

**DEPARTMENT:           SCIENCE**

**NAME OF COURSE:    Civil Engineering and Architecture**

**GENERAL DESCRIPTION OF COURSE**

New building plans look impressive onscreen, but how would that cool structural design stand up to a flood, earthquake, city inspector, or historical commission? Some of today's designs integrate housing, workspace, recreation, and the great outdoors into the same building or complex.

Students will learn important aspects of building and site design and development in order to answer these questions. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3-D architectural design software.

Students will create and test their own residential and commercial designs, factoring in:

- Materials and systems
- Structural design
- Cost/efficiency analysis
- Storm water management
- Site design / considerations
- Utilities and services
- Building codes
- Architectural style and guidelines

**TEXTBOOKS**

- None

## **REQUIREMENTS**

Lessons will require both independent and group work, using the latest in drafting technology. Students will be required to use CAD software extensively during the course of this program. Work is submitted both electronically and hard-copy.

Students will also learn how to document their work, and communicate their solutions to their peers and members of the professional community.

## **GRADING PROCEDURES**

Grades are determined by a combination of projects, reports, drawings, performance of students' designs, etc., in addition to traditional exams, quizzes and homework.