CIS 360
Business Database Concepts
W. P. Carey School of Business

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This is a tentative syllabus for Spring 2017, minor changes may be made.

Note: when you make an appointment via email, please add [CIS 360] to the email subject line.

Course Description: This class introduces and explains database theory and design analysis and application for accounting and business practices. Concepts and techniques of database systems including data modeling and relational database design in an applied setting.

Prerequisite(s): ACC 330 and professional program admission.
Credit Hours: 3

Course Materials:

- **Required Book:** *Beginning Database Design: From Novice to Professional*, 2nd Edition. **ISBN-13:** 978-1430242093
- **Optional Book:** *Access/ACL/Excel Concepts*, Cengage Learning. **ISBN-13:** 978-1305315006
- In addition, I will make available a set of tutorials and datasets via Blackboard.

W. P. Carey School of Business Learning Goals:

The Undergraduate Program of the W.P. Carey School of Business has established the following learning goals for its graduates, items in italics have significant coverage in this course.

1. *Critical Thinking*
2. *Communication*
3. *Discipline Specific Knowledge*
4. *Ethical Awareness and Reasoning*
5. Global Awareness

Course Objectives:

Databases are foundational to the successful operation of all businesses, and data and information resources are critical to the competitive success of any organization. Database technology has evolved from being a resource that only the most sophisticated organizations utilized to its current status as a mainstay for any computing environment.

CIS 360 introduces foundational database concepts and modeling techniques using best practices for accounting majors. Students will analyze existing database design models and data to identify issues that hinder the audit ability of reporting. Students will gain practical experience in the ability to use database and spreadsheets to support business analysis and decision making as well as the use of auditing software.

Learning Outcomes:

At the completion of this course, students will be able to:

- Master essential database and spreadsheet (Excel) concepts.
- Develop critical and logical thinking skills through the construction of conceptual data models and structured query language (SQL).
- Learn and understand standard symbols and notation for data modeling and relational database design.
- Demonstrate knowledge by identifying design issues in the implementation of the database through audit techniques.
- Understand how businesses can utilize advanced spreadsheet analytical techniques using pivot tables, v-lookups, and graphical data representation to better understand their business and customers.

Computing/Software:

This course recommends the use of a Windows compatible computer or Access to Ctrix and it should be brought to class each session (if the class is not held in a computer equipped lab). The Microsoft Access software is not available on an Apple machine. You will need to use a PC or have access to *Ctrix* to complete the work in Access. The software is available on the machines in the computer labs across campus. The software is available on the Citrix Server but maybe very slow and inefficient for your use. In this class, I will provide the option to use a multi-platform (Windows, Mac OS or Linux compatible), Access software alternative – MySQL.

Course Structure and Schedule:

The content of CIS 360, Business Database Concepts, is organized into four modules, as listed in the table below.

Table 1: CIS 360 Course Modules

Module	Theme
1	Relational database concepts and design
2	Structured query language (MySQL)
3	Excel concepts and functions, basic analysis
4	Database Migration/ACL and ACL Basics

The specific classes throughout the semester for each of the above modules, along with the reading assignments for each class, are listed in the table that follows. The content of any individual class is subject to change, and your instructor will give you advance notice of any changes including reading assignments and quiz/test dates.

Throughout the semester several classes will include individual or group in-class exercises, with the objective of reinforcing lecture material. Assignments and supporting material for these exercises will be posted separately on Blackboard and/or handed out in class.

Table 2: CIS360 Weekly Course Schedule

Class No./Date	Topic	Assigned Reading/Assignments
1a - Tue. 1/10	Course road map	Course road map
1b - Thu. 1/12	Introduction to Databases	Introduction to Databases
2a - Tue. 1/17	Business Rules/Requirements In-class exercise: Gathering requirements	
2b - Thu. 1/19	Data Modeling - The Entity-Relationship Diagram (ERD)	
3a - Tue. 1/24	In-class exercise: Creating an Entity Relationship Diagram	HW 1 (Business Rules) due (4 points)
3b - Thu. 1/26	Introduction to MySQL Workbench and Access MySQL Server	
4a - Tue. 1/31	Getting data out of the database: SQL SELECT, DISTINCT, MIN, MAX, COUNT, WHERE	
4b - Thu. 2/2	Getting data out of the database: SQL Join Tables	
5a - Tue. 2/7	In-class exercise: Working with SQL (Introduction to MySQL), part 1	HW 2 (ERD) due (4 points)
5b - Thu. 2/9	Creating and updating the database SQL CREATE, DROP, and ALTER SQL INSERT, UPDATE, and DELETE	Team Contract due
6b - Tue. 2/14	SQL Review/SQL in (cont'd)	
6b - Thu. 2/16	In-class exercise: Working with SQL, part 2	
7a - Tue. 2/21	Advanced SQL queries	
7b - Thu. 2/23	In-class exercise: Working with SQL, part 3	
8a - Tue. 2/28	Project Day 1	HW 3 (SQL) due (4 points)
8b - Thu. 3/2	Exam Review	Milestone 1 due 3/1 midnight
9a - Tue. 3/7	No class - Spring Break	None
9b - Thu. 3/9	No class - Spring Break	None
10a - Tue. 3/14	Midterm Exam (20 points)	
10b - Thu. 3/16	Setting up your own MySQL server for group project and allow team members' access: Demo and Practice	
11a - Tue. 3/21	Excel - Dimensional Data Modeling + Pivot Tables in Excel In-class exercise: Pivot Tables in Excel	
11b - Thu. 3/23	Excel - The Extract, Transform, Load process (ETL) Excel - Functions and Filters	
12a - Tue. 3/28	Excel - In-class exercise: ETL	Milestone 2 due
12b - Thu. 3/30	Project Day 2	
13a - Tue. 4/4	Visualization and Charting: Theory and practice	HW 4 (pivot table) due (4 points)
13b - Thu. 4/6	In-class exercise: visualization and charting	
14a - Tue. 4/11	Migrate Your Own Database to ACL	
14b - Thu. 4/13	Basic ACL Scripting	
15a - Tue. 4/18	Project Day 3	HW 5 (ETL) due, submit on BB (4 points)
15b - Thu. 4/20	Exam Review	
16a - Tue. 4/25	Project Presentations (30 points)	Peer evals due
16b - Thu. 4/27	Project Presentations	
	No class (final exam week) (20 points)	See Below
May 5.	Final project due	Submit on blackboard.

Table 3: Course Grade Scale

>= 98.00	A+	80.00 - 82.99	B-
94.00 - 97.99	A	77.00 - 79.99	C+
90.00 - 93.99	A-	70.00 - 76.99	C
86.00 - 89.99	B+	60.00 - 69.99	D
83.00 - 85.99	B	<= 59.99	E

Final Exam date and time: `https://students.asu.edu/final-exam-schedule#Spring2017`

ASU Academic Calender:
`https://students.asu.edu/academic-calendar#spring17`

Assessement and Grade Distribution:

Your course grade will be based on your performance in exams, assignments and a comprehensive team-based database design and implementation group project.

- *Exams (20% * 2 =40% of grades)*: There will be two exams given. Any in-class exam missed with a valid excused absence or doctor's note can be made up, but must be made up within 3 days of the exam date (not including weekends).
- *Homework Assignments (4% * 5=20% of grade)*: All homework assignments are individual assignments (not group assignments). These assignments are designed to improve your skill levels and prepare you for the group project. Homework will combine written answers, graphics/diagrams and/or logic, components covering assigned readings for the current week as well as material from prior lectures and assignments. No late assignments will be accepted.
- *Group Project (30% of grade)*: Project will be assigned early in the semester and will require several deliverables, including presentations.
- *Attendance (10% of grade)*: A record of attendance will be kept. Each missing class will be 2 points. Anyone missing more than four classes over the course of the semester can be dropped from the course. Of course, there are certain circumstances whereby absences are excused, as explained below:
  - Accommodations will be made for students with religious holidays. Below is the location for the calendar of official religious holidays. Each holiday noted with two asterisks denotes an observance for which work is not allowed. For these holidays, students will not be penalized in any way for missing class or assignment. This means that this will not count as an absence in class and they will be granted a makeup assignment or exam, etc. `https://provost.asu.edu/index.php?q=religious-holiday-calendar`.
  - Accommodations will be made for students who miss class related to university-sanctioned activities according to ACD 304-02. If you are participating in a university-sanctioned activity, please let your instructor know as early in the course as possible so that accommodations can be made.
  - Sickness or family emergency. Evidence needs to be promptly submitted to the instructor.
- *Extra Credit Opportunities*:
  - 1 points for official Department of Information Systems Club (DISC) membership, meeting Department's minimum official membership criteria (i.e., number of events and meetings attended, etc.)
  - TBD: possible opportunities for completing surveys or online experiments for business research.

Course Policies:

- **Late Assignment Policy**
  - Assignments will be collected during class on the assigned day, or at the time specified by Blackboard if submitted electronically. No late assignments will be accepted after class collection or after the cutoff time in Blackboard.
- **Expected Classroom Behavior**
  - Students are expected to attend class prepared per the posted schedule. Timeliness is appreciated so as not to disrupt the rest of the class by arriving late. The use of cell phones and pagers is discouraged, as is the use of laptops for any reason other than pertains to the class in session (i.e. social media, etc). This course has a lot of learning material that is covered within the classroom environment, outside of what is covered online or in the textbook.
- **Appeals of Grading**
  - If you wish to appeal grading for any portion of the course, this should be done by writing a brief email message or letter that explains your concerns. The purpose of a written appeal is to allow the instructor to find the student's grade (from among those of numerous current students) and to then consider the appeal on its merits without distraction. Student grade appeals will be reviewed quickly and fairly.
  - Appeals concerning validity of exam/quiz questions or posted answers must be made within 48 hours of exam/quiz administration.
  - Other types of grade appeals must be made within one week of the time your grade is posted. It is your responsibility to verify grades on Blackboard and signal discrepancies to your instructor at your earliest possible opportunity.
- **Backing Up Your Work**
  - You are responsible for maintaining backups of all your assignments as you work through them. I highly suggest the use of a flash drive so you have two copies of your data. If you choose not to take preventative disaster recovery measures, you still remain responsible for on-time submission of your assignments.
- **Group Project Policies**
  - Students will be assigned to groups of 4–5 members for the project. Within your groups it is STRONGLY recommended that you communicate frankly about work schedules and grade expectations. A clear understanding of group expectations and goals from the beginning will help avoid many problems later in the semester when everyone is under increased time pressure.
  - Groups will be administered as much like groups in organizations as possible. Therefore, group members will fill out work contracts at the beginning of each group project and peer evaluation forms at the completion of the project. An important portion of the project grade will be assigned based on group peer evaluations. Additional information and materials on contracts and evaluations will be provided later in the semester.
- **Email/Online Communication**
  - All communication via email should be professional in form, content, and tone. That means that the message should have a subject indicating it is for CIS 360 and begin with a salutation and the body should explain the purpose of the message in clear English and give a complete description of the problem or situation you are writing about. The message should be signed with your full name and include the section you are in. Please do not write to ask for information that is contained in the course syllabus and schedule (e.g., grading policies, dates for final exams, etc.).
- **Course Website**

- Course assignments, documents, and information will be available on the class web site on BlackBoard `http://myASUcourses.asu.edu`. Please note that course content, including lectures, are copyrighted material and students may not sell notes taken during the conduct of the course.

- **Academic Integrity**
  - From the ASU General Catalog: "The highest standards of academic integrity are expected of all students. Failure to meet these standards may result in suspension or expulsion from the university and other sanctions as specified in the academic integrity policies of the individual colleges. Violations of academic integrity include, but are not limited to cheating, fabrication, tampering, plagiarism, or facilitating such activitiesâĂę" Specific policies can be found at: `http://provost.asu.edu/academicintegrity`.
  - The term "facilitating" includes active or inactive participation in academic dishonesty. Inactive participation includes silent knowledge of violations. This policy relates to all homework, projects, and exams for this course. Please be forewarned that your instructor strongly agrees with this policy, will strive to actively enforce it, and will support punishment for those who violate it.
    * Protect your projects and homework. Don't leave files on the hard drives of school computers; don't share your disks or printouts with others.
    * What you can share: Anything printed in either of your textbooks, any information given in class.
    * Expect to be called in for an interview and requested for evidence with the instructor if your project or homework solutions appear to be overly similar to those of other class members.

- **Additional Ethics Policy**
  - By law and regulation, this class will be conducted within the ethical standards of the university at large, which promote tolerance and preclude such activities as plagiarism, cheating, unfair grading, and various forms of harassment.
  - The Undergraduate Student Honor Code information can be found at: `https://my.wpcarey.asu.edu/academic-integrity/upload/Undergraduate-Honor-Code.pdf`
  - Be aware that business, when practiced effectively, has ethics that go beyond the university standards. These are ethics that are aimed at creating collegiality. The goal is to make customers, employees, managers, and vendors feel happy and satisfied...not just tolerated! This class will follow business ethics as well as university regulations.

- **Disability Resource Center**
  - Every effort will be made to accommodate students with disabilities. When requesting accommodations for a disability, students should register with the Disability Resource Center (DRC), and then submit appropriate documentation through it. Please see `http://www.asu.edu/aad/manuals/ssm/ssm701-01.html`

- **Threatening Behavior**
  - ASU is committed to having a safe environment for all students and maintaining an atmosphere of respect so that they can feel free in expressing their opinions and asking questions. Students are expected to support the professor in creating such an environment. Any manner of threatening behavior is inappropriate and students are expected to be aware of the University's policies regarding it. Threatening behavior may include endangering, threatening, or causing physical harm to any member of the university community or to oneself or causing reasonable apprehension of such harm. Refer to the following link for what constitutes such threatening behavior: `https://students.asu.edu/safety/definitions`. Specific policies can be found at: `http://www.asu.edu/aad/manuals/ssm/ssm104-02.html`.