Note:

Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should <u>not</u> be used to purchase course materials.

LIBERTY UNIVERSITY

COURSE SYLLABUS

CSIS 325

DATABASE MANAGEMENT SYSTEMS

COURSE DESCRIPTION

The study of relational database architecture, design, access, administration and implementation in the context of various organizational environments. The course includes issues of data normalization, standard queries, and the use of popular relational and object technologies for building business-oriented applications. Assigned projects will provide hands-on experience with industry leading SQL and RDBMS tools and ER CASE tools currently popular in business and government settings. (Formerly BMIS 325)

RATIONALE

A foundation in database development is essential for a thorough understanding of information systems. This course introduces the fundamentals of database development and provides the student with a conceptual and practical application of database design.

I. PREREQUISITE

For information regarding prerequisites for this course, please refer to the Academic Course Catalog.

II. REQUIRED RESOURCE PURCHASE

Click on the following link to view the required resource(s) for the term in which you are registered: http://bookstore.mbsdirect.net/liberty.htm

III. ADDITIONAL MATERIALS FOR LEARNING

A. Computer with basic audio/video output equipment

B. Internet access (broadband recommended)

C. Blackboard recommended browsers

D. Microsoft Office

IV. MEASURABLE LEARNING OUTCOMES

Upon successful completion of this course, the student will be able to:

A. Discuss the relevance of course material and the use of technology to a biblical worldview (PLO 1 – R).

B. Describe the characteristics of business database management systems (PLO 2 – R).

C. Design a database that follows the rules of normalization and entity integrity using entity relationship diagrams (PLO 2 – I).

D. Create a functional business database from an entity relationship diagram (PLO 3 – I).

E. Generate queries using the Structured Query Language (PLO 2 – R).

F. Manage data using the Database Manipulation Language (PLO 2 – R).

G. Describe the concepts and structures that support a relational database management system: file storage/organization, indexing, hashing, query optimization, transaction management, concurrency, security, and database recovery (PLO 2 – I).

V. COURSE REQUIREMENTS AND ASSIGNMENTS

A. Textbook readings and lecture presentations/notes

B. Course Requirements Checklist

After reading the Course Syllabus and Student Expectations, the student will complete the related checklist found in Module/Week 1.

C. Discussion Board Forums (2)

Discussion boards are collaborative learning experiences. Therefore, the student is required to create a thread in response to the provided prompt for each forum.

D. Labs (7)

The student will complete 7 Lab assignments. Each assignment will consist of a variable number of questions that are focused on applying concepts from the textbook readings. Each Lab assignment must be typed into a Word document, include screenshots, and be submitted using the link provided in the respective module/week's Assignments folder.

E. Research Paper

The student will write a 2,000-word research-based paper in current APA format that focuses on a database topic of his/her choosing. The topic chosen must be approved by the instructor. The Research Paper will be completed in 3 parts: Topic Approval, References Page and Sentence Outline, and Final Draft. The paper must include at least 7 references, 1 of which may be the textbook and another of which may be the Bible. All other references must be from peer-reviewed sources.

F. HCO Project

The student will design and create a database project to meet a real-life need. The project will be submitted in 2 separate phases: a design and development phase with ER Diagram and tables and a data analysis phase with advanced data mining queries. Screenshots must be included in both phases of this project.

G. Exams (2)

Each exam will address the Reading & Study material for the modules/weeks that have been covered to date.

VI. COURSE GRADING AND POLICIES

A. Points

Course Requirements Checklist			10
Discussion Board Forums (2 at 50 pts ea)			100
Labs 7 (1 at 20 pts; 5 at 40 pts; 1 at 50 pts)			270
Research Paper			
Topic Approval			25
References Page and Sentence Outline			40
Final Draft			75
HCO Project			
Phase I			150
Phase II			150
Exam 1	(Modules 1–4)		90
Exam 2	(Modules 5–8)		100
		Total	1010

B. Scale

A = 900–1010 B = 800–899 C = 700–799 D = 600–699 F = 0–599

C. Quizzes/Tests/Exams

For timed quizzes/tests/exams, the student is required to complete the quiz/test/exam within the assigned time. Points will not be granted for questions completed after the time limit.

D. Disability Assistance

Students with a documented disability may contact Liberty University Online's Office of Disability Academic Support (ODAS) at LUOODAS@liberty.edu to make arrangements for academic accommodations. Further information can be found at www.liberty.edu/disabilitysupport.

LIBERTY UNIVERSITY

COURSE SCHEDULE

CSIS 325

Textbook: Mannino, M. *Database design, application development, and administration* (2015).

MODULE/ WEEK	READING & STUDY	ASSIGNMENTS	POINTS
1	Mannino: chs. 1–2 1 presentation	Course Requirements Checklist Class Introductions Lab 1 - Install MS SQL Server and ER Assistant	10 0 20
2	Mannino: ch. 5 1 presentation 1 lecture note	Lab 2 - ER Diagrams Research Paper – Topic Approval	40 25
3	Mannino: ch. 6, 14.2 1 lecture note 1 website	Lab 3-Converting ERDs to Tables DB Forum 1	40 50
4	Mannino: ch. 3 1 presentation 1 lecture note	Lab 4 - SQL Queries (DDL Create Table) Research Paper – References Page and Sentence Outline Exam 1	40 40 90
5	Mannino: ch. 4 1 presentation 1 lecture note	Lab 5 - SQL Queries with DML-Insert, Update, & Delete HCO Project – Phase I	40 150
6	Mannino: ch. 9 & 10.1-10.3 1 presentation 1 lecture note	Lab 6 - Advanced SQL Queries DB Forum 2	50 50
7	Mannino: ch. 7 1 presentation	Lab 7 – Normalization Research Paper – Final Draft	40 75
8	Mannino: chs. 8 & 15.1-15.3 1 video	HCO Project – Phase II Exam 2	150 100
		TOTAL	**1010**

DB = Discussion Board

NOTE: Each course module/week (except Module/Week 1) begins on Tuesday morning at 12:00 a.m. (ET) and ends on Monday night at 11:59 p.m. (ET). The final module/week ends at 11:59 p.m. (ET) on **Friday**.