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| **Fall 2014** |
| **PSIS 4142** |
| **Relational Databases and Design** |
| **4 Credits** |



# Instructor

George Gonchar: ggonchar@email.gwu.edu

Email:

Phone:

Office Hours: Thursday 5:00-6:00PM, and by appointment

# Class Schedule

9/3/14 to 12/17/14

Thursdays, 6:00pm-9:00pm

# Prerequisite

Knowledge of personal computers.

# Course Description

This course introduces the students to the terminology, technology, applications, and trends in database systems. Theory, architecture, and implementation of Relational Database Management Systems (RDBMS) in corporate and organization information systems will be discussed. Students will also learn to work with database systems such as MS Access and SQL. The class will be a combination of lectures, demonstrations, hands-on assignments in SQL, and a MS Access database project.

# Learning Outcomes

Upon successful completion of this course students will be able to:

* Design and create Entity-Relationship Diagrams for an organizational database
* Understand Relational Database Theory
* Convert Entity-Relationship Diagrams to a physical representation
* Design a system using a Relational Database Management System

Students should also be able to utilize some SQL commands as follows:

* Know the basic syntax of SQL select commands
* Be able to select data using “where” clause
* Be able to utilize aggregate functions, such as SUM, AVG
* Know how to group data on specific columns
* Be able to create table and insert data into tables
* Know how to join tables while selecting data

# Textbook/Readings/Blackboard

1) David M. Kroenke, David Auer, Database Concepts (5th Edition, 2010)   
ISBN-10: 0138018804  
ISBN-13: 978-0138018801  
  
2) Joan Casteel, Oracle 11G: SQL (2nd Edition, 2010)  
 ISBN-10: 1439041288  
 ISBN-13: 9781439041284

Complimentary readings and other resources will be posted on Blackboard on a regular basis. The majority of course content including assignments, required readings and lecture notes will be posted on Blackboard. Students should check their Blackboard account frequently.

# Assignments

Project, exercises, and assignments are the important part of the learning process and a tool for studying, and must be handed in on the date due. Late or missing assignments must be still completed and be charged 20% for the first week, when submitted before Monday, 40% for the second week.

There will be one database project – that is due in the middle of the course, the rest will be lab exercises. It is the responsibility of the student to keep track of all the work and submit all the assignments on time. The information on assignments will available under Assignments tab on Blackboard.

# Policy on Late Submission and Exams

* There will be NO 'make up' exams, unless prior arrangements are made for some unexpected circumstances such as military service, sickness, job-related travel, etc.
* Late assignments will be accepted up one week after submission deadline with penalty
* All submission should be through Blackboard, unless noted otherwise.
* Students must notify faculty during the first week of class of their intention to be absent from class on their day(s) of religious observance. Faculty will continue to extend to these students the courtesy of absence without penalty on such occasions
* In the event of an unforeseen circumstance where you miss class or a submission deadline, please inform your instructor as soon as you can. In the case of illness, you must provide a doctor’s note.

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| Assignments | 25 % |
| Midterm | 20 % |
| Access DB Project | 20 % |
| Class Participation/Attendance | 10 % |
| Final exam | 25 % |
| Total | 100% |

# Attendance Policy

Students are expected to attend each class, to complete any required preparatory work, and to participate actively in lectures, discussions, and exercises. As members of the academic community, all students are expected to contribute regardless of their proficiency with the subject matter. Students should try their best to avoid late arrival to class, as late arrival is disruptive to both the instructor and the other students. Students are expected to make prior arrangements with the instructor if they know in advance that they will miss any class and to consult with the instructor as soon as possible if they miss any class without prior notice. Students who arrive late, miss too many classes or don’t participate activity will lose points on their Class Participation/Attendance grade.

# Course Assessment and Grading

The assessment of the course will be through assignments, one project, class participation, midterm and final exam. The following distribution will be used to calculate grades:

Grades will be awarded in accordance with GWU’s grading scale as follows:

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| Percentage | Grade |
| **93+** | A |
| **90-92** | A- |
| **87-89** | B+ |
| **83-86** | B |
| **80-82** | B- |
| **77-79** | C+ |
| **73-76** | C |
| **70-72** | C- |
| **60-69** | D |
| **0-59%** | F |

# Classroom Conduct

Students are expected to conduct themselves in a manner that is conducive to learning, as directed by the instructor. Any student who negatively impacts the opportunity for other students to learn will be warned – if disruptive behavior continues, the student will be asked to leave the classroom. Electronic devices are potential distractions in the classroom environment. Cell phones, pagers and other handheld devices must be turned off or set to "silent" and not used while class is in session. No TEXTING during class time. Laptop computers and similar devices may be used only if such use is directly related to the classroom activity in progress – for some activities the instructor may require that such devices not be used in order to maximize student engagement.

# Email Etiquette

In the age of technology, when most forms of communication are electronic, it is important to adopt a proper etiquette to communicate with one another. It is asked that students use salutation when sending emails to their instructor and sign their name at the end of each email. The instructor reserves the right NOT to reply to emails that are not properly addressed, do not have a signature or don’t have an appropriate subject line. Students should also use their GWU email for any correspondence with the instructor.

# Code of Academic Integrity

Students should familiarize themselves with the “Code of Academic Integrity” for GW: “Academic dishonesty is defined as cheating of any kind, including misrepresenting one’s own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information.” This extends beyond written work and includes material of any kind found on the Internet. Commitment to academic honesty upholds the mutual respect and moral integrity that GW’s community values and nurtures. To this end, The George Washington University Code of Academic Integrity has been established and must be honored by all members of its community. Please read the "Code of Academic Integrity” at: http://studentconduct.gwu.edu/code-academic-integrity.

# Disability

Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250, Room Hall, Suite 102 to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: http://gwired.gwu.edu/dss/

# Tentative Class Schedule

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| **Weeks** | **Thursday** | **Weeks** | **Saturday** |
| **Week 1** | 9/3  Getting Started, Kroenke Ch1  Introduction to MS Access | **Week 2** | 9/10  The Relational Model, Kroenke Ch2  Building Tables in MS Access |
| **Week 3** | 9/17  Introduction to SQL, Kroenke Ch3  Building Queries in MS Access | **Week 4** | 9/24  Data Modeling, E-R Diagrams, Kroenke Ch4  Building Relationships in MS Access |
| **Week 5** | 10/1  Database Design, Kroenke Ch5  Normalization and Normal Forms | **Week 6** | 10/8  Database Design in MS Access,  Project Classwork |
| **Week 7** | 10/15  Review Kroenke Chapters 1-5  **Project MS Access Due** | **Week 8** | 10/22  **Midterm (Chapters 1-5 Kroenke)**  Starting with SQL, Casteel Ch1 |
| **Week 9** | 10/29  SQL Statements with Conditions  Casteel Ch2 | **Week 10** | 11/5  Create and Manage Tables, Casteel Ch3  Insert, Update, Delete, Casteel Ch5 |
| **Week 11** | 11/12  Restricting and Sorting Data  Casteel Ch8 | **Week 12** | 11/19  Joining Tables, Casteel Ch9 |
| **Week 13** | 11/26 –SELF STUDY  Single row Functions, Casteel Ch10 | **Week 14** | 12/3  Using Group Functions, Casteel Ch11 |
| **Week 15** | 12/10  Review SQL | **Week 16** | 12/17  **Final exam** |