task.
- Submit reflection: *"How will I implement this in my classroom?"*
- Group discussion: challenges, solutions, next steps.

CLOSING
3:00 – 4:00

CERTIFICATION & TOOLKIT HANDOVER

- Instructor feedback session.
- Certificates of Completion.
- Resource toolkit review (digital and printed).

ASSESSMENT ☑ Completed rubric evaluation · lesson plan demo · written reflection.

LOGISTICS

WHAT YOU NEED *on the* FLOOR.

Materials lists are sized for hands-on labs. Per-person quantities below are for a standard 3.5-day cohort; overall kit covers shared mixing, water, and clean-up needs.

PER PERSON

1	PPE Kit	9	8×8×16 regular block
2	8×8×8 half block	50	Modular brick
1	Trowel	1	Brush
1	4-foot level	1	Jointer
1	Brick hammer	1	Bag of training mortar (per day)
2	Line blocks & mason's line	1	Mortar board

OVERALL KIT

2	Shovels	2	Wheelbarrows
1	Five-gallon bucket	1	Water hose

TRAINERS REQUIRED

- **Lead Masonry Instructor** — curriculum delivery, demos, and assessments.
- **1–2 Lab Assistants** — safety, builds, cleanup, and peer feedback.

PRE-LAB SAFETY CHECKLIST

Before every lab session, instructors and lab assistants should walk through this checklist together. The goal is not perfection — it is shared awareness.

- [ ] ANSI-rated safety glasses available for every participant
- [ ] Work gloves (leather or synthetic) sized for each participant
- [ ] Closed-toe shoes verified at sign-in
- [ ] Long hair tied back; jewelry removed
- [ ] SDS sheets accessible for all mortar products in use
- [ ] First-aid kit stocked and within reach
- [ ] Eye-wash station functional
- [ ] Water source accessible to mixing area
- [ ] Wheelbarrow paths clear of debris and tools
- [ ] Cleanup buckets pre-staged at each work station
- [ ] Emergency exits marked and unblocked
- [ ] Lab assistant assignments posted

PROCUREMENT TIP

Order training mortar in pre-bagged single-use quantities when possible. It reduces waste, simplifies clean-up, and gives instructors-in-training a feel for how mortar volume maps to wall coverage.

CERTIFICATION

from HANDS-ON TRAINING *to* ***CLASSROOM PRACTICE.***

Instructors who complete the four-day plan, submit their reflection, and pass the rubric-scored bricklaying skill check are eligible for the MCAA Certificate of Completion. Their classroom is now a masonry classroom.

— MASON CONTRACTORS ASSOCIATION OF AMERICA

DOCUMENT

04

PROGRAM BOOKLET

Take-Home Overview — the pocket reference to share.

AUXILIARY DOC

MASON CONTRACTORS ASSOCIATION OF AMERICA
MASONCONTRACTORS.ORG

PURPOSE

FOUNDATIONAL KNOWLEDGE. *INSTRUCTIONAL STRATEGY.*

Designed to equip current Career and Technical Education (CTE) instructors in fields like Building Construction Technologies with the foundational knowledge and instructional strategies needed to effectively teach the masonry components integrated into their existing programs.

PROGRAM STRUCTURE

- **Total Modules:** 6
- **Format:** Hybrid — prerequisite online work & in-person workshops
- **Target Audience:** Career and Technical Education instructors with no formal masonry background

OUTCOMES

- Gain hands-on masonry experience
- Learn instructional techniques for masonry
- Receive a certificate of completion and implementation toolkit

06	3.5	CTE	L1
MODULES	DAY LAB PLAN	INSTRUCTOR FOCUS	NCCER ALIGNED

This booklet is a pocket reference. For the lesson-by-lesson Course Outline see DOC 02; for the day-by-day Hands-On Training Plan see DOC 03.



DAY 1 — SAFETY, TOOLS & MORTAR

SAFETY. TOOLS. *MORTAR MIXING.*

Day 1 of the lab plan: orientation, masonry safety and PPE, tool identification and handling, and an introduction to mortar with hands-on practice mortar mixing.

MODULES

SIX *core* MODULES.

The Course Outline organizes the program around six modules — each with a stated objective, listed topics, hands-on activities, and assessment or resource notes.

M1	Masonry Safety & PPE	M2	Tool & Equipment Identification
M3	Modern Masonry Materials	M4	Brick & Block Laying Fundamentals & Techniques
M5	Cleaning and Maintenance	M6	Instructional Strategies & Student Assessment

NCCER MASONRY LEVEL 1 — CROSSWALK

Each module maps to NCCER Masonry Level 1 (5th Edition) modules:

- **M1** → 28101 Intro to Masonry · 28107 Basic Masonry Safety
- **M2** → 28102 Tools and Equipment · 28108 Materials Handling
- **M3** → 28101 Intro to Masonry · 28104 Mortar
- **M4** → 28101 Intro to Masonry · 28105 Masonry Units & Installation
- **M5** → 28105 Masonry Units & Installation Techniques
- **M6** → 00107 Basic Communication · 00108 Basic Employability

DAY 2 — FROM THE LAB PLAN

BRICK & BLOCK *BASICS.*

Begin brick/block laying with emphasis on technique, spacing, and structure.

02 DAY — BRICK & BLOCK BASICS

Goal: Begin brick/block laying with emphasis on technique, spacing, and structure.

Morning
8:30 — 12:00

BRICK & BLOCK LAYING FUNDAMENTALS (MODULE 4)

Demo: bed joints, buttering, alignment · spread mortar · dry-bond practice walls · hands-on practice laying starter courses on demo walls.

Afternoon
1:00 — 4:30

PAIRED WALL BUILDS

Begin paired wall builds · focus on clean jointing, spacing, and alignment · peer review and instructor check-ins.

Assessment
END OF DAY

RUBRIC-BASED WALL EVALUATION

Evaluation criteria: alignment, joints, safety, cleanliness.

ALL FOUR DAYS — AT A GLANCE

DAY 1 · Foundations — Safety, Tools & Mortar (Modules 1–3, half-day afternoon)

DAY 2 · Brick & Block Basics (Module 4) — detailed above

DAY 3 · Patterns, Plumb & Practice (Module 4, continued)

DAY 4 · Finishing, Instructional Practice & Assessment (Modules 5–6)

Full day-by-day schedule in DOC 03 / Hands-On Training Plan.



FROM MCAA

BRIDGE *the* GAP BETWEEN EDUCATION *and* INDUSTRY.

"This position represents an opportunity to bridge the gap between education and industry, fostering a new generation of masons."
— Robert Melgaard, Director of Youth Outreach and Education, MCAA

IMPLEMENTATION TOOLKIT

WHAT *you* TAKE HOME.

Materials provided to support successful implementation of the Masonry Foundations for Educators training in your own classroom and shop.

SAFETY CHECKLIST

Safety checklist for masonry shop and classroom, plus jobsite signage and safety labels templates.

TOOL ID CHART

Tool identification chart with images and names — for classroom display and student reference.

BOND PATTERN HANDOUTS

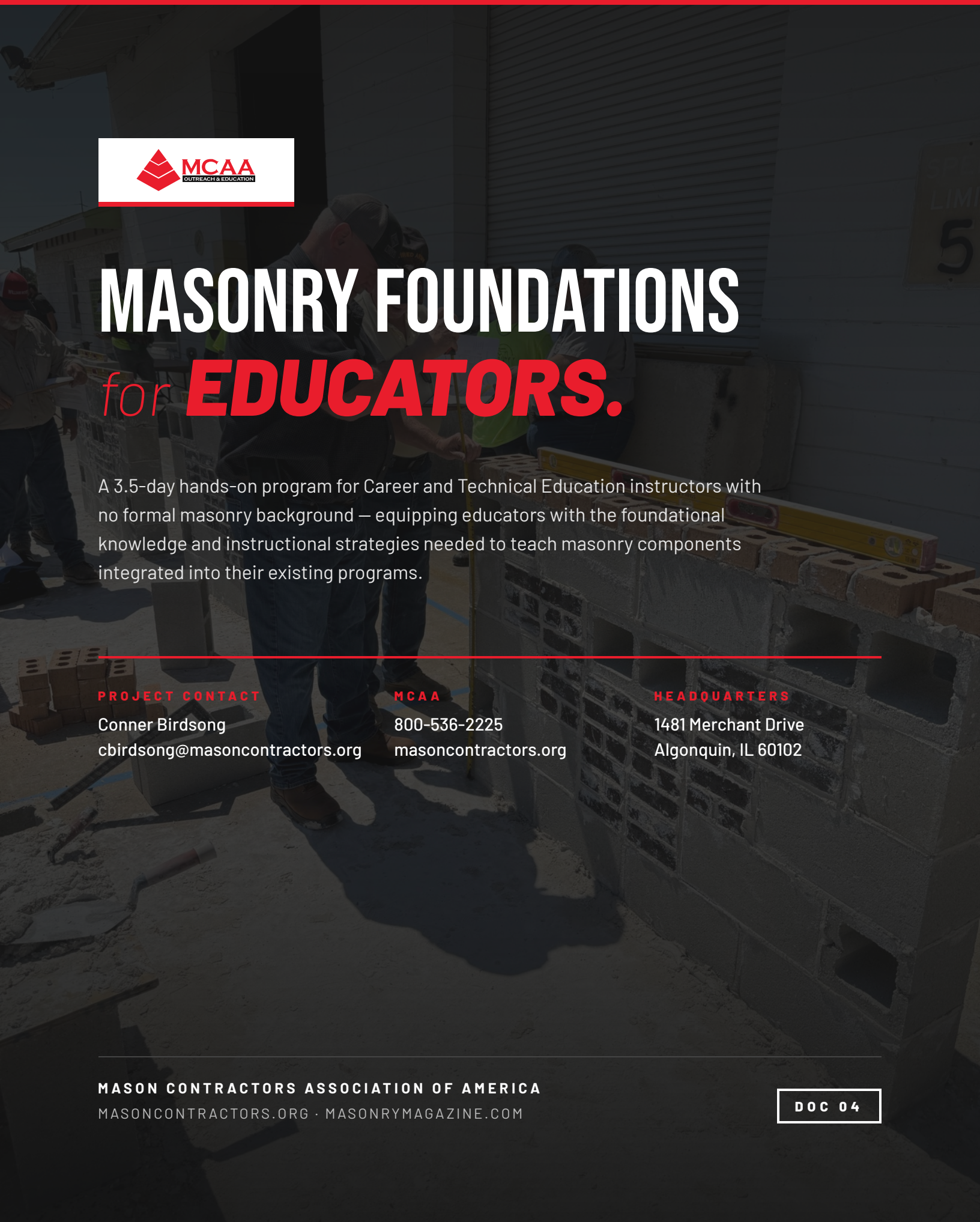
Visual reference handouts for common masonry bond patterns.

LESSON PLANS & OUTLINES

Sample lesson plans and project outlines aligned to the six modules.

ASSESSMENT TEMPLATES

Bricklaying skill rubrics (task-specific), checklists for tool use and site safety, written quiz templates, student self-assessment forms, and peer feedback forms.



MASONRY FOUNDATIONS *for* EDUCATORS.

A 3.5-day hands-on program for Career and Technical Education instructors with no formal masonry background — equipping educators with the foundational knowledge and instructional strategies needed to teach masonry components integrated into their existing programs.

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