CSIS1050: Fundamentals of Database Design and Processing
Course Syllabus & Weekly Schedule

Instructor:
e-mail: Use Canvas Mail for ALL course related communication
Class Meeting Time:
Office Hours:

Course Objectives:
This course is designed to provide an introduction to database concepts and the relational database model using both hands-on software tools and discussion on various database design/processing concepts covered in the required textbook.

Required Textbook: Concepts of Database Management, 10 th edition by Friedrichsen, Ruffolo, Monk, Starks, Pratt and Last
IMPORTANT!: Be sure to get the 10th edition of the textbook, and NOT the earlier edition as the contents page numbers and the assignments are NOT the same in the new edition.

Software Requirements:
Reliable Internet access and Microsoft Excel and Access 2016 or higher. If you do NOT own your own copy of Excel or Access 2016 or higher, the following options are available for free from SLCC depending on whether your computer runs the Windows or the Mac operating system:

PC (Windows) Users:
Office 365 using the link here:
https://slcc.service-now.com/help/kb_view.do?sysparm_article=KB0011245
Apple (Mac) Users:
AllAccess Virtual Computing System using the link here:
https://slcc.service-now.com/help/kb_view.do?sysparm_article=KB0011097

NOTE: To use the software with AllAccess, your computer must be connected to the Internet at all times.

Online Learning and Homework Submission: You are expected to use the Canvas e-learning system for the online portion of the course learning and submission of all homework assignments. Be sure to study the site contents including all the link contents to get ready for course materials posted on Canvas. If you are unsure about using certain features of Canvas, you can contact the SLCC e-learning office on the Redwood campus. For specific information on SLCC Online support, go to http://www.slcc.edu/online/

Homework and Grading Guidelines: The description, expectations, requirements, due date and available dates are defined in each assignment in Canvas. You are expected to read the requirements carefully including the file naming requirement. Point deductions will apply when the requirements are not met.

Grading Scale for Homework/final project as percentage of available points

Grade	Range		Grade	Range
A	95 – 100%		C	73 – 76%
A-	90 – 94		C-	70 – 72
B+	87 – 89		D+	67 – 69
B	83 – 86		D	63 – 66
B-	80 – 82		D-	60 – 62
C+	77 – 79		E	0 – 59

Weekly Activity Schedule for CSIS 1050

***** Topics and Schedule are subject to change *****

Week	Dates (Sun – Sat)	Topics
1		– Classes Start Student responsible for self-study of syllabus & weekly schedule. **Read/Study – Module 1: Introduction to Database Management** Overview of Database Management System (DBMS) Case Study -- JC Consulting Company Background
2		– Last Day to ADD Classes Case Study – The Pitt Fitness Database Study Case Study – The Sports Physical Therapy Database Case
3		– COLLEGE CLOSED Review of the 3 Case Study Databases Class Discussion: Comparison of the 3 Case Databases Module 1 Review Questions – Class Discussion
4		– Last Day to Drop Class with 100% Tuition Refund **Read/Study – Module 2: The Relational Model: Introduction, QBE, and Relational Algebra** Learning to describe database using "shorthand" – DBDL (Database Design Language) Learning to describe database using Entity-Relationship diagram
5		Creating queries using QBE (Query By Example) using GUI (Graphical User Interface) in Microsoft Access Summarizing data using aggregate functions, grouping and sorting data Learning Activity – Your Turn 2-1 through 2-7
6		Query Homework Exercises on the 3 Case Databases Review of Query Homework Exercises Joining Tables and Action Queries Learning Activity – Your Turn 2-8 through 2-12
7		Q & A on Relational Algebra **Read/Study – Module 3: The Relational Model: SQL** Creating Tables in SQL Learning Activity – SQL Data Types, How to Create Table Definitions
8		*** Fall/spring Break ***
9		How to select data using SQL Learning Activity – Your Turn 3-1 through 3 – 16
10		Applying SQL coding to the Case Study Problems ● JR Consulting Case Exercises

		• Pitt Fitness Case Exercises Sports Physical Therapy Case Exercises
11		**Read/Study – Module 4: The Relational Model: Advanced Topics** • Creating and Using VIEWS • Using INDEXES • Examining Database Security Features Enforcing Integrity Rules • Changing the Structure of a Relational Database • Using SQL JOIN Commands • Using the System Catalog Using Store Procedures and Triggers
12		**Read/Study – Module 5: Database Design – Normalization** • Introduction to the concept of Normalization • Case Study: Faculty/Student Advising Assignments • Data Modification Anomalies
13		Continued discussion of Module 5 • Functional Dependence • Keys • First Normal Form • Atomic Values • Algorithms • Creating Fields/Updating Fields • Creating the 1NF Table • Using Atomic Values for Quantities • Finding Duplicate Values • Second Normal Form • Benefits of Normalization • Third Normal Form • Fourth Normal Form • Beyond Fourth Normal Form
14		Continued discussion of Module 5 • Applying Normalization into Practice Class learning activity – converting an unnormalized data (in Excel format) to normalized database tables (in Access file format)
15		– Last day of classes Work on the following homework assignments for Module 5 1. Review Questions

		2. JC Consulting Case Exercises 3. Pitt Fitness Case Exercises 4. Sports Physical Therapy Case Exercises
16		Final Exam Homework is due by