



MASTER COURSE OUTLINE

Prepared By: Arthur Wanner/Tom Willingham

Date: September 2017

COURSE TITLE

Intro to Database Design & Management

GENERAL COURSE INFORMATION

Dept.: CS

Course Num: 115

(Formerly:)

CIP Code: 11.0901

Intent Code: 21

Program Code: 527

Credits: 5

Total Contact Hrs Per Qtr.: 88

Lecture Hrs: 22

Lab Hrs: 66

Other Hrs:

Distribution Designation: General Elective (GE)

COURSE DESCRIPTION (as it will appear in the catalog)

This course will examine the theory of database design and management, including how collections of data are organized, stored, and analyzed. Topics include the fundamentals of the relational model, Structured Query Language (SQL), data modeling, database design and administration, and web database processing. Introductory business and financial services applications will be used to illustrate course concepts through lectures and hands-on labs.

Note: This course's learner outcomes align to the common IT course, IT 114: Database Design & Implementation, and is accepted as a transfer course with participating Washington State community and technical colleges. Look for this notation if transferring to another IT program at a Washington State community or technical college.

PREREQUISITES

None

TEXTBOOK GUIDELINES

Textbook to be determined by CS Faculty (Example: *Concepts of Database Management*; Pratt)

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Describe the fundamental concepts and techniques of relational database management
2. Describe the components of a database system
3. Describe the relational model and basic principles of relational database design
4. Use basic SQL statements for creating and processing a database
5. Apply the entity-relationship (E-R) data model to represent the data requirements for a small business
6. Convert E-R data models into relational (table) database designs
7. Learn to manage a database to maximize its value to an organization
8. Explain the need for security and specific tasks for improving database security
9. Set up Web database processing
10. Identify basic concepts of data warehouses
11. Identify basic concepts of dimensional databases
12. Identify database security issues such as role-based access, data encryption, and SQL injection

INSTITUTIONAL OUTCOMES

- IO1 **Communication:** Students will be able to communicate clearly and effectively within a workplace context
- IO3 **Human Relations/Workplace Skills:** Students will be able to demonstrate teamwork, ethics, appropriate safety awareness and/or workplace specific skills

COURSE CONTENT OUTLINE

1. Database basics
2. The Relational Model
3. Structured Query Language (SQL) statements
4. The Entity-Relationship Model
5. Database design
6. Database administration
7. Database processing applications
8. Database processing for Business Intelligence systems (data warehouses, dimensional databases, data mining)

DEPARTMENTAL GUIDELINES *(optional)*

DIVISION CHAIR APPROVAL

DATE