CAD Syllabus

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 technical design and computers? Are you interested in developing real-world plans and ideas? In this course, students will develop the fundamental skills necessary to create 2D and 3D drawings and models using CADD software. Students will create a variety of detailed plans and parts that are related to real world projects. Integration of modern industry equipment will be used to build projects based on CADD models.

Grading

All grades and assignments will be weighted the same but will have a different amount of points depending on the assignment. The grading scale is as follows; A 100%-90%, B 89%-80%, C 79%-70%, D 69%-60%, F 59%-0. Grades are subject to change by the instructor as necessary.

Textbook

N/A

Reading

N/A

Optional Reading

N/A

Instructional Resources

Revit

Fusion 360

Essential Questions

DDI 1 Examine basic drafting terminology and equipment.

1. What tools do you think you need for drafting?
2. Why is it essential to know how to measure?

DDI 2 Apply basic math skills to design work.

1. Why do we scale?
2. When would I use the different drafting scales?
3. How do we make a building and landmass fit on a piece of paper?

DDI 3 Examine basic drafting fundamental and technical skills

1. What is the purpose of practicing writing block letters and numbers?
2. Why should there be a standard way to write and draw letters and numerals?

DDI 4 Apply drawing techniques to produce various technical plans.

1. What is the proper drawing to use when?

2. How do we represent a 3D object on a 2D surface/drawing

DDI 5 Implement computer aided software into design work.

1. What are ways we can evaluate what we built?
2. Why is it valuable to evaluate working drawings before building them?

DDI 6 Explore career-ready practices

1. What career paths are available with these skill sets?

Essential Learning Intentions

DDI 1 Examine basic drafting terminology and equipment.

Recognize and use basic drafting terms and abbreviations for architectural and mechanical drafting

Apply basic (hand) drafting tools to various tasks

Apply basic CAD drafting tools to various tasks

DDI 2 Apply basic math skills to design work

Use various formulas to calculate volume and area

Convert various units

Reduce a drawing by scaling down or scaling up to fit on assignment paper size

Apply appropriate scale (engineering/architect/metric)

DDI 3 Examine basic drafting fundamental and technical skills

Interpret symbols, lettering and Geometric Shapes

Create the basic geometric shapes using manual drafting tools

Demonstrate correct use of different line types and weights

Correct application of dimensioning styles and graphic standards

DDI 4 Apply drawing techniques to produce various technical plans.

Understand and create what orthographic projection is and the alignment of various views

Comprehend and model the difference between orthographic and isometric in definition and drawing

Understanding the isometric axes for three-dimensional drawings

DDI 5 Implement computer aided software into design work.

Develop familiarity with drawing and editing tools, software graphic interface, and file management

Build a drawing template with foundational default settings and efficiencies

Use CAD standards, proper annotations, dimensioning, and titles to generate and edit a drawing and projection using CAD software

DDI 6 Explore career-ready practices

Explore certification options

Identify and describe career paths in drafting, design, and visual communication

Explore postsecondary opportunities and available jobs in drafting, design, and visual communication