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.

COURSE SYLLABUS

CSIS 525
DATABASE DESIGN AND DEVELOPMENT

COURSE DESCRIPTION

Focused on the advanced design and development of databases, students will learn how to architect data storage solutions that are highly dynamic and scalable to meet the rapidly changing needs of business. Areas will include, but are not limited to, client-server processing, parallel processing, distributed, and multidimensional databases. Students will learn how to design database management systems that scale to meet the needs of rapidly changing and competitive business environments.

RATIONALE

CSIS 525 fulfills a core competency in the Masters in Information Technology program. This course covers advanced database development and the concepts of managing database environments.

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 information technology to a biblical worldview.

B.   Justify the importance of dynamic and scalable database solutions.

C.   Examine the innovative practices of database design.

D.   Assess integrative database development processes.

E.   Design a database management system that fulfills changing business requirements.

V.   COURSE REQUIREMENTS AND ASSIGNMENTS

A.   Textbook readings and lecture presentations

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 (5)

Discussion boards are collaborative learning experiences. Therefore, the student will create a thread in response to the provided prompt for each forum. Each thread must be 400–500 words and demonstrate course-related knowledge. For each thread, the student must support his or her argument with at least 4 citations in current APA format. In addition to the thread, the student will reply to at least 2 other classmates' threads. Each reply must be 200–250 words and incorporate at least 2 citations in current APA format. Acceptable sources include peer-reviewed journal articles, books, the course textbook, and the Bible.

D.   Homework (5)

The student will complete 5 homework assignments. Each assignment will consist of a variable number of questions that are focused on the textbook readings. All homework assignments must be typed into a Microsoft Word document and include screenshots.

E.   Research Papers (2)

The student will write 2 research-based papers that each focus on a topic from the textbook readings. The topic will be of his or her choosing and must be approved by the instructor. Each paper must be at least 2,000 words and be in current APA format. Each paper will be completed in 3 parts: Topic Approval, References and Sentence Outline, and Final Draft. Each paper must include at least 7 references. Acceptable sources include peer-reviewed journal articles, books, the course textbook, and the Bible.

F.   Projects (2)

The student will design and create 2 database projects that each meet a real-life need. Each project will include a design and development phase with ER Diagram and tables as well as a data analysis phase with advanced data mining queries. Screenshots must be included for these projects.

G.   Midterm Exam

The Midterm Exam will cover the Starks, Pratt, & Last readings for Modules/Weeks 1–4. The exam will be open-book/open-notes, contain 50 multiple-choice questions, and have a time limit of 2 hours.

H.   Final Exam

The Final Exam will be comprehensive; it will cover all Starks, Pratt, & Last readings for Modules/Weeks 1–8. The exam will be open-book/open-notes, contain 50 multiple-choice questions, and have a time limit of 2 hours and 30 minutes.

VI.   **COURSE GRADING AND POLICIES**

A.   Points

Course Requirements Checklist		10
Discussion Board Forums (5 at 40 pts ea)		200
Homework (5 at 20 pts ea)		100
Research Papers (2)		
Topic Approvals (2 at 10 pts ea)		20
References and Sentence Outlines (2 at 15 pts ea)		30
Final Drafts (2 at 75 pts ea)		150
Projects (2 at 150 pts)		300
Midterm Exam	(Modules 1–4)	100
Final Exam	(Modules 1–8)	100
	Total	1010

B.   Scale

A = 940–1010   A- = 920–939   B+ = 900–919   B = 860–899   B- = 840–859
C+ = 820–839   C = 780–819   C- = 760–779   D+ = 740–759   D = 700–739
D- = 680–699   F = 0–679

C.   Disability Assistance

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

If you have a complaint related to disability discrimination or an accommodation that was not provided, you may contact ODAS or the Office of Equity and Compliance by phone at (434) 592-4999 or by email at equityandcompliance@liberty.edu. Click to see a full copy of Liberty's Discrimination, Harassment, and Sexual Misconduct Policy or the Student Disability Grievance Policy and Procedures.

COURSE SCHEDULE

CSIS 525

Textbooks: Coronel & Morris, *Database Systems: Design, Implementation, and Management* (2019).
Starks, Pratt, & Last, *Concepts of Database Management* (2019).

MODULE/ WEEK	READING & STUDY	ASSIGNMENTS	POINTS
1	Coronel & Morris: chs. 3–4 1 presentation 2 websites	Course Requirements Checklist Class Introductions DB Forum 1 Homework 1 Research Paper 1 - Topic Approval	10 0 40 20 10
2	Starks, Pratt, & Last: chs. 3, 5 1 presentation	DB Forum 2 Homework 2 Research Paper 1 - References and Sentence Outline	40 20 15
3	Coronel & Morris: ch. 7 1 presentation	Homework 3 Research Paper 1 - Final Draft	20 75
4	Coronel & Morris: ch. 8 Starks, Pratt, & Last: ch. 7 1 presentation	Homework 4 Project 1 Midterm Exam	20 150 100
5	Coronel & Morris: ch. 10 Starks, Pratt, & Last: ch. 8 1 presentation	DB Forum 3 Homework 5 Research Paper 2 - Topic Approval	40 20 10
6	Coronel & Morris: ch. 13 1 presentation 1 website	DB Forum 4 Research Paper 2 - References and Sentence Outline	40 15
7	Coronel & Morris: ch. 12 1 presentation 1 website	DB Forum 5 Project 2	40 150
8	Starks, Pratt, & Last: ch. 9 1 presentation	Research Paper 2 - Final Draft Final Exam	75 100
		TOTAL	**1010**

DB = Discussion Board

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