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.

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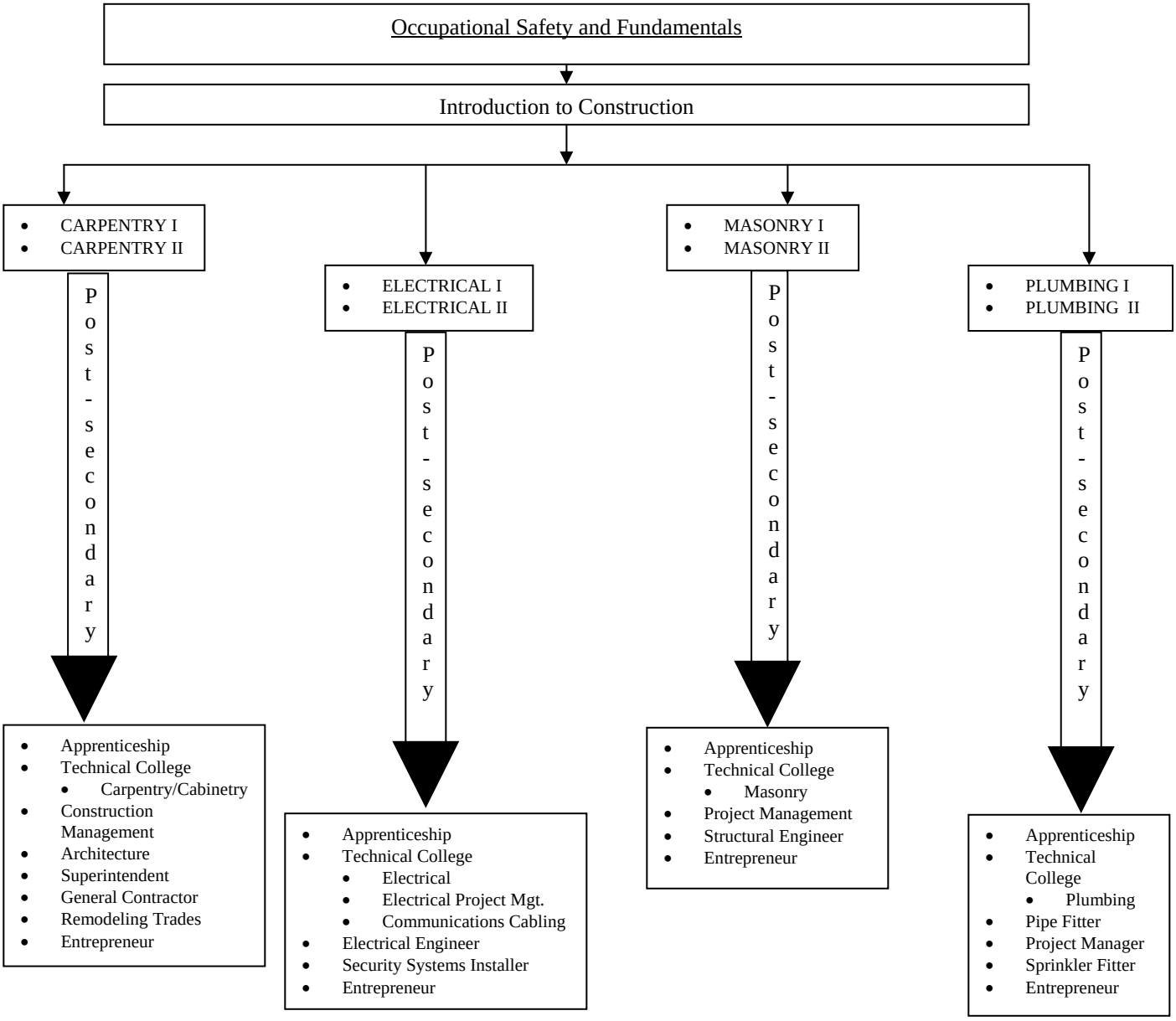
The Construction Career Pathway Map



PROGRAM CONCENTRATION: **Architecture, Construction, Communications & Transportation**

CAREER PATHWAY: **Construction**

COURSE TITLE: **Plumbing II**

This course is preceded by Plumbing I and is the fourth of four courses that provides the student a solid foundation in plumbing skills and knowledge. It is the final step in gaining a Level One Industry Certification in Plumbing.

This course provides the basic skills and knowledge to install water supply systems as well as drain, waste, and ventilation systems. This involves basic installation from rough-in through trim out of a variety of fixtures. It involves practice with the skills and knowledge necessary to apply plumbing codes to specific circumstances. This course also builds on the skills and knowledge of the student to be able to read, interpret, and apply information from architectural and construction working drawings, especially as related to plumbing installation.

ACT-P2-1. Students will demonstrate knowledge of how to install drain, waste, and vent systems.

a. Install plastic, steel, iron, and copper pipes and fittings used in DWV.

ACADEMIC STANDARDS:

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

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

MC1P3. Students will communicate mathematically.

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

MC2A2. Students will solve simple equations.

SCSh5. Students will demonstrate the computation and estimation skills necessary for analyzing data and developing reasonable scientific explanations.

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

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

ACT-P2-2. Students will understand and install water distribution and supply systems.

a. Identify and properly install piping and fittings used in potable water systems.
b. Demonstrate knowledge of installation of water and irrigation systems.
c. Demonstrate knowledge of installation of water meters and water heating appliances.

ACT-P2-3. Students will install a variety of fixtures.

a. Demonstrate knowledge of installation of kitchen fixtures.
b. Demonstrate knowledge of installation of bathroom fixtures.
c. Demonstrate knowledge of installation of laundry fixtures.
d. Demonstrate knowledge of installation of utility fixtures.

ACADEMIC STANDARDS:

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

MC2A2. Students will solve simple equations.

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.

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

ACT-P2-4. Students will have knowledge of codes as they apply to plumbing.

a. Demonstrate knowledge of OSHA and EPA regulations as they apply to codes.
b. Demonstrate knowledge of the International Plumbing Code.
c. Demonstrate knowledge of state and local building codes.

ACADEMIC STANDARDS:

ELA9RC3. The student acquires new vocabulary in each content area and uses it correctly.

ELA9RC4. The student establishes a context for information acquired by reading across subject areas.

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

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

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 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.

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