



# Northeastern University

## College of Engineering

### Multidisciplinary Graduate Engineering Course Syllabus

#### 1. Course Information

Course Title: Accounting and Budgetary Systems for Engineers - INFO 7225  
Course Number: 13370 (section 1; in-person); 16373 (section 2; synchronous, online via Zoom)  
Semester: Fall, Sep 04, 2024 - Dec 14, 2024  
Location/Day/Time: Ryder Hall 155 (section 1) and Zoom (section 2, Zoom links on Canvas)

#### 2. Instructor Information

Full Name: Shiaoming Shi, Ph.D., MBA  
Email Address: s.shi@northeastern.edu  
Office Hours: WR, 3:30 pm - 5:00 pm, Zoom (links on Canvas)  
Teaching Assistant: Shobhitha Rajanand <rajanand.s@northeastern.edu> (TA virtual office hours to be announced)

#### 3. Technical/Course Materials Requirements

Textbook 1	<b>Core Concepts of Accounting Information Systems</b> 14th Edition, MG. Simkin, JL. Worrell, AA. Savage ISBN: 978-1-119-37354-4 February 2018	<b>Rent or buy a copy</b> from the University bookstore, online book vendors, or the following site: <a href="https://www.wiley.com/en-us/Core+Concepts+of+Accounting+Information+Systems%2C+14th+Edition-p-9781119373544">https://www.wiley.com/en-us/Core+Concepts+of+Accounting+Information+Systems%2C+14th+Edition-p-9781119373544</a>
Textbook 2	<b>Principles of Accounting, Volume 1, Financial Accounting</b>	An openstax textbook available for free at <a href="https://openstax.org/details/books/principles-financial-accounting">https://openstax.org/details/books/principles-financial-accounting</a>
Textbook 3	<b>Principles of Accounting, Volume 2, Managerial Accounting</b>	An openstax textbook available for free at <a href="https://openstax.org/details/books/principles-managerial-accounting">https://openstax.org/details/books/principles-managerial-accounting</a>

- Software or Hardware students need to complete this course: Microsoft Office and a laptop computer

#### 4.1 Course Description/Prerequisite

Covers the latest engineering principles necessary for building complex software systems that comply with recognized standards in the financial industry. With automated business processes today, risk and responsibility are shifting to information technology (IT) systems. Offers students an opportunity to learn how to incorporate information-based controls related to the financial industry that signal trouble, detect violations, and provide accountability, as well as a working approval process. Emphasizes software design. Seeks to help engineers construct complex software from a sophisticated engineering perspective. Examines how to put together cutting-edge organizational systems that people in the financial world can put to good use. Designed to prepare students for jobs in the building, maintaining, and employment of such information systems.

#### 4.2 Levels: Graduate

Schedule Types: Lecture

Grad Engineering – Multi-discipline Department

#### 4.3 Course Attributes:

GSEN Information Systems

### 5. Student Learning/Course Outcomes (SLOs)

Demonstration of excellence and student capacity in the student outcomes listed below will be assessed regularly throughout the whole semester in class participation, homework assignments, quizzes, and exams. This course is designed so that at its completion, students will be able to perform the following:

- Apply a working knowledge of the fundamentals of accounting, finance, tax, internal controls, and budget development to specific fact patterns and problem sets.
- Develop and present financial statements for a software development or related entity.
- Become familiar with accounting information systems and various business processes.
- Communicate verbally and in writing about key terminology relating to Accounting, Finance, Tax, Internal Controls, and Budget.
- Recognize the challenges and issues facing management with respect to Accounting, Finance, Tax, Internal Controls, and budget development.

#### 6.1 Course Activities and Assignments

This course includes the following required activities and assignments:

- **Lectures:** because this course is lecture-based, you will benefit most by attending and participating in the class periods. I will endeavor to make the lectures interactive and in-class exercises will be given to reinforce your understanding of the material.
- **Reading assignments** to accompany the lectures are listed in the “Class Schedule” section below.

- **Homework assignments** are given for each module. Complete the assignments independently. Review course material and complete the relevant problems after each class session. Do not wait till the end of the module to start the homework.
- **Quizzes:** quizzes in multiple-choice format, **covering accounting information systems (textbook 1)**, will be given to evaluate your understanding and retention of course material covered in the reading assignments.
- **Final Exam:** the final exam will be administered during the final exam period designated by the University and specified in the University academic calendar. Please refer to the “Course Schedule” section for the final exam time and date. **Do not make travel plans that conflict with the scheduled exam.**

## 6.2 ATTENDANCE POLICY

**In-person attendance is mandatory for section 1 students. Section 2 students are required to attend classes via Zoom.**

New policy starting this semester: Students registered in MGEN courses (INFO, CSYE, and DAMG) are allowed a maximum of 2 absences per course, with **3 or more absences resulting in an automatic 'F' for that course.** Students are expected to inform their instructors of any absences in advance of the class; if a student is sick long-term or experiences a medical issue that prevents class attendance, it is strongly encouraged that they speak with their Academic Advisor (coe-mgen-gradadvising@northeastern.edu) to learn more about the Medical Leave of Absence. **Should a student anticipate being unable to attend 3 or more classes, they should discuss their situation with their Academic Advisor** to explore other types of leave in accordance with the University's academic and global entry expectations. International students should review the Office of Global Services webpage to understand their visa compliance requirements.

Teaching Assistants (TAs) or Instructional Assistants (IAs) will be present at each class to collect student attendance.

Please complete course reading assignments and participate in class discussions and other learning activities to make the most of the class time.

Bring your laptop to the classroom to participate in-class activities (such as polling via Zoom).

## 6.3 Late Work Policy

Students must submit assignments by the deadline specified on course Canvas site.

Students must communicate with the instructor or TA prior to the deadline if they anticipate work will be submitted late.

**Work submitted late without prior communication with and approval from the instructor or TA will not be graded and the work will receive no credit.**

## 7. Email Etiquette

Please see the following article on email etiquette:

<https://www.insidehighered.com/views/2015/04/16/advice-students-so-they-dont-sound-silly-emails-essay>

## 8. Academic Integrity

A commitment to the principles of academic integrity is essential to the mission of Northeastern University. The promotion of independent and original scholarship ensures that students derive the most from their educational experience and their pursuit of knowledge. Academic dishonesty violates the most fundamental values of an intellectual community and undermines the achievements of the entire University.

As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, examinations of whatever kind, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Students are responsible for learning the conventions of documentation and acknowledgment of sources in their fields. Northeastern University expects students to complete all examinations, tests, papers, creative projects, and assignments of any kind according to the highest ethical standards, as set forth either explicitly or implicitly in this Code or by the direction of instructors.

Go to <http://www.northeastern.edu/osccr/academic-integrity-policy/> to access the full academic integrity policy.

## 9. Grading/Evaluation Standards

We (instructor, TA, and grader) will try our very best to grade your work fairly. Sometimes you may feel that the grade you received is unfair. If this is the case, you have one week from the time the grade is returned to email me with a case for extra points. You must include detailed, point-by-point, reasoning on why you believe your work was graded incorrectly. Please clearly state in your email exactly how many points you believe you should have received. Lectures (during, before, and after) and office hours are not the time to dispute grades. Note that putting in effort does not guarantee you a good grade. All students are working hard and putting in effort. Sometimes work that you put a lot of effort into will be wrong or severely lacking. It is our job to grade your work with sufficient feedback so that you can improve, not to give you a grade just because you have tried hard.

Sometimes mistakes are made in the grading of your work. If points were calculated incorrectly or if a correct answer was marked incorrect, please notify the TA or grader and CC me via email. We will happily correct the mistake.

## 10. Grade Scale

Grade breakdown (% of total score):		<b>Three or more absences result in an automatic 'F' (see "6.2 Attendance Policy" for more details).</b>	Final Score	Final Grade
Homework assignments	10%		90 – 100%	A
Quiz 1	20%		85 – 89.9%	A-
Quiz 2	20%		80 – 84.9%	B+
Final exam	50%		70 – 79.9%	B
<b>Total</b>	<b>100%</b>		60 – 69.9%	B-
			50 – 59.9%	C
			< 50%	F

**11. Course Schedule (tentative, subject to adjustment based on actual pace of the lectures and in-class exercises):**

Topic	Reading Assignments		Other Assignments
	Textbook	Chapter(s)	
1. Accounting information systems (AIS) and the accountant	Textbook 1: AIS	Chapter 1	<ul style="list-style-type: none"> <li>• Read chapters 1 to 7 and prepare for quiz 1.</li> <li>• Take practice quiz.</li> <li>• ~ <b>end of week 5: AIS quiz 1.</b></li> <li>• AIS quiz 1 covers textbook 1, chapters 1, 2, 3, 4, 5, 6, and 7.</li> <li>• AIS quiz 2 covers textbook 1, chapters 8, 9, 10, and 11.</li> </ul>
2. Accounting on the internet	Textbook 1: AIS	Chapter 2	
3. Information technology and AIS	Textbook 1: AIS	Chapter 3	
4. Accounting and data analytics	Textbook 1: AIS	Chapter 4	
5. Integrated accounting and enterprise software	Textbook 1: AIS	Chapter 5	
6. Internal control systems and risk management	Textbook 1: AIS	Chapter 6	
7. Computer controls for organizations and AIS	Textbook 1: AIS	Chapter 7	
<b>8. AIS and business processes: business process fundamentals</b>	<b>Textbook 1: AIS</b>	<b>Chapter 8</b>	<b>Study and prepare for AIS quiz 2.</b>
Textbook 2, Financial Accounting:			Weekly HW assignments will be posted on the course Canvas "Assignments".
8.1 Components of accounting information system (AIS)	Textbook 2: Fin. Acct.	Chapter 7	
8.2 Accounting records & accounting information flow	Textbook 2: Fin. Acct.	Chapter 1	
8.3 Analyzing and recording business transactions	Textbook 2: Fin. Acct.	Chapter 3	
8.4 Cash basis vs. accrual basis accounting	Textbook 2: Fin. Acct.	Chapter 4	
8.5 Preparation of financial statements	Textbook 2: Fin. Acct.	Chapter 4	
8.6 Special topic 1: merchandising transactions	Textbook 2: Fin. Acct.	Chapters 6 & 10	
8.7 Special topic 2: long-term assets accounting	Textbook 2: Fin. Acct.	Chapter 11	
8.8 Completing the accounting cycle	Textbook 2: Fin. Acct.	Chapter 5	
<b>9. The production process and accounting subsystems</b>	<b>Textbook 1: AIS</b>	<b>Chapter 9</b>	<b>Study and prepare for AIS quiz 2.</b>
Textbook 3, Managerial Accounting:			Weekly HW assignments will be posted on the course Canvas "Assignments".
9.1 Introduction to managerial accounting	Textbook 3: Ma. Acct.	Chapter 1	
9.2 Building blocks of managerial accounting	Textbook 3: Ma. Acct.	Chapter 2	
9.3 Cost-volume-profit analysis	Textbook 3: Ma. Acct.	Chapter 3	

9.4 Job order costing	Textbook 3: Ma. Acct.	Chapter 4	
9.5 Process costing	Textbook 3: Ma. Acct.	Chapter 5	
9.6 Activity-based costing	Textbook 3: Ma. Acct.	Chapter 6	
9.7 Budgeting process	Textbook 3: Ma. Acct.	Chapter 7	
9.8 Standard costs and variances	Textbook 3: Ma. Acct.	Chapter 8	
10. Cybercrime, fraud, and ethics	Textbook 1: AIS	Chapter 10	<b>~end of week 10: AIS quiz 2: TEXTBOOK 1, chapters 8, 9, 10, 11</b>
11. Information technology auditing	Textbook 1: AIS	Chapter 11	
12. Documenting accounting information systems	Textbook 1: AIS	Chapter 12	
<b>Final Exam (financial accounting and managerial accounting)</b>	<b>Final exam date and time: Saturday, December 14, 1:00 pm to 3:00 pm</b>		

## 12. Student Accommodations

Northeastern University and the Disability Access Services (DAS) are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act (ADAAA) to participate fully in the activities of the university. To receive accommodations through the DAS, students must provide appropriate documentation that demonstrates a current substantially limiting disability.

For more information, please visit <https://disabilityaccessservices.sites.northeastern.edu/registeredstudents/>

## 13. Library Services

The Northeastern University Library is at the hub of campus intellectual life. Resources include over 900,000 print volumes, 206,500 e-books, and 70,225 electronic journals.

For more information and for Education specific resources, visit <http://subjectguides.lib.neu.edu/edresearch>.

## 14. Diversity and Inclusion

Northeastern University is committed to equal opportunity, affirmative action, diversity and social justice while building a climate of inclusion on and beyond campus. In the classroom, member of the University community work to cultivate an inclusive environment that denounces discrimination through innovation, collaboration and an awareness of global perspectives on social justice.

Please visit <http://www.northeastern.edu/oidi/> for complete information on Diversity and Inclusion

## **15. TITLE IX**

*Title IX of the Education Amendments of 1972 protects individuals from sex or gender-based discrimination, including discrimination based on gender-identity, in educational programs and activities that receive federal financial assistance.*

Northeastern's Title IX Policy prohibits Prohibited Offenses, which are defined as sexual harassment, sexual assault, relationship or domestic violence, and stalking. The Title IX Policy applies to the entire community, including male, female, transgender students, faculty and staff.

In case of an emergency, please call 911.

***Please visit [www.northeastern.edu/titleix](http://www.northeastern.edu/titleix) for a complete list of reporting options and resources both on- and off-campus.***