ISM 673: Design of Secure Computer & IoT Networks for Business

Fall 2019 (Sections 673-01 and 673-02)

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                   By Appointment

Catalog Description:

Technology related to internal and external network/telecommunication services. Managerial and business issues related to the identification, acquisition, and management of network/telecommunications services in the contemporary enterprise.

Course Objectives:

The objectives of this course are to provide students with theories and concepts related to Telecommunications and Distributed Networks in the context of business enterprises.

Upon completion of the class, students will be able to:

1. Describe the role of telecommunications and network services in business processes.
2. Define the impact of purchased services on the technology infrastructure of the firm
3. Analyze existing technology and technology trends for potential impact on communications services.
4. Relates the methods used by technology management to the assurance of adequate communications services.
5. Analyze adequacy of telecommunications and communications infrastructure in meeting the needs of the enterprise.
6. Design organizationally appropriate communications service metrics.
7. Critique the issues facing Chief Information Officers in assuring the development and ongoing adequacy of the firm's telecommunications and network infrastructure

Required Textbook and Materials:

I)   ***Networking Essentials***, *5th Edition* by Jeffrey Beasley and Piyasat Nilkaew, Pearson Education. **ISBN-13:** 978-0789758743

*Note: The Textbook comes with a CD-ROM. **We do NOT use CD-ROM materials. Instead we use Cisco Packet Tracer.***

II)   ***Practical Industrial Internet of Things Security***: A practitioner's guide to securing connected industries, by Sravani Bhattacharjee, Packt Publishing, 2018. **ISBN-13:** 978-1788832687

In addition to the Textbook, reference books may be made available on Canvas to supplement assigned reading materials. Students will also be asked to read material made available via selected web sites. All readings should be read during the week in which they are assigned.

Microsoft Visio (free through MSDNAA; also available for free in computing labs).

Contact the Instructor if you need Microsoft Visio

Instructional Methods:

Students are expected to learn how to find information to solve the problems they encounter throughout the course. Knowing how to find answers is extremely important, as technology changes regularly. Students will be provided with an objective and asked to complete the objective using any legal and ethical means. This structure is to ensure that students learn

how to find information and solve problems on their own and in teams. **A great deal of learning in the class is self-directed, particularly for students who plan to take the CompTIA Network+ exam**. Students are encouraged to use materials and resources outside of the required textbook to assist in their learning.

General Preparedness:

Students are expected to complete all assignments and participate in online discussions when they are assigned. Students are expected to be prepared by reading class materials the week they are assigned. Each student is responsible for all of the reading assignments, information and announcements that are made on Canvas and through emails. Announcements are frequently posted. **Students are expected to conduct themselves in a professional manner at all times especially in online discussion forums, group activities, etc.**

Active participation in class discussion or in discussion forum is a critical and integral part of this course. Your thoughtful and well-reasoned discussion post or comment or suggestion or question stimulates further discussion and alternate consideration of the discussion topic. Trivial posts or comments will be severely discounted in terms of earned points in the discussion forums. Trivial posts include just some bullet points that do not add to the discussion of the topic or which does not encourage further consideration by others in the forum. It is strongly encouraged that each student consider thoughtful response to posts by other students in the class or in the discussion forum. But do maintain professional manner in your posts or comments or responses. We can disagree but we must always maintain the highest standards of professionalism and respect towards each other.

Late Work:

Late work will NOT be accepted unless arranged with the instructor prior to the due date of the assignment/exam/project. Late work will receive a 0 (at the sole discretion of the instructor).

If late work is permitted (at the sole discretion of the instructor), late work will be penalized **10% for every day late,** unless previous written arrangements are made with the instructor. No assignment will be accepted after the last official day of class unless otherwise stated by the instructor; this does NOT include final exam week.

Participation:

Participation accounts for 10% of the total grade. Participation is based on participation in online discussions. Participation will be graded based upon consistency (participating in all of the assigned discussions) and quality. The lowest participation score will be dropped to account for emergencies.

Assignments:

Students will be required to do multiple individual assignments. Assignments typically involve a set of specific tasks. All assignments and projects are expected to be completed on time. Students must strictly follow all directions and requirements for each assignment completion and submission via Canvas. Failure to follow assignment completion and submission directions can severely lower earned grade or points for each assignment at the sole discretion of the instructor. Please not that this is a Graduate course and therefore high standards of quality in completion, writing, presentation and submission of each assignment are expected as a norm. UNCG Academic Integrity Policy (https://osrr.uncg.edu/academic-integrity/) must be clearly followed and executed by each student for each graded assignment, midterm and final exams or any other graded work assigned by the instructor.

Midterm and Final Exams:

The midterm and final exams are written exams. No make-up examinations are offered unless a written, verifiable, legitimate excuse for the absence is presented to the instructor or written arrangements are made beforehand. Due to the cumulative nature of the course materials, the final exam may include content covered prior to and on the midterm. The exams will consist of content from the required text and other assigned readings, video lectures posted on canvas and materials covered in assignments.

CompTIA Network+ Exam:

If you desire a networking certificate, you may take the CompTIA Network+ exam. Taking the CompTIA certification exam is entirely optional. However, if you take the exam and pass, you will earn an additional 100 points toward your overall points for the course. No partial points will be awarded.

Grading:

Your final grade is determined using the following scale and deliverable weights (subject to change depending upon class activities):

Components of Final Grade	Percentage of Final Grade
Discussion Participation (100 points)	10%
Assignments (5 @ 60 points each) (Individual) – 300 points	30 %
Midterm Exam – 300 points	30 %
Final Exam – 300 points	30%
Total Points: 1000	**100%**

The relationship between total points and letter grades is as follows:

95 <= X < 100	A
90 <= X < 95	A-
87 <= X < 90	B+
83 <= X < 87	B
80 <= X < 83	B-
76 <= X < 80	C+
70 <= X < 75	C
0 <= X < 60	F

Ethical Issues and the Honor Code Policies:

University students are expected to conduct themselves in accordance with the **highest standards of academic honesty**. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, forgery, plagiarism, etc. Although students are allowed to work with others on team projects, students may NOT borrow, or "share". Students will receive a 0 for the deliverable if misconduct is proven. Students should read and must follow the UNCG Honor Code.

Plagiarism is defined as "presenting as one's own work that work which is, in whole or in part, the work of another person or persons without giving proper credit to the appropriate source." This includes submitting work done by another as one's own work. It is understood that what you turn in to me for a grade represents your own effort. Plagiarism will be immediately punished with a 0 for the assignment in question. Further disciplinary action will be pursued as the instructor deems appropriate. **No credit will be received for shared work (except the team project), and other penalties may be imposed.**

Please Read Carefully:
This course also has some additional sensitive issues owing to the unique nature of networking and security. You may NEVER attempt to penetrate or conduct class activities that affect the UNCG network or any network that you do not own (such as your home network) or for which you have no written permission from appropriate enterprise authorized personnel. This includes the use of a network for certain assignments, such as using Wireshark to analyze network traffic.

UNCG's academic integrity policy can be viewed at: http://academicintegrity.uncg.edu/complete/

Bryan Faculty/Student Guidelines:

Faculty and students at UNCG have certain obligations. Please view these obligations and guidelines at:
http://www.uncg.edu/bae/faculty_student_guidelines_sp07.pdf

Disabilities:

If you have a documented disability and wish to discuss academic accommodations, please contact the UNCG Office of Accessibility Services (https://ods.uncg.edu) and immediately notify the instructor as well via email (amsalam@uncg.edu).

Inclement Weather:

Rarely, UNCG closes for inclement weather. The radio and TV stations will have the closing notification by 6:30 am. You may also call 334-5000 for a message related to weather closings. These messages are updated hourly.

* This syllabus is subject to change as needed and depending upon class progress *