



School of Business

Course Syllabus

MIS 320 Section 00x – Networks and Security CRN xxxxx

Fairfax: BLDG RM, Fridays 4:30pm–7:10pm

Semester YYYY (Mon dd to Mon dd)

Instructor Information

Name: Jon Adams

Email: jadams44@gmu.edu (~24 hour response time)

Office: Enterprise Hall 155

Office Hours: By Appointment (To ensure that I am available to see you, please always send an email first.)

Course Website: <http://mymason.gmu.edu>

Class Times & Location

Times: Day Start pm-End pm

Location: BLDG RM

Required Prerequisites

A minimum grade of C in MIS 301, L301, MIS 303, or L303.

Students with a class of Freshman may not enroll.

Non-Degree level students may not enroll.

Students with the terminated from BU major attribute may not enroll.

Textbook and Course Site

This course uses open educational resources (OERs). There is no textbook to purchase.

Course Website: Blackboard

- **All** assignments are posted on Blackboard and **must be submitted via Blackboard** by the deadlines in order to receive credits. Assignments sent via email will not receive credits.
- **All** class notes and course materials are posted via Blackboard .
- You are expected to check the Blackboard course site on a **daily** basis.

Course Description

Introduces students to fundamentals of networking technologies and their role in businesses. Emphasis is on understanding the business implications of different networking technologies and solutions. Students learn to identify and understand the business requirements, and bring together the different technological components to design the required communication solutions. Also focuses on the types of security threats to the business network infrastructure, and approach to tackling such threats through business practices combined with appropriate technological solutions. Offered by [School of Business](#). May not be repeated for credit.

Course Overview

The computer network is one of the information system components needed to effectively support business operations. Benefits that computer networks may provide include:

- Cost reduction by sharing resources and downsizing the desktop computers
- Improved reliability by having multiple sources of supply
- Increased storage capacity

- Improved consistency
- Reduced errors and redundancy
- Overcoming geographic separation
- Centralized management
- Distributed processes
- Controlled security
- Shared data/information/knowledge

Hence, a computer network is an essential component of every business's infrastructure. Professional workers, managers, and business owners are expected to have basic understanding of computer networks in order to effectively utilize computer networks in solving business problems and support business operations. MIS professionals, including those who are not directly involved in maintaining the operation of computer networks, must be in possession of computer networking knowledge and skills, such as network architecture, topology, standards, protocols, devices, virtualization, performance monitoring, and security mechanisms.

Course Objectives

Upon completion of this course, student should be able to

- Discuss network architectures and technologies as well as their applications in businesses
- Describe the principles, functions, and standards of communication networks
- Explain the OSI 7-layer reference model as well as the related standards/protocols/applications
- Evaluate and select appropriate network devices to satisfy the business requirements
- Assess and manage the network security related risks
- Apply basic techniques in monitoring network operations and security
- Create, review, evaluate, and refine network security policies and procedures

Mason Core Learning Outcomes:

- Students will understand the principles of information storage, exchange, security, and privacy.
- Students will become critical consumers of digital information; they will be capable of selecting and evaluating appropriate, relevant, and trustworthy sources of information.
- Students can use appropriate information technologies to organize and analyze information and use it to guide decision-making.
- Students will be able to choose and apply appropriate algorithmic methods to solve a problem.

ISOM Learning Goals

- Apply knowledge of information technology, operations, and business functions to assess, design and improve business processes.
- Develop data organization, storage, and processing solutions to support organizational needs for information management. Also develop skills in the area of business intelligence.
- Use knowledge of computer networks as part of IT solutions for improving business processes.

Course Format

This course consists of a combination of lectures, discussions, and hands-on practice sessions. Please see the topical outline for a tentative list of topics. There will be individual assignments, quizzes, and exams.

Computers and Software Used in the Class - Required

- The School of Business undergraduate program requires every student to have access to a portable computing device that satisfies the requirements listed below and can be brought to class as needed. Note that as technology changes rapidly, these requirements may change during a student's time in the School of Business. Many School of Business courses require the use of a computer during class. These are used to

learn techniques, practice applications, and access Internet resources. While most students have a portable computer or access to one, some courses require specific requirements due to the use of specific applications during class. To address these requirements, a list of standard **minimum** requirements has been determined and will be reviewed annually. [View the standard minimum requirements.](http://business.gmu.edu/undergraduate/policiesproceduresforms/) (<http://business.gmu.edu/undergraduate/policiesproceduresforms/>)

- George Mason University provides Microsoft Office 365 ProPlus to students at no cost via the Microsoft Student Advantage program. Office 365 ProPlus for PC users includes both Excel and Access 2016. Please visit <http://masonlive2.gmu.edu/MicrosoftStudentAdvantage/> for more information. This link provides the tutorial for downloading MS Office for free through your Masonlive email account. Please follow the tutorial to install the software on your laptop.

Grading Policy		No Curve will be applied; Instructor reserves right to adjust scoring					
Assignment	Value		Semester Grade Scale				
Homework (5)	20%		A	93% to 100%		C+	77% to 79.99%
Quizzes (2)	20%		A-	90% to 92.99%		C	70% to 76.99%
Exam (1)	30%		B+	87% to 89.99%		D	60% to 69.99%
Project (1)	30%		B	83% to 86.99%		F	Below 60.00%
Total	100%		B-	80% to 82.99%		No curving will be applied	
1% means 1% of your total grade. You have only 100% in your semester grade.							
<div>1. Semester grades must be assigned according the grading policy.</div> <div>2. All assignments must be submitted via Blackboard by the deadlines in order to receive credits. Assignments sent via email will not be graded and will not receive credits. You are not allowed to submit binary files, including image file and zip file.</div> <div>3. If you missed a deadline, you will not receive credits for the missed assignment.</div> <div>4. It is your responsibility to ensure that your submitted solution satisfies all requirements. If your submitted solution failed to satisfy any of the requirements, you will not receive credits. There is no such thing as “partially correct solution”. A solution is either correct or incorrect.</div> <div>5. For “Homework”, you are allowed unlimited submissions before the deadlines. Hence, you can revise and resubmit your homework solutions before the deadline. For “Project/Quiz/Exam”, you are allowed one submission. (Blackboard allows you to upload many files in one submission.)</div> <div>6. You are expected to attend all class meetings and be prepared. Absence from class does not constitute a reason for being unprepared at subsequent class sessions. If you miss class, you are fully responsible for the announcements and materials covered in the class(es) that you missed. On certain class meetings, extra credit may be assigned to students who participated in the discussion.</div> <div>7. You are required to check Blackboard course site and your email on a daily basis.</div>							

Reading Assignments

Students are expected to have read the course materials before coming to class meetings.

Communications

- For privacy and confidentiality, you are required to use your GMU email account to communicate to me. Your email will usually be answered within 24 hours. Assignments sent via email will NOT be graded and will not receive credits. If you encounter issues uploading your files via Blackboard, you can send me an email to receive a reasonable extension.
- Broadcast announcements posted via Blackboard are usually also sent to you via email.

Policy on Electronic Devices

Please keep cell phones and other communications devices in silent/vibration mode. Laptops or other electronic devices should strictly be used for class related activities such as taking notes or following lectures. Engaging in activities not related to the course is strictly prohibited, such as sending/reading text messages, tweets, using apps, etc.

Inclement Weather and Other Emergencies

Class will be cancelled when the campus is closed, either due to inclement weather or other situations. Please check GMU website for up-to-date information. Please register [Mason Alert](#) so that you can receive timely emergency notifications and warnings.

Disability Accommodations

If you are a student with a disability and you require academic accommodations, please see me and contact the Office of Disability Services (ODS) at (703) 993-2474 (<http://ods.gmu.edu/>), at the beginning of the semester. All academic accommodations due to disability must be arranged through the ODS and should be made during the first two weeks of the semester.

Academic Integrity

George Mason University has the following clearly described [University Honor Code](#) administered by the Office for Academic Integrity:

“To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the University Community have set forth this: **Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to their academic work.**”

The Honor System and Code adopted by George Mason University will be enforced:

<http://oai.gmu.edu/mason-honor-code/full-honor-code-document/>

As a student, you are responsible for upholding these standards for this course. It is your responsibility to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. In your work on all written assignments, keep in mind that you may not present as your own the words, the work, or the opinions of someone else without proper acknowledgement. You also may not borrow the sequence of ideas, the arrangement of material, or the pattern of thought of someone else without proper acknowledgement. Faculty are obligated to submit any Honor Code violations or suspected violations to the Honor Committee without exception. Any suspected case of honor code violation will be reported to the Office of Academic Integrity immediately. In such a case, I will withhold from grading your assignments until after the case is cleared by the Office of Academic Integrity. All students are expected to adhere to this code. All acts of academic dishonesty will be dealt with in accordance with the provisions of this code.

The recommendations for honor code violations for non-freshman undergraduate students adopted by the School of Business faculty on May 2016 are as follows:

School of Business Recommendations for Honor Code Violations <i>Approved May 2016</i>		
UG-Non Freshman Students (including transfer students)		
Type of Violation	First Offense	Second Offense
Plagiarism 1. Failure to cite/attribute sources 2. Representing someone else's work as the student's own (e.g., copying and pasting)	An F in the class; referral to Writing Center; and Academic Integrity Seminar completion	An F in the class; referral to the Writing Center; Academic Integrity Seminar completion; termination from the School of Business; and at least one semester suspension or expulsion
Cheating 1. On a minor assignment (e.g., homework, quizzes) 2. Cheating on a major assignment or exam, submitting course work from another course as original work	An F in the class; and Academic Integrity Seminar completion An F in the class; and Academic Integrity Seminar completion, and at least one semester suspension	An F in the class, Academic Integrity Seminar completion; termination from the School of Business; and at least one semester suspension or expulsion
Lying (e.g., providing fraudulent excuse documents, falsifying data)	An F in the class; and Academic Integrity Seminar completion, and at least one semester suspension	An F in the class; Academic Integrity Seminar completion; termination from the School of Business; and at least one semester suspension or expulsion
Egregious Violation (e.g., stealing an exam; submitting coursework from another class as original work across multiple courses; lying to an employer about academic performance, false identification or posing as another, in person or online)	An F in the class, Academic Integrity Seminar completion; termination from the School of Business; and at least one year suspension	An F in the class; Academic Integrity Seminar completion; termination from the School of Business; and expulsion

*Note: The Academic Integrity Seminar used by Office of Academic Integrity costs \$100.

Topical Outline

(I reserve the right to make changes, as needed.)

Module	Week / Date	Topic	Course Materials & Assignments
1.	1 (Mon. day)	Introduction of Course Computer Networks + Internet	
	2 (Mon. day)	Application Layer	
2.	3 (Mon. day)	Transport Layer	
	4 (Mon. day)	Quiz 1	
3.	5 (Mon. day)	Network Layer	
4.	6 (Mon. day)	Networking Devices	
	7 (Mon. day)	Midterm exam	
5.	9 (Mon. day)	Local Network Technology	
	10 (Mon. day)	Data Link Layer Quiz 2	
6.	11 (Mon. day)	Mobile & Wireless	
	12 (Mon. day)	Compliance Laws	
	13 (Mon. day)	Security in Computer Networks	
7.	14 (Mon. day)	Virtualization	
	15 (Mon. day)	Projects	
	16 (Mon. day)	Final Exam	
Important Dates			
Mon. day	Last Day to Add Classes		
Mon. day	Last Day to Withdraw with Full Refund		
Mon. day – Mon. day	Holidays/Breaks		
Mon. day – Mon. day	Selective Withdraw Period		
Mon. day	Last Day of Classes		
Mon. day	Reading Day(s)		
Mon. day – Mon. day	Exam period		

Link to academic calendar: <https://registrar.gmu.edu/calendars/>