

UC Berkeley Extension Post-Baccalaureate Certificate in Information Systems and Management

COURSE DESCRIPTIONS

Introduction to Information Systems Analysis and Design – Core

X422 (3 semester units/45 hours in EECS-DCS)

This is the first course in a series covering information analysis and logical specification of the system development process in an organizational context. It emphasizes the interactive nature of the analysis and design process.

Advanced Business Systems Analysis – Core

X423 (3 semester units/45 hours in EECS-DCS)

Learn the practical application of structured analysis and design techniques. You build on the information covered in Introduction to Information Systems Analysis and Design X422 by going through an entire system design cycle as a case study.

Introduction to Relational Database Management Systems – Core

X409.1 (2 semester units/30 hours in EECS-DCS)

Learn effective relational database design and gain a general overview of relational database management systems. This class introduces students to the terminology and methods used to create and modify Database Management Systems (DBMS). Emphasis is given to accessing large databases and developing methods for working with data on different DBMS. The course concentrates on helping students gain confidence in using DBMS and understanding data structures.

Concepts of Relational Database Management Systems – Core

X408 (3 semester units/45 hours in EECS-DCS)

Study techniques for creating and using database applications in depth. You learn requirements analysis and specification; logical database design; normalization; implementing the databases; recovery, concurrency, integrity, and security concerns; and using the database. The course curriculum focuses mainly on the relational database model and SQL.

UNIX/Linux System Fundamentals – Core

X426.1A (2 semester units/30 hours in EECS-DCS)

This investigation of the UNIX operating system leads you to mastery of fundamental skills, including file editing, file management, command interpretation, and electronic communication. You also learn how to create and use directories, access data on a local network and on the Internet, use online documentation, manage user processes, employ utilities, protect files and directories, use variables, programming structures, access resources throughout the file system, and write shell scripts. No previous UNIX experience is required.

UNIX/Linux System Administration Programming: Shell, C, and Perl – Core

X426.1B (2 semester units/30 hours in EECS-DCS)

This comprehensive investigation of advanced features of the UNIX operating system leads you to mastery of essential skills, including manipulating data using grep, sed, awk, join, and other power utilities; programming advanced applications using the shell; customizing user accounts; creating Internet sites; and performing fundamental system operations. *Note:* This course offers instructor-led lectures and demonstrations as well as online assignments.

Courses subject to change.

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Internet access is required; a login and password to access the Internet will be issued to you by the second class meeting.

Using the UNIX Operating System – Core

X415 (3 semester units/45 hours in EECS)

This comprehensive overview of the UNIX operating system introduces you to logging in, the visual editor, file management, text processing, electronic mail, the directory structure, UNIX handling of files and processes, basic shell utilities, and writing shell scripts. (Using UNIX to write programs is not covered.) You learn a conceptual framework and a series of successful interactions with UNIX. Much of the course involves individualized, self-paced learning. *Note:* The course requires access to a UNIX system or a system capable of running the Linux operating system.

Fundamentals of Data Communications and Networking – Core

X433 (2 semester units/30 hours in EECS)

This course provides an introduction to data communications and is the ideal first course in networking technology. It provides a practical understanding of relevant terminology, concepts, and other information necessary to make you literate in data communications. By the end of the course, you should be able to make intelligent decisions about the appropriate design, purchase, integration, and use of data communications equipment and systems.

Managing the Software Development Lifecycle – Core

X458.4 (1 semester unit/15 hours in EECS)

Get an overview of the life cycle of a software product, from inception to rollout, as a framework for a practical approach to successful management of a software project through all its phases. Learn about the software project life cycle, examine team member roles, and define target customers. You cover project tasks and timelines, strategies for dealing with limited time and resources, and effective documentation of all life cycle phases. You also examine strategies for responding to changing project requirements.

Software Requirements Analysis – Core

X438.1 (1 semester unit/15 hours in Business Administration)

Requirements analysis is a defined step in the software development life cycle (SDLC) model. Getting software requirements clearly defined in the beginning saves time, money, and frustration in later phases. This course details determining and defining levels of requirements, common rules and desirable characteristics of requirements, risks associated with requirements, requirement analysis methods and sources, requirements roadmap, validation and traceability of requirements, and requirement change management.

Software Project Management – Core

X433 (2 semester units/30 hours in IDS-Business Administration and EECS-DCS)

Review software project management and discuss the latest approaches, methodologies, and standards of software development. You learn to evaluate initial development costs and schedules: defining testing and prototype activities, determining risk management approaches, and managing the full software life cycle from the proposal stage to the retirement stage. This course is intended for software managers and principal computer scientists.

Software Quality Assurance (SQA) Methodologies: Practices in the Software Industry – Core

X449.3 (2 semester units/30 hours in EECS)

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To test software you do not need to know how to write code, but you do need to know about operating systems, programming languages, automation tools, and software testing methodologies. With software testing, you need to be a jack-of-all-trades. Examine the specific software background and skills required for effective testing, with particular attention to the standard software quality assurance methodologies practiced throughout the software industry, drawing clear distinctions between software quality assurance testers and software quality assurance engineers.

Technical Communication I – *Elective*

X465 (2 semester units/30 hours in Journalism)

In this course, you learn the requirements for designing and developing technical documentation from start to finish. As you develop your class project, you practice how to define your audience and purpose, determine appropriate document format and style, improve the clarity and organization of your writing, and review and edit your work more effectively. You also learn about teamwork, oral communication, and presentation skills that can increase your success in the technical communication field.

Project Management for Technical Communicators – *Elective*

X422 (1 semester unit/15 hours in Journalism)

Technical communicators are often expected to manage their own projects or work with others to meet team goals for deliverables, deadlines, and budgets. Nowadays, technical communication project managers are expected to manage resources that may be dispersed around the country or even the world. In this course, technical communicators learn the fundamentals of project management and how they apply to technical communication projects such as documentation and proposal development. Students discuss current approaches to project management and develop individual project management plans.