

Introduction to Construction

RCAS Policies/Procedures:

Students will be required to follow all RCAS policies and procedures. To view the RCAS High School Student Handbook, click [handbook](#).

Course Description:

Do you enjoy planning, designing, and building? Perhaps you are interested in working with your hands and using basic tools and equipment? In this course, you will have the opportunity to learn how to read and develop blueprints for construction projects, explore technical trades such as CADD, framing, survey and cost estimation, electrical planning, plumbing and HVAC, finish work, basic welding, and help design and build a simple structure.

Textbook:

None

Required Resources:

“Limited Choice” Resources: (students will be asked to choose at least one title from this list)

Student Choice:

Will student be asked to choose additional reading material from the classroom or school library?

Yes

Essential Questions:

CT 1.0: Can students understand and apply industry safety procedures?

CT 2.0: How can students demonstrate an understanding of basic industry math skills and formulas?

CT 3.0: Can students identify and correctly use appropriate hand, power, and pneumatic tools?

CT 4.0: Do students understand blueprint reading and can they perform basic survey techniques?

CT 5.0: Can students apply basic organizational, spatial, structural and construction principles of carpentry?

CT 6.0: Do students show an understanding of principles, standards, and applications of plumbing?

CT 7.0: Can students employ basic knowledge and methods of electrical wiring?

CT 8.0: Can students employ basic knowledge and methods of concrete technology?

CT 9.0: Why is it important for students to participate in career exploration activities and how will they do so?

IAC 4.0: Can students recognize the materials used in the architecture and construction industries?

IAC 6.0: Do students display skills needed in architecture and construction industries?

Essential Learning Intentions:

- CT 1.1 Identify and demonstrate the proper industry safety standards.
- CT 2.1 Understand and demonstrate basic math skills and formulas.
- CT 3.1 Demonstrate safe and proper use of hand tools.
- CT 3.2 Demonstrate safe and proper use of power tools.
- CT 3.3 Demonstrate safe and proper use of pneumatic tools.
- CT 4.1 Demonstrate how to read blueprints.
- CT 4.2 Demonstrate basic survey techniques.
- CT 6.1 Define safety procedures of plumbing.
- CT 6.2 Distinguish pipe sizes, fittings, adapters, and couplings.
- CT 6.3 Demonstrate the use of plumbing materials.

- CT 7.1 Select electrical materials considering safety.
- CT 7.2 Identify electrical materials.
- CT 7.3 Illustrate uses of electrical materials.
- CT 8.1 Identify safe practice associated with concrete materials.
- CT 8.2 Calculate the various required ingredients used in concrete.
- CT 8.3 Employ application of concrete in different situations.
- CT 9.1 Research career opportunities in the architecture and construction fields.
- IAC 4.1 Identify wood species and engineered building materials.
- IAC 4.2 Recognize proper application of fasteners, adhesives, and hardware.
- IAC 4.3 Explore new upcoming materials used in the building industry.
- IAC 6.1 Apply proper measuring and cutting techniques to perform job related tasks.
- IAC 6.4 Demonstrate necessary job skills needed in architecture and construction industries