

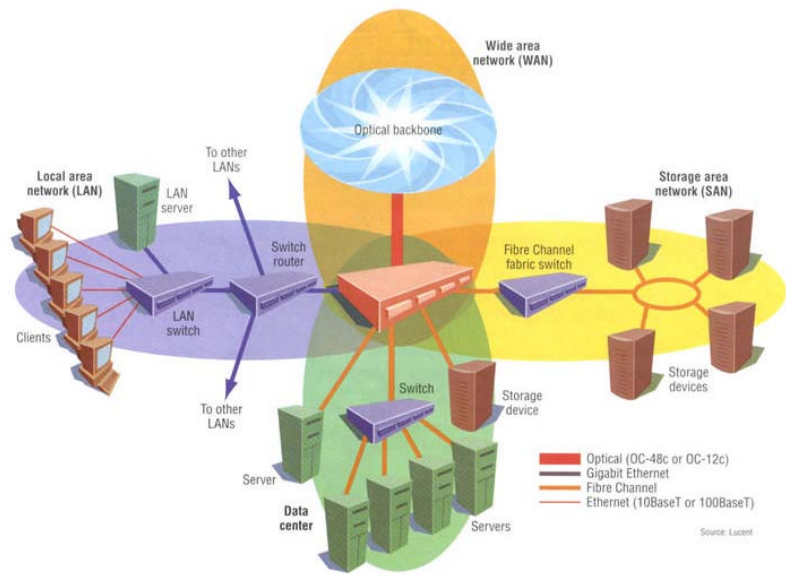


# Database Systems Management and Computer Networks Certificate Program

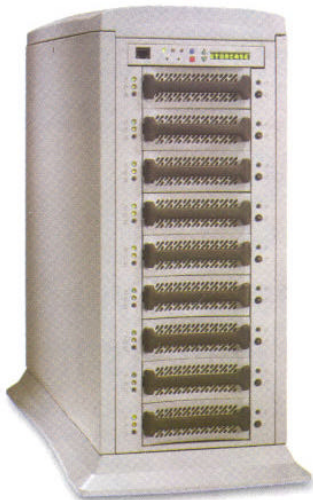
Enrollment in the Database Systems Management and Computer Networks Certificate program offers and proactively creates career opportunities for individuals interested in increasing their potential and value in the market place.

Database Systems Management and Computer Networks Certificate program prepares you for opportunities in, but not limited to, the areas of Information Technology, Database Management, Network Systems, and Systems Administration.

This certificate program requires successful completion of five courses. Registration for the certificate program courses can be done through SJSU Open University or as a regularly admitted student to SJSU.



## Certificate Program Course Requirements



CompE 126	Algorithms and Data Structure Design
CompE 130	Database Systems I
CompE 138	Database Systems II
CompE 148	Computer Networks I
CompE 149	Computer Networks II

To apply for the Certificate program, you need to contact the Professional Development and Certificates Program Director to plan your course schedule and discuss course registration and fees. Complete the "Certificate Program Application" and mail along with the required application fee to the Mechanical & Aerospace Engineering Department (<http://www.engr.sjsu.edu/mae/certificate.htm>). Individuals who are not a student on campus and are interested in taking the Certificate Program courses need to enroll in these courses through SJSU Open University Enrollment (<http://slisweb.sjsu.edu/admissions/open.htm>). To receive a Certificate signifying your program completion, you must apply for the Certificate after completing your third course in the program. This requires filing for Advancement to Candidacy and submission of an Advancement fee.

Lifelong Learning tax credit is available to students at all educational and enrollment levels who are enrolled at an eligible educational institution. Current tax law permits deduction for tuition, books, supplies and similar items, as well as certain travel and transportation costs incurred to maintain and improve professional skills.

For further information and registration, you may contact:

Professional Development and Certificates Program  
Mechanical & Aerospace Engineering Department  
San Jose State University  
One Washington Square  
San Jose CA 95192-0087  
Telephone: (408) 924-3850  
Fax: (408) 924-3995  
Email: [mecheng@email.sjsu.edu](mailto:mecheng@email.sjsu.edu)

## Course Descriptions

**CompE 126 - Algorithms and Data Structure Design** –Data organization and representation as strings, arrays, records, stacks and queues, sets, lists, trees, tables and graphs. Design of operators on data structures and files.

**CompE 130 - Database Systems I** – Database system architecture, entity relationship model, normalization techniques, SQL, relational algebra, storage organization, query processing, and concurrency control.

**CompE 138 - Database Systems II** – File organization and storage structure, advanced database languages, database integrity and security, transaction management, distributed database systems, object-oriented databases, data warehousing, and data mining techniques.

**CompE 148 - Computer Networks I** – Comparative evaluation of microcomputer network architectures, ISO/OSI model, standards, protocol examples for ISO layers. Ethernet, token bus, token ring topologies and protocols for LANs. Applications in transaction processing, distributed data processing and other areas. Design of a network architecture suitable for microcomputers.

**CompE 149 - Computer Networks II** – Protocol design and simulation in local and metropolitan area networks.