

Management 320
Business Information Systems
Spring 2018

Effective: 1/05/2018 (SUBJECT TO CHANGE; visit Blackboard regularly for updates)

Instructor: Thomas Mattson

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Office Hours: Tuesday & Thursday 2:00pm-4:00pm and by appointment

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Note: Emails will be answered within 24 hours. My dedicated hours to respond to emails are every evening (except Tuesday) from 6:30pm until 8:00pm.

01/16/2018-03/02/2018

Section 06, CRN 26181, Tuesday/Thursday 10:30am-11:45pm, Room BUS 239

Section 05, CRN 24925, Tuesday/Thursday 12:00pm-1:15pm, Room BUS 239

Academic Calendar:

https://registrar.richmond.edu/common/PDF/6_1%20Current%20Academic%20Calendar/academic-calendar-201720.pdf

Withdrawal Deadline

Due to the compressed timeline of this class it **DOES NOT** follow typical University of Richmond withdrawal policy. The last day to withdraw from the class without the penalty of a failing grade is **Friday, February 2nd**.

Overview of the course

What are the right technologies for organizations to adopt and what is the right way to implement those adopted technologies in order to maximize efficiency and effectiveness? Unfortunately, there is no universal set of guidelines to answer those questions. The ideal mix of technologies may be different for, say, Citigroup and HSBC even though they are both international banking conglomerates. Very similar firms may have significantly different portfolios of technologies and the different portfolios may be equally successful or unsuccessful. Furthermore, there is not one universal implementation strategy that will work for all companies. Different companies may be able to successfully implement technologies using a 'big bang' implementation strategy whereas other firms may find this strategy to be problematic. What works depends on the organizational culture, technological architecture, previous management decisions, corporate structure, external environmental factors, corporate strategy, and so on. Either fortunately or unfortunately, there is no 'cookie cutter template' that may always be followed in all organizational contexts and situations.

Learning objectives to be met in this course

- Analyze complex business problems and think critically about possible technological solutions to solve those problems.
- Evaluate the costs/benefits of applying technology in business and the positive and negative consequences of applying those technologies.
- Gain a level of competency in MS Access, MS Excel, and relational database design.

Required Readings & Videos

The following Harvard Business School course pack contains the following articles and cases (<http://cb.hbsp.harvard.edu/cbmp/access/72752465>):

1. San Francisco International Airport and Quantum Secure's SAFE for Aviation System (Case)
2. IT Doesn't Matter by Nicholas Carr

NOTE: There are several response articles contained in this article. You are responsible for reading all of those response articles.

3. The Myth of Secure Computing by Robert D. Austin and Christopher A. R. Darby
4. iPremier (A): Denial of Service Attack (Graphic Novel Version) (Case)
5. iPremier (B): Denial of Service Attack (Graphic Novel Version) (Case) – Hidden until 2/28/2018
6. iPremier (C): Denial of Service Attack (Graphic Novel Version) (Case) – Hidden until 2/28/2018

Free Articles

1. The Engine That Drives Success (article posted to Blackboard)
2. Relational Database Concepts & Terminology (packet - RelationalDatabaseTerminologyConcepts.pdf - posted to Blackboard).

NOTE: This packet contains a collection of articles discussing basic relational database terminology and concepts.

3. Getting Started with Access 2016 (<http://www.gcflearnfree.org/access2016/>).
4. Using Access or Excel to Manage your Data (<https://support.office.com/en-us/article/Using-Access-or-Excel-to-manage-your-data-09576147-47D1-4C6F-9312-E825227FCAEA>)
5. California Berkley Cybersecurity Scenarios (<https://cltc.berkeley.edu/scenarios/>)

Free via the University of Richmond Library

1. Dark Side of IT (<http://sloanreview.mit.edu/article/the-dark-side-of-information-technology/>) – Issue 56 Volume 2 of the MIT Sloan Management Review in 2015. I have this article uploaded to the Blackboard course site so you do not have to search the University library to download the pdf.

General Course Policies & Guidelines

Classroom time: Attending class is critical to learning the course material and succeeding in this course. Class sessions will be a combination of lectures, small group discussions, hands-on technology work and case presentations. When I lecture, I try not to lecture directly from the reading materials. As students at the University of Richmond, I trust that each of you can read! As such, I try to bring my own experiences and my own thoughts about each topic to the lectures such that you have the opportunity to learn from the readings and from me.

Class preparation & debriefing: To be successful in this course you should expect to devote 10-14 hours each week in class, reading and studying the material, and preparing assignments. To keep up with the class and be ready to participate and contribute, you need to read the assigned materials or watch the assigned videos when they are due! If you do not read the materials ahead of time, you will not be able to participate in the small group discussions and the learning value associated with those discussions will be

limited. After we discuss each topic in class, you should review those readings and videos along with the lecture slides and any notes that you take in class in order to further your understanding of the material.

The instructor as resource: “To teach” means to “pass on knowledge,” while “to learn” means “to acquire knowledge and skills.” As course instructor, I will teach you what I know about information technology in today’s business environment by organizing the course around important topics, key instructional materials and assignments while acting as a facilitator, resource, and guide. You can ask me questions and ask me for extra help, and I will do my best to assist you, but it is your job to learn (even when learning is hard work)! Come to my office during office hours (or by appointment) or email me with questions.

I took this position because I enjoy teaching. I genuinely care about you and your progress in the class. If you have a problem, complaint, comment, concern, etc., **please** schedule an appointment or drop in during open office hours.

Expectations for student behavior: I expect each student to demonstrate **respect** for his or her fellow students individually and as a class, to me as your instructor, to the Robins School of Business as a place of learning – and to himself or herself. In addition to the typical ways we should be respectful (e.g., language use, politeness, cooperation, openness to new ideas, etc.), being respectful means **no cheating and no plagiarism**. To be clear, **cheating** includes, but is not limited to, copying someone else’s work, with or without their knowledge, and turning it in as your own work. This includes case write-ups, exams, and the Access skills assessment. **Plagiarism** includes, but is not limited to, copying intellectual property from others (on the web, in books, etc.) and presenting it as your own work, without proper citation. If I identify instances of cheating or plagiarism, ***the students involved will receive a failing grade (F) for the class and instances of cheating or plagiarism will be reported to the Honor Council for possible further sanctions.*** Make sure you familiarize yourself with Richmond’s honor code (<http://studentdevelopment.richmond.edu/student-handbook/honor/the-honor-code.html>). Not knowing the policies and procedures related to my course AND the University of Richmond is not an excuse to violate those policies and procedures. *When in doubt, don’t do it and ask me for clarification.*

Other Resources Available to Students: If you are struggling in this course, do not hesitate to consult with me either in person or via email. I am on-campus all week, so don’t be limited by my office hours should you need to consult with me. There are also other resources that can support you in your efforts to meet course requirements and learn the material.

Academic Skills Center (<http://asc.richmond.edu>, 289-8626 or 289-8956): Helps students hone their academic skills through teaching effective test preparation, critical reading and thinking, information processing, concentration, and related techniques.

Counseling, Psychological & Disability Services (<http://caps.richmond.edu> or 289-8119): Assists students in meeting academic, personal, or emotional challenges. If you are disabled and require special assistance to complete this course, please contact disability services to process your request at the very beginning of the course. You must complete a “Disability Accommodation Notice” within the first two weeks of the semester (see <http://studentdevelopment.richmond.edu/disability-services/index.html>).

Writing Center (<http://writing.richmond.edu> or 289-8263): Assists writers at all levels of experience, across all majors.

Speech Center (<http://speech.richmond.edu> or 289-6409): Assists with preparation and practice in the pursuit of excellence in public expression. Recording, playback, coaching and critique sessions offered by teams of student consultants trained to assist in developing ideas, arranging key points for more

effective organization, improving style and delivery, and handling multimedia aids for individual and group presentations.

Boatwright Library Research Librarians (<http://library.richmond.edu/help/ask/> or 289-8876): Research librarians assist students with identifying and locating resources for class assignments, research papers and other course projects. Librarians also provide research support for students and can respond to questions about evaluating and citing sources.

Class Participation & Attendance: As students in the Robins School of Business, your future employers will expect you to be leaders. A key way to lead and contribute is to share your knowledge and thoughts on a specific topic. This means contributing relevant and insightful comments and questions concerning the material.

“Even to have expressed a false thought boldly and clearly is already to have gained a great deal” (Ludwig Wittgenstein). So, don’t be shy and do speak up!

My assumption is that all students who are taking my class are adults. If you, as an adult, choose to miss class on a given day, I assume that 1) you understand that you are missing a component of the class, 2) you have decided that whatever you have chosen to attend in lieu of class is more important than what is happening in class that day, and 3) you are willing to accept any consequences of missing what happens in class that day (lecture material, interaction with your classmates, classroom presentations, exams, and so on).

Religious Observance Policy: Students needing to miss class because of religious observance should contact me within the first two weeks of the semester (or the start of our class) to discuss the absence. The University’s full religious observance policy may be found here (<http://registrar.richmond.edu/services/policies/religiousobsrv.html>).

Assignments & Deliverables

Individually means that students cannot consult any other student (present or former) for advice or discuss the content of the deliverable with any other student. It is also against the individual rules to view deliverables from previous semesters unless I have explicitly provided them to you. In this class, scooping is a violation of individually completing an assignment.

A ***team*** assignment means that individuals within a given team will communicate and collaborate on the deliverable. Each team will submit a single deliverable on team projects. *One team may not help another team.* One team helping another team is a violation of the rules of this course. Any individual not actively participating in the group (i.e., free riding or social loafing) will have his/her grade significantly reduced, possibly down to zero should he/she contribute no work to the final group deliverables. ***It is an honor code violation to put your name on work that you did not contribute any part of.***

Access & Relational Database Skills Assessment: Each student ***individually*** will complete a ***closed book, closed notes, and closed internet*** Access Skills Assessment. This means that students are prohibited from accessing cell phones or any other communication devices (e.g., iWatch, Google Glasses and so on) during the exam. This skills assessment will cover concepts related to relational database development, tables, lookups, queries, and other general knowledge of MS Access 2016.

Final Exam: This will be a ***closed book, closed notes, and closed internet*** exam that will be done ***individually***. This means that students are prohibited from accessing cell phones or any other communication devices (e.g., iWatch, Google Glasses and so on) during the exam. This exam will be

cumulative and contain a combination of hands-on technical tasks/questions using any of the software covered in the class and conceptual questions related to the readings and topics covered in the class. The exam is designed to reward those students with the most in depth knowledge of the concepts. Make-up exams will only be administered for very special circumstances and serious illnesses. Should one of these special circumstances arise, you must contact me ***BEFORE*** the exam in order to make arrangements for a make-up exam. Asking for an extension because you have a lot of work to do in other classes is not a valid reason for an extension.

SFO Case: This case write-up may be done in ***teams*** containing ideally three students. This case is designed to determine the potential value of a technological investment. On presentation day, I will randomly select teams to present different aspects of the case, so each team must be prepared to present on each day. I also reserve the right to select the student on the randomly selected team to present if I feel that the entire team is not prepared. The case will be graded based on how well the team analyzes the problems presented in the case and how well the teams justify any assumptions made in their analyses. I may also ask teams to perform follow-up analyses in class related to the material in the case, which may also be incorporated in the final grade for the case. All members of the team may or may not get the same grade on the assignment based on participation. Late cases will not be accepted.

Excel Basics Self-Paced Tasks: Students will ***individually*** complete a series of excel tasks. Several of the tasks will follow the online tutorials and other tasks will require you to complete on your own without the step-by-step tutorials. After completing all of the tasks, students will upload their completed workbook to the Blackboard test question. The estimated time to complete these tasks will vary greatly depending on how well you know excel.

Adding up the points

	Points	%															
Access & Relational Database Skills Assessment (<i>Individual</i>)	42	42%	Letter Grade / Percentage Breakdown <table border="1" style="margin: auto;"> <tr> <td style="text-align: center;">A ≥93%</td> <td style="text-align: center;">A- ≥90% & <93%</td> <td style="text-align: center;">B+ ≥87% & <90%</td> </tr> <tr> <td style="text-align: center;">B ≥83% & <87%</td> <td style="text-align: center;">B- ≥80% & <83%</td> <td style="text-align: center;">C+ ≥77% & <80%</td> </tr> <tr> <td style="text-align: center;">C ≥73% & <77%</td> <td style="text-align: center;">C- ≥70% & <73%</td> <td style="text-align: center;">D+ ≥67% & <70%</td> </tr> <tr> <td style="text-align: center;">D ≥63% & <67%</td> <td style="text-align: center;">D- ≥60% & <63%</td> <td style="text-align: center;">F < 60%</td> </tr> </table>			A ≥93%	A- ≥90% & <93%	B+ ≥87% & <90%	B ≥83% & <87%	B- ≥80% & <83%	C+ ≥77% & <80%	C ≥73% & <77%	C- ≥70% & <73%	D+ ≥67% & <70%	D ≥63% & <67%	D- ≥60% & <63%	F < 60%
A ≥93%	A- ≥90% & <93%	B+ ≥87% & <90%															
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C ≥73% & <77%	C- ≥70% & <73%	D+ ≥67% & <70%															
D ≥63% & <67%	D- ≥60% & <63%	F < 60%															
Final Exam (<i>Individual</i>)	35	35%															
SFO SAFE System Case (<i>Teams</i>)	15.5	15.5%															
Self-Paced Excel Basics (<i>Individual</i>)	7.5	7.5%															
Failure to be prepared for any in-class activity or discussion may result in negative points ranging from -1 to -5. If I feel like the entire class is unprepared, then I reserve the right to give the class a quiz, which may result in negative points towards your final course grade.																	
Total	100																

TENTATIVE Course Schedule
SUBJECT TO CHANGE; Visit Blackboard regularly for updates

Date	Topic	Homework/Readings Due <i>Before</i> Start of Class	Learning Objectives
1/16/2018	General Course Introduction IT & Organizations	(1) Read the course syllabus! (2) Purchase Harvard Business Coursepack (3) Download all course articles and verify links	(1) Understand the structure of the course, course deliverables (and due dates), and class expectations. (2) Understand how MIS differs from related IT disciplines. (3) Identify negative consequences of IT investments. (4) Be able to explain the IT productivity paradox and some of the common explanations for the productivity paradox. (5) Understand the types or categories of technologies that organizations implement. (6) Identify how managers build the business case for each type/class of technology.
1/18/2018	IT Doesn't Matter or Does it?	<p><i>Video Lectures/Tutorials</i></p> (1) Three_Classes_Of_Technologies_IT_Productivity_Paradox (Video on Blackboard in the content folder) (2) Cloud Computing Fundamentals (https://www.youtube.com/watch?v=36zducUX16w) (3) Business Benefits of Cloud Computing (https://www.youtube.com/watch?v=whkyRvugqIM)	(1) Be able to logically argue why <i>IT doesn't matter</i> for competitive strategy. (2) Be able to logically argue why <i>IT does matter</i> for competitive strategy. (3) Identify Carr's three rules for IT spending and be able to explain the pros and cons associated with those three rules. (4) Understand what it means to say that "IT is a commodity." (5) Identify different lenses for managing IT within modern organizations.
1/23/2018	Justifying Investments in IT	<p><i>Required Readings</i></p> (1) IT Doesn't Matter (read the entire packet from the HBR coursepack including all of the response notes/articles) <p><i>Optional Readings</i></p> (1) The Dark Side of IT	<p><i>Case Day</i></p> San Francisco International Airport and Quantum Secure's SAFE for Aviation System
		(1) SFO Excel Case File. NOTE: Groups do NOT have to make PowerPoint slides for this case. Instead, groups will present different section(s) of the Excel file (as randomly assigned).	(1) Understand how return on investment (ROI) calculations work, with an emphasis on identifying incremental effects. Also be able to determine methods for determining ROI in other types of systems (beyond SAFE). (2) Decide how to use results from similar entities making similar purchases to estimate the incremental benefit of a proposed solution. (3) Identify and use the best data available in making assumptions and using ROI calculations.

			(4) Justify the validity of benefits that are difficult to quantify in conjunction with the presentation of a traditional ROI analysis.
1/25/2018	Databases, Database Management Systems & Relational Databases	<p><i>Readings</i></p> <p>(1) Relational Database Concepts & Terminology (RelationalDatabaseTerminologyConcepts.pdf on Blackboard)</p> <p>NOTE: This packet contains several examples. Each explains the core concepts slightly differently. The hope is that one of the methods resonates with you.</p>	<p>(1) Be able to define and describe the uses of a database, a database management system (DBMS) and a relational database.</p> <p>(2) Understand that a relational database is one type of database and not the only type of database. Along these lines, be able to identify other types of database structures used to store organizational data.</p> <p>(3) Be able to define the basic terms (language) associated with relational databases (entities, fields, primary keys, foreign keys, and so on). Within this, be able to articulate the difference between a field and a record.</p> <p>(4) Understand the three main relationship types in a relational database.</p> <p>(5) Be able to construct a relational data model from a business scenario.</p>
1/30/2018	Access Tables & Relationships	<p><i>Required Videos</i></p> <p>(1) Introduction to Databases (http://www.gcflearnfree.org/access2016/introduction-to-databases/1/)</p> <p>(2) Introduction to Objects (http://www.gcflearnfree.org/access2016/introduction-to-objects/1/)</p> <p>(3) Getting started with Access 2016 (http://www.gcflearnfree.org/access2016/getting-started-in-access/1/)</p> <p>(4) Managing Databases and Objects (http://www.gcflearnfree.org/access2016/managing-databases-and-objects/1/)</p>	<p>(1) Construct a table (base object in a relational database) in Access using design view and datasheet view.</p> <p>(2) Implement one-to-many and many-to-many relationships in Access.</p> <p>(3) Understand what it means to enforce referential integrity and why this is fundamental to the design of a relational database.</p> <p>(4) Create lookups on fields within the table design window and be able to explain what they are and why they are useful.</p> <p>(5) Create input masks on fields within a table and be able to explain what they are and why they are useful.</p>
2/1/2018	Access Data Import & Data Integrity	<p><i>Exercises/Practice</i></p> <p>(1) Redo in-class example (Day1 Video on Blackboard)</p> <p><i>Required Videos</i></p> <p>(1) Working with Tables (http://www.gcflearnfree.org/access2016/working-with-tables/1/)</p> <p>(2) Sorting and Filtering (http://www.gcflearnfree.org/access2016/sorting-and-filtering-records/1/)</p>	<p>(1) Understand the different options to import data into Access and when each option will be used.</p> <p>(2) Be able to conceptualize and workaround some of the common data import errors (structure versus data errors).</p> <p>(3) Use the VLOOKUP function and array functions in Excel to locate potentially 'bad' data.</p>

		(3) Modifying Tables (http://www.gcflearnfree.org/access2016/modifying-tables/1/)	
2/06/2018	Hands-on Practice problem creating and loading an Access Database	<i>Exercises/Practice</i> (1) Redo in-class example (Day2 Video on Blackboard) (2) Complete the Day2 Activity Homework	(1) Reinforcing skills from the prior two class periods
2/08/2018	Access Queries	<u>Excel self-paced tasks due (before the start of your section)</u> <i>Exercises/Practice</i> (1) Complete/Redo the activity from the prior class period <i>Required Videos</i> (1) Designing a Simple Query (http://www.gcflearnfree.org/access2016/designing-a-simple-query/1/) (2) Designing a Multi-table Query (http://www.gcflearnfree.org/access2016/designing-a-multitable-query/1/) (3) More Query Design Options (http://www.gcflearnfree.org/access2016/more-query-design-options/1/)	(1) Be able to define and create SELECT queries in the query designer. (2) Be able to set criteria or filtering conditions on a query using hardcoded values and user entered parameters. (3) Be able to create aggregate function queries in the query designer. (4) Be able to construct multi-table queries. (5) Create numerical calculated fields in Access and perform aggregate functions on those calculated fields (if needed).
2/13/2018	Access Queries	<i>Exercises/Practice</i> (1) Complete/Redo all of the queries from the prior class period <i>Required Videos</i> (1) Creating Calculated Fields & Totals Rows (http://www.gcflearnfree.org/access2016/how-to-create-calculated-fields-and-totals-rows/1/) (2) Creating a Parameter Query (http://www.gcflearnfree.org/access2016/creating-a-parameter-query/1/) (3) How to Create and Find Duplicates (http://www.gcflearnfree.org/access2016/how-to-create-a-find-duplicates-query/1/)	(1) Understand the different join types associated with multi-table queries. (2) Be able to concatenate text fields together in a single column in the query designer. (3) General querying skills

2/15/2018	Access Exam Review	<i>Exercises/Practice</i> (1) Complete/Redo all of the queries from the prior class period.	(1) Review for the Access Exam
2/16/2018	Access In-Class Assessment (Room BUS 224): This is a Friday and serves as the exam block for this course. The exam time block is 10:30am until 5:00pm. The exam is designed to take 1 hour and 30 minutes but I will not impose a strict time limit.		
2/20/2018	Access & Excel Integration	<i>Required Reading</i> (1) “Using Access or Excel to Manage your Data” (https://support.office.com/en-us/article/Using-Access-or-Excel-to-manage-your-data-09576147-47D1-4C6F-9312-E825227FCAEA)	(1) Understand when to use Access and when to use Excel. (2) Be able to functionally connect an Access table and/or query to an Excel table. (3) Understand the basics of data modelling in Excel.
2/22/2018	Information Security	<i>Required Readings</i> (1) iPremier (A): Denial of Service Attack (2) The Myth of Secure Computing <i>Required Videos</i> (1) Pablos Holman Ted Talk (https://www.youtube.com/watch?v=hqKafI7Amd8) (2) Brian Brushwood Ted Talk (https://www.youtube.com/watch?v=yY-lMkeZVuY) <i>Optional Readings</i> (1) California Berkley Cybersecurity Scenarios	(1) Understand that IS security is as much of a human problem as it is a technical problem. (2) Be able to identify human threats to IS security and ways to mitigate those risks. (3) Be able to identify technical threats to IS security and ways to mitigate those risks. (4) Understand the role that business leaders play in making decisions regarding the protection of IT assets. (5) Understand basic business concepts regarding security and privacy. (6) Appreciate the scope and depth of adequate security plans.
2/27/2018	Class wrap-up		
3/1/2018	Final Exam		