

## **Course Name: CADD IV**

**Course #:H7712    Grades: 10 – 12    Level: 0    Sem: 5X    Credits: 2.5**

**Prerequisite: CADD II with a grade of a “B” or better**

### **Course Description:**

In CADD IV, students will use their skills in *Computer Aided Drafting* to create architectural drawings of residential homes and/or buildings. The course is focused on the principles and concepts of structural systems and the use of graphic tools to model these systems in the field of architecture. Students will better understand architectural components of residential/building design by using *Building Information Modeling (BIM)*.

The students will prepare working drawings, including floor plan, window and door schedules, wall section and elevation drawings using *Computer-Aided Drafting* methods. This course will enhance the students’ awareness of various facets of the architectural field, including construction techniques, historical perspectives, architectural styles, building codes, and structural design. Students will be able to communicate architectural ideas in an understandable, efficient, and accurate manner.

Students will continue to deepen their understanding of how *Computer Aided Drafting* is applicable in various career fields such as architecture, engineering, design, contracting, etc. Furthermore, students will continue to build their portfolio of technical drawings and design projects that document their ability to use *Computer Aided Drafting* software in the engineering design process.

### **Course Proficiencies:**

The following is a list of skills and concepts students will be proficient in upon successful completion of this course. These proficiencies form the basis of assessment of each student’s achievement. Students who demonstrate understanding can:

1. Work collaboratively to support individual learning and contribute to the learning of others while developing an innovative solution to a real-world problem within a specific timetable. **(8.1.12.C.1, CRP 1-12)**
2. Develop a systematic plan to research by synthesizing information from multiple sources and selecting appropriate digital tools to communicate their final designs. **(8.1.12.E.1, SL. 11-12.4, SL. 11-12.5, CRP 4,7)**
3. Develop work related skills, as well as gain a better understanding of technological products, systems, innovative design and engineering principles to become productive and technologically literate society members. **(9.2.12.C.3, CRP 1-12)**
4. Continue to add to a portfolio of technical drawings and design projects that document the use of *Computer Aided Drafting* software in the engineering design process. **(8.1.12.A.1)**
5. Reverse engineer an existing room or building structure and redesign it to improve form and function. **(8.2.12.C.6)**

6. Understand and be able to produce architectural drawings to include floor plans, window and door schedules, wall sections and elevation drawings, etc. *(8.2.12.C.5)*
7. Become familiar with common materials used in residential/building construction, foundation, interior and exterior walls, roof *(8.2.12.C.3, 8.2.12.D.5)*
8. Document the design process through scaled drawings that include data and materials. *(8.2.12.C.5, 8.2.12.C.7)*

**Assessment:**

1. Teacher observation
2. Classroom Participation
3. Performance Rubrics
4. Project evaluations
5. Drawing Rubrics
6. Oral Presentations

**Board Adopted Textbook:**

None