CIS 210 – Database Design and Implementation, Section 2 (4 credits)
2:00 p.m. – 3:50 p.m. MW   Location: SCI A111 (M), B228 (W)

Instructor:	Daehee (Danny) Kim, PhD	**Office**: B231, Science Building
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Office Hours:	2:00 – 4:00 p.m. TR	**Email:** dkim@uwsp.edu

Course Description
This course provides methods and skills to analyze and design databases to support computer-based information systems. Relational database management systems using SQL are developed and programmed. Through this course, students learns how to transform business requirements to database model, how to design database model efficiently using DFD and ERD, and how to implement database with tables, views, and indexes. Students learn how to efficiently add, retrieve, and remove data through the database.

Prerequisites
CIS120 (Data Structures and Algorithms)

Objectives
- Learn about Data Definition SQL (Structured Query Language) commands related to creating and removing database, creating and removing table, altering table, SQL constraints, and SQL indexes.
- Learn about Data Manipulation SQL commands related to adding, retrieving, updating, deleting table rows.
- Understand how to related multiple tables using JOIN, how to group data, how to order data retrieved.
- Study subqueries, SQL functions (Date, Time, Numeric, String, etc..), Relational Set Operators, view, and PL/SQL.
- Experience how to develop database application using SDLC (Systems Development Life Cycle), conceptual design, logical design, physical design, and implementation of database.
- Understand the concepts and terms of relational database model including keys, integrity rules, and relationships (1:M, 1:1, M:N).
- Study how to develop ER (Entity Relationship) model and EER (Extended Entity Relationship) model.
- Discuss normalization of database tables based on 1NF, 2NF, 3NF, Boyce-Codd Normal Form, and 4NF.
- Learn how to integrate database to various applications including Web application, Mobile application, and standalone Java and C# applications in conjunction with database connectors.

Required Text and Material Purchase
Carlos Coronel/Steven Morris/Peter Rob. Database Systems: Design Implementation & Management, 10th Edition. ISBN: 978-1-111-96960-8

Grading Policy:
Assessment:

•	Midterm 1	20% (10/5 Wednesday, in class)*
•	Midterm 2	20% (11/16 Wednesday, in class)*
•	Final Exam	30% (12/16 Friday, 2:45 pm ~ 4:45 pm, Comprehensive Exam)
•	5 Assignments	25% (5% per assignment)

- Attendance   5% (sign on attendance sheet every class)
* Dates can be changed based on class progress

Grading scale:
Final grades will be determined according to the following scale:

		A	100 – 92%	A-	91 – 89%
B+	88 – 86%	B	85 – 82%	B-	81 – 79%
C+	78 – 76%	C	75 – 72%	C-	71 – 69%
D+	68 – 66%	D	65 – 60%	F	< 60%

Assignments
Assignments will be announced in class and posted on D2L. If you miss class, it is your responsibility to check D2L for any homework assignments and supporting material which may have been given out during class. I recommend that you start working on assignments as soon as possible after they have been announced. Assignments for this class almost always take longer than originally anticipated; starting early greatly increases your odds of completing the assignment to your satisfaction. Please call, email or see the instructor as soon as possible, and **before the due date**, with any questions or concerns about an assignment.

Due Dates & Late Assignments
Unless otherwise noted by the instructor, assignments should be submitted before class (soft copy of report document) and in the beginning of class (hard copy of report document) on the due date. Report document should contain following contents and use the template given by instructor.
- Short description of each question.
- How you solve each question.

For the late assignments up to one week, the following reduction of the given points will be deducted.
- After due date ~ 1 week: 30% deduction of given points
- After 1 week ~ 2 weeks: 60% deduction of given points
- After 2 weeks: no points will be given.

Assignments may only be made up if the absence was due to documented illness, approved university activity or family emergency. If you miss class or an assignment due to an approved university activity, illness or family emergency on the day an assignment is due, it is your responsibility to contact the instructor **before the start of class that day** in order to make alternative arrangements.

Attendance
This class assumes perfect attendance. In the event you need to miss a class, please contact the instructor before absence, and consult with classmates regarding material you may have missed. Absence without excuse to the instructor will have an effect on your grade.

Academic Standards
The University of Wisconsin – Stevens Point is an academic community of individuals committed to the pursuit of learning, the acquisition of knowledge, and the education of all who seek it. This course expects that all work turned in for a grade is your own, or that of your group. A description of your rights and responsibilities as a member of the UWSP community can be found at:
http://www.uwsp.edu/dos/Pages/Information%20for%20Students.aspx

Student Academic Standards and Disciplinary Procedures (UWS/UWSP Chapter 14) is available at
http://www.uwsp.edu/dos/Documents/Community%20Rights%20and%20/Responsibilities.pdf#page=8

Academic Dishonesty Policy
Students may discuss assignments with each other and may seek help from the instructor. However, since assignment scores count as a part of the final grade, students must limit the amount of outside help they receive. Students must not copy any part of another person's work or break an assignment into a team project (unless directed to do so by the instructor). If there is ANY doubt in your mind about the amount of help given/received you should immediately consult with your instructor BEFORE submitting the assignment.

Any student who submits an assignment or exam which is in whole or in part the work of another person and any student (whether enrolled in the course or not) who so assists another student will be prosecuted under Chapter UWSP 14 of the Rules of the Board of Regents of the University of Wisconsin System, Wisconsin Administrative Code. Depending upon the severity of the infraction, the consequences of such an act range from a verbal reprimand to an "F" in the course to expulsion from the University.

Emergency Preparedness
In the event of a medical emergency, call 911 or use red emergency phone located outside of the Public Science Hall Lab (B238). Offer assistance if trained and willing to do so. Guide emergency responders to victim. In the event of a tornado warning, proceed to the lowest level interior room without window exposure at SCIENCE A224. In the event of a fire alarm, evacuate the building in a calm manner. Meet near the grassy area near Lot X. Notify instructor or emergency command personnel of any missing individuals.
Active Shooter – Run/Escape, Hide, Fight. If trapped hide, lock doors, turn off lights, spread out and remain quiet. Follow instructions of emergency responders. See UW-Stevens Point Emergency Management Plan at www.uwsp.edu/rmgt for details on all emergency response at UW-Stevens Point.

Communication by email
I do a lot of communication by email. When you email me, please include "CIS210:" in the beginning of subject. It will help me differentiate your email for this course with other emails.

Course schedule
- See "CIS210_schedule.pdf".

CIS210, Section2 – Database Design and Implementation: TENTATIVE COURSE SCHEDULE

*** Dates and topics are subject to change ***

Week	Approx. Dates	Topics	Homework	Exam	Chapters
1	9/5	No class (labor day)			
	9/7	Introduction, syllabus and schedule, survey, share practice environment			
2	9/12	SQL (Data definition language, Data manipulation language) – create table, add and retrieve rows (insert, select with where clause)			Ch7
	9/14	Practice: access DBMS, SQL – DML, DDL	HW1		Ch7
3	9/19	SQL DDL(alter and remove table), DML (sub query, join, update and delete rows)			Ch7
	9/21	Practice: SQL – DML, DDL (sub query, join)			Ch7
4	9/26	Advanced SQL: inner join, outer join, subquery, functions, set operators (union, intersect, minus)			Ch8
	9/28	Practice: SQL (functions, set operators)	HW2		Ch8
5	10/3	Midterm1 review			
	10/5	Midterm1			
6	10/10	Advanced SQL: view, sequence, PL/SQL (Anonymous PL/SQL, variable types), trigger			Ch8
	10/12	Practice: SQL (view, PL/SQL)			Ch8
7	10/17	Advanced SQL: trigger, stored procedure/function, cursors, Integration DB with programs (Java, C#)			Ch8
	10/19	Practice: Integration DB with programs (Java, C#)	HW3		
8	10/24	SDLC, Data models, DFD, ERD			Ch9, Ch2
	10/26	Practice: DFD, ERD using Visio			Ch2
9	10/31	Relational Database model			Ch3
	11/2	Practice: Relational Database modeling	HW4		Ch3
10	11/7	Entity relationship (ER) modeling			Ch4
	11/9	Midterm2 review			
11	11/14	No class (international trip)			
	11/16	Midterm2			
12	11/21	No class (Thanks giving)			
	11/23	No class (Thanks giving)			
13	11/28	Extended entity relationship (EER) model			Ch5
	11/30	Practice: EER modeling	HW5		Ch4, 5
14	12/5	Normalization			Ch6

	12/7	Practice: normalization			Ch6
15	12/12	Normalization – continue			Ch6
	12/14	Final Review			
16	12/16	Final (2:45 pm ~ 4:45 pm), Comprehensive			