



## DATABASE MANAGEMENT

Associate in Science Degree & Certificate Requirements

### DATABASE MANAGEMENT

The Database Management major is intended for students wishing to upgrade or acquire new skills in the fields of database administration, database developer, database applications design, and programming with database management systems. The course of study includes a foundation in database theory and design, and the industry standard database language. Depending on the elective option chosen, there are further courses in programming, database administration or database developer.

The Certificate in "Oracle Database Administration" includes the coursework for the exam(s) one needs to take for the Oracle 10g Certified Associate and Oracle Professional Database Administrator credential. The Certificate in "Oracle Database Developer" includes the coursework for the exams one needs to take for the Oracle 10g PL/SQL "Developer Certified Associate and Forms Developer Certified Professional" credential. The Certificate in "Open Source Database" includes the coursework one needs to learn in order to build powerful, dynamic database-driven web sites. The Certificate in "Microsoft Certified IT Professional (MCITP) Database Administration" includes the coursework for the exams one needs to take for the "Microsoft Certified IT Professional (MCITP) Database Administration" credential.

### CAREER OPPORTUNITIES

The use of database systems is growing even more rapidly than the computer field in general. Specific job areas open to graduates of the program are database administration, database developer, application design, and applications programming.

### UNITS REQUIRED FOR MAJOR: 40

### UNITS REQUIRED FOR CERTIFICATE(S): 15-40

### ASSOCIATE DEGREE REQUIREMENTS:

- English proficiency: ENGL 1A, ESL 26 or equivalent.
  - Mathematics proficiency: MATH 103/105 or equivalent.
- A minimum of 90 units required to include:
- All General Education requirements
  - a Skill Certificate in either **Database Administration** or **Database Developer** (40 Units)
  - Electives & other graduation requirements as appropriate

**NOTE:** All courses pertaining to the major must be taken for a letter grade. In addition, a GPA of 2.0 or higher is required in all Core and Support courses for the Degree or Certificates. 50% of the major units must be taken within Computers, Technology & Information Systems Division.

### CERTIFICATE INFORMATION:

All certificates require ENGL 110, or ESL 25 or equivalent: MATH 220 or equivalent.

#### Oracle Database Administration Skills Certificate (15 Units)

This Certificate contains coursework for the exam(s) the student needs to take for the Oracle 10g Certified Associate and Oracle Professional Database Administrator credential.  
CIS 52B Oracle: SQL (5 Units)  
CIS 52E Oracle Database Administration I (5 Units)  
CIS 52F Oracle Database Administration II (5 Units)

#### Oracle Database Developer Skills Certificate (15 Units)

This Certificate contains the coursework for the exams the student needs to take for the Oracle 10g "Developer Certified Associate" and "Forms Developer Certified Professional" credential. It is recommended that the student take CIS 52A and CIS 52C prior to beginning this sequence.  
CIS 52B Oracle: SQL (5 Units)  
CIS 52J Oracle: Programming with PL/SQL (5 Units)  
CIS 52K Oracle Forms Developer: Build Internet Applications (5 Units)

#### Oracle Database Administration Certificate of Achievement (40 Units)

CIS 52A Introduction to Data Management Systems (5 Units)  
CIS 52B Oracle SQL (5 Units)  
CIS 52C Database Modeling & Relational Database Design (5 Units)  
CIS 52E Oracle Database Administration I (5 Units)  
CIS 52F Oracle Database Administration II (5 Units)  
CIS 52J Oracle: Programming with PL/SQL (5 Units)  
CIS 68A Introduction to Linux & UNIX (5 Units)  
CNET 50 Introduction to Computer Networking (5 Units)

#### Oracle Database Developer Certificate of Achievement (40 Units)

CIS 52A Introduction to Data Management Systems (5 Units)  
CIS 52B Oracle SQL (5 Units)  
CIS 52J Oracle: Programming with PL/SQL (5 Units)  
CIS 52K Oracle Forms Developer: Build Internet Applications (5 Units)  
CIS 68A Introduction to Linux & UNIX (5 Units)

#### **Select three:**

CIS 52C Data Modeling & Relational Database Design (5 Units)  
CIS 52M Oracle Reports (5 units)  
CIS 62A Data Warehousing & Data Mining (5 Units)  
CIS 68E Programming in PERL (5 Units)  
CIS 27A \*Computer Science I: JAVA (5 Units)

\* CIS 27P can be taken in lieu of CIS 27A if the student has Object Oriented Programming knowledge.

### **Open Source Databases Skills Certificate (15 Units)**

This certificate will familiarize students with open source databases, their creation and administration. It is recommended that the student take CIS 52A and CIS 52C prior to beginning this sequence.

CIS 52N PHP & MySQL (5 Units)

CIS 52Q MySQL: In Depth (5 Units)

CIS 52P PHP Programming (5 Units)

### **Microsoft Certified IT Professional (MCITP) Database Administration Skills Certificate (15 Units)**

This certificate will familiarize the students with the administration of databases in a Microsoft environment and also prepare them for the Certified IT Professional (MCITP) certification exam.

CIS 54C Microsoft SQL Server Database Design (5 Units)

CIS 54D Microsoft SQL Server 2005 (5 Units)

CIS 54E Microsoft SQL Server Database Administration (5 Units)

### **Academic Year 2008-2009**

## **FOOTHILL COLLEGE GENERAL EDUCATION & GRADUATION REQUIREMENTS 2008-2009**

The requirements for the Associate in Art or Associate in Science Degree include completion of (1) a minimum of 90 units in prescribed courses; (2) a minimum of 24 units taken at Foothill College; (3) a grade-point average of 2.0 or better in all college courses including Foothill courses; (4) a major of at least 27 units in a curriculum approved by the Foothill Curriculum Committee; and (5) the seven general education requirements listed below. Students planning to transfer to four-year colleges or universities should also check with a counselor for the specific requirements of those institutions.

Students must successfully complete a minimum of 30-35 units from the courses listed below with at least one course in Humanities, English, Natural Sciences (with lab), Social and Behavioral Sciences, Communication and Analytical Thinking, American Cultures and Communities, and two courses in Lifelong Understanding from two different academic departments. **Courses may only be used in one area.**

### **I. Humanities**

**Arts:** ART 1, 2A, 2AH, 2B, 2BH, 2C, 2CH, 2D, 2E, 4A with 4AX, 5A with 5AX, 11, 14, 36, 45A with 45AX; F A 1; GID 1; MUS 1, 2A, 2B, 2C, 3A, 3B, 3C, 7, 7E, 7D, 8, 8H, 10, 64A, 64B, 85A, 85B; PHOT 1, 5, 8, 8H, 10, 11; THTR 1, 5, 5B, 20A, 20B, 20C, 20D, 24, 30; VART 2A, 2B, 2C, 36B; WMN 15.

**Letters:** CHIN 1, 2, 3, 4, 5, 6, 13A, 13B, 14A, 14B, 25A, 25B; COMM 24; CRWR 6, 36B, 39A, 39B, 40, 41A, 41B, 60; ENGL 5, 8, 11, 12, 14, 17, 22, 23, 25, 25H, 26, 31, 32, 42A, 42B, 42C, 43, 45, 46A, 46B, 46C, 48A, 48B, 48C; FREN 1, 2, 3, 4, 5, 6, 13A, 13B, 14A, 14B, 25A, 25B, 39; GERM 1, 2, 3, 4, 5, 6, 13A, 13B, 14A, 14B, 25A, 25B, 39; HIST 4A, 4B, 4C, 4CH; HUMN 1A, 1B; JAPN 1, 2, 3, 4, 5, 6, 13A, 13B, 25A, 25B, 33; KORE 1, 2, 3, 4, 5, 6; LING 23, 25, 25H, 26; PHIL 2, 4, 8, 11, 20A, 22, 24, 25; SPAN 1, 2, 3, 4, 5, 6, 10A, 13A, 13B, 14A, 14B, 25A, 25; THTR 2A, 2B, 2C, 8.

### **II. English**

ENGL 1A, 1AH or ESL 26.

### **III. Natural Sciences (with laboratory)**

ASTR 10A with 10L, 10B with 10L, 10BH with 10L; BIOL 1A, 1B, 1C, 9 with 9L, 10, 13, 14, 15, 40A, 40B, 40C, 41; CHEM 1A, 10, 25, 30A; GEOG 1; GEOL 10, 11; HORT 10; MET 10 with 10L; PHYS 2A, 4A, 10.

### **IV. Social & Behavioral Sciences**

ANTH 1, 2A, 2B, 3, 4, 5, 6, 8; BUSI 22, 53; CHLD 55; ECON 1A, 1B, 9, 12, 25; GEOG 1, 2, 5, 9, 10; GERM 8; HIST 4A, 4B, 4C, 4CH, 8, 9, 9H, 10, 15, 16, 16H, 17A, 17B, 17C, 18, 19, 20, 23A, 30; POLI 1, 2, 2H, 3, 3H, 5, 7, 8, 9, 15, 15H; PSYC 1, 4, 10, 14, 21, 22, 25, 30, 33, 40, 49, 55; SOC 1, 10, 11, 15, 19, 20, 21, 23, 30, 40; SOSC 20, WMN 5, 11, 21.

### **V. Communication & Analytical Thinking**

CIS 12A, 15A, 18, 25A; COMM 1A, 1B, 2, 3, 4, 12, 24, 30, 46, 55; ENGL 1B, 1BH, 4; MATH 1A, 1B, 1C, 2A, 2B, 10, 11, 12, 22, 44, 46, 49, 51; PHIL 1, 7, 8, 50.

### **VI. American Cultures and Communities**

ANTH 4; ART 2D; BIOL 14; CHLD 11; COMM 10, 12; ENGL 5, 8, 12, 31, 41, 48A, 48B, 48C; HIST 9, 9H, 10; MUS 8, 8H; PHIL 22; PHOT 8, 8H; POLI 7; PSYC 22; SOC 8, 23; SOSC 20; SPED 61; THTR 8; WMN 5, 11.

### **VII. Lifelong Understanding**

Students must successfully complete a total of four units or more in Lifelong Understanding from two different academic departments. BIOL 8, 9, 45; BUSI 91L; CIS 2, 50A, 60; COIN 51; CNSL 1, 2, 72, 80, 90; COMM 2, 10, 12; CRLP 55, 70; DANC 1A, 1B, 2, 3A, 3B, 4, 5, 6, 7; HLTH 21; PHED 4; any physical activity course (PHED) or ALAP 60, 60X, 61, 61X, 62, 62X, 63, 63X, 64, 64X, 65, 65X, 66, 66X, 70, 70X, 71, 71X, 80, 80X; LIBR 1, 50, 71; SOC 19, 40; SOSC 20; SPED 52, 61, 72.

**Minimum proficiency: ENGL 1A or ESL 26 and MATH 103 or MATH 105\*, completed with a letter grade of "C" or better.**

\*Intermediate Algebra or equivalent means MATH 103 or 105, or mathematics placement test score indicating eligibility for a mathematics course beyond the level of MATH 105, or completion of a higher-level course with a grade of "C" or better, or completion of a bachelor degree or higher from an accredited U.S. college or university.