

# CONSTRUCTION TECHNOLOGY

The CT program has two options: Building Inspection and Construction Management. The Building Inspection option has an emphasis on code interpretation and project design. The Construction Management option has an emphasis on business management and project supervision. Students can enroll into an individual class in order to develop a specific skill set such as a license or industry certification, or complete a one-year vocational Certificate of Achievement degree, or complete a two-year Associate of Science degree, or prepare for transfer to a university-level Bachelor of Science program. Ventura College CT students are prepared for a wide range of construction-related positions such as self-employed contractors, building inspection, project designers, and various levels of supervision. The CT program provides many different courses to serve diverse student needs.

## CT V12 Advanced Blueprint Reading: Commercial/Industrial 3 Units

*Same-As:* ARCH V12

*In-Class Hours:* 52.5 lecture

This is an advanced blueprint reading course for inspectors, contractors, and designers interested in commercial and industrial construction. This course will provide training in blueprint reading comprehension, system assemblies, and material specifications. Subjects to be covered will include soils, foundations, site work, concrete, masonry, structural steel, welding, and mechanical and electrical systems.

*Advisories/Rec Prep:* ARCH V11 or CT V20 or DRFT V02B or equivalent

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Credit Limitations:** see counselor.

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

## CT V20 Blueprint Reading: Architectural/Construction 3 Units

*Formerly:* CT 20

*Same-As:* ARCH V11, DRFT V02B

*In-Class Hours:* 52.5 lecture

This course provides experience in construction blueprint reading and plan review. Experiences will include the study of lines, symbols, notations and dimensions used on architectural drawings. Code interpretation and design compliance will be stressed.

**Grade Modes:** Letter Graded, Credit by exam, license etc.

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

## CT V30 Shop Woodworking 3 Units

*In-Class Hours:* 17.5 lecture, 105 laboratory

This course is offered in a woodworking shop facility. It is a study of operations commonly performed in furniture and cabinet shops. Topics will include safety procedures, material selection, project design, wood fabrication, assembly methods and finishing procedures. Students will work on individual woodworking projects as they learn both shop safety and craftsmanship.

**Materials Fee:** \$20.00

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

## CT V43 Electrical Code Certification Preparation 2 Units

*Formerly:* CT 43

*In-Class Hours:* 35 lecture

This course will provide a review of the National Electrical Code and focus on information necessary to pass the International Code Conference (ICC), International Association of Electrical Inspectors (IAEI) and Division of Apprenticeship Standards (DAS) certification exams. Successful passage of certification exams is required for employment as electricians or electrical inspectors.

*Advisories/Rec Prep:* CT V66 or 2 years of experience using the National Electrical Code

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

## CT V44 Green Electrical Systems 2 Units

*In-Class Hours:* 35 lecture

This course is an introduction to green electrical system design. Topics will include photovoltaic, low voltage systems, programmable motors, automated devices, and other energy saving installations. This course is intended for homeowners, designers, electricians and inspectors.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

## CT V50 Construction Contractor License Preparation 3 Units

*In-Class Hours:* 52.5 lecture

This course provides preparation for the California General Contractor's License exam. Contractors State Licensing Law subjects, requirements, and responsibilities will be the focus. State licensing requires four years of construction experience or a combination of education and experience.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

**CT V52 Property Inspection 3 Units***In-Class Hours:* 52.5 lecture

This course is an introduction to real estate property inspection. Topics covered include: foundations, roofing, utility systems, common defects, building codes, business liability, and, industry licensing. This course is intended for individuals interested in buying property, property managers, property inspectors and those seeking a broad knowledge of construction.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

**CT V58 International Residential Code 3 Units***Same-As:* ARCH V58*In-Class Hours:* 52.5 lecture

This course is an introduction to the International Residential Code (IRC). Students will learn interpretation and use of the residential building code as it applies to current construction. Design criteria and inspection processes will be emphasized. Course content will include information related to residential code certification for inspectors and designers. Topics of instruction will follow the content of the most recent IRC as published by the International Code Council (ICC).

**Catalog Notes:** If you need to repeat this course for licensing or certification requirements, go to the Admissions and Records office or its website for the petition form to repeat this course.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

**CT V59 International Building Code 3 Units***Same-As:* ARCH V59*In-Class Hours:* 52.5 lecture

This is an introduction to the International Building Code (IBC), as published by the International Code Council (ICC). The IBC is the building code used for commercial and industrial structures. Subjects to be covered will include structural design requirements, inspection procedures, code comprehension and ICC inspector certification.

**Catalog Notes:** If you need to repeat this course for licensing or certification requirements, go to the Admissions and Records office or website for the petition form to repeat this course.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

**CT V60 Simplified Engineering for Building Construction 3 Units***Formerly:* ARCH 60*Same-As:* ARCH V60*In-Class Hours:* 52.5 lecture

This is an introductory course designed to give the student an overview of basic construction engineering principles. This course will study subjects such as live and dead loads, uniform and concentrated loads, footing and foundation design, post and beam sizing, shear transfer, load path transfer, building material selection, connection methods, safety codes, and other aspects of structural design.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

**CT V63 Concrete and Masonry Construction 3 Units***In-Class Hours:* 52.5 lecture

This course is an introduction to concrete and masonry construction and inspection. Subjects to be covered will include soil factors, foundation design, concrete technology, reinforcements, cement composition, admixtures, brick and block construction, and strength of materials. This course will stress construction methods, the inspection process, and industry certifications.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

**CT V64 Building Construction: Materials and Methods 3 Units***Formerly:* ARCH 64*Same-As:* ARCH V64*In-Class Hours:* 52.5 lecture

This course is an introduction to residential and light commercial building construction, including materials, foundations, framing, roof and stair cutting, drywall, finish work and building codes. The course is intended to serve as an overview of the construction process.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

**CT V65 Structural Steel and Welding Construction 3 Units***Formerly:* CT 65*Same-As:* WEL V65*In-Class Hours:* 52.5 lecture

This course is a study of structural steel and welding use in building construction. Building types, grades of materials, assembly methods, blueprint reading and other subjects will be studied. The course is intended for construction managers, inspectors, project supervisors and construction workers. The course will also help prepare students for related industry certifications.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

**CT V66 National Electrical Code 3 Units***In-Class Hours:* 52.5 lecture

This course is an introduction to the National Electrical Code (NEC). The code layout and content will be the focus of study. Subjects covered will include vocabulary, service, circuits, conduits, conductors and system inspection.

**Catalog Notes:** If you need to repeat this course for licensing or certification requirements, go to the Admissions and Records office (or their webpage) for the petition and/or for questions.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

**CT V67 Building Accessibility Regulations 2 Units***Same-As:* ARCH V67*In-Class Hours:* 35 lecture

This course is a study of California and federal regulations, such as the Americans with Disabilities Act (ADA) and California Title 24 Regulations, which cover building accessibility for disabled persons. Both public and private buildings will be studied as well as parking, exterior routes of travel, entrances, exits and other accommodations. This course is intended for building designers as well as contractors and inspectors. This course will also help prepare students for industry certification.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

**CT V70 California Green Building and Energy Code 3 Units***In-Class Hours:* 52.5 lecture

This course is an introduction to the California Green Building Standards Code (CALGreen). Topics will include the California Building Energy Efficiency Standards, selection of building materials, architectural requirements, compliance inspections, and Leadership in Energy and Environmental Design (LEED) criteria. Course content will reflect the most recent CALGreen regulations as published by the California Building Commission and the California Energy Commission.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

**CT V71 Uniform Plumbing Code 3 Units***In-Class Hours:* 52.5 lecture

This course is an introduction to the Uniform Plumbing Code. The code layout and content will be the focus of study. Subjects to be covered will include vocabulary, water supply systems, waste drainage, construction materials, and code inspection.

**Catalog Notes:** If you need to repeat this course for licensing or certification requirements, go to the Admissions and Records office (or their webpage) for the petition and/or for questions.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

**CT V72 Uniform Mechanical Code 3 Units***In-Class Hours:* 52.5 lecture

This course is an introduction to the Uniform Mechanical Code. The code layout and content will be the focus of study. Subjects to be covered will include vocabulary, materials, methods used in heating, air conditioning and ventilation systems. Code problems and the inspection of mechanical systems will be emphasized.

**Catalog Notes:** If you need to repeat this course for licensing or certification requirements, go to the Admissions and Records office (or their webpage) for the petition and/or for questions.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

**CT V75 Introduction to Electrical, Plumbing, and Mechanical Systems 3 Units***Same-As:* ARCH V75*In-Class Hours:* 52.5 lecture

This course is an introduction to residential and light commercial electrical, plumbing, heating, air conditioning, and ventilation systems. Subjects to be studied will include vocabulary, equipment, materials, construction methods, system design, and basic inspection requirements.

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

**CT V76 Construction Job Site Management 3 Units***In-Class Hours:* 52.5 lecture

This course covers the organization and problems associated with managing a construction job site. Topics will include construction logistical planning, preconstruction and inspection procedures, governmental coordination, initial master scheduling criteria's, look ahead schedules, jobsite safety, sequence and process organization, change management, payment applications and schedule of values control and quality management, contract enforcement.

**Catalog Notes:** A prior understanding of the construction process or equivalent construction knowledge is highly recommended as this course assumes general working knowledge of construction processes, systems, and terminologies.

*Advisories/Rec Prep:* CT V64 and CT V75

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

**CT V77 Construction Business Management 3 Units***In-Class Hours:* 52.5 lecture

This course covers the organization structures, business strategies, principles, and management practices with managing a building construction business. Topics will include licensing, insurance, project financing, bidding, contracts, scheduling, safety, and marketing.

**Catalog Notes:** A prior understanding of the construction process or equivalent construction knowledge is highly recommended as this course assumes general working knowledge of construction processes, systems, and terminologies.

*Advisories/Rec Prep:* CT V64 and CT V75

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

**CT V79 Construction Estimating 3 Units***In-Class Hours:* 52.5 lecture

This course stresses construction cost estimating through the analysis of blueprint drawings and the generation of labor and material take-off lists. Topics will include materials, labor, overhead, profit and other costs. Additional topics will include working with subcontractors and material suppliers, change orders, and scheduling problems.

**Catalog Notes:** A prior understanding of the construction process or equivalent construction knowledge is highly recommended as this course assumes general working knowledge of construction processes, systems, and terminologies.

*Advisories/Rec Prep:* CT V64 and CT V75

**Grade Modes:** Letter Graded, Student Option- Letter/Credit, Pass/No Pass Grading

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

**CT V95 Construction Technology Internship I 1-4 Units**

**Prerequisites:** Completion of or concurrent enrollment in one course in the discipline

**Corequisites:** Enrolled in a minimum of 7 units to include internship

This course offers students who are volunteers(unpaid) an opportunity to obtain work experience in their field of study. Students are accepted as a result of consultation with a designated faculty member in the discipline and the acceptance of an approved work proposal. This is an unpaid occupational work experience course, where 1 unit of credit is earned for each 60 hours of unpaid internship. A maximum of 4 units can be completed in a semester, and no more than 16 units can be earned in total.

**Enrollment Limitations:** Department Chair approval.

**Grade Modes:** Pass/No Pass Grading

**Repeatable for Credit:** Course may be taken up to 3 times for credit.

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

**CT V96 Construction Technology Internship II 1-4 Units***In-Class Hours:* 75-300 paid cooperative

**Prerequisites:** Completion of or concurrent enrollment in one course in the discipline

**Corequisites:** Enrolled in a minimum of 7 units to include internship

This course offers students who are employed in the field an opportunity to expand their work experience related to their field of study. Students are accepted as a result of consultation with a designated faculty member in the discipline and the acceptance of an approved work proposal. This is a paid occupational work experience course, where 1 unit of credit is earned for each 75 hours of paid internship. A maximum of 4 units can be completed in a semester, and no more than 16 units can be earned in total.

**Enrollment Limitations:** Department Chair approval.

**Grade Modes:** Pass/No Pass Grading

**Repeatable for Credit:** Course may be taken up to 3 times for credit.

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** CSU

**UC Credit Limitations:** None

**CSU GE-Breadth:** None

**IGETC:** None

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