

Implementation Date
Fall 2008

PROGRAM CONCENTRATION:

**Architecture, Construction,
Communications & Transportation**

CAREER PATHWAY:

Engineering Drawing & Design

COURSE TITLE:

Architectural Drawing and Design I

Architectural Drawing and Design I is a one-credit course that introduces students to the basic terminology, concepts, and principles of architectural design. Emphasis is placed on house designs, floor plans, roof designs, elevations (interior and exterior), schedules, and foundations. The standards are aligned with the drafting and design standards in Georgia's technical colleges, thus helping students qualify for advanced placement should they continue their education at the postsecondary level. Further, the standards are aligned with the national standards of the American Design Drafting Association (ADDA). Students who successfully complete this and other drafting courses should be prepared to take the Drafter Certification Examination from the ADDA. Competencies for the co-curricular student organization, SkillsUSA, are integral components of both the core employability skills standards and the technical skills standards. SkillsUSA activities should be incorporated throughout instructional strategies developed for the course.

PRINCIPLES OF RESIDENTIAL DESIGN

ACT-ADDI-1. Students will identify components related to the design process.

- a. Demonstrate an understanding of different house styles.
- b. Describe the steps in the design process.
- c. Describe the elements and principles of design.
- d. Identify the proper use of site analysis.
- e. Explain how building codes and ordinances affect design.
- f. Identify the drawings required for residential construction.
- g. Read architectural blueprints.
- h. Measure using an architect's scale.

ACADEMIC STANDARDS:

SCSh9. Students will enhance reading in all curriculum areas.

ELA9RL5. The student understands and acquires new vocabulary and uses it correctly in reading and writing.

ELA11LSV1. The student participates in student-to-teacher, student-to-student, and group verbal interactions.

ADDA: Advanced CADD skills

FLOOR PLANS

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ACT-ADDI-2. Students will prepare residential floor plans.

- a. Draw dimensioned floor plans using appropriate symbols.
- b. Apply appropriate dimensioning rules for frame and masonry construction.

ACADEMIC STANDARDS:

SCSh4. Students will use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.

MMIP4. Students will make connections among mathematical ideas and to other disciplines.

ELA9RL5. The student understands and acquires new vocabulary and uses it correctly in reading and writing.

ADDA: Advanced CADD skills

ROOF DESIGNS

ACT-ADDI-3. Students will demonstrate knowledge of roof systems, terminology, style, and construction.

- a. Draw various styles of roof systems.

ACADEMIC STANDARDS:

MMIP4. Students will make connections among mathematical ideas and to other disciplines.

ELA9RL5. The student understands and acquires new vocabulary and uses it correctly in reading and writing.

ADDA: Advanced CADD skills

ELEVATIONS

ACT-ADDI-4. Students will prepare elevations for residential drawings.

- a. Explain the purpose of elevations.
- b. Draw interior elevations.
- c. Draw exterior elevations.

ACADEMIC STANDARDS:

MMIP4. Students will make connections among mathematical ideas and to other disciplines.

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ELA9RL5. The student understands and acquires new vocabulary and uses it correctly in reading and writing.

SCSh4. Students will use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.

ADDA: Advanced CADD skills

SCHEDULES

ACT-ADDI-5. Students will prepare schedules.

- a. Explain the purpose of schedules on a set of architectural drawings.
- b. Draw window, door, and finish schedules.

ACADEMIC STANDARDS:

MM1P4. Students will make connections among mathematical ideas and to other disciplines.

ELA9RL5. The student understands and acquires new vocabulary and uses it correctly in reading and writing.

SCSh4. Students will use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.

ADDA: Advanced CADD skills

FOUNDATIONS

ACT-ADDI-6. Students will prepare foundation plans.

- a. Explain the purpose of foundation plans.
- b. Identify different foundation systems and terminology.
- c. Draw and dimension foundation plans.

ACADEMIC STANDARDS:

MM1P4. Students will make connections among mathematical ideas and to other disciplines.

ELA9RL5. The student understands and acquires new vocabulary and uses it correctly in reading and writing.

SCSh4. Students will use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.

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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 postsecondary 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.

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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.