



21250 Stevens Creek Blvd.
Cupertino, CA 95014
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Academic Year
2020 - 2021

Computer Information Systems
**Database Development
Practitioner**

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

Find your counselor at
deanza.edu/our-counselors

Please visit your counselor to apply for certificates or degrees and for academic planning assistance.

Certificate of Achievement Requirements

- Completion of all major courses with a C grade or higher.

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

Certificate of Achievement-Advanced Requirements

- Completion of all major courses with a C grade or higher.
- Demonstrated proficiency in mathematics and English as evidenced by eligibility for MATH 114 and eligibility for any of the following: EWRT 1A, EWRT 1AH, EWRT 1AS with EWRT 1AT, or ESL 5.

Note: A maximum of 18 quarter units may be transferred from other academic institutions.

A.A./A.S. Degree Requirements

1. Completion of all General Education (GE) requirements (32-43 quarter units) for the A.A./A.S. degree. GE units must be completed with a minimum 2.0 GPA (C average).
2. Completion of all major courses with a C grade or higher. Major courses can also be used to satisfy GE requirements (except for Liberal Arts degrees).

Note: A maximum of 22 quarter units from other academic institutions may be applied toward the major.

3. Completion of a minimum of 90 degree-applicable quarter units (GE and major units included). All De Anza courses must be completed with a minimum 2.0 GPA (C average). All De Anza courses combined with courses transferred from other academic institutions must be completed with a minimum 2.0 GPA (C average).

Note: A minimum of 24 quarter units must be earned at De Anza College.

**Database Development Practitioner
Certificate of Achievement**

The Database Development Practitioner Certificate of Achievement includes database management system fundamentals, SQL, PL/SQL, large scale data processing and big data and analytics. Students become proficient in organizing essential information and abstract relationships into a database. They also learn to update, maintain and repair databases. Database skills are applied by software engineers, business analysts, database architects, database administrators, database designers and reporting analysts.

Program 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	

Complete four 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	Fundamentals of Large Scale Cloud Computing (4)	
CIS 64F	Introduction to Big Data and Analytics (4)	
	Total Units Required	24.5-26.5

Database Development Practitioner

Certificate of Achievement-Advanced

A.A. Degree

The Certificate of Achievement-Advanced and A.A. degree prepare students for an entry-level position in the database field to work as a data analyst, business analyst, database project coordinator or database engineer.

Program Learning Outcomes: Upon completion, students will be able to

- Demonstrate requirement analysis, design and coding skills in languages commonly used in data management with large scale databases
- Apply skills for business analysis to convert data into information in real time, allowing business owners to make effective just-in-time decisions

Certificate of Achievement-Advanced

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

Complete one option: 9

Option 1:

- 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)

Option 2:

- CIS 36A Introduction to Computer Programming Using Java (4.5)
- CIS 36B Intermediate Problem Solving in Java (4.5)

Option 3:

- CIS 41A Python Programming (4.5)
- CIS 41B Advanced Python Programming (4.5)

Complete four courses: 17-17.5

- CIS 64A Database Management Systems (4.5)
- CIS 64B Introduction to SQL (4.5)
- CIS 64C Introduction to PL/SQL (4.5)
- CIS 64E Fundamentals of Large Scale Cloud Computing (4)
- CIS 64F Introduction to Big Data and Analytics (4)

Complete two courses: 9

- CIS 9 Introduction to Data Science (4.5)
- CIS 64G Data Visualization Methodology and Tools (4.5)
- CIS 64H R Programming (4.5)

Complete two courses: 9

- CIS 18A Introduction to Unix/Linux (4.5)
- CIS 18B Advanced Unix/Linux (4.5)
- Total Units Required 44-44.5**

A.A. Degree

- Major Database Development Practitioner 44-44.5
- GE General Education (32-43 units)
- Electives Elective courses required when major units plus GE units total is less than 90
- Total Units Required90**