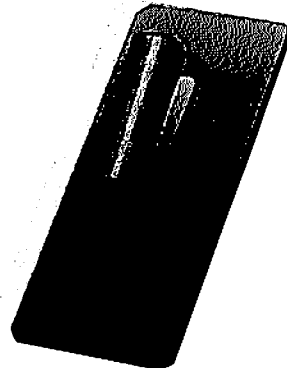
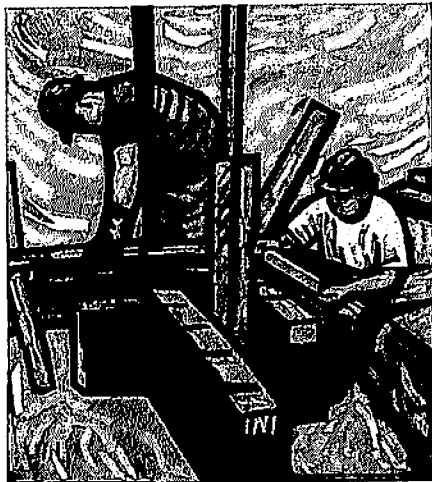
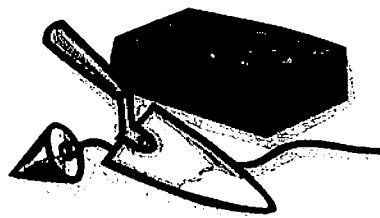


Lewis & Clark Career Center

Curriculum Guide

Brick & Stone Masonry



Curriculum Guide For Brick & Stone Masonry

Course Rationale, Course Description, Units of Study

Competencies

Crosswalk to Show Me Standards

Articulation Agreements

Employer Survey / Advisory Board Minutes

Instructional Methods

Integrated Lesson Sample

Work Experience Program

SkillsUSA Officers

Teacher Certification

School and Program Policies and Procedures

Inventory

Program Enrollment Data

Placement Data

Program Evaluation

Program Brochures/Enrollment Packet

Miscellaneous

BRICK, BLOCK & STONE MASONRY

2 year program; 3 units of credit per year

This program is designed to prepare students for apprenticeship or entry-level jobs in masonry construction. Students will learn to lay brick and block in various bond patterns used in commercial and residential construction. Course will include construction techniques for building fireplaces and chimneys, arches, special wall openings, double wythe and reinforced masonry, wall anchoring systems, flashings and prevention of water penetration and masonry paving. Students will also gain knowledge of various types of stone construction and tuckpointing.

Units of study will cover safety practices and procedures; tools and equipment used in masonry construction; properties, sizes and uses of clay and concrete masonry units; experience in laying brick, block and stone in various bond patterns; reinforced masonry walls; masonry veneer construction; layout and construction of fireplaces and chimneys; mathematics for masonry and measuring systems; blueprint reading and construction plans.

Students must be able to work at heights on scaffolds, lift and handle heavy materials, work in group situations as a team member, follow instructions and accomplish all tasks in an accurate and safe manner.

LEWIS & CLARK CAREER CENTER

BRICK & STONE MASONRY UNITS OF STUDY

- Safety Practices and Procedures
- Tools and Equipment Used in Masonry Construction
- Mathematics for Masonry and Measuring Systems
- Blueprint Reading and Construction Plans
- Properties, Sizes, and Uses of Clay and Concrete Masonry Units
- Laying Brick, Block, and Stone in Various Bond Patterns
- Reinforced Masonry Walls
- Masonry Veneer Construction
- Layout and Construction of Fireplaces and Chimneys
- Rigging, Scaffolding, and Miscellaneous Equipment
- Mortars
- Anchors and Reinforcement
- Wall Layout
- Moisture Control
- Customized or Architectural Masonry Units
- Sills, Lintels, and Copings
- Employability Skills
- SkillsUSA
- **Articulated with Construction Craft Laborer Apprenticeship**

BRICK & STONE MASONRY

Shop Grade	50%
Classroom	25%
Employability	<u>25%</u>
	100%



Masonry

High School 5 Credits Adults 1650 Hours

Home Page
Admissions
Staff
Business Occupations
Health Occupations
Industrial Programs
Service Occupations
Agri-Business
Supplemental Programs
e-Mail
Curriculum
Construction



- Masonry 1
- Masonry 2
- Masonry 3
- Intermediate Masonry 4
- Intermediate Masonry 5

Purpose: The purpose of this program is to prepare students for employment or advanced training in the brick, block, or concrete masonry industry. It also provides supplemental training for persons previously or currently employed in the masonry industry. (Day Class Only)

COURSE DESCRIPTION

The program includes practical experiences in all phases of brick, block, and stone construction. The course begins with basic information and techniques and progresses to advanced tools, equipment, materials, and safety in all areas of masonry work. Labor saving procedures and special hints on how to get the job done with the least effort and still maintain high professional standards are incorporated in learning activities. After successfully completing the program, the student will be able to characterize the masonry industry; identify and use hand tools; select and mix mortars and concrete; describe the properties, characteristics, and uses of brick/concrete block; lay brick and/or block to line; describe the various types and uses of bonding, clean masonry; erect and disassemble basic scaffolds; apply appropriate math skills; read construction drawings and specifications; perform building layout; build foundations; estimate cost and materials; and operate and maintain power equipment.

Occupational Completion Points:

- Masonry Tender
- Bricklayer Helper
- Brick Mason

Last updated: Wed Oct 24 18:49:04 CDT 2001

Masonry: Curriculum #921 (AOS Degree)

1. **Program Purpose:** The purpose of this program is two-fold: first, the program provides graduates with a comprehensive foundation in building construction for the purpose of career-oriented masonry profession; second, to improve their own lives and be ready to accept leadership roles within the masonry industry.
2. **Program Learning Objectives:**
 - 1) Accurately layout projects using a masonry spacing ruler and be at least 80% accurate in the process.
3. **Our Program Assessment Consists Of:**
 - 1) Evaluation of existing student work through lab sampling.
4. **Strategy Detail:**
 - 1) Existing student work - A standing department committee will choose one appropriate lab per year for evaluation (one senior lab and one freshman lab). This committee shall design a procedure for evaluating a sample of student work that demonstrates the degree to which the outcomes are met. The committee shall recommend action that: (1) makes suggestions for student attainment of that objective and (2) suggests improvements, if any, to the objectives itself. The department will operate on the assumption that some significant change needs to be made if less than 60% of the students are meeting the selective objective.

Davidson County Community College

Masonry[Home](#)[Program Outcome](#)[Certificate](#)[Links](#)

Program Description

The Masonry curriculum is designed to prepare individuals to work in the construction industry as masons. Masonry courses provide principles and fundamentals of masonry and experiences necessary to produce quality construction using safe, practical, and reliable work habits.

Course work includes basic mathematics, blueprint reading, and methods used in laying out masonry jobs for residential, commercial, and industrial construction. Upon completion students will be able to read blueprints, estimate structures, construct footings and walks, and lay masonry units.

Upon completion students will be issued a certificate or diploma. Graduates should qualify for employment in the masonry industry as apprentices or masons.



For more information please contact Pete Brooks at [pdbrooks@davidson.cc.nc.us](mailto:pdbrooks@ davidson.cc.nc.us).

This page was last updated on March 20, 2002.

NORTH EAST

KANSAS TECHNICAL COLLEGE

Masonry Course Descriptions

MAS 101 General Safety Practices and Introduction to Brick and Block — 3

This course teaches general safety used on the job site and in the shop area. The course also covers the history, development, and manufacturing of brick and block.

MAS 111 Basic Tools and Related Equipment — 3

This course teaches different basic tools and related equipment used in the trade, along with the proper way to use them and the safety practices involved.

MAS 121 Masonry Construction Practices I — 5

This course teaches details of construction, masonry practices, types and uses of scaffolding, and cleaning masonry work.

MAS 131 Basic Skills of Laying Brick and Block I — 5

This course will teach students how to lay brick and block to the string line, build brick and block leads, estimate brick and block masonry by rule of thumb, and combine these skills to construct composite and cavity walls.

MAS 151 Masonry Construction Practices II — 3

This course is a continuation of Masonry Construction Practices I. It focuses on advanced methods and application of concrete brick and block construction, masonry practices, types and uses of scaffolding, and cleaning masonry work. Prerequisite: Masonry Construction Practices I.

MAS 161 Basic Skills of Laying Brick and Block II — 5

This course is a continuation of Basic Skills of Laying Brick and Block I. It focuses on advanced methods and applications of concrete brick and block construction, including laying and estimating techniques.

Prerequisite: Basic Skills of Laying Brick and Block I.

MAS 171 Reading Blueprints and Measurements — 2

This course teaches students how to read and understand construction drawings and improve their ability to understand measurements used in construction.

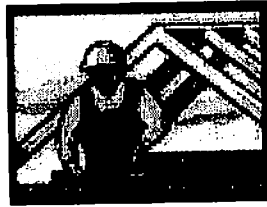
MAS 181 Masonry Working Practices — 6



This course teaches students how to apply safety practices on the job, helpful working practices and tips, and what is involved in a masonry career.

MAS 195 Occupational Work Experience
Occupational work experiences are available to students who have completed 85% of their required course hours. This is an optional course for masonry students who wish to gain further "real-life" experiences at local businesses and/or private homes.

Masonry



For employment opportunities in carpentry, woodworking, remodeling, maintenance and repair, building fabrication, concrete work, brick and block masonry, tile setting, code enforcement, roofing and siding, and sales.

Instructor: Marcel Giroux

Building Trades

The Building Trades program is divided into two main areas of study – Masonry and Carpentry. Together they offer a wide range of classroom and hands-on work experience in the construction trade. Students not only gain experience in the shop but also go to work sites in the community where they utilize and practice the skills they have learned.

At the end of the second year, time is provided for students to complete personal projects such as Adirondack chairs, stereo speaker cabinets, planters etc. Building Trades students may join Skills USA (VICA) to enhance their leadership skills and compete with students from other schools in program knowledge

Masonry Curriculum

- Safety
- Tools
- Introduction to materials
- Mortar mixes
- Block leads
- Brick leads
- Trade terms
- Chimney construction

#10
#11
#12
#13

AST II
AST II
AST II
AST II

- Fireplace construction
- Step construction
- Arches
- Foundation studies
- Flat concrete studies
- Job ethics

Trade and Industrial Education
Course: Masonry I
Course Code # 5735
1 Credit

School Year _____

Term: ___ Fall ___ Spring

Student:	Grade:
Teacher:	School:
Number of Competencies in Course: 30	
Number of Competencies Mastered:	
Percent of Competencies Mastered:	

STANDARD 1.0: Students will demonstrate leadership, citizenship, and teamwork skills required for success in the school, community, and workplace.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
1.1	Cultivate leadership skills.			
1.2	Participate in SkillsUSA-VICA as an integral part of instruction.			
1.3	Assess situations within the school, community, and workplace and apply values to develop and select solutions.			
1.4	Demonstrate the ability to work cooperatively with others.			

STANDARD 2.0: Students will take personal responsibility for the safety of themselves, their coworkers, and bystanders.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
2.1	Demonstrate a positive attitude regarding safety practices and issues.			
2.2	Use and inspect personal protective equipment.			
2.3	Inspect, maintain, and employ safe operating procedures with tools and equipment, such as hand and power tools, ladders, scaffolding, and lifting equipment			
2.4	Continuously respond appropriately to potential hazards to self and others.			
2.5	Assumes responsibilities under HazCom (Hazard Communication) regulations.			
2.6	Performs in accordance with responsibilities, regulations, and company policies to protect coworkers and bystanders from hazards.			
2.7	Adheres to responsibilities, regulations, and company policies regarding reporting of accidents and observed hazards and regarding emergency response procedures.			
2.8	Demonstrate appropriate related safety procedures.			
2.9	Pass with 100 % accuracy a written examination relating to safety issues.			
2.10	Pass with 100% accuracy a performance examination relating to safety.			
2.11	Maintain a portfolio record of written safety examinations and equipment examinations for which the student has passed an operational checkout by the instructor.			

STANDARD 3.0: Students will interpret, lay out, and fabricate in conformance to construction drawings and written specifications.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
3.1	Interpret dimensions and locations of components that are explicitly dimensioned in construction drawings and written specifications.			
3.2	Interpret plan and elevation views shown in construction drawings.			
3.3	Recognize and correctly interpret lines and symbols commonly used in construction drawings.			
3.4	Make layouts of locations and elevations of masonry structural elements and reinforcements.			

STANDARD 4.0: Students will lay new masonry units around openings and in replacement situations.

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
4.1	Saw and cut masonry units.			
4.2	Lay-up jambs, lintels, and sills.			
4.3	Demonstrate the techniques used in toothing and patching various types of masonry.			

STANDARD 5.0: Students will analyze the loads that act on reinforced masonry structures.

Learning Expectations		Mastery	Non-Mastery
5.1	Analyze vertical loads on masonry structures.		
5.2	Analyze lateral loads on masonry structures.		
5.3	Analyze how masonry structures develop reaction to applied loads.		

Check the appropriate Mastery or Non-Mastery column

STANDARD 6.0: Students will modify masonry processes based on weather conditions.

Learning Expectations		Mastery	Non-Mastery
6.1	Identify the weather conditions that affect masonry processes.		
6.2	Demonstrate changes to masonry processes to accommodate weather conditions.		

Check the appropriate Mastery or Non-Mastery column

STANDARD 7.0: Students will demonstrate bonding and reinforcement in masonry structural members.

Learning Expectations		Mastery	Non-Mastery
7.1	Demonstrate methods of providing bonding in wall structures.		
7.2	Demonstrate methods of providing tension and compression reinforcement in walls and columns.		
7.3	Demonstrate methods of providing shear reinforcement.		

Check the appropriate Mastery or Non-Mastery column

Additional Comments

TRADES INDUSTRIAL EDUCATION PROGRAM STANDARDS For Brick and Stone

1. RESOURCE STANDARDS

1.A The program offers a coherent sequence of courses leading to occupational competence		___ Met	___ Not Met
---	--	---------	-------------

- | | | | |
|--|--------------------------|--|--------------------------|
| | YES | | NO |
| • The program offers at least 5 courses. | <input type="checkbox"/> | | <input type="checkbox"/> |
| • The program offers at least 3 units of credit. | <input type="checkbox"/> | | <input type="checkbox"/> |

1.B The teachers have a valid renewable teaching certificate for the program area.		___ Met	___ Not Met
---	--	---------	-------------

- | | | | |
|---|--------------------------|--|--------------------------|
| | YES | | NO |
| • The district has on file a current teaching certificate for the teacher for the program area | <input type="checkbox"/> | | <input type="checkbox"/> |
| • The teacher maintains a file containing documentation of completion of the requirements for renewal of the teaching certificate. (kept in office) | <input type="checkbox"/> | | <input type="checkbox"/> |

1.C Course offerings are appropriate for meeting the needs of students and employers		___ Met	___ Not Met
---	--	---------	-------------

- | | | | |
|--|--------------------------|--|--------------------------|
| | YES | | NO |
| • Course offerings are based on enrollment trends, and employment needs. | <input type="checkbox"/> | | <input type="checkbox"/> |

1.D Class size is appropriate for the program area.		___ Met	___ Not Met
--	--	---------	-------------

- | | | | |
|--|--------------------------|--|--------------------------|
| | YES | | NO |
| • Class size does not exceed 18. | <input type="checkbox"/> | | <input type="checkbox"/> |
| • The number of students enrolled in the supervised trade experience component does not exceed 2 per business. | <input type="checkbox"/> | | <input type="checkbox"/> |

Comments on Resource Standards	
	Number of Standards Met: _____

PROCESS STANDARDS

2. Curriculum

2. A The program has a written curriculum and services to meet the needs of students. The curriculum is congruent with the overall philosophy of the program	YES	NO
---	-----	----

____ Met
____ Not Met

- The written curriculum is formally adopted by the board. YES NO

- The written curriculum guide includes the following components:
 - Rationale which relates the program goals to the district's mission and philosophy YES NO
 - A general description of the content of the program YES NO
 - General goals for graduates in the program area YES NO
 - Cross references to the knowledge (content), skills and competencies (process) students need to meet the goals established by the district and the Show Me Standards. YES NO

- Curriculum and instructional strategies have been developed which integrate academic and vocational competencies. YES NO

2. B The curriculum has been developed with appropriate input and is reviewed on an annual basis.	YES	NO
--	-----	----

____ Met
____ Not Met

- The curriculum guide is utilized by staff and advisory committee with the advisory committee in the delivery of educational services. YES NO

- Systematic procedures are in place to evaluate and revise the curriculum regularly based on actual student needs and indications of student mastery. YES NO

- The curriculum is articulated through grade levels and common subject areas to ensure continuity of learning. YES NO

- The curriculum is reviewed annually and revised as necessary to reflect changes occurring in industry, student needs, and instructional technology Internship. YES NO

- Resources in the community are used to enrich the curriculum. YES NO

2. C Learner outcomes and competencies for each course are clearly stated.	YES	NO
---	-----	----

____ Met
____ Not Met

- The curriculum for each course/program has identified competencies organized as units of instruction, with appropriate assessment methods and resources. YES NO

Comments on Curriculum Standards:	Number of Standards Met: _____

3. Instruction

3. A Classroom instruction is congruent with the written curriculum		Met Not Met
--	--	----------------

- | | YES | NO |
|---|--------------------------|--------------------------|
| • Daily lesson plans derived from the curriculum guide are used to direct the educational process. | <input type="checkbox"/> | <input type="checkbox"/> |
| • The teacher is instructed in the use of non-biased practices and language which has been reinforced by policies, procedures and/or on-going awareness training to recognize racial, cultural, gender, or disability bias in curriculum and instructional practices. | <input type="checkbox"/> | <input type="checkbox"/> |

3. B Students have the opportunity to participate in Supervised Trade Industrial Internship Experience.		Met Not Met
--	--	----------------

- | | YES | NO |
|---|--------------------------|--------------------------|
| • Students are enrolled in both the class and the supervised employment simultaneously. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Training stations are appropriate for the occupational area of the program. | <input type="checkbox"/> | <input type="checkbox"/> |
| • There is a written Instructional Management Plan between the school and the training sponsor on file for each student. | <input type="checkbox"/> | <input type="checkbox"/> |
| • There is a written training agreement between the school and the training sponsor on file for each student. | <input type="checkbox"/> | <input type="checkbox"/> |
| • The teacher provides both in class instruction and supervision. | <input type="checkbox"/> | <input type="checkbox"/> |
| • The teacher and the workforce development specialist have adequate supervision time in his/her schedule based on the number of student's participation in the supervised work experience component. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Evaluation of students on the job includes occupationally specific skills as well as general workplace readiness. | <input type="checkbox"/> | <input type="checkbox"/> |
| • The teacher provides frequent supervision at the training station. | <input type="checkbox"/> | <input type="checkbox"/> |
| • The teacher and/or workforce development specialist closely screens and approves training stations. | <input type="checkbox"/> | <input type="checkbox"/> |
| • There is evidence that the supervised internship experience component of the program has the support of the counselors, administrators and business community. | <input type="checkbox"/> | <input type="checkbox"/> |

3. C The program provides students with assistance in the transition to the workplace and/or continued education.		Met Not Met
--	--	----------------

- | | YES | NO |
|--|--------------------------|--------------------------|
| • Worksite educational opportunities (job shadowing, experiential education, internship, etc.) are available. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Articulation agreements have been implemented with postsecondary institutions and/or with other community resources, where applicable. | <input type="checkbox"/> | <input type="checkbox"/> |

3. Instruction (cont.)

3. D Sufficient breadth and depth of instruction is provided in the classroom to meet the needs of all learners.	____ Met	____ Not Met
---	----------	--------------

- | | YES | NO |
|--|--------------------------|--------------------------|
| • Varied instructional strategies are used to address all learning styles, including IEP, slow students. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Coordination procedures have been developed to insure appropriate instruction, review, and reinforcement for individual students served by special/support programs. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Students are provided appropriate support services (including supplementary aids and accommodations, when needed) to enter and succeed in the vocational education program. | <input type="checkbox"/> | <input type="checkbox"/> |
| • The teacher is knowledgeable about special/support programs offered by the district, and actively participates in the Individual Education Plan/Vocational Education Plan process. | <input type="checkbox"/> | <input type="checkbox"/> |

3. E The teacher monitors student progress toward course objectives and learner outcomes.	____ Met	____ Not Met
--	----------	--------------

- | | YES | NO |
|--|--------------------------|--------------------------|
| • Program and/or course objectives, assessment methods and performance expectations are shared with students and parents/guardians prior to instruction. | <input type="checkbox"/> | <input type="checkbox"/> |
| • An instructional management system exists for reporting student and class mastery of curriculum competences. | <input type="checkbox"/> | <input type="checkbox"/> |

3. F The teacher and students have access to resources to effectively implement the curriculum of the program.	____ Met	____ Not Met
---	----------	--------------

- | | YES | NO |
|---|--------------------------|--------------------------|
| • Resources in the community are utilized to enrich the curriculum. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Procedures are in place for the periodic updating and replacement of instructional materials. | <input type="checkbox"/> | <input type="checkbox"/> |

3. G Equipment for the program supports the curriculum and instructional process.	____ Met	____ Not Met
--	----------	--------------

- | | YES | NO |
|---|--------------------------|--------------------------|
| • Appropriate instructional technology is available for students and staff. | <input type="checkbox"/> | <input type="checkbox"/> |
| • Equipment is in good repair and proper working order. | <input type="checkbox"/> | <input type="checkbox"/> |
| • There are procedures for reporting and requesting repairs, and repairs are made promptly. | <input type="checkbox"/> | <input type="checkbox"/> |

Comments on Instruction Standards:	Number of Standards Met: _____

**UNIT
OBJECTIVE**

After completing this unit, the student should be able to read plans and read and use an architect's scale. The student will demonstrate these competencies by completing the assignment sheets and written test with a minimum of 85 percent accuracy.

**SPECIFIC
OBJECTIVES**

After completing this unit, the student should be able to:

1. Match terms associated with plan reading to their correct definitions.
2. Match to their correct descriptions, types of drawings usually included in a set of plans.
3. List information found on types of drawings in a set of plans.
4. Match lines in the alphabet of lines to their correct uses.
5. Identify lines in the alphabet of lines.
6. Identify selected architectural symbols commonly used to represent materials on plans.
7. Identify selected architectural symbols commonly used to represent elevations, exterior walls, and floor finishes.
8. Identify selected abbreviations commonly used on plans.
9. Match architect's conventions to their correct representations.
10. State the purposes of written specifications.
11. List major items that may be covered in a set of masonry specifications.
12. Read an architect's scale.
13. Interpret a drawing. (Assignment Sheet 1)
14. Read plans. (Assignment Sheet 2)



15. Read details. (Assignment Sheet 3)
16. Interpret a set of masonry specifications. (Assignment Sheet 4)
17. Use an architect's scale. (Assignment Sheet 5)



OBJECTIVE 1

Match terms associated with plan reading to their correct definitions.

actual dimension — Exact measured size of a unit

EXAMPLES: A 2 × 4 board is actually 1½ by 3½ inches; an 8" × 8" × 16" concrete block is actually 7⅝" × 7⅝" × 15⅝".

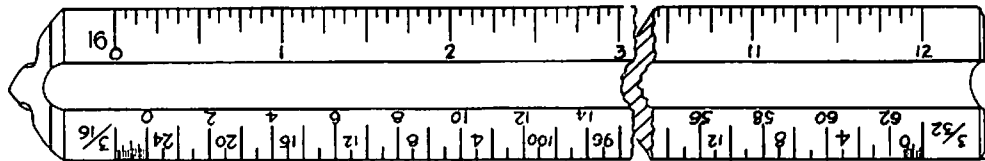
architect's drawings — Set of detailed working drawings or plans drawn to scale by an architect, showing all information and dimensions necessary to build or remodel a structure; original drawings from which blueprints are made

NOTE: The working drawings or architect's plans consist of several different kinds of drawings, usually assembled into a set; plot plan, foundation plan, floor plan(s), elevation drawings, section drawing(s), and detail drawings. The set will also include finish schedules and may include a perspective drawing, a structural drawing, and a mechanical drawing.

architect's scale — Three-sided rule with six ruled faces designed to measure in twelve different scales of proportional feet and inches (Figure 1)

EXAMPLE:

FIGURE 1



benchmark — Point of known or assumed elevation used by surveyor as a reference point in determining other elevations

blueprints — Reproductions of architect's drawings; also called *plans* or *construction plans*

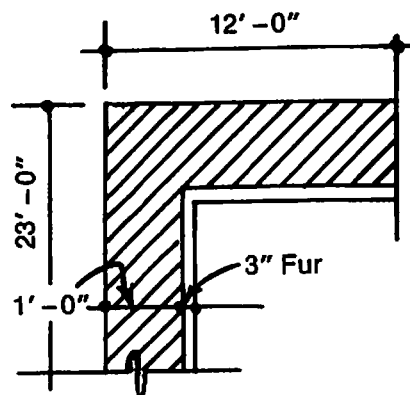
NOTE: A true blueprint has white lines on a blue background; however, most of today's reproductions produce a black-, blue-, or sepia-colored line on a white background. See Supplement 1.

contour lines — Lines used on plot plans and topographical surveys to show both natural grade and finish grade elevations (See Figure 7)

convention — Architect's standard methods of representing dimensions and structural details (Figure 2)

EXAMPLE: Exterior solid brick wall

FIGURE 2

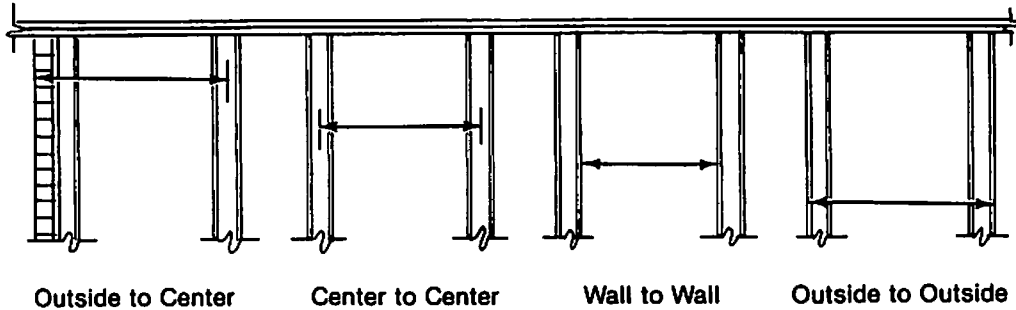


dimensioning — Using conventional dimension lines and figures to indicate actual sizes and distances of objects and spaces represented

NOTE: Dimensioning may be from outside to center, center to center, wall to wall, or outside to outside. See Figure 3. In all cases, dimensions are given in full scale regardless of the fact that the plan shows an object or distance on a smaller scale. Section and detail views may use nominal sizes in labeling.

EXAMPLE:

FIGURE 3



elevation — Given height of grade

NOTE: The use of the word **elevation** in this sense must not be confused with the elevation of a structure, which is a view of the outside of the structure.)

finish schedule — Listing or chart of parts (keyed to the plans), amounts, materials or products, and details (Figures 2 and 3)

NOTE: Schedules may appear on the same page as a plan or on a separate page in the set of plans. Schedules may be listed for windows, doors, room finishes, floor types and finishes, paint, appliances, fixtures, lintels, headers, and reinforcing steel. See Sheet 12 in Supplement 1.

EXAMPLES:

FIGURE 4

DOOR SCHEDULE FOR ENTIRE HOUSE			
MARK	SIZE	AMT REQ'D	REMARKS
A	5'-0" x 6'-8" x 1 3/4"	1	EXTERIOR FLUSH DOOR
B	2'-8" x 6'-8" x 1 3/4"	7	FLUSH DOORS 1-SLIDING 1-METAL CLAD
C	2'-6" x 6'-8" x 1 3/8"	4	FLUSH DOOR
C ₁	2'-6" x 6'-8" x 1 3/8"	2	LOUVERED
D	2'-4" x 6'-8" x 1 3/8"	4	FLUSH DOOR
D ₁	2'-4" x 6'-8" x 1 3/8"	1	LOUVERED
E	1'-3" x 6'-8" x 1 3/8"	1	BIFOLD LOUVERED
F	2'-10" x 6'-8" x 1 3/4"	2	EXTERIOR 2 LIGHTS
G	2'-8" x 6'-8" x 1 3/4"	1	EXTERIOR 2 LIGHTS

FIGURE 5

WINDOW SCHEDULE		
MARK	SIZE	REMARKS
A	(2) 3'-0" x 4'-2"	DH SEE SPECS
B	(2) 3'-0" x 3'-2"	"
C	—	TRIMLINE BAY 53R
D	2'-7" x 4'-2"	DH SEE SPECS
E	1'-6" x 3'-2"	"
F	2'-6" x 2'-8"	231B CASEMENT
G	3'-0" x 3'-2"	DH SEE SPECS
H	2'-0" x 5'-5"	FIXED SEE SPECS

mechanical drawing — Drawing showing location and details about plumbing components and heating and air-conditioning units

NOTE: Mechanical features may be drawn on the basic floor or foundation plan or may be shown in separate drawings.

nominal dimension — Approximate or rough size of a unit

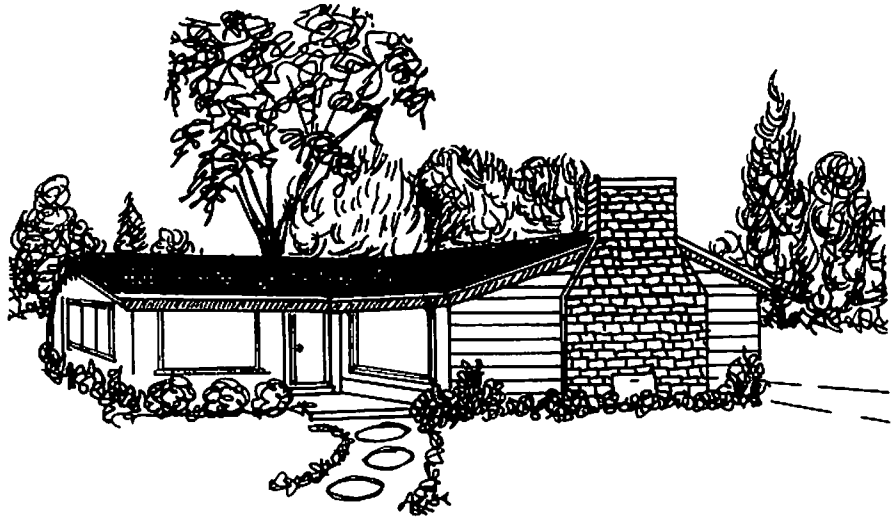
EXAMPLES: 2 x 4 board, 8" x 8" x 16" concrete block

perspective drawing — Drawing having many of the features of a photograph; drawn by the architect to interest buyers (Figure 6)

NOTE: Whenever perspective drawings are available, the brick mason should use them as an aid in visualizing the many details that appear on the construction plans.

EXAMPLE:

FIGURE 6



scale drawing — Drawing made to a size either proportionally larger or smaller than the actual size of the object represented

NOTE: The scale to which the architect makes a drawing is always indicated on the drawing, generally below the title. Detail and section drawings may be drawn on a larger scale than the other drawings in the set of plans.

specifications — Detailed set of written instructions that supplements the set of plans, describes equipment and materials used in the structure, and becomes part of the contract (See Supplement 2.)

structural drawing — Drawing by a structural engineer; may accompany architect's plans and give important information about the foundation, skeleton, and floor systems

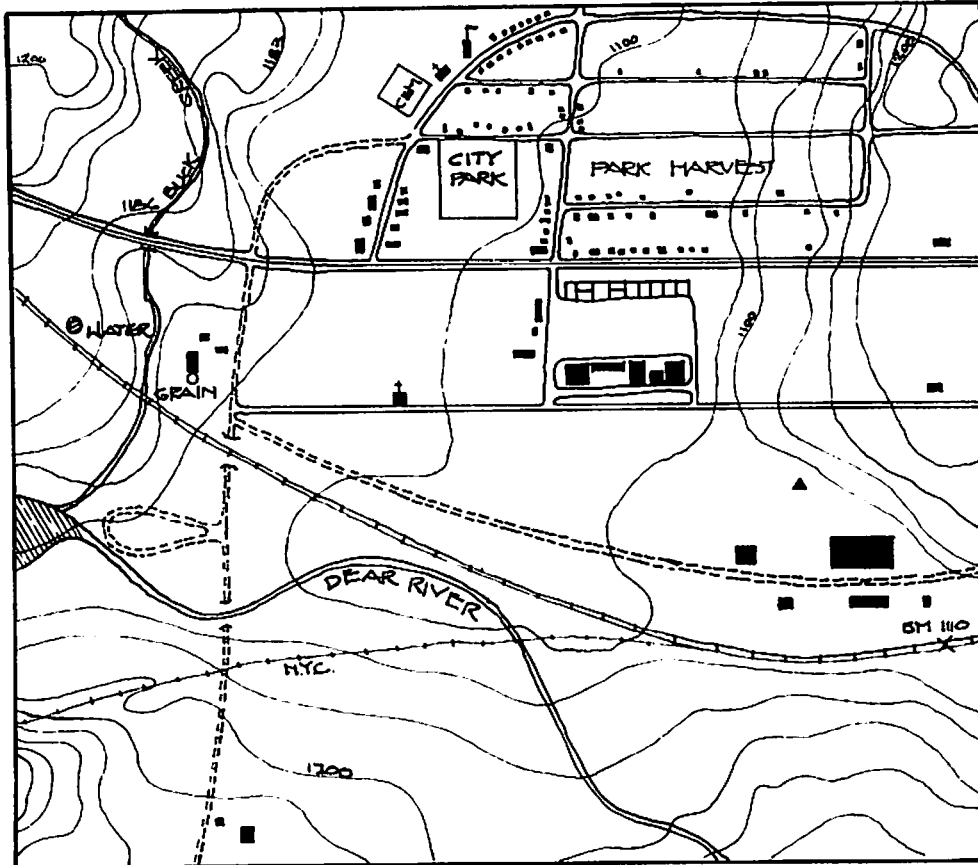
NOTE: Structural plans are usually drawn for large structures such as an office building or factory. They include such details as heights of finished floors and walls; height and bearing of bar joist or steel joist; locations of bearing steel material; height of steel beams, concrete plank, concrete Ts, and poured-in-place concrete; bearing plate locations; location, size, and spacing of anchor bolts; and stairways.



topographical survey — Drawing of natural and man-made features of a place or region showing their relative positions and elevations (Figure 7)

EXAMPLE:

FIGURE 7



visualization — Important aspect of plan reading that involves looking at and thinking about a structural detail, or a symbol for such a detail, and being able to form a mental picture of how such a detail is constructed or assembled



OBJECTIVE 2

Match to their correct descriptions, types of drawings usually included in a set of plans.

Plot plan — View showing where the building is to be located on the site (See Sheet 1 in Supplement 1)

Foundation plan — View of entire masonry substructure below first floor or frame of building (See Sheet 2 in Supplement 1)

Floor plan — View of building, showing length and breadth of building and layout of rooms on that floor (See Sheet 3 in Supplement 1)

Elevation — Vertical, two-dimensional view of each of the exterior faces of a building, showing general shape and design of exterior and roof (See Sheets 4 and 5 in Supplement 1)

Section — Cut-away vertical view through an object or wall to show its interior makeup (See Sheet 6 in Supplement 1)

NOTE: A section view is limited to the specific portion of the building the architect wishes to clarify, and may be drawn on the same sheet as an elevation or plan or may appear on a separate sheet.

Detail — Graphic, at a larger scale, or part of another drawing, indicating special features of design, location, and composition and the correlations of the elements and materials shown (See Sheets 7 through 11 in Supplement 1)

NOTE: Detail drawings often use the cut-away section view to show aspects that are too small to be shown in sufficient detail on plan or elevation drawings. Like section drawings, detail drawings may be drawn on the same sheet as an elevation or plan drawing or may appear on a separate sheet in the set of plans.



OBJECTIVE 3

List information found on types of drawings in a set of plans.

Plot plan

- Location, dimensions, and elevation of structure on site
- Finished and existing grade contours
- Property lines and dimensions
- Location of utilities
- Location of existing conditions

EXAMPLES: Trees, utility buildings, or other structures

- Location and dimensions of driveways and walks

Foundation plan

- Location and dimensions of footings, grade beams, foundation walls, and piers
- Location of anchor bolts and reinforcing steel (in detail view)

Floor plan

- Outside walls, including location and dimensions of all exterior openings
- Types of construction materials
- Location of interior walls and partitions
- Location and swing of doors
- Location of stairways
- Location of windows
- Location of cabinets, electrical and mechanical equipment, fixtures



Elevation

- Grade lines
- Floor height
- Window and door types
- Roof lines and slopes, roofing material, vents, gravel stops, projection of eaves
- Exterior finish materials and trim
- Exterior dimensions

Section

- Details of construction and information about stairs, walls, chimneys, or other parts of construction that may not show clearly on plan
- Floor levels in relation to grade
- Wall thickness at various locations
- Anchors and reinforcing steel

Detail

NOTE: The following list itemizes types of information that may require a detail drawing. All of the items listed would never appear on a single detail drawing.

- Footings and foundations, including anchor bolts, reinforcing, control joints
- Beams, floor joists, bridging, other support members
- Sills, floor framing, exterior walls, vapor barriers
- Floor heights, thickness, expansion, reinforcing
- Interior walls



- Windows, exterior and interior doors, door frames
- Roof, cornice, soffit, ceilings
- Gravel stops, fascia, flashing
- Fireplaces, chimneys
- Staircases, stair assembly
- Millwork, trim, ornamental iron, specialty items

OBJECTIVE 4

Match lines in the alphabet of lines to their correct uses.

- **Object lines** — Used to show main outline of structure, including exterior walls, interior partitions, porches, patios, sidewalks, parking lots, and driveways

NOTE: Object lines are always the heaviest lines in the drawing.

- **Dimension line** — Used to designate object and area dimensions

NOTE: Dimension lines may end in arrows, dots, or slashes. The dimension is usually written above the dimension line.

- **Extension lines** — Used as boundaries for dimension lines
- **Hidden line** — Used to show an object or area that is not visible from view depicted
- **Center line** — Used to designate center and to provide a reference point for dimensioning
- **Section line** — Used to indicate an area that has been cut away and shown in a section view; arrows indicate direction from which section drawing is to be viewed
- **Phantom line** — Used to indicate alternate positions of moving parts, adjacent positions of related parts, and for repeated details



- **Break line** — Used to show that an object or area has not been drawn in its entirety
- **Leader line** — Used to connect a note or dimension to a related part of the drawing

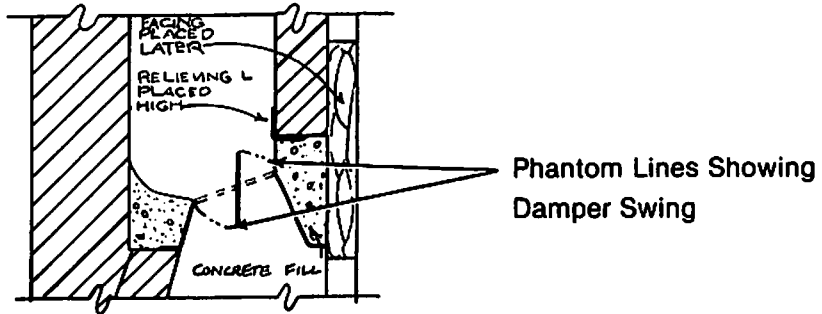
NOTE: Leader lines are sometimes curved to avoid confusion with dimension lines and other lines.

OBJECTIVE 5

Identify lines in the alphabet of lines (Figures 8 and 9)

Phantom line

FIGURE 8




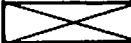

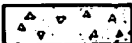




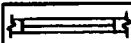














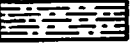
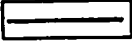







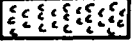

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OBJECTIVE 6

Identify selected architectural symbols commonly used to represent materials on plans.

General Plan Symbols (Table 1)

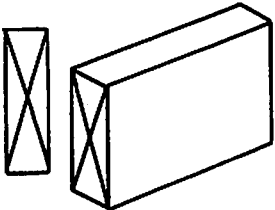
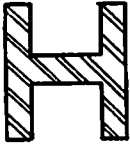

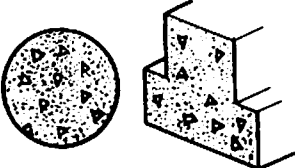
TABLE 1: General Plan Symbols

Wood	 Finish	 Rough	 Wood finish on stud
Concrete	 Concrete	 Block	
Insulation	 Loose fill or batt	 Board or quilt	
Glass	 Block	 Sheet & plate	 Structural
Brick	 Common	 Face	 Fire brick on common
			 Brick veneer
Metal	 Steel, iron	 Structural steel	 Brass, bronze
	 Aluminum		 Metal stud & partition plaster
Stone	 Cut stone	 Rubble	 Marble
	 Cast stone		 Slate, bluestone, soapstone
Miscellaneous	 Waterproofing, felt, flashing, etc.	 Plaster, sand, cement, or drywall	 Reinforcing bars
	 Earth	 Gravel	 Glazed clay tile
	 Structural clay tile (glazed)	 Gravel with sand	 Cinders
		 Structural clay tile (unglazed)	



Section View Symbols (Table 2)

TABLE 2: Section View Symbols

Rough lumber		Metal	
Earth		Concrete	

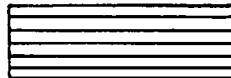
OBJECTIVE 7

Identify selected architectural symbols commonly used to represent elevations, exterior walls, and floor finishes.

Elevations (Figures 10 through 16)

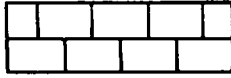
- Brick

FIGURE 10



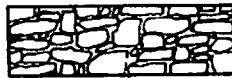
- Ashlar

FIGURE 11



- Rubble

FIGURE 12



- Square stone

FIGURE 13



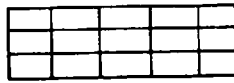
- Running bond masonry

FIGURE 14



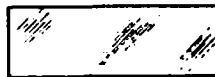
- Stack bond masonry

FIGURE 15



- Glass

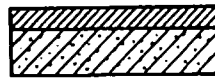
FIGURE 16



Exterior walls (Figures 17 through 23)

- Face brick over rubble

FIGURE 17



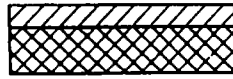
- Face brick over concrete block

FIGURE 18



- Brick over structural clay tile

FIGURE 19



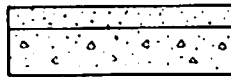
- Cast stone over brick

FIGURE 20



- Cut stone over concrete

FIGURE 21



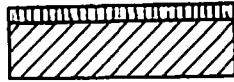
- Cut stone over concrete block

FIGURE 22



- Architectural terra-cotta over brick

FIGURE 23



Floor finishes (Figure 24 through 27)

- Brick on concrete

FIGURE 24



- Stone on concrete

FIGURE 25



- Marble on concrete

FIGURE 26



- Tile on concrete

FIGURE 27



OBJECTIVE 8

Identify selected abbreviations commonly used on plans.

NOTE: Many of the following abbreviations may also appear on written specifications; however, there is less standardization on specifications, and the abbreviations may contain periods and be written in lowercase letters.

Anchor bolt — AB	Brick — BRK
Angle —	Building line — BL
Architectural — ARCH	Cast concrete — C CONC
Bathroom — B	Cast stone — CS
Bearing plate — BRG PL	Caulking — CLKG
Benchmark — BM or	Center — CTR
Block — BLK	Center line — CL or CL
Center to center — CC or C to C	Cubic foot — CU FT
Ceramic — Cer	Cubic inch — CU IN
Channel —	Cubic yard — CU YD
Cinder block — CIN BL	Cutout — CO
Column — COL	Dampproofing — DP
Concrete block — CONC B	Finish floor — FIN FL
Course — C	Finish grade — FG



Firebrick — FBRK	Material — MATL
Fireplace — FP	Modular — MOD
Fireproof — FPRF	Natural grade — NG
Flashing — FL	Nominal — NOM
Detail — DET	Nosing — NOS
Dimension — DIM	Not to scale — NTS
Elevation — ELEV	On center — OC
Expansion joint — EXP JT	Opening — OPNG
Facing tile — FT	Overall — OA
Foundation — FDN	Overhead — OVH
Full size or full scale — FS	Parallel — PAR
Glass block — GLBL	Partition — PTN
Grade — GR	Precast — PRCST
Grade line — GL	Radius — R
Head — HD	Recessed — REC
Inside diameter — ID	Reinforced — REINF
Insulate — INS	Requird — REQD
Joint — JT	Riser — R
Joist — JST	Rough Opening — RO
Limestone — LS	Scale — SC
Lineal — LIN	Specifications — SPEC
Marble — Mr	Standard — STD
Masonry opening — MO	Steel ST or STL



Stone — ST

Waterproofing — WP

Structural — STR

Weep hole — WH

Terra cotta — TC

Welded wire fabric — WWF

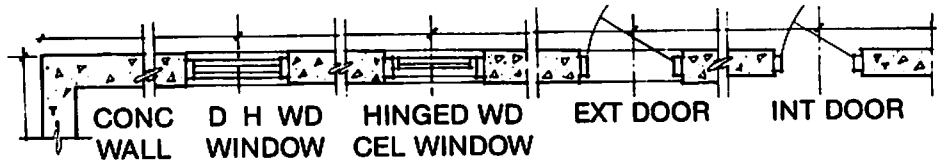
Typical — TYP

OBJECTIVE 9

Match architect's conventions to their correct representations.

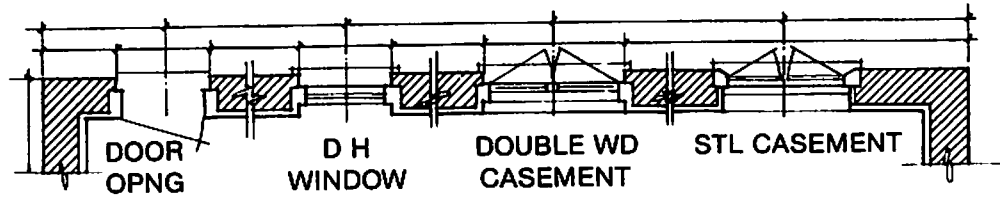
- Doors and windows in concrete wall (Figure 28)

FIGURE 28



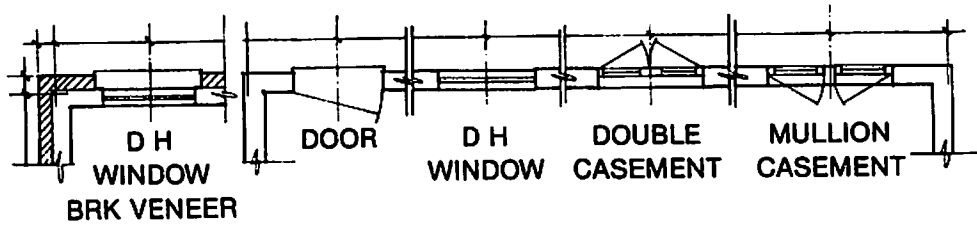
- Doors and windows in solid brick wall (Figure 29)

FIGURE 29



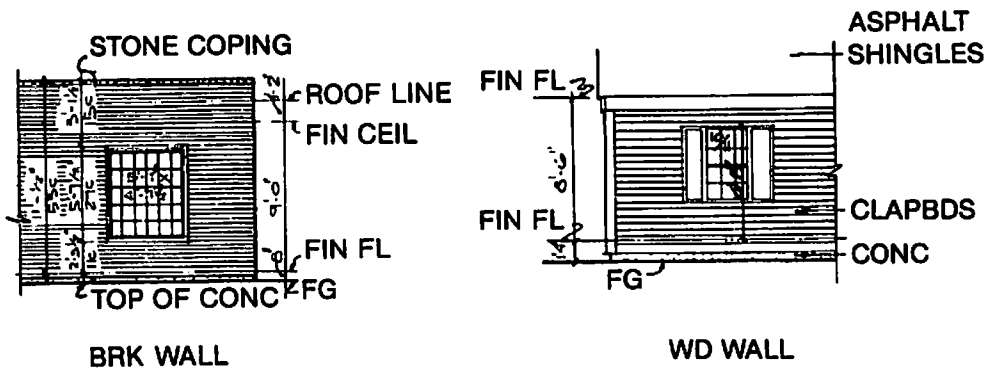
- Doors and windows in brick veneer and wood stud walls (Figure 30)

FIGURE 30



- Window elevations (Figure 31)

FIGURE 31



- Dimensioning exterior and interior walls (Figures 32 and 33)

FIGURE 32

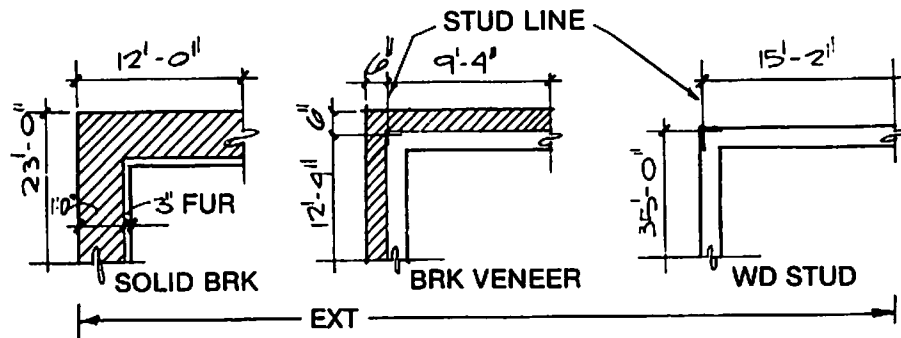
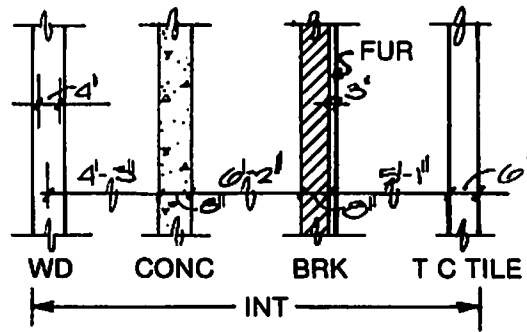
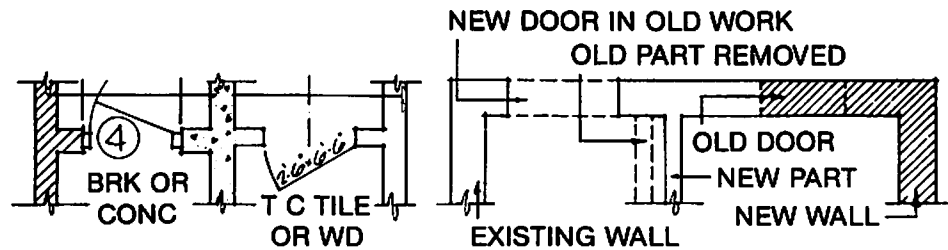


FIGURE 33



- Interior dimensions and alterations (Figure 34)

FIGURE 34



OBJECTIVE 10

State the purposes of written specifications.

NOTE: Written specifications are equally as important as the drawings in a set of plans. They furnish what the drawings cannot, in that they give detailed and accurate written descriptions of work to be done, including quality and quantity of materials, methods of construction, standards of construction, and manner of conducting the work. See Supplement 2 for materials specifications.

- Avoiding disputes among builders, architects, and owners by leaving no room for misinterpretation or misunderstanding

- Facilitating the checking of materials and workmanship during time that building is being constructed
- Enabling contractors to make bids based on total materials and labor required
- Avoiding expensive omissions when estimating total costs
- Avoiding conflicting opinions during construction and avoiding the added costs and delays that could result

OBJECTIVE 11

List major items that may be covered in a set of masonry specifications.

General

- Description
- Codes and standards
- Submittals
- Product handling and storage
- Quality assurance
- References
- Prism testing
- Unit strength method testing
- Sample panels
- Mortar test

Products

- General
- Mortar
- Structural grout



- Brick
- Concrete masonry units
- Precast concrete lintels
- Setting material for base and bearing plates
- Reinforcement and anchorages
- Through-wall flashing
- Insulation materials
- Specialty masonry accessories
- Mortar coloring agent
- Control joint resilient keys
- Expansion joint materials
- Rope wick

Execution

- Surface conditions
- Coordination
- Placing tolerances
- Mixing mortar
- Installation — general
- Time requirements before placing load on load-bearing masonry
- Laying concrete masonry units
- Laying brick units
- Placing reinforcement and metal ties in concrete masonry



- Placing reinforcement and ties in brick masonry
- Installing control joints
- Installing expansion joints
- Filling bond beams and lintels
- Filling piers, pilasters, and grouted wall construction cavities
- Setting base and bearing plates
- Pilasters
- Flashing installation
- Installation of insulation
- Backplastering
- Parging
- Installing items furnished by other trades
- Built-in items furnished and installed by other trades
- Construction of weep holes
- Protection during construction
- Cold weather construction
- Pointing and caulking
- Cleaning

OBJECTIVE 12

Read an architect's scale

- Determine scale to be used

NOTE: The scale used will be that to which the plan is drawn or one you have chosen if you are making a drawing.

- Locate the required scale on the architect's scale

EXAMPLES: $\frac{3}{16}$ " , $\frac{1}{4}$ " , 1"

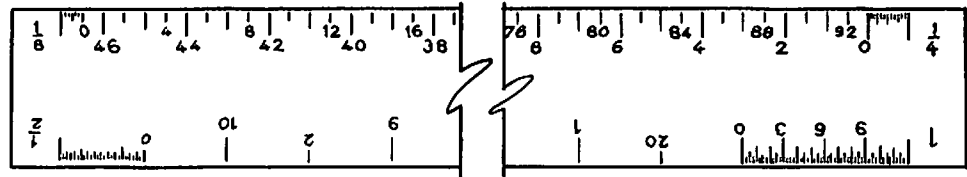
NOTE: The whole or fractional number shown at the ends of an architect's scale shows the scales marked for that side. Thus, $\frac{3}{16}$ designates a scale of $\frac{3}{16}$ " = 1' - 0". The marks for a $\frac{3}{16}$ "-inch scale are $\frac{3}{16}$ of an inch apart, with each mark representing 1 foot of distance on the drawing.

- Determine direction in which required scale is read

NOTE: Each scale is numbered, beginning near the number that designates the scale used, and is read toward the opposite end. For example, in Figure 35, the $\frac{1}{8}$ -inch scale begins at the left end and is read to the right. The $\frac{1}{4}$ -inch scale begins at the right end and is read to the left.

EXAMPLE:

FIGURE 35



- Locate the zero mark for the required scale

NOTE: The distance between the zero mark and the scale designation is subdivided to show inches or fractions of inches at that scale. Foot designations are aligned with the zero mark.

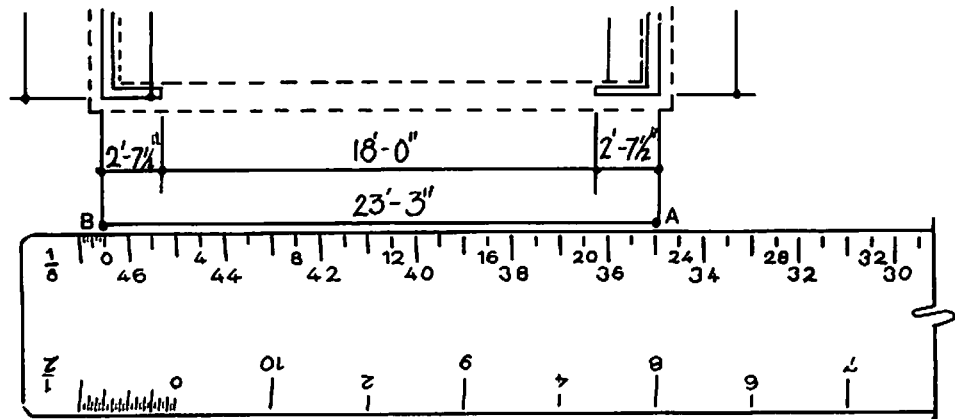
- Measure the distance on the plan

EXAMPLE: Measure the width of the garage in Figure 36, using a scale of $\frac{1}{8}$ " = 1'-0".

- Align the largest possible foot mark with one reference point, and with the other reference point falling within the scale's inch subdivisions (Figure 36)

EXAMPLE:

FIGURE 36



- Note the value of the foot mark
- Add to the foot value the value of the inch subdivisions

EXAMPLE: The distance measured in Figure 36 is 23'-3" because the distance from the zero mark to Point A is 23 feet, and the distance from the zero mark to Point B is 3 inches.

GENERAL INFORMATION

Introduction

Purpose and Objectives

Purpose

The purpose of the Masonry program is to provide educational opportunities to individuals that will enable them to obtain the knowledge, skills, and attitudes necessary to succeed in the masonry field.

The Masonry program provides educational opportunities regardless of race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, or economic disadvantage.

The Masonry program is intended to produce graduates who are prepared for employment equivalent to that of a one year apprentice brick and block mason or a one year apprentice tile setter. Program graduates are to be competent in the general areas of English, math, and interpersonal relations. Graduates are to be competent in the occupational areas of interpreting blueprints and specifications, material selection, masonry bonds and patterns, and laying masonry units to the line.

Graduates are to be competent in one of two occupational specializations. Graduates specializing as brick and block masons are to be competent in constructing masonry structures such as footings, foundations, walls, columns, piers, pilasters, fireplaces and chimneys, and various ornamental masonry structures. Graduates specializing as tile setters are to be competent in preparing surfaces, setting and curing tiles, and setting accessories.

Objectives

- 1. Provide current curriculum, instructional materials, and equipment (in accordance with available funding) which teach knowledge, skills, and attitudes appropriate to industry needs.**
- 2. Provide educational facilities which foster learning and provide safe, healthy environments available and accessible to all students who can benefit from the program.**
- 3. Provide academic instruction which supports effective learning within the program**

GENERAL INFORMATION

Program Description

Program Defined

The Masonry program is a sequence of courses that prepares students for careers in the masonry field. Learning opportunities develop academic, occupational, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of masonry theory and practical application necessary for successful employment. Program graduates receive a Masonry diploma which qualifies them as a one year apprentice brick and block mason or a one year apprentice tile setter.

GENERAL INFORMATION

Program Description

Admissions

Admissions Requirements

Admission of new students to the Masonry program is contingent upon their meeting all of the following requirements:

- a) attainment of 16 years of age;
- b) achievement of minimum regular admission scores on tests of reading, language, and math as specified in GDTAE document *Minimum Program Entrance Scores*; and
- c) completion of application and related procedures.

Admission of transfer students to the Masonry program is contingent upon their meeting the following requirements:

- a) regular admission and good standing at a regionally accredited diploma or degree granting institution; and
- b) proper completion of application and related procedures.

Provisional Admission

A new student who does not meet the regular admission requirements of the program may be admitted on a provisional basis. The requirements for provisional admission are:

- a) attainment of 16 years of age;
- b) achievement of minimum provisional admission scores on tests of reading, language, and math as specified in GDTAE document *Minimum Program Entrance Scores*; or recommendation by program faculty and designated admissions personnel on the basis of interview and assessment of student potential; and
- c) completion of application and related procedures.

GENERAL INFORMATION

Program Description

Typical Job Titles

The Masonry program is assigned a (PGM) CIP code of (PGM) 46.0101 and specialization (SPC) CIP codes of: (SPC) 46.0102, brick and block mason; and (SPC) 46.0103, tile setter. The Masonry program is consistent with all other programs throughout the state which have the same (PGM) CIP code. The related D.O.T. job titles follow:

861.381-018	Bricklayer (const.)
861.381-038	Stonemason (const.)
861.381-046	Terrazzo worker
861.381-054	Tile setter (const.)

and which enhances professional performance on the job.

Document Number:
01-01-04

4. **Provide employability skills which foster work attitudes and work habits that will enable graduates of the program to perform as good employees.**
5. **Nurture the desire for learning so that graduates will pursue their own continuing education as a lifelong endeavor.**
6. **Provide an educational atmosphere which promotes a positive self image and a sense of personal well being.**
7. **Provide education that fosters development of good safety habits.**
8. **Provide admission, educational, and placement services without regard to race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, or economic disadvantage.**
9. **Provide information to the public regarding the program that will facilitate recruitment and enrollment of students.**
10. **Promote good public relations via contacts and regular communications with business, industry, and the public sector.**
11. **Promote faculty and student rapport and communications to enhance student success in the program.**

GENERAL INFORMATION

Curriculum Model

Fundamental Occupational Courses

The fundamental occupational courses provide students with a foundation in the areas of masonry which are needed to progress to the more highly specialized courses in masonry. The fundamental occupational courses are listed below.

MSN 100	Introduction to Masonry	3 Credits
MSN 101	Basic Bricklaying	4 Credits
MSN 103	Masonry Bonds and Patterns	4 Credits
MSN 104	Corners and Leads	2 Credits
MSN 105	Laying Units to the Line	5 Credits
MSN 106	Pointing, Cleaning, and Caulking	1 Credit

GENERAL INFORMATION

Curriculum Model

General Core Courses

The general core courses provide students with a foundation in the basic skills which enable them to express themselves more clearly, both orally and in writing, and to perform the mathematical functions required in this occupation. The general core courses for the Masonry program are listed below.

ENG 100	English	5 Credits
MAT 100	Basic Mathematics	3 Credits
PSY 100	Interpersonal Relations and Professional Development	3 Credits

Course	Class Hours	Lab/OBI Hours	Weekly Contact Hours	Credits
SEQUENCE INCLUDING TILE SETTER SPECIALIZATION				
FIRST QUARTER				
MAT 100	Basic Mathematics	3	0	3
MSN 100	Introduction to Masonry	2	3	3
MSN 101	Basic Bricklaying	1	9	4
MSN 103	Masonry Bonds and Patterns	1	9	4
		7	21	28
SECOND QUARTER				
ENG 100	English	5	0	5
MSN 104	Corners and Leads	0	7	2
MSN 105	Laying Units to the Line	1	13	5
MSN 106	Pointing, Cleaning, and Caulking	1	2	1
		7	22	29
THIRD QUARTER				
MSN 108	Blueprint Reading and Estimating	3	7	10
MSN 121	Tiling Tools, Equipment, and Materials	3	2	5
MSN 122	Surface Preparation for Setting Tile	3	2	5
MSN 123	Tile Mortar Mixes and Application	2	3	5
PSY 100	Interpersonal Relations and Professional Development	3	0	3
		14	14	28

Course		Class Hours	Lab/OBI Hours	Weekly Contact Hours	Credits
THIRD QUARTER					
MSN 108	Blueprint Reading and Estimating	3	7	10	5
MSN 109	Footings, Foundations, Columns, and Piers	1	7	8	3
MSN 111	Wall Construction	2	6	8	4
PSY 100	Interpersonal Relations and Professional Development	3	0	3	3
		9	20	29	15
FOURTH QUARTER					
MSN 113	Fireplaces and Chimneys	1	7	8	3
MSN 114	Ornamental Masonry	1	4	5	2
MSN 115	Masonry Internship	0	12	12	4
XXX xxx	Electives	-	-	-	5
		2	23	25	14

GENERAL INFORMATION

Curriculum Model

Standard Curriculum

The standard curriculum for the Masonry program is set up on the quarter system. Technical institutes may implement the Masonry program using one of the sequences listed below or using a locally developed sequence designed to reflect course prerequisites and/or corequisites.

Course	Class Hours	Lab/OBI Hours	Weekly Contact Hours	Credits
--------	-------------	---------------	----------------------	---------

**SEQUENCE INCLUDING
BRICK AND BLOCK MASON SPECIALIZATION**

FIRST QUARTER

MAT 100	Basic Mathematics	3	0	3	3
MSN 100	Introduction to Masonry	2	3	5	3
MSN 101	Basic Bricklaying	1	9	10	4
MSN 103	Masonry Bonds and Patterns	1	9	10	4
		7	21	28	14

SECOND QUARTER

ENG 100	English	5	0	5	5
MSN 104	Corners and Leads	0	7	7	2
MSN 105	Laying Units to the Line	1	13	14	5
MSN 106	Pointing, Cleaning, and Caulking	1	2	3	1
		7	22	29	13

Course		Class Hours	Lab/OBI Hours	Weekly Contact Hours	Credits
FOURTH QUARTER					
MSN 124	Laying Out, Cutting, and Fitting Tile	2	3	5	3
MSN 125	Setting Tile and Accessories on Floors and Walls	2	7	9	4
MSN 126	Grouting, Cleaning, and Curing Tile	2	2	4	2
XXX xxx	Electives	-	-	-	3
		6	12	18	12

Program Final Exit Point

One year apprentice brick and block mason or one year apprentice tile setter

Credits Required for Graduation

56 minimum quarter hour credits required for graduation

<u>Essential Courses</u>	<u>Credits</u>	<u>Sequence</u>
<u>Essential Specific Occupational Courses</u>		
(Completion of <u>one</u> specialization is required.)		
<u>Essential Brick and Block Mason Specialization Courses</u>		
	<u>21</u>	
MSN 109	Footings, Foundations, Columns, and Piers	3 [P/C] MSN 105, MSN 108
MSN 111	Wall Construction	4 [P] MSN 103, MSN 104, MSN 105 [C] MSN 108, MSN 109
MSN 113	Fireplaces and Chimneys	3 [P] MSN 106, MSN 108, MSN 109
MSN 114	Ornamental Masonry	2 [P] MSN 111
MSN 115	Masonry Internship	4 [P] ENG 100, MSN 111, PSY 100 [C] MSN 113
XXX xxx	Electives	5
<u>OR</u>		
<u>Essential Tile Setter Specialization Courses</u>		
	<u>21</u>	
MSN 121	Tiling Tools, Equipment, and Materials	3 [P/C] MSN 108
MSN 122	Surface Preparation for Setting Tile	3 [P/C] MSN 121
MSN 123	Tile Mortar Mixes and Application	3 [P/C] MSN 122
MSN 124	Laying Out, Cutting, and Fitting Tile	3 [P/C] MSN 123
MSN 125	Setting Tile and Accessories on Floors and Walls	4 [P/C] MSN 124
MSN 126	Grouting, Cleaning, and Curing Tile	2 [P/C] MSN 125
XXX xxx	Electives	3

GENERAL INFORMATION

Curriculum Model

Standard Curriculum

The curriculum design components, general core courses, fundamental occupational/technical courses, specific occupational/technical courses, and elective courses, are listed below with quarter hour credits and suggested course prerequisites and/or corequisites.

<u>Essential Courses</u>	<u>Credits</u>	<u>Sequence</u>
<u>Essential General Core Courses</u>	<u>11</u>	
ENG 100 English	5	[P] ENG 096, or DTAE English admission score levels; and RDG 096, or DTAE reading admission score levels
MAT 100 Basic Mathematics	3	[P] MAT 096, or DTAE arithmetic admission score levels
PSY 100 Interpersonal Relations and Professional Development	3	[P] Provisional admission
<u>Essential Fundamental Occupational Courses</u>	<u>24</u>	
MSN 100 Introduction to Masonry	3	[P] Provisional admission
MSN 101 Basic Bricklaying	4	[P] Provisional admission
MSN 103 Masonry Bonds and Patterns	4	[P/C] MSN 101
MSN 104 Corners and Leads	2	[P] MSN 101
MSN 105 Laying Units to the Line	5	[P] MSN 101
MSN 106 Pointing, Cleaning, and Caulking	1	[P] Provisional admission
MSN 108 Blueprint Reading and Estimating	5	[P/C] MAT 100, MSN 101, program admission

GENERAL INFORMATION

Program Description

Accreditation and Certification

This program must conform to the institutional accreditation requirements of the Southern Association of Colleges and Schools by meeting Commission on Colleges (COC) or Commission on Occupational Education Institutions (COEI) accreditation requirements and must not conflict with the accreditation criteria established by COC and COEI.

The program area does not have specific certification requirements but standards are established by the International Union of Bricklayers and Allied Craftsmen, International Masonry Institute Apprenticeship and Training, 815 15th St. NW., Washington, DC 20005 and the Associated General Contractors of America, INC., 1957 E St. NW., Washington, DC 20006.

GENERAL INFORMATION

Introduction

Developmental Process

The development of the Masonry program guide was based on the premise that the people in the industry can best determine program needs. With this in mind, representatives from businesses which would employ program graduates were asked to serve on a State Technical Committee to help identify the technical content and to provide overall guidance to ensure that the resulting program would produce graduates qualified for entry-level technical positions in the industry.

The State Technical Committee verified an occupational task list that had been compiled through extensive research. These representatives included workers who had actually performed the duties and tasks being verified.

Technical institutes which would implement the curriculum were also included in the developmental effort. Representatives from the technical institutes provided the expertise in teaching methodology unique to each discipline and developed the courses contained in this program guide.

The University of Georgia coordinated and directed the development of the curriculum and produced the final program guide. The role of each group in the developmental process is shown in the following diagram.

GENERAL INFORMATION

Introduction

Standard Curriculum

The Masonry program guide presents the standard Masonry curriculum for technical institutes in Georgia. This curriculum addresses the minimum competencies for a Masonry program. The competency areas included in a local Masonry program may exceed what is contained in this program guide, but it must encompass the essential competencies contained herein.

As changes occur in the Masonry program, this guide will be revised to reflect those changes. Proposed changes are first evaluated and approved by the local program advisory committee and then forwarded to the State Technical Committee for approval and inclusion in the state standard program guide.

This program guide is designed to relate primarily to that component of the Masonry industry best described as a one year apprentice mason.

GENERAL INFORMATION

Introduction

Overview

Masonry is a program of study which is consistent with the philosophy and purpose of the institution. The program provides academic foundations in communications, mathematics, and human relations, as well as occupational fundamentals. Program graduates are well trained in the underlying fundamentals of masonry and are well prepared for employment and subsequent upward mobility.

The Masonry program is a specialized training program that provides the student with the knowledge and skills to become a competent mason in the modern masonry field. Skills application plays a vital role in the comprehensive Masonry program. Important attributes of successful program graduates are critical thinking, problem solving, and the ability to apply technology to the work requirement. This field has experienced rapid expansion and the trend is expected to continue for the foreseeable future.

The program structure acknowledges individual differences and provides opportunities for students to seek fulfillment of their respective educational goals. The program does not discriminate on the basis of race, color, national origin, religion, sex, handicapping condition, academic or economic disadvantage.

To assist each student to attain his or her respective potential within the program, both the instructor and the student incur an obligation in the learning process. The instructor is a manager of instructional resources and organizes instruction in a manner which promotes learning. The student assumes responsibility for learning by actively participating in the learning process.

This is a dynamic field which requires attention to current curriculum and up-to-date instructional equipment, materials, and processes. The Masonry program must promote the concept of change as the profession evolves. The need for nurturing the spirit of involvement and lifelong learning is paramount in the masonry field.

Manuals Document

All new or revised documents are sent to the Transmittal registered holder of the manual and are recorded on a Manuals Document Transmittal Form. Transmittals are numbered consecutively, and instructions for use are printed on the form.

Amendment Record

The registered holder of the manual records the receipt of all manual document transmittals on the Amendment Record. This record and instructions are found on the reverse side of the manual title page.

HOW TO USE THIS MANUAL

Summary

This manual is divided into:

Tabs - major divisions, physically separated by numbered tab dividers

Sections - divisions within a tab

Subjects - divisions within a section

Numbering System

Each document (Subject) has a unique 6-digit number. This number is divided into 3 sets of 2 digits which are separated by dashes.

Example: 04 - 02 - 03
 TAB SECTION SUBJECT

Locating a Document

Document numbers appear on the upper right hand corner of each page (see top of this page). To locate a subject:

1. Refer to the Table of Contents.
2. Note the document number for the subject.

Example: 04-02-03

3. Turn to the tab divider marked 04 and within this tab find Section 02 and Subject 03.

Table of Contents

The table of contents (00-00-01) is intended to give a cover-to-cover overview of the manual contents and organization. It lists contents of a Tab to the Section and Subject level.

Amendments

Registered manual holders are instructed to keep their manuals up-to-date.

Recommended Outline section, the student will:	After completing this		Hours
	Class	Lab	
Basic operations using fractions	Solve fraction problems using basic multiplication, division, addition, and subtraction operations.		
DECIMALS	3	0	
Definition of decimals and place value			
Basic operations of mathematics with decimals		Solve mathematical problems using decimals.	
Round-off procedures			
Conversion of fractions to decimals and decimals to fractions		Recognize the relationship between fractions and decimals.	
PERCENTS	3	0	
Definition		Solve problems using percents.	
Fractions, decimals, and percents			
Base-rate-part problems		Demonstrate skill in solving base-rate-	

GENERAL INFORMATION

Curriculum Model

Electives

Elective courses are provided to allow for the different levels of prior knowledge and skills brought to the classroom by students with diverse backgrounds, educational attainment, and specialized interests.

Decisions regarding the selection and appropriateness of any elective are made by the student after consultation with the instructor. Provision must be made for electives chosen from disciplines outside the student's area of specialization.

Brick and Block Mason Specialization

XXX xxx Electives

5 Credits

Tile Setter Specialization

XXX xxx Electives

3 Credits

GENERAL INFORMATION

Curriculum Model

Specific Occupational Courses

The specific occupational courses build upon the fundamental occupational courses to provide students with the basic knowledge and skill required to work as masons. The specific occupational courses offered in the Masonry program are listed below.

MSN 108	Blueprint Reading and Estimating	5 Credits
MSN 109	Footings, Foundations, Columns, and Piers	3 Credits
MSN 111	Wall Construction	4 Credits
MSN 113	Fireplaces and Chimneys	3 Credits
MSN 114	Ornamental Masonry	2 Credits
MSN 115	Masonry Internship	4 Credits
MSN 121	Tiling Tools, Equipment, and Materials	3 Credits
MSN 122	Surface Preparation for Setting Tile	3 Credits
MSN 123	Tile Mortar Mixes and Application	3 Credits
MSN 124	Laying Out, Cutting, and Fixing Tile	3 Credits
MSN 125	Setting Tile and Accessories on Floors and Walls	4 Credits
MSN 126	Grouting, Cleaning, and Curing Tile	2 Credits

TAB/SECTION	SUBJECT	LOCATION
MSN 113	Fireplaces and Chimneys	04-03-01 04-03-02 04-03-03
MSN 114	Ornamental Masonry	04-04-01 04-04-02 04-04-03
MSN 115	Masonry Internship	04-05-01 04-05-02 04-05-03
MSN 121	Tiling Tools, Equipment, and Materials	04-06-01 04-06-02 04-06-03
MSN 122	Surface Preparation for Setting Tile	04-07-01 04-07-02 04-07-03
MSN 123	Tile Mortar Mixes and Applications	04-08-01 04-08-02 04-08-03
MSN 124	Laying Out, Cutting, and Fitting Tile	04-09-01 04-09-02 04-09-03
MSN 125	Setting Tile and Accessories on Floors and Walls	04-10-01 04-10-02 04-10-03
MSN 126	Grouting, Cleaning, and Curing Tile	04-11-01 04-11-02 04-11-03

TAB/SECTION	SUBJECT	LOCATION	
FUNDAMENTAL OCCUPATIONAL COURSES		03	
MSN 100	Introduction to Masonry	Course Overview Course Outline Resources	03-01-01 03-01-02 03-01-03
MSN 101	Basic Bricklaying	Course Overview Course Outline Resources	03-02-01 03-02-02 03-02-03
MSN 103	Masonry Bonds and Patterns	Course Overview Course Outline Resources	03-03-01 03-03-02 03-03-03
MSN 104	Corners and Leads	Course Overview Course Outline Resources	03-04-01 03-04-02 03-04-03
MSN 105	Laying Units to the Line	Course Overview Course Outline Resources	03-05-01 03-05-02 03-05-03
MSN 106	Pointing, Cleaning, and Caulking	Course Overview Course Outline Resources	03-06-01 03-06-02 03-06-03
MSN 108	Blueprint Reading and Estimating	Course Overview Course Outline Resources	03-07-01 03-07-02 03-07-03
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MSN 109	Footings, Foundations, Columns, and Piers	Course Overview Course Outline Resources	04-01-01 04-01-02 04-01-03
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PSY 100 Interpersonal Relations and Professional Development	Course Overview	02-03-01
	Course Outline	02-03-02
	Resources	02-03-03

The Occupational Working Committee, composed of personnel from the technical institutes and other educational institutions, provided direct technical support and expertise in the development of the program guides. The members of this committee made the success of this endeavor possible. We would like to recognize the educators who participated on the Masonry Occupational Working Committee below.

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We would like to thank all the other business, industry, and educational leaders who contributed to the development of the program guide. We would also like to thank Madelyn Warrenfells and Thom Kirkpatrick for electronic publishing and editorial assistance, respectively.

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Without the close cooperation of members of the masonry trade in Georgia, this program guide would not have been possible. The Masonry State Technical Committee provided overall direction, identified areas of concern, provided occupational outlook and equipment recommendations, participated in task analysis review, and reviewed the curriculum in this guide. We would like to recognize each member of the Masonry State Technical Committee below.

**Jim Baggett
Humphreys Concrete Block**

**Ms. Michele Huber
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MASONRY PROGRAM GUIDE

**Developed and Produced
Under Contractual Agreement with**

**Office of Planning and Development
Department of Technical and Adult Education
Suite 660 South Tower**

MASONRY PROGRAM GUIDE

REMOVE		INSERT			
04-09-01	Specific Occupational MSN 124 - Laying Out, Cutting, and Fitting Tile Page 1 of 1	February 1990	04-09-01	Specific Occupational MSN 124 - Laying Out, Cutting, and Fitting Tile Page 1 of 1	February 1990

MASONRY PROGRAM GUIDE (1991)

REMOVE			INSERT		
01-01-04	General Information Purpose and Objectives Page 1 of 2 Page 2 of 2	February 1990	01-01-04	General Information Purpose and Objectives Page 1 of 2 Page 2 of 2	February 1990
01-02-02	General Information Admissions Page 1 of 1	February 1990	01-02-02	General Information Admissions Page 1 of 1	Revised May 1991
01-03-01	General Information Standard Curriculum Page 1 of 4 through Page 4 of 4	February 1990	01-03-01	General Information Standard Curriculum Page 1 of 7 through Page 7 of 7	Revised May 1991
01-03-05	General Information Electives Page 1 of 1	February 1990	01-03-05	General Information Electives Page 1 of 1	Revised May 1991
01-03-06	General Information Areas of Specialization Page 1 of 1	February 1990	01-03-06	General Information Areas of Specialization Page 1 of 1	Revised May 1991
02-01-01 through 02-03-03	General Core ENG 100, MAT 100, PSY 100	February 1990	02-01-01 through 02-03-03	General Core ENG 100, MAT 100, PSY 100	Revised March 1991
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GENERAL INFORMATION

Curriculum Model

Areas of Specialization

The industry occupational committee identified two areas of specialization for which training is needed. In this section the courses required to gain skills are identified for each area of specialization.

In order to provide opportunities for a more specific career path within the broad field of masonry, the student must select one 21 credit specialization from the two options available in this program. The courses included in the two Masonry program specializations are listed below.

		<u>Credits</u>
<u>Essential Brick and Block Mason Specialization Courses</u>		<u>21</u>
MSN 109	Footings, Foundations, Columns and Piers	3
MSN 111	Wall Construction	4
MSN 113	Fireplaces and Chimneys	3
MSN 114	Ornamental Masonry	2
MSN 115	Masonry Internship	4
XXX xxx	Electives	5

OR

<u>Essential Tile Setter Specialization Courses</u>		<u>21</u>
MSN 121	Tiling Tools, Equipment, and Materials	3
MSN 122	Surface Preparation for Setting Tile	3
MSN 123	Tile Mortar Mixes and Application	3
MSN 124	Laying Out, Cutting, and Fitting Tile	3
MSN 125	Setting Tile and Accessories on Floors and Walls	4
MSN 126	Grouting, Cleaning, and Curing Tile	2
XXX xxx	Electives	3

GENERAL CORE

ENG 100 - English

Course Description

Improvement of written and oral communications abilities.
Topics include: basic oral communications, listening skills, basic grammar and sentence skills,
learning. HOMEWORK assignments reinforce classroom

Competency Areas

Listening Skills

Paragraph Development

Reading Skills

Prerequisites

Entrance English score in accordance with approved DTAE admission score levels; and RDG 096, or entrance reading score in accordance with approved DTAE admission score levels

Credit Hours

5

Contact Hours Per Week

Class - 5

Lab - 0

GENERAL CORE

ENG 100 - English

Course Outline

Recommended Outcome section, the student will:	After completing this Class Lab	HOURS
---	--	--------------

BASIC ORAL COMMUNICATIONS	15	0
----------------------------------	-----------	----------

Telephone etiquette	Use effective telephone communication.
----------------------------	---

Small group interaction	Participate in group interaction.
--------------------------------	--

Language registers	Recognize different levels of language.
---------------------------	--

Oral presentations	Give oral presentations.
---------------------------	---------------------------------

Interview and introduce a person.

Demonstrate a product or procedure.

Convey thoughts in a way that accomplishes desired results.

LISTENING SKILLS **5 0**
Role play a job-related situation.

Listening techniques **Summarize and paraphrase.**

Nonverbal communication **Take accurate notes that summarize material presented.**

Interpret nonverbal clues.

Directions **Follow directions.**

Document Number:
02-01-02

Recommended Outline section, the student will: **After completing this** **Hours**
Class **Lab**

BASIC GRAMMAR AND SENTENCE SKILLS **10 0**

Nouns, pronouns, verbs, adverbs, adjectives **Use sentence parts correctly.**

Sentence patterns **Recognize basic sentence patterns.**

Sentence structure **Structure sentences effectively.**

Word choice, style, punctuation **Practice peer editing, preferably with word processing.**

PARAGRAPH DEVELOPMENT 15 0

Topic	Develop a topic sentence.
Organization	Organize unified details for a paragraph.
Paragraph elements	Write a paragraph which contains a narrow subject; a controlling idea; relevant, concrete details; and logical organization.
Revision	Edit and revise paragraphs, preferably using a word processor. Reinforce reading skills through paragraph revision.
READING SKILLS 5 0	
Library usage	Demonstrate the ability to use library cataloging system.



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MASONRY COMPETENCIES

STUDENT:

ID NO:

Rating Scale: 3 Mastered
 2 Requires Supervision
 1 Not Mastered
 N No Exposure

3	2	1	N	A. Orientation
x				1. Identify employment opportunities in the masonry trade
x				2. Identify personal characteristics of a mason
x				3. Identify current trends in the masonry trade

3	2	1	N	B. Safety
x				1. Complete a safety checklist
x				2. Demonstrate the ability to work safely
	x			3. Demonstrate the ability to keep a clean, orderly and safe work area
	x			4. Identify types of fire extinguishers and their uses
	x			5. Demonstrate proper techniques for lifting and carrying
	x			6. Demonstrate proper installation and use of scaffolding

3	2	1	N	C. Tools and Equipment
x				1. Identify common hand tools
x				2. Identify common power tools
x				3. Select and use appropriate hand tools according to the job
x				4. Identify types of scaffolding

3	2	1	N	D. Materials
x				1. Identify and select structural clay products
x				2. Identify and select natural masonry products
x				3. Identify and select natural masonry products
x				4. Identify and select mortar products
x				5. Identify and select additives, protectives and cleaning agents
x				6. Identify and select artificial materials
x				7. Identify and select reinforcing materials

3	2	1	N	E. Basic Skills
x				1. Solve basic mathematical calculations
x				2. Solve basic ratio and proportion problems
x				3. Read a rule
x				4. Read a spacing rule
x				5. Read a modular rule
x				6. Draw lines and objects to scale
x				7. Construct and read a story pole
x				8. Set up and adjust the builder's level
x				9. Lay out footings and foundations
x				10. Identify components of chimneys and fireplaces
x				11. Identify types of outdoor structures
x				12. Identify repair and maintenance procedures in the masonry trade



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3	2	1	N	F Blueprint Reading and Estimating
	x			1. Read and interpret the architect's scale
	x			2. Identify the uses of the engineer's scale
	x			3. Read and interpret an architectural blueprint
	x			4. Read and interpret a set of specifications
	x			5. Read and interpret an electrical plan
	x			6. Read and interpret a structural plan
	x			7. Read and interpret a mechanical plan
	x			8. Read and interpret a site plan
	x			9. Read and interpret a finish schedule
	x			10. Estimate the amount of material for a job

3	2	1	N	G Brick and Block Construction Techniques
	x			1. Spread mortar on a 2 x 4 (for brick)
	x			2. Spread mortar on a 2 x 8 (for block)
	x			3. Lay brick to a line with established leads
	x			4. Construct 90-degree brick leads
	x			5. Lay 8" block to a line with established leads
	x			6. Construct a 90-degree block lead
	x			7. Lay out and construct a section of wall with a joint reinforcement and openings
	x			8. Construct an 8" brick wall
	x			9. Construct two 8" brick intersection walls
	x			10. Construct a Flemish bond wall
	x			11. Construct an English bond wall
	x			12. Construct a firebox
	x			13. Construct a fireplace
	x			14. Construct a masonry chase, pilaster, column and pier
	x			15. Construct masonry arches
	x			16. Construct a section of masonry walk using herringbone design
	x			17. Construct a section of masonry walk using basket weave design
	x			18. Install a rowlock brick window sill
	x			19. Lay out and construct an outdoor structure

3	2	1	N	H Cleaning, Pointing and Caulking
	x			1. Clean a brick wall
	x			2. Repair a section of masonry wall
	x			3. Caulk a door and/or window frame
	x			4. Caulk a control joint
	x			5. Remove paint from the face of a masonry wall
	x			6. Remove stains from the face of a masonry wall



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CAREER CENTER

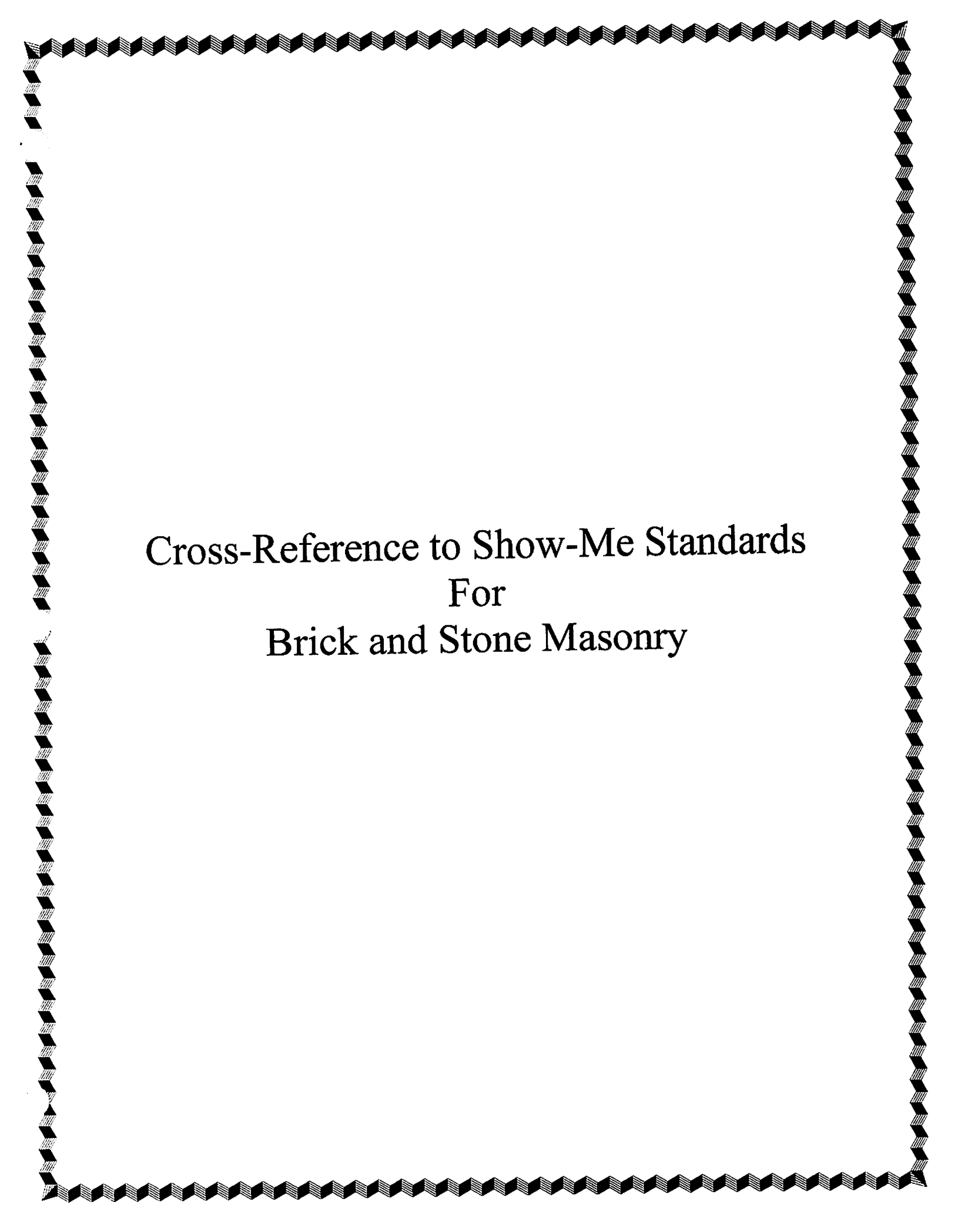
3	2	1	N	I. Leadership
	x			1. Demonstrate an understanding of VICA, its structure and activities
	x			2. Demonstrate an understanding of one's personal values
	x			3. Perform tasks related to effective personal management skills
	x			4. Demonstrate interpersonal skills
	x			5. Demonstrate etiquette and courtesy
3	2	1	N	I. Leadership
	x			6. Demonstrate effectiveness in oral and written communications
	x			7. Develop and maintain a code of professional ethics
	x			8. Maintain a good professional appearance
	x			9. Perform basic parliamentary procedures
	x			10. Perform basic parliamentary procedures in a group meeting

* Highlighted items indicate essential skills.

Brick and Stone Masonry Essential Skills List

- 1. Safety**
- 2. Tool application and use**
- 3. Identify materials**
- 4. Materials application**
- 5. Become competent in reading a rule and a brick ruler**
- 6. Become comfortable with the trowel**
- 7. Spread mortar**
- 8. Understand concept of plumb**
- 9. Understand concept of level**
- 10. Lay brick to a line .This is the foremost skill that contractors are interested in.**

These are the things that I hear most from members of my advisory committee and people in the industry.



Cross-Reference to Show-Me Standards
For
Brick and Stone Masonry

Masonry

NOTE: Recommended supplemental competencies for Building Trades programs **NOTE: These competencies are addressed in the Missouri VICA Curriculum Guide lessons.

*Cross-Reference to Show-Me Standards
(mini report with words)*

Duty Band and Task Statement	Knowledge (Content)	Performance (Goals)
A* 1: Identify employment opportunities in the masonry trade		
A* 2: Identify personal characteristics of a mason		
A* 3: Identify current trends in the masonry trade		
B.1: Complete a safety checklist		
B.2: Demonstrate the ability to work safely		
B.3: Demonstrate the ability to keep a clean, orderly and safe work area		
B.4: Identify types of fire extinguishers and their uses		
B.5: Demonstrate proper techniques for lifting and carrying		
B.6: *Demonstrate proper installation and use of scaffolding		
C* 1: Identify common hand tools		
C* 2: Identify common power tools		
C* 3: Select and use appropriate hand tools according to the job		
C* 4: Select and use appropriate power tools according to the job		
C* 5: Identify types of scaffolding		
D* 1: Identify and select structural clay products		
D* 2: Identify and select concrete products		
D* 3: Identify and select natural masonry products		
D* 4: Identify and select mortar products		
D* 5: Identify and select additives, protectives and cleaning agents		
D* 6: Identify and select artificial materials		
D* 7: Identify and select reinforcing materials		
E.1: *Solve basic mathematical calculations		
E.2: *Solve basic ratio and proportion problems		
E.3: *Read a rule		

KEY: * = may use all "to do" statements
 98 = same Frameworks as previous competency
 # = same Frameworks as previous competency
 99 = "to know" statements may not be applicable

Masonry

*Cross-Reference to Show-Me Standards
(mini report with words)*

Duty Band and Task Statement	Knowledge (Content)	Performance (Goals)
E.4:	*Read a spacing rule	
E.5:	*Read a modular rule	
E.6:	Draw lines and objects to scale	
E.7:	*Construct and read a story pole	
E.8:	Set up and adjust the builder's level	
E.9:	Lay out footings and foundations	
E.10:	*Identify components of chimneys and fireplaces	
E.11:	*Identify types of outdoor structures	
E.12:	*Identify repair and maintenance procedures in the masonry trade	
F.1:	Read and interpret the architect's scale	
F.2:	Identify the uses of the engineer's scale	
F.3:	Read and interpret an architectural blueprint	
F.4:	Read and interpret a set of specifications	
F.5:	Read and interpret an electrical plan	
F.6:	Read and interpret a structural plan	
F.7:	Read and interpret a mechanical plan	
F.8:	Read and interpret a site plan	
F.9:	Read and interpret a finish schedule	
F.10:	Estimate the amount of material for a job	
G.1:	*Spread mortar on a 2 x 4 (for brick)	
G.2:	*Spread mortar on a 2 x 8 (for block)	
G.3:	*Lay brick to a line with established leads	
G.4:	*Construct 90-degree brick leads	
G.5:	Lay 8" block to a line with established leads	
G.6:	Construct a 90-degree block lead	
G.7:	*Lay out and construct a section of wall with a joint reinforcement and openings	
G.8:	Construct an 8" brick wall	

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Masonry

*Cross-Reference to Show-Me Standards
(mini report with words)*

Duty Band and Task Statement	Knowledge (Content)	Performance (Goals)
G.9: Construct two 8' brick intersecting walls		
G.10: Construct a Flemish bond wall		
G.11: Construct an English bond wall		
G.12: Construct a firebox		
G.13: Construct a fireplace		
G.14: Construct a masonry chase, plaster, column and pier		
G.15: Construct masonry arches		
G.16: *Construct a section of masonry walk using herringbone design		
G.17: *Construct a section of masonry walk using basket weave design		
G.18: *Install a rowlock brick window sill		
G.19: Lay out and construct an outdoor structure		
H.1: *Clean a brick wall		
H.2: Repair a section of masonry wall		
H.3: *Caulk a door and/or window frame		
H.4: *Caulk a control joint		
H.5: *Remove paint from the face of a masonry wall		
H.6: *Remove stains from the face of a masonry wall		
I.1: Demonstrate an understanding of VCA, its structure and activities	<p>CA.1: speaking and writing standard English (including grammar, usage, punctuation, spelling, capitalization) CA.3: reading and evaluating nonfiction works and material (such as biographies, newspapers, technical manuals)</p>	<p>4.2: Understand and apply the rights and responsibilities of citizenship in Missouri and the United States 4.3: Analyze the duties and responsibilities of individuals in societies</p>
I.2: Demonstrate an understanding of one's personal values		<p>4.4: Recognize and practice honesty and integrity in academic work and in the workplace 4.5: Develop, monitor and revise plans of action to meet deadlines and accomplish goals 4.6: Identify tasks that require a coordinated effort and work with others to complete those tasks</p>
I.3: Perform tasks related to effective personal management skills	<p>CA.5: comprehending and evaluating the content and artistic aspects of oral and visual presentations (such as story-telling, debates, lectures, multi-media productions)</p>	<p>4.3: Analyze the duties and responsibilities of individuals in societies 4.4: Recognize and practice honesty and integrity in academic work and in the workplace</p>
I.4: Demonstrate interpersonal skills	<p>CA.1: speaking and writing standard English (including grammar, usage, punctuation, spelling, capitalization)</p>	<p>2.1: Plan and make written, oral and visual presentations for a variety of purposes and audiences</p>

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 88 = same Frameworks as previous competency 99 = "to know" statements may not be applicable

Masonry

Cross-Reference to Show-Me Standards (mini report with words)

Duty Band and Task Statement	Knowledge (Content)	Performance (Goals)
1.5: Demonstrate etiquette and courtesy		2.2: Review and revise communications to improve accuracy and clarity 2.3: Exchange information, questions and ideas while recognizing the perspectives of others 2.7: Use technological tools to exchange information and ideas
1.6: Demonstrate effectiveness in oral and written communications	CA.1: speaking and writing standard English (including grammar, usage, punctuation, spelling, capitalization)	2.3: Exchange information, questions and ideas while recognizing the perspectives of others 4.4: Recognize and practice honesty and integrity in academic work and in the workplace 2.1: Plan and make written, oral and visual presentations for a variety of purposes and audiences 4.4: Recognize and practice honesty and integrity in academic work and in the workplace
1.7: Develop and maintain a code of professional ethics		4.4: Recognize and practice honesty and integrity in academic work and in the workplace
1.8: Maintain a good professional appearance		4.3: Analyze the duties and responsibilities of individuals in societies
1.9: Perform basic tasks related to securing and terminating employment		2.6: Apply communication techniques to the job search and to the workplace 4.8: Explore, prepare for and seek educational and job opportunities
1.10: Perform basic parliamentary procedures in a group meeting	CA.6: participating in formal and informal presentations and discussions of issues and ideas	4.6: Identify tasks that require a coordinated effort and work with others to complete those tasks

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At this time an articulation agreement does not exist.

May 6,2008

Advisory committee minutes

Participants;

Jim Klopstein

David Gillick

Paul Huemann

Jeff Schmidt

Tom Davis

Les Staggemier

Rick Swanson

Bob Allman

Primary discussion was the down turn in the industry and lack of available apprenticeships. This is a major concern as Local 1 has 40% of the membership within 8 years of retirement.

Concerns;

Inability to man projects with qualified masons

Architects and owners choosing alternative building materials

Contractors reluctant to commit to indentured apprentice

Talked about stressing to contractors importance of training new masons for the future

Considering reducing cost to contractors for school

Decided Dave Gillick would place this issue at the forefront of monthly meetings

Lewis & Clark Career Center
Advisory Committee Member Profile

Name: David G. Mielke Age: 44
Address: 1429 S. Big Bend Blvd. St. Louis MO. 63117
Telephone: 314 645 1966
Name of Company: Mason Contractors Association
Position/Title: Director

Involvement in Labor (Journeyman, Union Member, other):

mca / laborers local 110

Do you have children enrolled in public school?

YES

NO

If so how many? 2

Community Involvement (Little League, church, civic, etc.)

- Reason for Member Profile Form:
To qualify for a Vocational Enhancement Grant at 75% funding, we must have an advisory committee of twelve or more members comprised of local business persons, labor leaders, parents, senior citizens, and community leaders.

Lewis & Clark Career Center
Advisory Committee Member Profile

Name: Tom Davis Age: 58

Address: 5906 Garfield Ave St. Louis Mo. 63134
Street City State Zip

Telephone: 314-521-1466
Home Work Pager Fax

Name of Company: Fred L Davis Co.

Position/Title: President

Involvement in Labor (Journeyman, Union Member, other):

MCAA President

Do you have children enrolled in public school?

YES NO

If so how many? _____

Community Involvement (Little League, church, civic, etc.)

Reason for Member Profile Form:

To qualify for a Vocational Enhancement Grant at 75% funding, we must have an advisory committee of twelve or more members comprised of local business persons, labor leaders, parents, senior citizens, and community leaders.

Lewis & Clark Career Center
Advisory Committee Member Profile

Name: Rick Swanson Age: 48

Address: 133 S. 5th Street St. Charles, Mo. 63301
Street City State Zip

Telephone: 636 946 1970
Home Work Pager Fax

Name of Company: Swanson Masonry

Position/Title: Pres.

Involvement in Labor (Journeyman, Union Member, other):

MCGG member

Do you have children enrolled in public school?

YES

NO

If so how many? 2

Community Involvement (Little League, church, civic, etc.)

• Reason for Member Profile Form:

To qualify for a Vocational Enhancement Grant at 75% funding, we must have an advisory committee of twelve or more members comprised of local business persons, labor leaders, parents, senior citizens, and community leaders.

Lewis & Clark Career Center
Advisory Committee Member Profile

Name: Robert Allman Age: 69

Address: 116 Timber meadows O'Fallon MO 63366
Street City State Zip

Telephone: 636 561 6447
Home Work Pager Fax

Name of Company: Allman Masonry

Position/Title: Retired Pres.

Involvement in Labor (Journeyman, Union Member, other):

Bricklayers Local 1

MCAA

Do you have children enrolled in public school?

YES

NO

If so how many? _____

Community Involvement (Little League, church, civic, etc.)

• Reason for Member Profile Form:

To qualify for a Vocational Enhancement Grant at 75% funding, we must have an advisory committee of twelve or more members comprised of local business persons, labor leaders, parents, senior citizens, and community leaders.

Lewis & Clark Career Center
Advisory Committee Member Profile

Name: Les Stagemier Age: 40
Address: 12901 St. Charles Rock Rd Bridgeton, MO 63044
Street City State Zip
Telephone: 314 2913200
Home Work Pager Fax
Name of Company: F.F. Kirchner
Position/Title: Sales

Involvement in Labor (Journeyman, Union Member, other):

MOQA member

Brick Institute of America

Do you have children enrolled in public school?

YES

NO

If so how many? 2

Community Involvement (Little League, church, civic, etc.)

• Reason for Member Profile Form:

To qualify for a Vocational Enhancement Grant at 75% funding, we must have an advisory committee of twelve or more members comprised of local business persons, labor leaders, parents, senior citizens, and community leaders.

Lewis & Clark Career Center
Advisory Committee Member Profile

Name: Jeff Schmitt Age: 42

Address: PO Box 2055 St. Charles MO. 63302
Street City State Zip

Telephone: _____
Home Work Pager Fax

Name of Company: JDS Masonry Inc

Position/Title: President

Involvement in Labor (Journeyman, Union Member, other):
Bricklayers Local 1 of MO
Mason Contractors Association

Do you have children enrolled in public school? YES NO
If so how many? 1

Community Involvement (Little League, church, civic, etc.)

- Reason for Member Profile Form:
To qualify for a Vocational Enhancement Grant at 75% funding, we must have an advisory committee of twelve or more members comprised of local business persons, labor leaders, parents, senior citizens, and community leaders.

Lewis & Clark Career Center
Advisory Committee Member Profile

Name: Boegemann Brick Age: 60

Address: 1576 Parr Rd Westville MO 63385
Street City State Zip

Telephone: 327 8880
Home Work Pager Fax

Name of Company: Fred Boegemann

Position/Title: President

Involvement in Labor (Journeyman, Union Member, other):

Bricklayer Local

Do you have children enrolled in public school? YES NO

If so how many? _____

Community Involvement (Little League, church, civic, etc.)

Reason for Member Profile Form:

To qualify for a Vocational Enhancement Grant at 75% funding, we must have an advisory committee of twelve or more members comprised of local business persons, labor leaders, parents, senior citizens, and community leaders.

Advisory Board Members
Brick and Stone Masonry
Lewis and Clark Career Center

Doug Nichols
Doug Nichols Masonry

Jeff Schmidt
JDS Masonry

Les Staggemier
Kirchner Masonry Supply

David Gillick
Mason Contractors Association

Bob Allman
Allman Masonry Inc.

Lewis Clark Career Center

2005 - 2006 Placement Summary

Klopstein, Jim

Total Students:	14	
Total Placed:	14	100%
Total Placed Related:	5	36%
Positive MSIP Placement:	10	71%

Employed Related:	5	36%
Employed Not Related:	4	29%
Military Related:	0	0%
Military Not Related:	2	14%
Continuing Education Related:	0	0%
Continuing Education Not Related:	3	21%
Not Available:	0	0%
Not Placed:	0	0%
Status Unknown (Not Found):	0	0%
