

UC Berkeley Extension Certificate in Construction Management

REQUIRED COURSE DESCRIPTIONS

Management in the Construction Industry – Required

X464 (2 semester units in Civil and Environmental Engineering)

Managing a construction project is a complex process from beginning to end. An error can lead to cost overruns and costly delays, whereas good management can bring projects in on time and in line with the cost estimates. This course provides a practical, in-depth introduction to construction management and preconstruction services. Multimedia presentations by industry experts introduce participants to management techniques common in the industry.

Fundamentals of Construction Law – Required

X440 (2 semester units in IDS-Civil Engineering and Law)

In this course, engineers, architects, project managers, developers, and contractors are familiarized with the variety of legal issues affecting the construction industry. California construction law is emphasized in the context of this overview of the foundational rights, statutes, case law, and legal obligations relating to the industry. On completion of this course, a construction professional should understand, in a broad sense, the legal aspects of a construction project and should be able to identify issues and legal problems as they arise.

Managing Safety and Health in Construction Projects – Required

X452 (2 semester units in Civil and Environmental Engineering)

Safety and risk management on a construction project not only protects workers, it can also dramatically affect the bottom line for the companies involved. Production, quality, cost control, and safety are all equally important to the efficiency and profitability of any construction firm. This course covers the basic principles of health management as it relates to the safety and environmental issues faced by a construction firm. Effective safety management and the deployment of safety and loss control are major focuses. *Enrollment is limited.*

Construction Project Scheduling and Control – Required

X463 (2 semester units in Civil and Environmental Engineering)

Understanding and applying scheduling and control to today's construction projects is essential to successful construction management. Project scheduling emphasizes network-based schedules, such as critical path management (CPM), network calculations, critical paths, resource scheduling, probabilistic scheduling, and computer applications. Project control emphasizes goals, the flow of information, time and cost control, and change management.

Preconstruction Estimating: From Design Development Stage to the Final Bid Process – Required

X451 (2 semester units in Civil and Environmental Engineering)

This course has been designed to provide students and practitioners with a practical, in-depth introduction and orientation to this challenging subject and to further acquaint them with all aspects of construction estimating techniques during preconstruction services, from design development to the final bid process. You work in groups on practical projects, working on case studies, performing and simulating the step-by-step approaches and techniques, and applying current construction contract delivery methods.