

# Construction Careers

## Course Overview and Syllabus

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**Grade level:** 9–12

**Prerequisite Courses:** None

**Credits:** 0.5

### Course Description

Construction Careers is a semester-long course that introduces high school students to the basics of construction, building systems, engineering principles, urban planning, and sustainability. Students learn the key techniques in building all types of buildings, as well as the key individuals involved in each step of the process. Many lessons present information on green building techniques and concepts that are becoming a standard part of the construction industry. Safety practices are emphasized in several lessons because construction is one of the most dangerous industries; students learn that there is no way to be successful in construction without taking such issues seriously. Lessons in this course also explore regulatory agencies and guidelines established for protecting not only construction workers but also the occupants of a building.

### Course Objectives

Throughout the course, you will meet the following goals:

- Examine floor plan, site plan, and elevation view drawings
- Explore construction careers including those of civil engineers, excavators, masons, ironworkers, electricians, and general contractors
- Discuss apprenticeships, journeyman positions, and the path to earning master status
- Apply the life-cycle assessment process to buildings
- Examine sustainability and energy efficiency
- Review on-site safety, construction risk management, and labor-management relations
- Learn about urban planning and zoning, regional planning, and the history of urban sprawl
- Discuss the history of mass-produced steel and steel frame construction
- Compare heavy timber-frame and light-frame construction
- Learn about the roof's components and structural importance, truss systems, roofing materials, and solar roof paneling
- Examine how building science works to fight natural disasters
- Explore green jobs and technology, building materials, and sustainable and green codes in the construction industry
- Discuss historical preservation and adaptive reuse

## Student Expectations

This course requires the same level of commitment from you as a traditional classroom course. Throughout the course, you are expected to spend approximately 5–7 hours per week online on:

- Interactive lessons that include a mixture of videos, readings, and tasks
- Assignments in which you apply and extend learning in each lesson
- Assessments, including quizzes, tests, and cumulative exams

## Communication

Your teacher will communicate with you regularly through discussions, email, chat, and system announcements. You will also communicate with classmates, either via online tools or face to face, as you collaborate on projects, ask and answer questions in your peer group, and develop your speaking and listening skills.

## Grading Policy

You will be graded on the work you do online and the work you submit electronically to your teacher. The weighting for each category of graded activity is listed below.

Grading Category	Weight
Lesson Quizzes	20%
Unit Tests	20%
Cumulative Exams	20%
Assignments	10%
Projects	30%
Additional	0%

## Scope and Sequence

When you log into Edgenuity, you can view the entire course map—an interactive scope and sequence of all topics you will study. The units of study are summarized below:

- Unit 1:** Introduction to Careers in Construction Technology
- Unit 2:** Building Life-Cycle Assessment and Regulation
- Unit 3:** Building Materials and Methods of Construction 1
- Unit 4:** Building Materials and Methods of Construction 2
- Unit 5:** Green Technology, Sustainability, and Preservation