This course supports the assessment for Data Management - Foundations. The course covers 6 competencies and represents 3 competency units.

Introduction

Overview

This course introduces students to the concepts and terminology used in the field of data management. They will be introduced to Structured Query Language (SQL) and will learn how to use Data Definition Language (DDL) and Data Manipulation Language (DML) commands to define, retrieve, and manipulate data. This course covers differentiations of data—structured vs. unstructured and quasi-structured (relational, hierarchical, XML, textual, visual, etc); it also covers aspects of data management (quality, policy, storage methodologies). Foundational concepts of data security are included.

Getting Started

Welcome to Data Management – Foundations! There are no prerequisites for this course, and it provides concise coverage of the topics without assuming prior knowledge. You will learn through a uCertify learning resource that provides readings, videos, quizzes, and flashcards, all to help you prepare for the objective assessment. Use the uCertify Study Planner for pacing to complete the learning material within five weeks.

Note: To download this video, right-click the following link and choose "Save as...": download video.

Competencies

This course provides guidance to help you demonstrate the following 6 competencies:

- **Competency 4017.1.1: Introduction to Information and Data**
  The graduate explains how data, databases, and data management are used in today's organizations.

- **Competency 4017.1.2: The Relational Model of Data**
  The graduate analyzes the relational model of data.

- **Competency 4017.1.3 The Fundamentals of SQL**
  The graduate implements SQL concepts and coding.

- **Competency 4017.1.4: Data Modeling**
  The graduate demonstrates an understanding of the concepts involved in the modeling of data.

- **Competency 4017.1.5: Normalization**
  The graduate demonstrates appropriate strategies to normalize data.

- **Competency 4017.1.6: Business Intelligence**
  The graduate interprets the concepts of analytical processing within the context of business intelligence.

Course Instructor Assistance
As you prepare to demonstrate competency in this subject, remember that course instructors stand ready to help you reach your educational goals. As subject matter experts, mentors enjoy and take pride in helping students become reflective learners, problem solvers, and critical thinkers. Course instructors are excited to hear from you and eager to work with you.

Successful students report that working with a course instructor is the key to their success. Course instructors are able to share tips on approaches, tools, and skills that can help you apply the content you're studying. They also provide guidance in assessment preparation strategies and troubleshoot areas of deficiency. Even if things don't work out on your first try, course instructors act as a support system to guide you through the revision process. You should expect to work with course instructors for the duration of your coursework, and you are encouraged to contact them as soon as you begin. Course instructors are fully committed to your success!

Preparing for Success

The information in this section is provided to detail the resources available for you to use as you complete this course.

Learning Resources

The following textbook is hosted on the uCertify platform:

- Coronel, C., & Morris, S. (2017). *Database systems: design, implementation, and management* (12th ed.). Boston, MA: Cengage Learning. ISBN: 978-1-305-62748-2.

Note: This e-text is available to you as part of your program tuition and fees, but you may purchase a hard copy at your own expense through a retailer of your choice. If you choose to do so, please use the ISBN listed to ensure that you receive the correct edition.

Launch Your Course

Launch Course

Pacing Guide

The pacing guide suggests a weekly structure to pace your completion of learning activities. It is provided as a suggestion and does not represent a mandatory schedule. Follow the pacing guide carefully to complete the course in the suggested timeframe.

Week 1

- Lesson 1: Introduction to Databases, Information and Data

- Lesson 2: Data Modeling
- Optional - Lynda.com video series - Foundations of Programming: Databases
    - Planning your database
    - Identifying columns and selecting data types
    - Choosing Primary Keys
    - Creating Relationships
    - Defining one-to-many relationships
    - Exploring one-to-one relationships
    - Exploring many-to-many relationships

**Note: If you have trouble accessing the Lynda.com videos, please see the information at the bottom of this page.

Week 2

- Lesson 3: The Relational Database Model
- Lesson 4: The Relational Model of Data

Week 3

- Lesson 5: Normalization
- Optional - Lynda.com video series - Foundations of Programming: Databases
    - Understanding Normalization
    - First National Form
    - Second National Form
    - Third Normal Form
- Lesson 6: Fundamentals of SQL
- Optional - Lynda.com video series - MySQL Essential Training

Week 4

- Lesson 6: Fundamentals of SQL
- Lesson 7: Business Intelligence

Week 5

- Pass Preassessment with 75% or better

Week 6

- Complete Objective Assessment

Accessing Lynda.com videos

Access to Lynda.com is provided for all WGU students at no cost. If you have any trouble accessing the videos listed above, please try accessing them through the WGU Library:

http://wgu.libguides.com.wgu.idm.oclc.org/libhome

After you get to the main library page, click on the Quick Links tab, and then click on lynda.com.

Once there, enter the name of the video (or series) that you are looking for into the Search box at the top.

Pre-Assessment

If you have prior experience working with databases or data management, you may wish to complete the pre-assessment before beginning the course. Access the pre-assessment through the assessment tab. Review your results to identify topics on which to focus your study as you move through this course.

Data Management - Foundations

If you have taken your pre-assessment and have demonstrated competency in specific topics, then you have the choice to skip over those topics. Otherwise, going through the course from beginning to end is beneficial, as it builds on itself to more complex material. In other words, if the course material is new to you from the start, begin at lesson 1 and complete all of the provided practice through to the end. Remember to ask your course instructor any questions you have.

Data Modeling and Representation

This topic addresses the following competencies:

- **Competency 4017.1.1: Introduction to Information and Data**
  The graduate explains how data, databases, and data management are used in today's organization.
- **Competency 4017.1.4 Data Modeling and Representation**
  The graduate demonstrates an understanding of the concepts involved in the modeling of data.

uCertify Lesson 1

Go to uCertify and read Lesson 1: Introduction to Databases, Information and Data. Complete the Review Questions at the end of the reading to check your understanding.

Lesson 1 Practice

Practice with the flashcards in Lesson 1: Introduction to Databases, Information and Data. When you are comfortable with the vocabulary, complete the Lesson 1 Quiz for further reinforcement.

uCertify Lesson 2

Go to uCertify and read Lesson 2: Data Modeling. Complete the Review Questions at the end of the reading to check your understanding.

Lesson 2 Practice

Practice with the flashcards in Lesson 2: Data Modeling. When you are comfortable with the vocabulary, complete the Lesson 2 Quiz for further reinforcement.

The Relational Database Model

This topic addresses the following competencies:

- **Competency 4017.1.2: The Relational Model of Data**
  The graduate analzyes the relational model of data.
- **Competency 4017.1.4 Data Modeling and Representation**
  The graduate demonstrates an understanding of the concepts involved in the modeling of data.

uCertify Lesson 3

Go to uCertify and read Lesson 3: The Relational Database Model. Complete the Review Questions at the end of the reading to check your understanding.

Lesson 3 Practice

Practice with the flashcards in Lesson 3: The Relational Database Model. When you are comfortable with the vocabulary, complete the Lesson 3 Quiz for further reinforcement.

uCertify Lesson 4

Go to uCertify and read Lesson 4: Entity Relationship (ER) Modeling. Complete the Review Questions at the end of the reading to check your understanding.

Lesson 4 Practice

Practice with the flashcards in Lesson 4: Entity Relationship (ER) Modeling. When you are comfortable with the vocabulary, complete the Lesson 4 Quiz for further reinforcement.

Normalization

This topic addresses the following competency:

- **Competency 4017.1.5 Normalization**
  The graduate demonstrates appropriate strategies to normalize data.

uCertify Lesson 5

Go to uCertify and read Lesson 5: Normalization of Database Tables. Complete the Review Questions at the end of the reading to check your understanding.

Lesson 5 Practice

Practice with the flashcards in Lesson 5: Normalization of Database Tables. When you are comfortable with the vocabulary, complete the Lesson 5 Quiz for further reinforcement.

SQL Basics

This topic addresses the following competency:

- **Competency 4017.1.3: The Fundamentals of SQL**
  The graduate implements SQL concepts and coding.

uCertify Lesson 6

Go to uCertify and read Lesson 6: Introduction to Structured Query Language (SQL). Complete

the Review Questions at the end of the reading to check your understanding.

Lesson 6 Practice

Practice with the flashcards in Lesson 6: Introduction to Structured Query Language (SQL). When you are comfortable with the vocabulary, complete the Lesson 6 Quiz for further reinforcement.

Business Intelligence

This topic addresses the following competency:

- **Competency 4017.1.6: Business Intelligence**
  The graduate interprets the concepts of analytical processing within the context of business intelligence.

uCertify Lesson 7

Go to uCertify and read Lesson 7: Business Intelligence and Data Warehouses. Complete the Review Questions at the end of the reading to check your understanding.

Lesson 7 Practice

Practice with the flashcards in Lesson 7: Business Intelligence and Data Warehouses. When you are comfortable with the vocabulary, complete the Lesson 7 Quiz for further reinforcement.

Final Steps

Congratulations on completing the activities in this course! This course has prepared you to complete the assessment associated with this course. If you have not already been directed to complete it, schedule and complete the assessment now.

First Attempt Checklist

One of the many things that makes WGU unique is its competency-based education model. If you know the material, all you have to do is prove it by passing the exam. If you can do this, you can accelerate the receipt of your degree.

To make sure you have the best chance possible to pass the exam on your first attempt, the following steps should be successfully completed first:

1. You have read and studied all seven lessons within uCertify.
2. You have viewed all of the integrated video modules.
3. You have applied your knowledge by working through the exercises, studying with the flashcards, and testing yourself with the quizzes within uCertify.

If you have completed the steps above and you feel comfortable with all of the concepts presented, you are most likely ready to attempt the exam.

If you do not pass your first attempt, you will be required to contact the course instructor to see what went wrong and how you can prepare to ensure a successful second attempt.