

CONSTRUCTION TECHNOLOGY

Construction Technology offers a series of carpentry courses, green-collar training courses and electrician trainee courses. CT 110 Beginning Construction, the introductory course, is open to all students.

The advanced Construction Technology carpentry courses—CT 111 Beginning Construction Trades, CT 112 Framing, CT 113 Roof Framing, CT 114 Beginning Finish Carpentry, CT 115 Intermediate Finish Carpentry CT 116 Blueprint Reading, and CT 118 Measuring and Calculating—are designed for students who have completed CT 110 Beginning Construction, or those with a minimum of one year of carpentry experience.

CT 122 Building Green, CT 124 Building Performance and CT 125 Introduction to Photovoltaic Systems do not require any previous building classes.

Santa Barbara City College (Division of Apprenticeship Standards, Electricians Certification Unit Approved School #138) offers four Electrician Trainee courses as a “partial” General Electrician curriculum. The courses—Blueprint Reading for Electricians, Electrical Mathematics and Introduction to *National Electrical Code*—are designed for students working as electricians who want to prepare for the state certification exam and those required to be enrolled in order to continue working for a C-10 electrical contractor’s license.

For further information concerning the carpentry courses or the Electrician Trainee courses, contact Dr. Alan Price, Dean, Educational Programs, aprice3@sbcc.edu.

Programs of Study

Associate Degree

- Construction Technology, Associate of Science (AS) (<https://catalog.sbccc.edu/academic-departments/construction-technology/construction-technology-as/>)

Certificate of Achievement

- Construction Technology, Certificate of Achievement (C) (<https://catalog.sbccc.edu/academic-departments/construction-technology/construction-technology-certificate-achievement/>)

Credit Courses

Construction Technology (CT)

CT 104 Basic Construction Skills (3 Units)

Hours: 72 (45 lecture, 27 lab)

Introduction to basic construction skills for residential wood construction. Designed for students interested in a career in home construction, focusing on career overview, safety, work ethics, tool use and basic framing.

CT 110 Beginning Construction (4.7 Units)

Hours: 144 (54 lecture, 90 lab)

Introduction to a career in building trades. Topics include safety, planning, foundations, floor framing, wall framing roof framing, plumbing, electrical and siding.

Transfer Information: CSU Transferable

CT 111 Beginning Construction Trades (4.7 Units)

Hours: 144 (54 lecture, 90 lab)

Introduction to basic construction skills and concepts of the sub-trades involved in residential wood construction: concrete work, roofing, sheetrock, insulation, plumbing and electrical. Overview of trades, designed for students interested in a career in home construction.

Transfer Information: CSU Transferable

CT 112 Framing (3 Units)

Course Advisories: Eligibility for English 98.

Hours: 72 (45 lecture, 27 lab)

Intermediate-level class in rough framing skills and concepts in residential framing. Designed for continuing students who have taken CT 110 and for carpenters with some experience in residential framing. Topics include safety, foundations, framing hardware, exterior siding, special wall construction, stair framing and special topics in framing.

Transfer Information: CSU Transferable

CT 113 Roof Framing (3 Units)

Hours: 72 (45 lecture, 27 lab)

Intermediate-level class in rough framing skills and concepts in residential wood construction, with emphasis on roof framing. Designed for continuing students who have taken CT 110 and for carpenters with some experience in residential framing. Topics include safety, layout, rafter design, rake walls and cornice treatment.

Transfer Information: CSU Transferable

CT 114 Beginning Finish Carpentry (3 Units)

Hours: 72 (45 lecture, 27 lab)

Introduction to finish carpentry, with emphasis on residential wood construction. Designed for students who have already taken CT 110 or who have some prior experience in carpentry or construction. Topics include safety, tool care, door hanging, door and window casing, baseboard, crown molding, flooring and closet shelf and pole.

Transfer Information: CSU Transferable

CT 115 Intermediate Finish Carpentry (3 Units)

Hours: 72 (45 lecture, 27 lab)

Intermediate finish carpentry, with emphasis on residential wood construction. Designed for students who have taken CT 110 or have some prior experience in carpentry or construction. Topics include cabinet installation and construction, built-ins, paneling and wainscoting.

Transfer Information: CSU Transferable

CT 116 Blueprint Reading (3 Units)

Hours: 54 (54 lecture)

Introduction to blueprint reading in residential construction. Topics include understanding the uses of blueprints, types of plans, drafting conventions, contents of plans, focus on floor plans, elevations and sections, using the architectural scale, drafting simple plans, and shop drawings from plans.

Transfer Information: CSU Transferable

CT 118 Measuring and Calculating (3 Units)

Hours: 54 (54 lecture)

Introduction to measuring and calculating used in residential wood construction. Topics include working with common and decimal fractions, using the standard tape measure, using a calculator for construction, estimating material, understanding the special triangles used in roof rafter calculations, rafter length calculation, and stair stringer calculation.

Transfer Information: CSU Transferable

CT 120 Building Green (4 Units)

Hours: 72 (72 lecture)

Overview of Green Building approach and coverage of design, planning and construction details of sustainable building, including site protection, water conservation, solar and electrical energy efficiency, health and indoor air quality, green material and efficient on-site material management.

CT 122 Building Green (6 Units)

Hours: 108 (108 lecture)

Overview of Green Building approach to design, planning and construction details in sustainable building. Includes site protection, water conservation and management, energy efficiency, solar heating and PV, material efficiency, deconstruction, insulation, indoor air quality, building performance, and alternative building techniques.

Transfer Information: CSU Transferable

CT 123 Outdoor Structures (3 Units)

Hours: 72 (45 lecture, 27 lab)

Designing and building outdoor structures (trellises, pergolas, gazebos, sheds, gateways, decks, etc.). Topics include foundations, finished framing, roofs, hardware, joints, weatherproofing, etc.).

Transfer Information: CSU Transferable

CT 124 Building Performance (3 Units)

Hours: 72 (45 lecture, 27 lab)

Overview of building performance (assessment, diagnosis, and remediation) in residential construction. Topics include: building science, diagnostic testing, visual inspection, remediation, customer relations, and business and job opportunities.

Transfer Information: CSU Transferable

CT 125 Introduction to Photovoltaic Systems (3 Units)

Hours: 90 (36 lecture, 54 lab)

Overview of Photovoltaic (PV) systems and installations. Topics include: solar radiation, site survey, system components and configurations, batteries, inverters, system sizing, mechanical and electrical integration.

Transfer Information: CSU Transferable

CT 130 Contractors License Prep (3 Units)

Hours: 54 (54 lecture)

A combination online and mandatory in-class course, divided into two eight-week sessions, law and trade, to prepare the student for taking the California State Contractors License Exam in the General Contractor (B-1) category.

CT 132 Lighting Systems (3 Units)

Hours: 54 (54 lecture)

Basic function, operation, installation, and characteristics of various lighting systems.

Transfer Information: CSU Transferable

CT 133 Motors, Motor Controllers and Process Controllers (3 Units)

Hours: 54 (54 lecture)

Basic function, operation, installation, and characteristics of various types of motors (AC, DC, Dual Voltage, Repulsion, Universal, 3 Phase, Squirrel Cage, Synchronous).

Transfer Information: CSU Transferable

CT 134 Transformers (3 Units)

Hours: 54 (54 lecture)

Basic function, operation, installation, and characteristics of transformers.

Transfer Information: CSU Transferable

CT 135 Grounding Systems (3 Units)

Hours: 54 (54 lecture)

Basic function, operation, and characteristics of grounding systems.

Transfer Information: CSU Transferable

CT 136 Electrical Theory (3 Units)

Hours: 54 (54 lecture)

Basic Electrical Theory. Topics include ohms law, series/parallel circuits, voltage, magnetism, 3-phase systems, AC/DC theory, inductance and capacitance, etc.

Transfer Information: CSU Transferable

CT 137 Specialty Systems (3 Units)

Hours: 54 (54 lecture)

Basic function, operation, and characteristics of specialty electrical systems. Topics include fire alarms, security alarms, voice/data/tv/video, signaling systems, lighting protection systems, fiber-optic systems, etc.

Transfer Information: CSU Transferable

CT 139 Construction Project Management (3 Units)

Hours: 54 (54 lecture)

Introduction to managing projects in residential construction. Topics include overview of management programs and software, bidding, preconstruction set up, project budget, daily work plan, team roles, safety plan, job completion.

Transfer Information: CSU Transferable

CT 194 Introduction to National Electrical Code (3 Units)

Hours: 54 (54 lecture)

Layout and content of the National Electric Code. Purpose, intent and scope of electrical codes, as well as utilization and application. Also includes use of the Code for calculations and hazardous locations.

CT 196 Jobsite Management (3 Units)

Hours: 54 (54 lecture)

Introduction to jobsite supervision in the construction industry. Includes industry organization, documentation and record-keeping, personnel and financial management, as well as job planning and safety. (Approved School #138 for California Electrician Trainees).

Transfer Information: CSU Transferable