21250 Stevens Creek Blvd.
Cupertino, CA 95014
408-864-5678
www.deanza.edu

Business, Computer Sciences and
Applied Technologies Division
Bldg. L1, Room L14
408-864-8797

Counseling and Advising Center
Student and Community
Services Bldg., 2nd Fl.
408-864-5400

Please visit the Counseling Center to apply for degrees and for academic planning assistance.

Certificate of Achievement Requirements
Completion of all major courses with a "C" grade or higher, or with a "Pass" if the course was taken on a Pass/No Pass (P/NP) basis and the "Pass" is equal to a "C" grade or higher.

Note: A maximum of six (6) quarter units may be transferred from other academic institutions.

Database Design for Developers (Oracle)
Certificate of Achievement
The Database Design for Developers Certificate of Achievement includes database management system fundamentals, SQL, PL/SQL and performance tuning. Students become proficient in organizing essential information and abstract relationships into a database. they also learn to update, maintain, and repair databases and improve database performance. Database skills are applied by software engineers, business analysts, database architects, database administrators, database designers and reporting analysts.

Student Learning Outcomes - upon completion, students will be able to:
- prepare and review a database design that includes logical and system representations.
- design, code and debug SQL and PL/SQL programs.
- apply performance tuning techniques to large-scale database applications.
- create, design and debug intermediate level programs with basic C programming language.
- create a database that is optimized to meet defined technical requirements.

1. Meet the requirements for this certificate level.
2. Complete the following.

CIS 22A	Beginning Programming Methodologies in C++	4.5
CIS 22B	Intermediate Programming Methodologies in C++	4.5
or CIS 22BH	Intermediate Programming Methodologies in C++ - HONORS	4.5

Complete four (4) courses:		**15.5-17.5**
CIS 64A	Database Management Systems (4.5)	
CIS 64B	Introduction to SQL (4.5)	
CIS 64C	Introduction to PL/SQL (4.5)	
CIS 64D	Database Tuning (3)	
CIS 64E	Introduction to Large Scale Processing Systems (4)	
CIS 64F	Introduction to Big Data and Analytics (4)	
	Total Units Required 24.5-26.5	