

ENERGY SYSTEMS TECHNOLOGY

EST-10

Industrial Calculations

3.00 units*Prerequisite: None*

Description: This contextualized math course provides technical trade specific applications of basic math skills. It is intended for Applied Technology students seeking a certificate. Topics include adding, subtracting, multiplying, and dividing rational numbers, percentages, ratios and proportions, measurement, and career applications. 45 hours lecture, 27 hours laboratory. (Letter grade only)

EST-15

Zero Net Energy Building Science

4.00 units*Prerequisite: None*

Description: Zero Net Energy (ZNE) Building Science includes an overview of many progressive measures that improve the energy performance of buildings. Studies focus on architectural design of building, construction methodology, green HVAC systems, renewable energy systems, and the terminology used in the ZNE Industry. A survey of projects, policies and programs driving ZNE performance in residential and non-residential buildings will be studied. 72 hours lecture. (Letter grade only)

EST-20

California Energy Codes

3.00 units*Prerequisite: None*

Description: A study of California's Building Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6), which establishes a minimum level of building energy efficiency to ensure that building construction, system design, and installation achieves energy efficiency and preserves the quality of both indoor and outdoor environments. It emphasizes the understanding and application of the Building Energy Efficiency Standards and supporting documents, the Reference Appendices, Residential Compliance Manual, and the Nonresidential Compliance Manual. 54 hours lecture. (Letter grade only)

EST-21

California Building Codes

3.00 units*Prerequisite: None*

Description: A study of California Building, Housing, Energy and Disabled Access Codes used for construction, maintenance, and use of buildings and grounds within the State of California. Emphasis on understanding and application of code sections and provisions and the relationships between building, housing, energy, and disabled access codes. 54 hours lecture. (Letter grade only)

EST-22

California Mechanical Codes

3.00 units*Prerequisite: None*

Description: A study of California Building and Mechanical Codes used for construction, maintenance, and use of buildings and grounds within the State. Emphasis on understanding and application of code sections and provisions and the relationships between building and mechanical codes. 54 hours lecture. (Letter grade only)

EST-23

California Plumbing Codes

3.00 units*Prerequisite: None*

Description: A study of California Building and Plumbing Codes used for construction, maintenance, and use of buildings and grounds within the State. Emphasis on understanding and application of code sections and provisions, and the relationships between building and plumbing codes. 54 hours lecture. (Letter grade only)

EST-24

California Electrical Codes

3.00 units*Prerequisite: None*

Description: A study of California Building and Electrical Codes used for construction, maintenance, and use of buildings and grounds within the State. Emphasis on understanding and application of code sections and provisions, and the relationships between building and electrical codes. 54 hours lecture. (Letter grade only)

EST-25**California Residential Codes****3.00 units***Prerequisite: None*

Description: A study of information from the most updated version of the California Residential Code and compiles all building, plumbing, mechanical, fuel gas, and electrical requirements for one- and two-family dwellings up to three stories as mandated by the California Building Standards Commission. Topics under Title 24, Part 2.5 include Scope and Application, Administration, Definitions, Building Planning, Foundations, Floors, Wall Construction, Wall Covering, Roof-Ceiling Construction, Roof Assemblies, and Chimneys and Fireplaces. 54 hours lecture. (Letter grade only)

EST-26**California Fire Codes****3.00 units***Prerequisite: None*

Description: A study of building and fire codes used for construction, maintenance, and use of buildings and grounds in the State of California. Emphasis on understanding and application of code sections and provisions, and the relation between Fire and Building Codes. Addresses elements of codes in areas of special occupancies, grading, fire and building material standards, and building codes appendices as they apply to both building and fire applications. 54 hours lecture. (Letter grade only)

EST-30**Architectural Blueprint Reading****3.00 units***Prerequisite: None*

Description: A study of basic information for reading blueprints and construction drawings. Designed for those who must assimilate information found in working drawings and specifications. 54 hours lecture. (Letter grade only)

EST-32**Architectural Practice I****3.00 units***Prerequisite: None*

Description: An introductory course in wood construction methods and processes. Focus on the use of drafting tools, office equipment and references to assist in selection and drawing of architectural details, including foundation, floors, walls and roofs. 36 hours lecture and 54 hours laboratory. (Letter grade only)

EST-33**Materials of Construction****4.00 units***Prerequisite: None*

Description: An introduction to construction materials and processes. Lab demonstrations in construction techniques and field trips to construction sites are utilized to assist students' understanding of construction principles and practices. Emphasis on the selection of materials in a design context helps develop students' spatial and three dimensional skills. 54 lecture and 54 hours laboratory. (Letter grade only)

EST-200**Energy Systems Technology Work Experience****1.00 - 4.00 units***Prerequisite: None*

Description: Work Experience is designed to coordinate the student's on-the-job training with workplace skills designed to assist the student in developing successful professional skills. Each student will establish measurable learning objectives appropriate for their job and discipline. Students may earn up to four (4) units each semester, for a maximum of 16 units of work experience total. 60 hours of volunteer work or 75 hours of paid work during the semester are required for each unit. No more than 20 hours per week, out of the 60 or 75 requirement, may be applied toward the work requirement. The course consists of an 18 hours of orientation/professional skills development and 60 hours of volunteer work experience per unit with a maximum of 240 for four units per semester OR 75 hours of paid work experience per unit, with a maximum of 300 for four units per semester. (Letter Grade or Pass/No Pass)