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Spring 1-2016

BMIS 370.01: Managing Information and Data

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Recommended Citation

BMIS 370 – MANAGING DATA AND INFORMATION

The University of Montana, School of Business Administration

COURSE DESCRIPTION

Term / Credits	SPRING 2016, 3 credits
Pre requisites	Lower Core Complete + MIS 371/BMIS 365 (Data Applications/Programming)
Meets	MON/WED 12:40 – 2:00 in GBB L26
Instructor	Laurie Toomey, Adjunct Instructor
Office	GBB 389
Contact	Phone: 243-6768 (email is best!) E-mail: laurie.toomey@business.umt.edu
Office Hours	WED 11:00– 12:00 or by appointment

COURSE DESCRIPTION

This Managing Data and Information course is a broad overview of many different concepts. Part of the course is a condensed version of what many traditional database management courses cover including relational database design and usage. In addition to gaining a solid understanding of relational databases, students will learn about the challenges and opportunities of information within the context of an organization.

COURSE OBJECTIVES

Upon completion of this course, a student will be able to:

- Recognize the role databases play in an organization, including the responsibilities to secure and protect information;

- Apply knowledge of business operations to create logical and conceptual data models;

- Analyze a data model for potential problems due to client communication, such as multiple meanings of ambiguous terms, relationships that have been assumed but not confirmed and the level of detail needed for historical data;

- Determine answers to organizational questions using SQL queries;

- Demonstrate ability to use database software such as SQL Server and various CASE tools;

- Understand the security and ethical concerns surrounding data management;

- Understand general terminology and concepts of databases to effectively manage and communicate with a development team.

READING MATERIALS AND SOFTWARE

There is no textbook for this class. Content is posted on Moodle either as PDFs OR as links to freely available materials.

Although there is no textbook to purchase, you are required to subscript to two online platforms in this class.

Amazon Web Services: Estimated cost = $20-$40 for the semester if you manage your instances well.
Appery.io Mobile: About $20 for one month of use. This is towards the end of class.

We will be using custom images on Amazon Web Services that are built specifically for the labs. Using Amazon Web Services will allow you to continue working on a lab outside of class or to retry a lab whenever you want. These images have all the software needed for each lab plus you won't have download the starter projects because they will be ready to go.

The following are the primary software tools used in this class but the list is not exhaustive.

Database:
- SQL Server 2014 Express With Tools (i.e. SQL Server Management Studio)

Programming Application:
- Visual Studio Community 2013 (includes IIS Express)

Data Modeling:
- Power Architect 0.9.15

Database Population Tool:
- SQLDog OR Use Excel random functions

The above software is all free and you are welcome to download it to your computer. However, there are the following advantages to using Amazon Web Services:

- Everything is exactly like the screenshots in the step-by-step lab instructions.
- The starter files are already installed.
- You can "turn off" the virtual server and then get on any other computer and start it again to continue working.
- If you totally mess something up, you can delete the virtual server and restart with a fresh new one in about 10 minutes.
- You learn about using virtual servers which is an excellent skill to have.

If you choose not to use Amazon Web Services, you will need to bring your own laptop to class with the above software. If there is a starter file, you will be able to download it at the beginning of class. Sometimes you will need to follow additional instructions for a few labs to get your computer ready BEFORE class begins. For labs with additional setup, the instructions will be posted ahead of time.

It is highly recommended that you use Amazon Web Services to minimize the work you need to do for both installing the software initially and setting up the labs.

GRADING

Moodle will be used to post grades. POP QUIZZES <u>MAY</u> BE ADDED (SEE ELECTRONIC DEVICES SECTION). The course grade is on a +/- system as shown below.

A+ 100-97%	A 96.99-93%	A- 92.99-90%
B+ 89.99-87%	B 86.99-83%	B- 82.99-80%
C+ 79.99-77%	C 76.99-73%	C- 72.99-70%
D+ 69.99-67%	D 66.99-63%	D- 62.99-60%
	F Below 60%	

Qty	Type	Each	Total
4	Exams (a make-up if you miss an exam is given during finals week)	100	400
1	SQL SELECT Assessment (use best score out of four possible tries)	100	100
20	Attendance (out of 20 + attendance opportunities… extra credit if attend all)	5	100
1	Profile Assignment	10	10
8	Lab Assignments	10	80
1	PROJECT PART 1 - INDIVIDUAL GRADE - Project proposal including beginning data model	60	60
1	PROJECT PART 2 - INDIVIDUAL GRADE - Model improvement paper & logical model	60	60
1	PROJECT PART 3 - INDIVIDUAL GRADE - Implementation on separate development sites	60	60
1	PROJECT - GROUP GRADE - Final Model and Scripts	60	60
1	PROJECT - GROUP GRADE - Final Combined Implementation	50	50
1	PROJECT PEER EVALUATION - INDIVIDUAL GRADE - Group members evaluate each other	20	20
		TOTAL	1000

TENTATIVE SCHEDULE – SUBJECT TO CHANGE!

Date	General topic
Mon, Jan 25	Syllabus + AWS
Wed, Jan 27	Data Literacy
Mon, Feb 1	The New Patterns of Innovation
Wed, Feb 3	The New Patterns of Innovation
Mon, Feb 8	Databases Support Processes
Wed, Feb 10	**UNIT 1 EXAM / SQL Assessment Try 1**
Mon, Feb 15	President's Day - No Class
Wed, Feb 17	Conceptual Modeling
Mon, Feb 22	Conceptual to Logical
Wed, Feb 24	Relationships
Mon, Feb 29	Practice
Wed, Mar 2	SuperType/SubType
Mon, Mar 7	Relationship Degrees
Wed, Mar 9	**UNIT 2 EXAM / SQL Assessment Try 2**
Mon, Mar 14	Lookups, Mockups and User Stories
Wed, Mar 16	Data Dictionaries and Entity State Matrix
Mon, Mar 21	TBA
Wed, Mar 23	Normalization
Mon, Mar 28	Group Work Day
Wed, Mar 30	**UNIT 3 EXAM / SQL Assessment Try 3**
Mon, Apr 4	Spring Break - No Class
Wed, Apr 6	Spring Break - No Class
Mon, Apr 11	The Accidental DBA
Wed, Apr 13	The Accidental DBA
Mon, Apr 18	Business Intelligence
Wed, Apr 20	Data Security and Privacy
Mon, Apr 25	TBA
Wed, Apr 27	TBA
Mon, May 2	Group Work Day
Wed, May 4	**UNIT 4 EXAM**
Mon, May 9	**10:10 - 10:55 MAKEUP EXAM** **11:00 - 11:55 SQL Assessment Try 4**

QUIZZES AND EXAMS AND ASSESSMENTS

ATTENDANCE

In class attendance will be taken as either a participation exercise in class or an online mini-quiz which tests your knowledge. These items will be counted for 5 points each. For both participation and mini-quizzes, you earn some points on whether you provided thoughtful answers and not on correctness. Often any questions are reflections on content and are your opinion. This means you should stay current on the reading material assigned. If you miss a class or you are gone during the portion of the class attendance is taken, you do not get attendance **no matter what the reason**. However, there will be over 20 times attendance is taken so it is possible to miss class and still get 100% on participation.

EXAMS

There will be short multiple-choice/short answer/short problem exams throughout the semester.   **A MAKE-UP EXAM WILL BE GIVEN DURING FINALS WEEK!**

- Exams will cover material for the labs, graded <u>and ungraded</u> assignments, reading materials and lectures (on video and in-class).
- If you miss an exam, you have an opportunity to improve by taking a comprehensive make-up exam at the end of the semester. If you miss two exams, you will have to take a second makeup exam during finals week from 7 am to 8 am. This second makeup would be after the regularly scheduled final examination time.
- Exams will usually contain <u>about</u> 30 questions. You will have 30 minutes to take the exam.
- Exams will usually be given during the first part of a class. **Regular class will resume once the 30 minutes allocated for the exam have passed.**

SQL ASSESSMENT

SELECT statements including filtering, calculated fields, joins, etc. You can take this assessment multiple times. Your best score for the assessment is the one recorded in the gradebook.   This should be a grade booster for you! The attempts for the SQL Assessments are given after some of the exams and once during finals week. You have 35 minutes to complete 14 SELECT statements. While learning SQL statements is not difficult, you must practice quite a bit to become fast enough to complete the statements in the time allowed. You will be taught how to use SQL statements during UNIT 1 but you will have to practice on your own if you do not pass the first SQL Assessment.

ASSIGNMENTS

PROFILE ASSIGNMENT

You will submit a **head shot** of your lovely smiling face (with no hat) and then write a little about yourself. The bio should include why you are in your major or what career interests you have. There will be a few other brief questions to answer as well which vary from semester to semester.

LABS

Labs are completed through Amazon Web Services. Students work through the assigned lab at their own pace. While the lab is set up for students to finish within an hour or two, you do not have to finish within one sitting. However, if you need to save the lab to work on it later, be aware that you are charged for instances you keep. While working on your own lab, you can be going through the steps with another student so that you can help each other when there is an error. However, each of you must do the work on separate Amazon instances and each person needs to do the actual work on their instance.

At the end of the lab there will be either a file or a screenshot to submit.

DATABASE PROJECT

Students will be working to design a small database with some limited functionality in a web application. Students will be creating forms and simple reports as well as charts and web services. The project is designed to give you a taste of multiple techniques to interact with data. Much of the code is already written in a sample project and you will need to follow instructions to modify the code for your particular database. The main emphasis is on developing a data structure that works for your group's fictitious business. More information will be available later during the semester.

Please DO NOT combine this project with any other project you are doing for another class during this semester.

GRADUATE CREDIT – ADDITIONAL REQUIREMENTS

Students taking this course for graduate credit must complete an additional project which will be determined after meeting with the instructor.

ACADEMIC INTEGRITY

It is your duty to abide by the University's academic policies, and it is the instructor's duty to enforce those policies. Cheating of any sort will not be tolerated. Cheating, failure to follow instructions, and/or failure to follow course policies may result in a reduced grade or a failing grade at the instructor's option.

The following message about academic integrity comes from the Provost's office: *"All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. The University of Montana Student Conduct Code specifies definitions and adjudication processes for academic misconduct and states, "Students at the University of Montana are expected to practice academic honesty at all times." (Section V.A., available at http://www.umt.edu/vpsa/policies/student_conduct.php). All students need to be familiar with the Student Conduct Code. It is the student's responsibility to be familiar the Student Conduct Code.*

In addition, the School of Business has a Code of Professional Conduct at http://business.umt.edu/ethics.

DISABILITY ACCOMMODATIONS

Students with disabilities may request reasonable modifications by contacting me. The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). "Reasonable" means the University permits no fundamental alterations of academic standards or retroactive modifications. For more information, please consult http://www.umt.edu/dss.

MISSION STATEMENTS AND ASSURANCE OF LEARNING

The University of Montana's School of Business Administration enhances lives and benefits society by providing a world-class business education in a supportive, collegial environment.

We accomplish this mission by acting on our shared core values of creating significant experiences, building relationships, teaching and researching relevant topics, behaving ethically, and inspiring individuals to thrive.

As part of our assessment process and assurance-of-learning standards, the School of Business Administration has adopted the following learning goals for our undergraduate students:

- Learning Goal 1: SoBA graduates will possess fundamental business knowledge.
- Learning Goal 2: SoBA graduates will be able to integrate business knowledge.
- Learning Goal 3: SoBA graduates will be effective communicators.
- Learning Goal 4: SoBA graduates will possess problem solving skills.
- Learning Goal 5: SoBA graduates will have an ethical awareness.
- Learning Goal 6: SoBA graduates will be proficient users of technology.
- Learning Goal 7: SoBA graduates will understand the global business environment in which they operate.

ELECTRONIC DEVICES

Cell phones and other electronic devices should be turned off and put away. **If I see any electronic devices in use, I will give a pop quiz for the entire class.** This will increase the total points possible for the class.