

Implementation Date  
Fall 2008

**PROGRAM CONCENTRATION:**

**Architecture, Construction,  
Communications & Transportation**

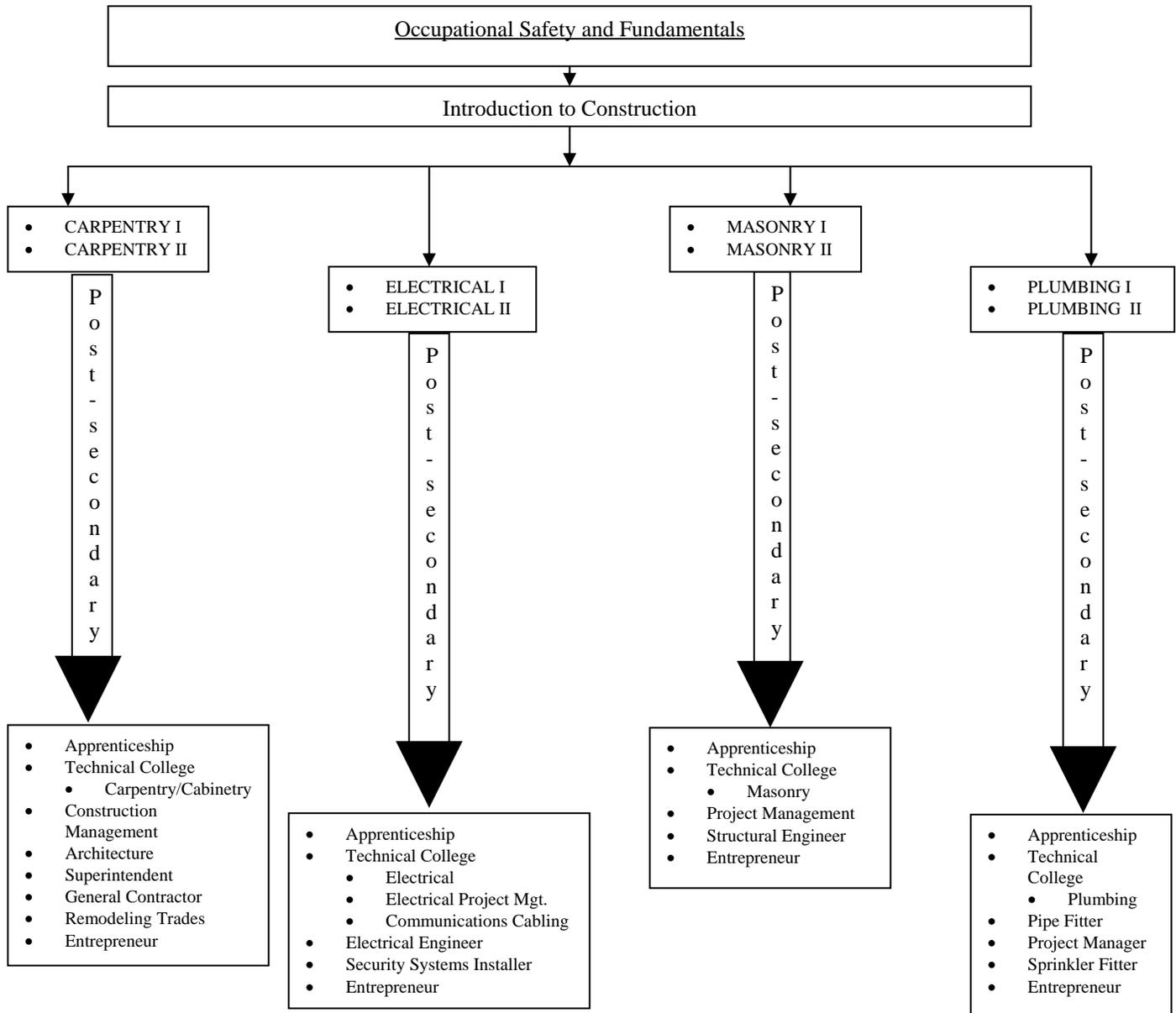
**CAREER PATHWAY:**

**Construction**

This Pathway is designed to prepare a student with foundational knowledge and skills for a construction career in one of four possible construction crafts. It also is a good pathway for a student to prepare for a variety of opportunities in addition to the craft areas, such as Architecture, Construction Engineering and Construction Management.

As the student progresses through the pathway, they are given the opportunity to explore four construction craft areas on an introductory level. Once they have completed the foundational and introductory levels they are then given the option to “major” in at least one of four craft areas. These areas are Carpentry, Masonry, Electrical, and Plumbing. Upon successful completion of four units within this Pathway, in an Industry Accredited Program, the student will earn at least two industry credentials with the possibility of others.

### The Construction Career Pathway Map



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**PROGRAM CONCENTRATION:** Architecture, Construction,  
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**CAREER PATHWAY:** Construction  
**COURSE TITLE:** Carpentry I

This course is preceded by Introduction to Construction. This course is the third of four courses that provides the student a solid foundation in carpentry skills and knowledge. It is the third step in gaining a Level One Industry Certification in Carpentry.

This course provides an overview of the building materials used in the carpentry craft. It teaches techniques for reading and using blueprints and specifications especially as related to the carpentry craft. It provides specific knowledge and skills in site layout and floor and wall framing systems. It includes the basic industry terminology for a carpentry craftsman.

**ACT-C1-1. Students will know, understand, and apply general construction and specific OSHA and EPA safety concepts and practices.**

- a. Demonstrate an understanding of the applications of OSHA and EPA regulations concerning PPE.
- b. Demonstrate an understanding of the applications of OSHA and EPA regulations concerning environmental issues on the construction site.

**ACADEMIC STANDARDS:**

*SSCG4. The student will demonstrate knowledge of the organization and powers of the national government.*

*ELA9RL5. Student understands and acquires new vocabulary and uses it correctly in reading and writing.*

*SCSh3. Students will identify and investigate problems scientifically.*

**ACT-C1-2. Students will use tools and equipment in a professional and safe manner.**

- a. Demonstrate the use of the proper tools for a specific carpentry building procedure.
- b. Demonstrate knowledge of specific regulations as related to specific equipment.

**ACADEMIC STANDARDS:**

*SSCG15. The student will explain the functions of the departments and agencies of the federal bureaucracy.*

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*MC1P3. Students will communicate mathematically.*

*SP1. Students will analyze the relationships between force, mass, gravity, and the motion of objects.*

**ACT-C1-3. Students will become familiar with the selection, handling, storage, and proper use of construction materials used in site layout and floors and wall construction.**

- a. Demonstrate knowledge of the proper selection of materials for site layout, floors and walls.
- b. Demonstrate knowledge of individual components used in site layout, floors and walls.
- c. Demonstrate knowledge of layout as it relates to site layout, floors and walls.

**ACADEMIC STANDARDS:**

*SSWG1. The student will explain the physical aspects of geography.*

*MC1P3. Students will communicate mathematically.*

*SP1. Students will analyze the relationships between force, mass, gravity, and the motion of objects.*

**ACT-C1-4. Students will read, interpret, apply information, and estimate costs from a variety of architectural and construction working drawings.**

- a. Demonstrate knowledge of reading and interpreting plans, elevations, schedules, sections, and details contained in basic construction drawings as related to site layout, floors and walls.
- b. Demonstrate the ability to estimate materials for use in site layout, floors and walls.

**ACADEMIC STANDARDS:**

*MC1A1. Students will explore and interpret the characteristics of functions, using graphs, tables, and simple algebraic techniques.*

*MC1G1. Students will investigate properties of geometric figures in the coordinate plane.*

*MC1P1. Students will solve problems (using appropriate technology).*

*MC1P4. Students will make connections among mathematical ideas and to other disciplines.*

*MC2A2. Students will solve simple equations.*

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*MC4G1. Students will understand the properties of circles.*

*SSUSH12. The student will analyze important consequences of American industrial growth.*

*SSUSH16. The student will identify the key developments in the aftermath of WWI.*

*SSEM13. The student will explain how markets, prices and competition influence economic behavior.*

*ELA9RL5. Student understands and acquires new vocabulary and uses it correctly in reading and writing.*

*ELA9W3. The student uses research and technology to support writing.*

**ACT-C1-5. Students will know and understand the materials, processes, and safety related to all cement and concrete products.**

- a. Demonstrate knowledge of the safety procedures associated with construction and use of concrete products.
- b. Demonstrate knowledge of properties and composition of concrete products.

**ACADEMIC STANDARDS:**

*MC1P3. Students will communicate mathematically.*

*SSWG1. The student will explain the physical aspects of geography.*

*SSCG15. The student will explain the functions of the departments and agencies of the federal bureaucracy.*

*SC1 Students will analyze the nature of matter and its classifications.*

*SB2. Students will assess the dependence of all organisms on one another and the flow of energy and matter within their ecosystems.*

*SPS6. Students will investigate the properties of solutions.*

*SP3. Students will evaluate the forms and transformations of energy.*

**ACT-C1-6. Students will know and understand the concepts and practices of basic site layout and footings.**

- a. Demonstrate knowledge of site layout.
- b. Demonstrate knowledge of individual components used in footings.

**ACADEMIC STANDARDS:**

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*MC4P1. Students will solve problems (using appropriate technology).*

*MM2G1. Students will identify and use special right triangles.*

*MM2G3. Students will understand the properties of circles.*

*MM2P4. Students will make connections among mathematical ideas and to other disciplines.*

*SSCG18. The student will demonstrate knowledge of the powers of Georgia's state and local governments.*

*SEV4. Students will understand and describe availability, allocation and conservation of energy and other resources.*

*SEV5. Students will recognize that human beings are part of the global ecosystem and will evaluate the effects of human activities and technology on ecosystems.*

**ACT-C1-7. Students will know and understand proper and necessary carpentry tasks that enable a team to construct floor and wall systems.**

- a. Demonstrate knowledge of the construction of floor systems.
- b. Demonstrate knowledge of the construction of wall systems.

**ACADEMIC STANDARDS:**

*MC4P1. Students will solve problems (using appropriate technology).*

*MM2G1. Students will identify and use special right triangles.*

*MM2G3. Students will understand the properties of circles.*

*MM2P4. Students will make connections among mathematical ideas and to other disciplines.*

*SSCG18. The student will demonstrate knowledge of the powers of Georgia's state and local governments.*

*ELA9LSV1. The student participates in student-to-teacher, student-to-student, and group verbal interactions.*

**CTAE Foundation Skills**

The Foundation Skills for Career, Technical and Agricultural Education (CTAE) are critical competencies that students pursuing any career pathway should exhibit to be

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successful. As core standards for all career pathways in all program concentrations, these skills link career, technical and agricultural education to the state's academic performance standards.

The CTAE Foundation Skills are aligned to the foundation of the U. S. Department of Education's 16 Career Clusters. Endorsed by the National Career Technical Education Foundation (NCTEF) and the National Association of State Directors of Career Technical Education Consortium (NASDCTEc), the foundation skills were developed from an analysis of all pathways in the sixteen occupational areas. These standards were identified and validated by a national advisory group of employers, secondary and post secondary educators, labor associations, and other stakeholders. The Knowledge and Skills provide learners a broad foundation for managing lifelong learning and career transitions in a rapidly changing economy.

**CTAE-FS-1 Technical Skills:** Learners achieve technical content skills necessary to pursue the full range of careers for all pathways in the program concentration.

**CTAE-FS-2 Academic Foundations:** Learners achieve state academic standards at or above grade level.

**CTAE-FS-3 Communications:** Learners use various communication skills in expressing and interpreting information.

**CTAE-FS-4 Problem Solving and Critical Thinking:** Learners define and solve problems, and use problem-solving and improvement methods and tools.

**CTAE-FS-5 Information Technology Applications:** Learners use multiple information technology devices to access, organize, process, transmit, and communicate information.

**CTAE-FS-6 Systems:** Learners understand a variety of organizational structures and functions.

**CTAE-FS-7 Safety, Health and Environment:** Learners employ safety, health and environmental management systems in corporations and comprehend their importance to organizational performance and regulatory compliance.

**CTAE-FS-8 Leadership and Teamwork:** Learners apply leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.

**CTAE-FS-9 Ethics and Legal Responsibilities:** Learners commit to work ethics, behavior, and legal responsibilities in the workplace.

**CTAE-FS-10 Career Development:** Learners plan and manage academic-career plans and employment relations.

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**CTAE-FS-11 Entrepreneurship:** Learners demonstrate understanding of concepts, processes, and behaviors associated with successful entrepreneurial performance.