

[Summer Class Schedule \(link\)](#)

[How to register and enroll \(link\)](#)

Fully Online Courses. Available to UCLA and Non-UCLA Students, Professionals

Session A8: Meets from June 21 – August 12, 2022: Duration 8 weeks

C&EE M20. Introduction to Computer Programming with MATLAB

Instructor: Gao, E.X.

Email: edwardxianggao@gmail.com

(Same as Mechanical and Aerospace Engineering M20) Lecture, two hours; discussion, two hours; laboratory, two hours; outside study, six hours. Requisite: Mathematics 33A. Fundamentals of computer programming taught in the context of MATLAB computing environment. Basic data types and control structures. Input/output. Functions. Data visualization. MATLAB-based data structures. Development of efficient codes. Introduction to object-oriented programming. Examples and exercises from engineering, mathematics, and physical sciences. Letter grading.

C&EE 110. Introduction to Probability & Statistics for Engineers

Instructor: Burton, H.J.

Email: hvburton@ucla.edu

Lecture, four hours; discussion, one hour (when scheduled); outside study, seven hours. Requisites: Mathematics 32A, 33A. Recommended: course M20. Introduction to fundamental concepts and applications of probability and statistics in civil engineering, with a focus on how these concepts are used in experimental design and sampling, data analysis, risk and reliability analysis, and project design under uncertainty. Topics include basic probability concepts, random variables and analytical probability distributions, functions of random variables, estimating parameters from observational data, regression, hypothesis testing, and Bayesian concepts. Letter grading.

C&EE 148. Wood & Timber Design

Instructor: Ahlberg, Eric

Email: eahlberg@ucla.edu

Lecture, four hours; outside study, six hours. Recommended requisites: courses 108, 135A. Properties and behavior of wood and wood products; analysis and design of wood and timber structural members subjected to flexural, shear, and axial stresses; connections, fasteners, and detailing; and light-framed wood shear walls and diaphragms. Students will understand the basic properties and behavior of wood. Students will also understand wood material design methods based on the National Design Specification for Wood and ASCE-7, connection and lateral resistance design. Letter grading.

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Session A9: Meets from June 21 – August 19, 2022: Duration 9 weeks

C&EE 103. Applied Numerical Computing & Modeling in Civil and Env. Engineering

Instructor: Ruter, M.

Email: marcus.ruter@ucla.edu

Lecture, four hours; outside study, six hours. Requisites: course M20 (or Computer Science 31), Mathematics 33B or Mechanical and Aerospace Engineering 82 (either may be taken concurrently). Introduction to numerical computing with specific applications in civil and environmental engineering. Topics include error and computer arithmetic, root finding, curve fitting, numerical integration and differentiation, solution of systems of linear and nonlinear equations, numerical solution of ordinary and partial differential equations. Letter grading.

Session C6: Meets from August 1 – September 9, 2022: Duration 6 weeks

C&EE 108. Introduction to Mechanics of Deformable Solids

Instructor: Tang, Longwen

Email: whutang@ucla.edu

Lecture, four hours; discussion, two hours; outside study, six hours. Requisites: course 91 or Mechanical and Aerospace Engineering 101, Mathematics 32B, Physics 1A. Review of equilibrium principles; forces and moments transmitted by slender members. Concepts of stress and strain. Stress-strain relations with focus on linear elasticity. Transformation of stress and strain. Deformations and stresses caused by tension, compression, bending, shear, and torsion of slender members. Structural applications to trusses, beams, shafts, and columns. Introduction to virtual work principle. Letter grading.