The Ohio State University
The Max M. Fisher College of Business
Department of Accounting and Management Information Systems

ACCTMIS 3600 – Accounting Information Systems

Spring Semester 2022

Contact Information and Times:

Course Instructor: Prof. Waleed A. Muhanna (muhanna.1@osu.edu)
Phone: (614) 292-3808; Fax: 292-2118
Office: 420 Fisher Hall

Class Meetings: Mondays and Wednesdays 11:00am-12:30pm (section 1),
12:45pm-2:05pm (section 2), and 2:20pm-3:40pm (section 3)

Office Hours: Tuesdays 11:00am-Noon, and by appointment

Course Overview:

Accounting information systems are fundamental tools to operate modern organizations effectively. Advances in computer and communication technology during the last two decades have sparked an information revolution that has radically transforming the way we do business and the very nature of work. Perhaps nowhere has the impact of information technology been more pronounced than on the accounting system and the accounting profession itself. Accounting is generally concerned with the identification, collection, processing, analysis, interpretation and communication of economic information about an organization, and as such, there is considerable degree of affinity between the accounting and information systems fields. Accountants, as information specialists, must acquire a common body of knowledge relating to information systems if they are to succeed in today's increasingly competitive, computer-laden and technologically driven business environment.

Accountants typically play four major roles with respect to information systems and their products: as users, evaluators, controllers, and builders. Internally, information systems are used to support operations and management decisions. Accounting information systems also provide information used to prepare financial statements. Internal and external auditors must assess the quality of information processing and evaluate the accuracy of information provided by an information system. This course is intended to provide you with a basic understanding of accounting information systems, including the knowledge and vocabulary necessary to communicate effectively with information systems professionals and to participate in the design and operation of modern information systems. Security, risk and system controls will also be covered, as well

as key applications of analytics in accounting. The objective of this course is to give you the "core" of systems knowledge (except for the topic of programming) which will help you:

- understand the relationship between accounting information systems and other systems in the organization, within an overall information systems framework;
- acquire the background knowledge and language necessary to communicate effectively with information systems professionals and participate in the design, development and evaluation of accounting information systems;
- understand basic security and control issues as well as auditing considerations relating to computer-based accounting information systems; and
- acquire a working knowledge of basic database concepts and data analytics techniques, and become familiar with the Internet as medium for commerce.

Because students have different backgrounds, some students will possess more knowledge of accounting information systems than others; class discussions will attempt to bridge the range of background knowledge; examinations will be developed so that any student can demonstrate his or her proficiency based solely on materials used in this class and content discussed in each class session.

Textbook (Required):

Accounting Information Systems – Romney et al. 15th Edition. Pearson. REVEL
ISBN (for bookstore): 9780135573044

To access Revel Accounting Information Systems 15e by Romney et al.:

1. Go to https://console.pearson.com/enrollment/safvhe
2. Sign in to your Pearson Account or create one (click here for registration instructions)
3. Redeem your access code, which you have paid for through the CarmenBooks program at OSU: **RVBAIS-STOUP-IMIDO-EMOTE-WERSH-AIDES**

Course Organization:

The course will be run as a mixture of live (in-person) and pre-recorded lectures, demonstrations, assignments, and classroom discussions. Readings will be from the required text together with other supplementary materials. Some material will be covered only in the readings while other will be covered only in lecture which may depart from the text in either content or order. To maximize learning, classroom discussion and the amount of time spent on different topics will be adjusted according to the background and interests of the students.

Mode of delivery: This class will be delivered in traditional in-person (classroom) format. On occasion, however, lecture materials will be pre-recorded and you would have the flexibility to watch and work through the pre-recorded lecture materials at your own pace during a time that works best for you during the week.

Pace of activities: This course is divided into 14 weekly modules. Students are expected to keep pace with weekly deadlines but may schedule their efforts freely within that time frame. You cannot afford to get behind. It is therefore strongly recommended that you set up a personal study schedule that specifically earmarks time when you will regularly work on the material for this course.

Credit hours and work expectations: This is a 3-credit-hour course. According to the standard suggested in University's Rules, specifically rule 3335-8-24, credits at Ohio State work on a 1 to 3 ratio: every 1 semester credit hour assigned to the class equates to total of 3 hours of work per week (3 hour of instruction and 6 additional study/homework hours per week).

Concept Checker Quizzes

Each week, there will be a very brief Carmen quiz over the materials assigned/covered during that week. Students have up to 3 attempts on the quiz and are not penalized by multiple attempts. The purpose is simply to encourage you to keep "on track", self-assess, and self-diagnose problems along the way thus generating more insightful questions.

Assignments

In addition to the reading requirements from the text and the supplementary materials, there will be approximately 6 homework assignments, spaced out over the course of the semester. They are designed to reinforce your understanding of the materials covered. Assignments are to be handed in on or before the class period of the due date. No late work is accepted. A limited amount of cooperation among students on homework and lab assignments is permitted. You may discuss with classmates general solution strategies. However, everyone should independently do and turn in his/her own work. While the homework assignments may vary in length and/or difficulty, each will be graded out of a possible 15 points. Your lowest homework score will not count toward your total assignment score in the course, so you can miss one homework without it counting toward your course grade.

Exams

There will be three exams (two midterms and a final), which will be administered online on Carmen (see course schedule below), either during regularly scheduled class time or during a designated time window. The examinations are designed to assess each student's (a) command of factual knowledge and concepts from the course; and (b) his or her ability to integrate and generalize these concepts and principles and apply them to new situations. The exams will be timed, and they must be taken during their scheduled time; make up exams will only be given for truly special and compelling cases, in accordance with University guidelines. The precise format of the exams as well as time permitted are TBD.

Attendance and Participation

A portion of the final grade will be based on your class attendance and active participation, elements that are crucial to the success of class meetings. Indeed, research shows regular participation is one of the highest predictors of student success. You are also expected to log in to

the course in Carmen every week. During most weeks you will probably log in many times. If you have a situation that might cause you to miss an entire week of class, discuss it with me as soon as possible.

Attendance refers to punctual attendance during synchronous/in-preson class meetings. Your fellow students and I will expect you to come fully prepared to answer questions and discuss the assigned materials (readings and any pre-recorded lectures). Each individual is strongly encouraged to actively and constructively contribute to class discussions when the opportunity presents itself. Good contributions transcend assigned readings and are inspired, timely, analytical, and relevant to the topics discussed. Students can also earn participation credit by drawing attention (via posts to the course discussion board) to related development, information and resources dealing with related topics. Your class participation grade will reflect my overall judgment of the quality and quantity of your contributions during the entire term.

Cold calling: On occasion, I will make "cold calls". This is not intended to put you on the spot but to encourage class discussion and participation.

Evaluation:

Course scores will be determined according to the following requirements and their respective weights:

	Number	**Points each**	**Pct**
Concept Checker Quizzes	14	10	15%
Homework Assignments	6	15	30%
Exams	3	100	45%
Attendance and Participation	-	-	10%
			100.0%

Final grades will be based on overall class performance. Relative scaling is determined using the average grade across all students, and final course grades will be set such that this average is at or below a B+. No extra credit or makeup work will be offered.

Feedback and Continuous Improvement:

Students are strongly encouraged to visit with me in my office and/or use e-mail to ask questions, to share suggestions about any aspect of the course, or to clear up possible points of confusion. I will use your feedback to continuously improve and fine-tune the coverage levels and the teaching/learning processes. Please note that I may not always be able to make all of the changes suggested, but I will do my best to accommodate your suggestions.

Restricted and Permitted Course Materials:

Use of inappropriate study materials, including previously prepared solutions to assignments and files containing tests used during previous terms, compromises the concept of equal opportunity for all students and is therefore prohibited. You may use materials that generally are available to all students provided that they maintain the spirit of the learning objectives.

Materials distributed to students via Carmen/email/etc may be used only by students officially enrolled in ACCTMIS 3600 this semester. You may not distribute any of these materials to any others at any time, or be subject to disciplinary action.

Standards of Integrity and Conduct:

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. If a student is suspected of, or reported to have committed, academic misconduct in this course, I am obligated by University Rules to report my suspicions to COAM. Each student in this course is expected to be familiar with and abide by the principles and standards set forth in The Ohio State University's Code of Student Conduct.

It is also expected that each student will behave in a manner that is consistent with the Fisher Honor Statement, which reads as follows:

> *As a member of the Fisher College of Business Community, I am personally committed to the highest standards of behavior. Honesty and integrity are the foundations from which I will measure my actions. I will hold myself accountable to adhere to these standards. As a future leader in the community and business environment, I pledge to live by these principles and celebrate those who share these ideals.*

Students with Disabilities:

Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. I rely on the Office for Disability Services for assistance in verifying the need for accommodations and developing accommodation strategies. If you have special needs and have not previously contacted the Office for Disability Services, I encourage you to do so. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by the Office for Disability Services.

Tentative Course Schedule:

The following schedule gives the general plan for the course; changes may be made at my discretion but are designed to optimize the quality and flow of the content. The course web site on

Carmen gives the dynamic picture and is an integral part of the class; please make sure to check it on a regular basis.

Weekly Module	Topic(s)	Main Readings
1. Course Introduction	• AIS: an Overview • Transaction Processing systems and ERP Systems	Chapters 1 & 2
2. Tech I: Database Systems	• Overview of Fundamental Database System Concepts and Architecture • Data Organization: The Relational Data Model • Data Warehousing	Chapter 4 & 5 supplementary materials
3. Tech II: Relational Algebra and SQL	• Basic operations in Relational Algebra • Formulating Queries using SQL • Aggregate Operations in SQL • Subqueries	Chapter 4 & 5 and supplementary materials
4. Tech III: The Network Infrastructure for E-Commerce	• The Architecture of the Internet • Basic Networking Concepts • Cloud Computing	Online supplementary materials
5. Tech IV: Technologies for Secure E-Commerce, and Payment Systems	• Basic computer security concepts • Encryption tools and methods • Overview of Payment Systems and Technologies	Online supplementary materials
February 14	*Exam I*	
6. Controls of Accounting Information Systems (I)	• Fraud and Errors • Computer Fraud and Abuse Techniques • Control Frameworks	Chapters 8, 9, and 10
7. Controls of Accounting Information Systems (II)	• Controls for Information Security • Confidentiality and Privacy Controls • Processing Integrity and Availability Controls	Chapters 11, 12, and 13
8. Controls of Accounting Information Systems (III)	• AIS Applications • The Revenue Cycle • The Expenditure Cycle • General Ledger and Reporting System	Chapters 14, 15, 18

9. Accounting Analytics (I)	• Introduction to Data Analytics • Preparing and Transforming Data • Exploratory Data Analysis	Chapters 5, 6, and 7
March 9	*Exam II*	
10. Accounting Analytics (II)	• Statistics for Fraud Detection • Overview of Earning Management • Revenue Recognition Red Flags • Expense Recognition Red Flags	Online supplementary notes
11. Accounting Analytics (III)	• Big Data and Prediction Models • Predictive Modeling using Linear Regression • Predictive Modeling Using Logistic Regression	Online supplementary notes
12. Accounting Analytics (IV)	• Discretionary Accrual Models • Discretionary Expenditures Models • Benford's Law	Online supplementary notes
13. System Analysis and Design (I)	• Overview of Systems Development Processes • Overview of Database Design	Chapters 19, 20, and 22
14. System Analysis and Design (II)	• AIS Development Strategies • Systems Design, Implementation, and Operation	Chapters 23 and 24
May 2/3	*Exam III (final)*	

About The Instructor:

Dr. Waleed A. Muhanna is Professor of Accounting & Management Information Systems at the Fisher College of Business, The Ohio State University. He received his undergraduate degree in computer science from the University of Tulsa, and holds a master's degree in computer science and doctorate in management information systems from the University of Wisconsin—Madison. Dr. Muhanna's teaching and consulting activities span a number of areas, with particular emphasis on e-commerce, data management and mining, and information systems strategy. Professor Muhanna's current research focuses on IT strategy, data analytics, assessing the business value of information technology, and understanding the impact of information technology, including the Internet, on organizations and markets. His other research interests include trust and reputation online, e-commerce strategy, model and database management systems, and system performance modeling and evaluation. Professor Muhanna has published numerous articles in scholarly journals, including *Management Science, MIS Quarterly, Strategic Management Journal*, *Decision Sciences*, *the Journal of Information Systems*, *the International Journal of Accounting Information Systems, ACM Transactions on Computer Systems, IEEE Transactions on Software Engineering, Communications of the ACM, Decision Support Systems, Information & Management, European Journal of Operational Research, Computers in Human Behavior,* and the *Annals of Operations Research*. Dr. Muhanna's spearheaded the establishment of an served as as academic co-director for Fisher's Specialized Master degree program in Business Analytics. He previously served a 3-year term as Chairperson of the Department of Accounting & Management Information Systems at the Fisher College of Business, and prior to that as the Director of the Ph.D. Program in Accounting & MIS. He also previously served as Vice-Chair of INFORMS' Information Systems Society and on the editorial boards of multiple leading academic journals.