

Introduction Architecture and Construction

Architecture and Construction career fields include the creative and detailed drafting of architectural designs with a focus on an environmentally friendly outcome. Students learn how to create architectural designs using board methods prior to learning the same methods using the Auto CAD computer program. For the more active and outdoor-oriented student, the construction fields that include the execution of blueprints into a finished project or home becomes the focus. Students entering into these fields must be able to measure well and do math fractions with relative ease.

Student organizations for this area include Technology Student Association (TSA) or Skills USA, which provide opportunities for leadership development and competitions to enhance the students learning experience.

Career Opportunities Architecture and Construction

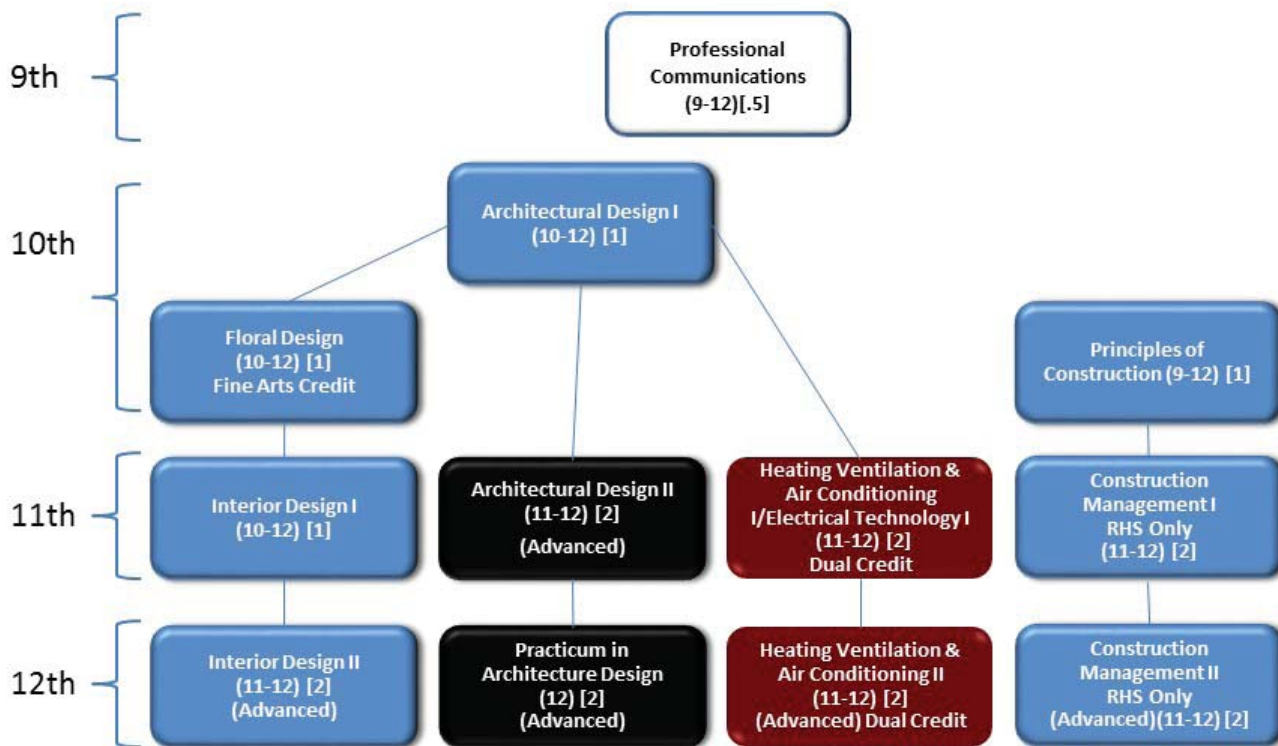
Architect
Industrial Designer
Drafter
Landscape Architect
Teacher, Career and Technical Education
Project Manager

Construction Manager
HVAC Technician
Dry Wall Installer
Brick Masons
Electrician
Plumber

Roofer
Cabinetmakers
Tile Mason
Flooring Intaller
Interior Designer
Painters

Sequences Architecture and Construction

Architecture and Construction



Business and Industry

T1510

Principles of Construction - RHS Only

- ▶ **Grade Placement** 9-12
- ▶ **Credits** 1
- ▶ **Prerequisite**..... None

Principles of Construction provides a solid foundation for students entering into the construction and craft skilled areas. The students will learn construction safety, construction math, hand and power tools and explore career paths in construction.

T1520

Architectural Design I

- ▶ **Grade Placement** 10-12
- ▶ **Credits** 1
- ▶ **Prerequisite**..... *Algebra I and English I*

Would you like to design your own home? Students will study requirements of residential architecture, building codes, materials and construction techniques. Students will develop a working set of residential plans. Drafting techniques will include computer aided design and/or traditional methods. This course emphasizes problem solving, design principles, technical standards and the use of drafting equipment including AutoCAD systems.

T1525

Architectural Design II

- ▶ **Grade Placement** 11-12
- ▶ **Credits** 2
- ▶ **Prerequisite**..... *Architecture I and Geometry*
- ▶ **Location**..... *Advanced Technology Complex*
- ▶ **Partnerships**..... *Balfour Beatty Construction, VLK Architects*

Are you concerned about energy use and the environment? Architecture Design II begins to prepare the student for a career in the architectural field. The learner will use advanced AutoCAD principles to draw and design several residential structures of different historical influences. Environmental green materials and applications will be studied and applied to these designs as a continuation of 21st century technology. The student will learn safety procedures of all equipment used to build architectural models for TSA competitions.

T1530

Practicum in Architectural Design

- ▶ **Grade Placement** 12
- ▶ **Credits** 2
- ▶ **Prerequisite**..... *Architecture Design II*
- ▶ **Location**..... *Advanced Technology Complex*
- ▶ **Partnerships**..... *Balfour Beatty Construction, VLK Architects*

What's the problem with house designs today? Practicum students will have advanced projects that transcend a traditional classroom. Students will work on design problems modeled to meet university standards. Advanced environmental green materials and applications will be studied and applied to these designs as a continuation of 21st century technology.

T1535

Construction Management I - RHS Only

- ▶ **Grade Placement 11-12**
- ▶ **Credits 2**
- ▶ **Prerequisite..... None**

Have you ever been fascinated by watching a new home take shape from raw building materials? Then this is a great beginning opportunity for you! Students will learn about all facets of construction, focusing on building the knowledge and skills necessary to participate in the construction industry. Students will participate in designing and building group or individual projects. Students will continue to develop advanced skills and techniques related to power equipment and safety requirements. Students will be required to purchase material for personal projects. This course is two class periods during the school day at the high school.

T1540

Construction Management II - RHS Only

- ▶ **Grade Placement 12**
- ▶ **Credits 2**
- ▶ **Prerequisite..... Construction Management I**

Students build on the knowledge learned in the previous class and are introduced to exterior and interior finish-out skills. Students will focus on environmental green building techniques and knowledge. They will acquire knowledge and skills in general safety, hand and power tool use, building materials, HVAC, Electrical and code requirements for structural framing as well as interior finishes including floors, walls, and ceilings. This course is two class periods during the school day at the high school.

T1560/T1570/T1565

HVAC Dual Credit Program

- ▶ **Grade Placement 11-12**
- ▶ **Credits 2**
- ▶ **Prerequisite..... Recommended Principles of Construction**

Students will gain knowledge and skills needed to enter the industry as a HVAC Technician Students will acquire knowledge and skills in safety, electrical theory, HVAC tools, building codes, installation of commercial HVAC equipment, heat pumps, building science, troubleshooting techniques, various duct systems, and maintenance practices. Students will have the opportunity to test for their HVAC Technician Level 1 and EPA 608 Certification This course is a dual credit Program offered with NCTC. The courses students will register for are HART 1307, 1301, 1256, 1341 and RBPT 1300. Students will be required to provide their own transportation to Ryan High School.

T1545

Interior Design I

- ▶ **Grade Placement 10-12**
- ▶ **Credits 1**
- ▶ **Prerequisite..... Algebra I and English I**

Students will learn about design, color and texture theories for interior and exterior design. They will also design models for presentations. Interior design is a technical course that addresses psychological, physiological, and sociological needs of individuals by enhancing the environments in which they live and work.

T1550

Interior Design II

- ▶ **Grade Placement 10-12**
- ▶ **Credits 2**
- ▶ **Prerequisite..... Geometry, English II and Interior Design I**

Students will learn processes, principles, technologies, communication tools, equipment and materials related to interior design to meet industry standards. Interior Design II will be a double blocked class for two credits.