D426 v2 DATA MANAGEMENT-FOUNDATIONS

Welcome, Study Plan, and Course Pacing Guide

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NOT SURE WHERE TO START IN THE COURSE?? You are in the right place!
Your D426 instructor team has put together the following guide full of resources and course tips to help you get the most out of this course and to help you pass the course in the most efficient way possible!

Welcome to D426 v2 Data Management Foundations!

This course introduces students to the concepts and terminology used in the field of data management. We will be introduced to Structured Query Language and understand the differentiations of data. This course also covers aspects of data management (quality, policy, storage methodologies). Foundational concepts of data security are included.

D426 STUDY PLAN OUTLINE

(with Tips and Extra Resources!)

This study plan outline is a result of lots of student feedback on what has helped your fellow Night Owls be successful!

Many students find that the most efficient way to complete this course is by working through the ZyBooks lessons and the 2nd resource “Database of Fundamentals Management Systems” eBook.

D426 RECOMMENDED STUDY PLAN

Step 1. Complete zyBook Lessons, activities, and labs working to bring the completion percentages 90-100%.

Note: Complete each competency below in its entirety. This includes completing the ZyBook lesson and Fundamentals Book chapters for each competency.

Sections	zyBooks Lessons	Topics
Introduction to Databases	Complete zyBooks Lesson 1.	• database basics • database systems • query languages • database design and programming • MySQL
Relational Databases	Complete zyBooks Lesson 2.	• relational models • SQL • managing databases • working with tables • primary and foreign keys • referential integrity • constraints
	Complete zyBooks Lesson 3.	• special operators and clauses • simple and aggregate functions • join queries • subqueries

		• view tables • relational algebra
Database Design	Complete zyBooks Lesson 4.	• entities, relationships, and attributes • discovery • cardinality • strong and weak entities • supertype and subtype entities • alternative modeling conventions • first, second, and third normal form • Boyce-Codd normal form
Data Storage	Complete zyBooks Lesson 5.	storage media • table structures • single-level, multi-level, and other indexes • tablespaces and partitions • physical design
Database Architecture –	Complete zyBooks Lesson 6.	• MySQL architecture • cloud, distributed, and replicated databases • data warehouses • business intelligence

		programs • other database architectures
Case Study (Diagrams)	Complete zyBooks Lesson 7.	• Cardinality • Supertype and weak entities • Implementing entities, relationships, and attributes
Data Modeling	Complete zyBooks Lesson 9.	• binary, unary, and ternary relations

D426 COURSE PACING GUIDE

Many students can complete this course in approx. 5 weeks.

- **Week 1**: Familiarize yourself with the course, solidify your study plan, read the Course Tips and other introductory course materials. Complete zyBook lesson 1 (Introduction to Databases) and lesson 2 (Relational Databases).
- **Week 2**: Complete zyBook Lesson 3 (Complex Queries) and lesson 4 (Database Design).
- **Week 3**: Complete zyBook Lesson 5 (Data Storage) and lesson 6 (Database Architecture).
- **Week 4**: Complete zyBook Lesson 7 (Case Study) and lesson 9 (Data Modeling).
- **Week 5**: Final review and Pre assessment.

Where to Get Help … for Each Competency/Lesson of the Assessment!

Competency/ Lessons	Where to Get Help
Introduction to Databases	Complete zyBooks Lesson 1.
Relational Databases	• Read Fundamentals Book Chapter 5: The Relational Database Model: Introduction Chapter 6: The Relational Database Model: Additional Concepts • This Data Modeling webinar video
Complex Queries	Complete zyBooks Lesson 3. • **SQL Link https://www.w3schools.com/sql/default.asp** to help you work through SQL commands • **LinkedInLearning.com Videos** - http://www.lynda.com/MySQL-tutorials/MySQL-Essential-Training/139986-2.html. IT Database (Joins)
Database Design	Complete zyBooks Lesson 4. • For **Normalization**, watch 4 short videos at LinkedIn Learning, following the instructions under the Data Modeling heading to access the Programming Foundations: Databases series. • Normalization Practice Questions, Answer Key

	Normalization You Tube Videos: https://www.youtube.com/watch?v=GFQaEYEc8_8
Data Storage	Complete zyBooks Lesson 5.
Database Architecture –	Complete zyBooks Lesson 6. Read **Supplementary eBook** - Business Intelligence: The Savvy Manager's Guide You could take a look at this video tutorial and/or relevant info from the supplementary eBook
Case Study (Diagrams)	Complete zyBooks Lesson 7. Read Fundamentals Book Chapters 2 • Entity Relationships • SuperTypes • Unary many-to-many example
Data Modeling	Complete zyBooks Lesson 9. Read Fundamentals Book Chapters 2 • Entity Relationships • SuperTypes • Unary many-to-many example