

**Civil Engineering & Architecture**

# **COURSE SYLLABUS**

INSTRUCTOR: Mr. Baker

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CLASS LOCATION: Room 118

OFFICE HOURS: 8:00 - 5:00 Mon., Tues. & Thur., 8:00 – 4:00 Fri.

OFFICE PHONE: 753-7377 Ext. 4300      HOME PHONE: 563-6689

E-MAIL ADDRESS: [jbaker@intechchs.org](mailto:jbaker@intechchs.org)

COURSE WEB PAGE: <http://www.intechengineering.org>

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## A. COURSE DESCRIPTION

Civil Engineering and Architecture is the study of the design and construction of residential and commercial building projects. The course includes an introduction to many of the varied factors involved in building design and construction including building components and systems, structural design, storm water management, site design, utilities and services, cost estimation, energy efficiency, and careers in the design and construction industry.

The major focus of the CEA course is to expose students to the design and construction of residential and commercial building projects, design teams and teamwork, communication methods, engineering standards, and technical documentation.

Utilizing the activity-project-problem-based (APPB) teaching and learning pedagogy, students will analyze, design and build electronic and physical models of residential and commercial facilities. While implementing these designs students will continually hone their interpersonal skills, creative abilities and understanding of the design process.

Civil Engineering and Architecture is a high school level course that is appropriate for 10th through 12th grade students interested in careers related to civil engineering and architecture. Other than their concurrent enrollment in college preparatory mathematics and science courses, this course assumes no previous knowledge.

Civil Engineering and Architecture is one of four specialization courses in the Project Lead The Way® high school pre-engineering program. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology.

**B. METHOD OF INSTRUCTION**

This is a lecture-lab course in which topics are presented by the instructor. Projects are explained and assigned, and are to be completed during lab periods and outside of class as needed. Students are required to maintain an Engineer’s Notebook and Portfolio throughout the course with periodic checks. There is a comprehensive final exam given at the end of the school year in May.

**C. COURSE UNITS**

- **Unit 1: Overview of Civil Engineering and Architecture (12 days )**
  - Lesson 1.1: History of Civil Engineering and Architecture
  - Lesson 1.2: Careers in Civil Engineering and Architecture
- **Unit 2: Residential Design (28 days)**
  - Lesson 2.1: Building Design and Construction
  - Lesson 2.2: Cost and Efficiency Analysis
  - Lesson 2.3: Residential Design
- **Unit 3: Commercial Applications (29 days)**
  - Lesson 3.1: Commercial Building Systems
  - Lesson 3.2: Structures
  - Lesson 3.3: Services and Utilities
  - Lesson 3.4: Site Considerations
- **Unit 4: Commercial Building Design (17 days)**
  - Lesson 4.1: Commercial Building Design Problem
  - Lesson 4.2: Commercial Building Design Presentation

**D. REQUIRED SUPPLIES**

- One (1) 1 ½” Three Ring Binder for handouts and portfolio.
- Blue or Black regular ball point pens (No felt-tip or gel pens)

**E. GRADING PLAN**

- Homework = 30%
- Bell Ringers = 10%
- Projects = 35%
- Tests = 25%

The grading scheme will be as follows:

A	A-	B+	B	B-	C+	C	C-	D+	D	F
93%	90%	87%	83%	80%	77%	73%	70%	67%	63%	<63%

**A full year average percentage of 63% or greater is required to pass this course for credit on a High School transcript.**

## F. COURSE SPECIFICS

- For all papers to be written, the following formatting standards apply:
  - 12 point Arial or Times New Roman font only. Arial is preferred.
  - Double space only. No other spacing will be accepted.
  - ALL margins are to be 1" (one inch) only.
  - Students should use a 3" x 5" single sided, hand written note card on all tests.
  - Students should use an 8.5" x 11" sheet of notes (handwritten, single-sided) for use on the final exam. (Notes will be turned in with the test.) If a student misses a test because of an exempt or excused absence, the test may be made up the next day.

## G. CLASSROOM RULES OF CONDUCT

- SAFETY -- Students will **ALWAYS** follow all safety rules. Violation of any safety rule will result in a three page safety report to be submitted and presented to the class.
- RESPECT -- Students will respect one another, themselves, the teacher, and all equipment by their actions, words and expressions.
- HONOR -- Students will honor other people's ideas and feelings. Students will honor the rules of the school.

## H. ATTENDANCE POLICY

- LATE – Students not in their seat at the time of the late bell will be considered tardy which will be recorded in the school records.
- ABSENT – Students who have an unexcused absence will have any assignments, tests, or labs considered late under the assignment policy. Excused absences have two (2) class days to make up missing work.

## I. RESOURCES INFORMATION

- All assignments, hand-outs and presentations are available on my school website including a copy of this syllabus.

## J. AFFIDAVIT

- See the following page.

## **Civil Engineering & Architecture Syllabus Affidavit**

My signature below indicates that I have read and understand this syllabus and have been given instructions on where to locate additional copies online.

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Student Printed Name

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Student Signature

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Parent Printed Name

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Parent Signature

**Please sign and return this sheet only to the instructor.**