



Department of Teaching & Learning
Parent/Student Course Information

Masonry
(VO8513)

Three Credits, One Year
Grades 10 - 12

Counselors are available to assist parents and students with course selections and career planning. Parents may arrange to meet with the counselor by calling the school's guidance department.

COURSE DESCRIPTION

In this program students work with brick and block on full-sized projects in the shop, on campus and construction sites. Students learn to use, care for, and safely handle the tools, machinery, equipment and materials commonly found in the masonry trade. Activities involve building walls, columns and planning and building a variety of structures.

CERTIFICATION

NCCER: Core
OSHA Certification

STUDENT ORGANIZATION

SkillsUSA is a co-curricular organization for all students enrolled in trade and industrial education programs. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps students excel by providing educational programs, events and competitions that support career and technical education (CTE) in the nation's classrooms. Students are highly encouraged to participate.

PREREQUISITE

Construction Technology

OPTIONS FOR NEXT COURSE

None

REQUIRED STUDENT TEXTBOOK

None

COMPETENCIES FOR MASONRY

Demonstrating Personal Qualities and Abilities

- 1 Demonstrate creativity and innovation.
- 2 Demonstrate critical thinking and problem solving.
- 3 Demonstrate initiative and self-direction.
- 4 Demonstrate integrity.
- 5 Demonstrate work ethic.

Demonstrating Interpersonal Skills

- 6 Demonstrate conflict-resolution skills.
- 7 Demonstrate listening and speaking skills.
- 8 Demonstrate respect for diversity.
- 9 Demonstrate customer service skills.
- 10 Collaborate with team members.

Demonstrating Professional Competencies

- 11 Demonstrate big-picture thinking.
- 12 Demonstrate career- and life-management skills.
- 13 Demonstrate continuous learning and adaptability.
- 14 Manage time and resources.
- 15 Demonstrate information-literacy skills.
- 16 Demonstrate an understanding of information security.
- 17 Maintain working knowledge of current information-technology systems.
- 18 Demonstrate proficiency with technologies, tools, and machines common to a specific occupation.
- 19 Apply mathematical skills to job-specific tasks.
- 20 Demonstrate professionalism.
- 21 Demonstrate reading and writing skills
- 22 Demonstrate workplace safety.

Examining All Aspects of an Industry

- 23 Examine aspects of planning within an industry/organization.
- 24 Examine aspects of management within an industry/organization.
- 25 Examine aspects of financial responsibility within an industry/organization.
- 26 Examine technical and production skills required of workers within an industry/organization.
- 27 Examine principles of technology that underlie an industry/organization.
- 28 Examine labor issues related to an industry/organization.
- 29 Examine community issues related to an industry/organization.
- 30 Examine health, safety, and environmental issues related to an industry/organization.

Addressing Elements of Student Life

- 31 Identify the purposes and goals of the student organization.
- 32 Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.
- 33 Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.
- 34 Identify Internet safety issues and procedures for complying with acceptable use standards.

Exploring Work-Based Learning

- 35 Identify the types of work-based learning (WBL) opportunities.
- 36 Reflect on lessons learned during the WBL experience.
- 37 Explore career opportunities related to the WBL experience.

38 Participate in a WBL experience, when appropriate.

Applying Basic Safety Standards (Core Safety)

39 Comply with federal, state, and local safety requirements.

40 Identify personal protective equipment (PPE) requirements.

41 Maintain a safe working environment.

42 Explain safe working practices around electrical hazards.

43 Identify emergency first-aid procedures.

44 Identify the types of fires and the methods used to extinguish them.

45 Inspect course-specific hand and power tools to visually identify defects.

46 Demonstrate lifting and carrying techniques.

47 Demonstrate safe laddering techniques.

48 Demonstrate safe scaffolding techniques.

49 Report personal injuries and environmental and equipment safety violations to the appropriate authority.

50 Earn the construction industry OSHA 10 card.

51 Pass a safety exam for lab/site safety and the use of tools and equipment specific to masonry.

Using Hand and Power Tools

52 Identify hand tools and power tools in masonry.

53 Maintain hand and power tools.

Applying Mathematics

54 Demonstrate how to work with whole numbers.

55 Demonstrate how to work with fractions.

56 Demonstrate how to work with decimals.

57 Convert between fractions, decimals, and percentages.

58 Convert measurements between U.S. customary units and metric units of measurement.

59 Identify the geometric formulas for shapes common to masonry.

Reading Blueprints

60 Identify basic blueprint terms, components, and symbols.

61 Identify the purpose of specifications, standards, and codes used in the building industry and the sections that pertain to masonry.

Identifying and Mixing Masonry Mortars

62 Mix masonry mortars manually.

63 Describe the ingredients and types of mortar.

64 Describe properties of plastic and hardened mortar.

65 Mix masonry mortars, using a motorized mixer.

66 Identify the common problems found in mortar application and their solutions.

Performing Entry-level Brick Masonry

67 Spread mortar.

68 Identify the six brick positions.

69 Apply head joints.

70 Bond a brick wall.

71 Lay a stretcher course.

72 Attach a line.

73 Lay running bond wall to the line.

74 Gauge masonry wall with mason's scales.

75 Gauge masonry wall with story pole.

76 Strike joints.

77 Build a rack-back lead.

- 78 Build a straight lead (brick jamb).
- 79 Build corners.
- 80 Build rectangular brick columns.
- 81 Identify types and sizes of brick.

Laying Brick Positions and Bonds

- 82 Lay an American/common bond pattern.
- 83 Lay a stack bond pattern.
- 84 Lay a soldier course.
- 85 Lay a rowlock course.

Laying Concrete Masonry Units

- 86 Identify block sizes.
- 87 Spread mortar on block.
- 88 Apply head joints (block).
- 89 Lay out a block wall.
- 90 Lay block to the line.
- 91 Gauge block walls.
- 92 Describe how to install masonry reinforcement and accessories.
- 93 Describe ways to cut concrete masonry units and brick.

Performing Residential Masonry

- 94 Construct brick veneer wall.
- 95 Form a corbel and racking.

Developing Employability Skills

- 96 Investigate careers in the masonry field, using the Internet and other sources.

Aaron C. Spence, Ed.D., Superintendent
Virginia Beach City Public Schools
2512 George Mason Drive, Virginia Beach, VA 23456-0038

Produced by the Department of Teaching and Learning.
For further information, please call (757) 263-1070.

Notice of Non-Discrimination Policy

Virginia Beach City Public Schools does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation/gender identity, pregnancy, childbirth or related medical condition, disability, marital status, age, genetic information or veteran status in its programs, activities, employment, or enrollment, and provides equal access to the Boy Scouts and other designated youth groups. School Board policies and regulations (including, but not limited to, Policies 2-33, 4-4, 5-7, 5-19, 5-20, 5-44, 6-33, 6-7, 7-48, 7-49, 7-57 and Regulations 4-4.1, 4-4.2, 5-44.1, 7-11.1, 7-17.1 and 7-57.1) provide equal access to courses, programs, enrollment, counseling services, physical education and athletic, vocational education, instructional materials, extracurricular activities and employment.

Title IX Notice: Complaints or concerns regarding discrimination on the basis of sex or sexual harassment should be addressed to the Title IX Coordinator, at the VBCPS Office of Student Leadership, 641 Carriage Hill Road, Suite 200, Virginia Beach, 23452, (757) 263-2020, Mary.Dees@vbschools.com (student complaints) or the VBCPS Department of School Leadership, 2512 George Mason Drive, Municipal Center, Building 6, Virginia Beach, Virginia, 23456 (757) 263-1088, Elizabeth.Bryant@vbschools.com (employee complaints). Additional information regarding Virginia Beach City Public Schools' policies regarding discrimination on the basis of sex and sexual harassment, as well as the procedures for filing a formal complaint and related grievance processes, can be found in School Board Policy 5-44 and School Board Regulations 5-44.1 (students), School Board Policy 4-4 and School Board Regulation 4-4.3 (employees), and on the School Division's website at [Diversity, Equity and Inclusion/Title IX](#). Concerns about the application of [Section 504 of the Rehabilitation Act](#) should be addressed to the Section 504 Coordinator/Executive Director of Student Support Services at (757) 263-1980, 2512 George Mason Drive, Virginia Beach, Virginia, 23456 or the Section 504 Coordinator at the student's school. For students who are eligible or suspected of being eligible for special education or related services under IDEA, please contact the Office of Programs for Exceptional Children at (757) 263-2400, Plaza Annex/Family and Community Engagement Center, 641 Carriage Hill Road, Suite 200, Virginia Beach, VA 23452.

The School Division is committed to providing educational environments that are free of discrimination, harassment, and bullying. Students, staff, parents/guardians who have concerns about discrimination, harassment, or bullying should contact the school administration at their school. Promptly reporting concerns will allow the school to take appropriate actions to investigate and resolve issues. School Board Policy 5-7 addresses non-discrimination and anti-harassment, Policy 5-44 addresses sexual harassment and discrimination based on sex or gender. Policy 5-36 and its supporting regulations address other forms of harassment.

Alternative formats of this publication which may include taped, Braille, or large print materials are available upon request for individuals with disabilities. Call or write The Department of Teaching and Learning, Virginia Beach City Public Schools, 2512 George Mason Drive, P.O. Box 6038, Virginia Beach, VA 23456-0038. Telephone 263-1070 (voice); fax 263-1424; 263-1240 (TDD) or email at Brandon.Martin@vbschools.com.

vbschools.com
your virtual link to Hampton Roads' largest school system



No part of this publication may be produced or shared in any form without giving specific credit to Virginia Beach City Public Schools.

August 2021