

Connecticut CTE

# **Architecture Technology (Grades 9-12)**

## Architecture Technology

### I Architecture Technology ARCH

- a Identify significant historical events and trends that have impacted architecture. ARCH.01
  - 1 Discuss current trends in commercial and residential architecture ARCH.01.01
  - 2 Research and differentiate between design periods that shaped today's structures. ARCH.01.02
- b Demonstrate an understanding of socio-cultural and environmental impacts on architectural design. ARCH.02
  - 1 Identify how location, resources and materials influence design. ARCH.02.01
  - 2 Differentiate between human wants and needs. ARCH.02.02
  - 3 Apply "Green" building practices to project design. ARCH.02.03
  - 4 Apply culture, community and diversity needs to project design ARCH.02.04
- c Demonstrate an understanding of regulations in architectural design. ARCH.03
  - 1 Research and identify regulations and codes that are needed to establish a legal and safe design. ARCH.03.01
  - 2 Evaluate a site that takes into consideration local, state and national restrictions, zoning and codes. ARCH.03.02
  - 3 Differentiate between residential and commercial building codes/standards. ARCH.03.03
  - 4 Develop an understanding of the American Disability Act. ARCH.03.04
- d Apply principles of physics in selecting and working with materials and load applications ARCH.04
  - 1 Explain various forces that bear on, and within, structures. ARCH.04.01
  - 2 Analyze architectural physics of soil mechanics, foundation design, and engineering material as they relate to structural design. ARCH.04.02
  - 3 Demonstrate an understanding of static and dynamic loads as they relate to a structure. ARCH.04.03
  - 4 Develop and communicate an assigned building design. ARCH.04.04
- e Research, plan and design functional structure. ARCH.05
  - 1 Apply prior knowledge to discuss daily needs and influences identified in their environment. ARCH.05.01
  - 2 Produce preliminary designs, final sketches and presentation drawings. ARCH.05.02
  - 3 Utilize commercial and residential suggestions and specifications to create functional floor plans. ARCH.05.03
  - 4 Utilize an architectural drawing to estimate the cost and the materials necessary for a project. ARCH.05.04

- f** Develop technical drawings drafted by hand and computer aided drafting and design (CADD). **ARCH.06**
  - 1** Identify, research, develop and explain architectural and construction plans, drawings, diagrams and specifications. **ARCH.06.01**
  - 2** Draw and sketch by hand to communicate ideas effectively. **ARCH.06.02**
  - 3** Utilize CADD software to produce technical drawings and architectural proposals. **ARCH.06.03**
  
- g** Employ appropriate media to communicate concepts and design. **ARCH.07**
  - 1** Convey information using multi-dimensional drawings. **ARCH.07.01**
  - 2** Create effective working drawings, and presentation drawing. **ARCH.07.02**
  - 3** Employ basic model building techniques. **ARCH.07.03**
  
- h** Maintain a portfolio to document knowledge, skills and experience in architecture. **ARCH.08**
  - 1** Research and Collect data that relates to architectural drafting and design **ARCH.08.01**
  - 2** Select and organize appropriate examples that demonstrate knowledge, skills and experience. **ARCH.08.02**
  - 3** Prepare and conduct effective oral presentation. **ARCH.08.03**