Course Syllabus

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Course Syllabus

ISMN 6040- Telecommunications Management

Dr. Atiya Avery

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COURSE INFORMATION

Contact Information:

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Availability/Office Hours: By mutual appointment via e-meeting or in-person.

This course will be in person and managed through the Canvas learning management system. We will meet in Horton Hardgrave Hall 3017 (3rd Floor) on Tuesdays and Thursdays from 3:30 pm-4:45 pm for in-person meetings.

Course Prerequisites/Prior Knowledge

This course does not have a prerequisite requirement and is open and inclusive to all learners. That said, it is essential to note that this course is designed for business students to develop a deep understanding of the various aspects of *data communications, computer networking systems,* and the emerging domain of *cloud computing infrastructures*. These are critical basic foundations of our modern-day IT infrastructures. At a minimum, it is recommended that students have at least a passing personal or professional interest in this area. This is a technical course out of a business school; despite the depth, it is in no way akin to the depth of our computer engineering or computer science counterparts, and no previous background is necessary. However, at the end of this course, most students will feel pretty comfortable communicating with this group in a professional setting and will develop an appreciation for the general domain knowledge. This course is also helpful for students who plan to formally enter the tech space in technical and non-technical roles. Please note the following:

1. Please read the syllabus in its entirety.
2. It is suggested that students have an interest in learning about the inner workings of IT infrastructures and how the technology around us works and is connected to the real world.
3. Students should feel comfortable or become comfortable with creative problem-solving and creative thinking in getting to a solution with the knowledge they already have and the tools they learn along the way. In this course, *a solved problem is solved,* and certain solution sets may vary among students(subject to best practices). You'll need to be comfortable with that. We are out of a business school, and practical problem-solving is our unique contribution to this knowledge domain. Some references to consider around this:

- **Changing Nature of Work (https://www.youtube.com/watch?v=cXQrbxD9_Ng)**
- **Mind Mapping (https://www.youtube.com/watch?v=5nTuScU70As)**

Course Objectives

This course is designed for business students to develop a deep understanding of the various aspects of data communications, computer networking systems, and the emerging domain of cloud computing infrastructures. There has been an explosion of communication technologies over the last two decades. The world has become more connected than ever. We use cars that talk and routinely communicate with a satellite. Low latency trading drives our financial markets. E-commerce has changed different aspects of our life; we now can buy everything from the Internet, from books, clothes, and groceries, to automobiles. Finally, cloud computing is no longer a terminology in the textbook; it is a part of our day-to-day life.

This course is intended to provide an understanding of the nuts and bolts of underlying technologies behind this revolution. In the first half of the course, students will understand how the internet works, how networks are designed, and how networks are managed. The second half of the course focuses on ensuring that students know and understand the foundational business and technical components of

emerging cloud computing technologies. Students will also be able to articulate the solutions and benefits of cloud computing for various organizations and will acquire basic skillsets in assessing cloud infrastructures for security, compliance, performance, and cost-efficiency.

Organization of Course/Instructional Methods:

The course will be taught using multiple instructional methods. The course meeting dates will be denoted on the syllabus. You can expect to spend on average 3-12 hours a week on work in this course which is typical of IT courses. Depending on your background, motivation, and what we are working on, this may vary significantly between students and also each week. Please be sure to manage expectations and allocate the appropriate amount of time needed for your success. Instructor reserves the right to modify course due dates and deliverables. These may be subject to change based on course pace and in the best interest of the class.

Course Materials:

Textbooks:

Business Data Communications and Networking (14th Edition) by FitzGerald, Dennis, and Durcikova, Wiley, 2020, ISBN: 978-1-118-89168-1 (Paperback edition), ISBN: 978-1-119-70284-9.

CompTIA Cloud Essentials+ Certification Study Guide (2nd Edition) by Lachance, Daniel, ISBN-13: 978-1260461787 ISBN-10: 1260461785

Important Course Dates:

This course has seven due dates corresponding to the seven primary modules. All assignments within that module need to be submitted by the due dates. It is crucial that you keep the suggested pace of the assignments in this course. No late assignments will be accepted under any circumstances, including last-minute technical difficulties. Please get in last-minute questions 24 hours or more prior to the module deadline. Questions are answered in the order that they are received. Once the due date has passed, the assignment submission for the module will be closed. It is vital that you manage your time in this course and not work on the module at the last minute. It takes time to work through each assignment in the module.

In-Person Instruction Dates:

January 14th and January 16th, 2025

January 21st and January 23rd, 2025

January 28th and January 30th, 2025

February 4th and February 6th, 2025

February 11th and February 13th, 2025

February 18th and February 20th, 2025

February 25th and February 27th, 2025

March 4th and March 6th, 2025

March 11th and March 13th (Spring Break- No Class-Do Not Come In)

March 18th and March 20th, 2025

March 25th and March 27th, 2025

April 1st and April 3rd, 2025

April 8th and April 10th, 2025

April 15th and April 17th, 2025

April 22nd and April 24th, 2025

April 29th, 2025

Exam Dates

Exam 1: March 6th (Midterm)

Exam 2: April 29th (Final Exam)

Module Dates:

Module 1- Introduction to Data Communications and the Internet – Expected Completion January 24th, 2025

Module 2- Data Communications System Layers - Expected Completion February 21st, 2025

Module 3-Technical Infrastructure of Networks – Expected Completion March 21st, 2025

Module 4- Organizational Network Management – Expected Completion March 28th, 2025

Module 5- Cloud Computing Fundamentals for Business- Expected Completion April 4th, 2025

Module 6- Cloud Technical Infrastructure – Expected Completion April 11th, 2025

Module 7-Cloud Compliance and Security – Expected Completion May 2nd, 2025

Course Objectives:

Upon completion of this course, the student will acquire:

1. An understanding of legacy and emerging data communications concepts.
2. The ability to analyze, evaluate and conceptually create the layers of a data communication system, including the physical, data link, network, transport, and application layers in the context of an organizational IT infrastructure.
3. The ability to analyze, evaluate, and conceptually create wired and wireless local area networks, wide area networks, and backbone networks.
4. The ability to analyze, evaluate, and conceptually create networks designs, secure networks, and technical network management schemas.
5. An understanding of cloud security principles, the management of the cloud computing function, and organizational planning for cloud computing.
6. The ability to analyze, evaluate, and conceptually create cloud infrastructures, including cloud storage infrastructures, cloud network infrastructures, and cloud computing infrastructures.
7. The ability to analyze, evaluate, and conceptually create cloud compliance, cloud security, and risk management strategies.

Additional Course Requirements:

Many deliverables in this course will require students to develop diagrams, conceptual models, figures, and illustrations. It is acceptable to submit PDFs or embedded picture images of clear and very neat, handwritten diagrams, conceptual models, and figures on graph, whitepaper, or notebook paper. Alternately, software packages such as **Visio (https://products.office.com/en-us/visio/flowchart-**

software) and **Draw.io (https://www.draw.io/)** can also be used. **Draw.io (https://www.draw.io/)** is free and is a tool that I frequently use, and it will be used in this course.

Some deliverables in this course will also require students to provide feedback on the work of other students as well as complete worksheets such as rubrics and checklists. To better facilitate this, it is encouraged that students download a PDF editor of their choice and learn how to use it, including merging multiple documents as a single file. Two recommendations include FOXIT and Adobe Reader.

Lastly, many deliverables in this course require that the documents be submitted in a formal executive report or executive presentation format, including a cover page. Please conduct an internet search to see examples of what this may look like and choose a style or template that best fits you.

COURSE DELIVERABLES & ASSIGNMENTS

Evaluation and Grading:

Students will be evaluated based on two-course exams, course attendance, and participation. Additional details on these assignments are located in this syllabus and will be posted to Canvas. Please refer to Canvas for the latest information on course deliverables. Grading for the course is cumulative (per assignment) and is as follows:

Exam 1: 35%

Exam 2: 35%

IT Infrastructure Projects OR Professional Development Activities: 30%

Course Attendance, Assignment, and Quizzes: Not Graded

The following grading scale will apply to the final course grade:

A = 90%–100%

B = 78%–89%

C = 65%–77%

D = 50%–64%

F = 0%–49%

Deliverable Descriptions:

Review Module Mini-Lectures & Text

Mini-lectures are not graded, but the expectation is that students review each of the mini-lectures and/or read the assigned text and prior to completing and submitting course deliverables. Communication via reading and writing has persisted for thousands of years and is arguably the most efficient means for humans to acquire and transmit knowledge. Our class time is valuable and will focus on the hands-on review of assignments, quizzes, and IT infrastructure project deliverables.

Course Participation, Assignments, Quizzes

There will be 7 assignments and quizzes corresponding with each of the modules. These are not graded, but it will be in your best interest to work on them as they are questions on the exams. Assignments are comprehensive, hands-on exercises that reinforce course concepts. I will typically use our in-person class time to review and work through the assignments. Asynchronous videos of class meetings will be provided for online students only. Assignments and quizzes are intended to assist students with the retention of course concepts and vocabulary and provide "hands-on experience" for the exam.

Comprehensive Exams

Exams for the graduate sections are open book, open note, optional group, and multiple choice. The midterm exam is expected to cover Modules 1 and 2 and portions of Module 3. The final exam is cumulative but will heavily focus on Modules 4-7. The exam is directly based on the required textbook, class lectures, and course deliverables given throughout the semester. For the exam, there is no limit on group size; however, students will need to disclose who they worked with or consulted with during the exam. Before each exam, there will be a detailed exam review that goes over the exam in great detail. Please be sure to attend the exam review for optimal results on the exam. Asynchronous videos of class meetings will be provided for online students only. There will be no makeup exams and missed exams will receive a 0.

Choose 1 IT Infrastructure Project or Professional Development:

1. IT Infrastructure Projects

The IT infrastructure projects demonstrate students' ability to effectively analyze, evaluate, and conceptually create the data communications system and/or the cloud computing infrastructure for an organization of their choice based on common commercially available platforms. The initial and final deliverables for the IT infrastructure projects will be in the form of an engaging video presentation that is no longer than approximately 10-15 minutes and 15-20 minutes, respectively. The initial deliverable is due at the Module 2 deadline, and the final deliverable is due at the Module 7 deadline. Peer reviews of 3-5 other presentations will be required. The instructor reserves the right to randomly assign reviews to ensure that all presentations have meaningful feedback. The IT infrastructure projects are expected to be iterative. As the semester progresses, we expect the insights to become increasingly sophisticated as students build on what they have already learned. Students can work in groups of up to 2. Additional details regarding the IT infrastructure projects will be forthcoming on Canvas.

2. Professional Development

Students choosing this option must complete eight professional development activities. The deliverable for PD&E activities consists of an in-class presentation for the benefit of the class. Presentation dates are as follows:

Presentation 1: February 6th

Presentation 2: March 6th

Presentation 3: April 8th

Presentation 4: April 29th

Specific details of discussion points will be provided on the course assignment page. Students can discuss past activities for credit, but please ensure the information presented is up to date. Some leads will be provided on the professional development & engagement assignment page, but students are expected to research and explore opportunities on their own. Please give yourself plenty of time to complete the activities and, most importantly, have fun! Categories of professional development and engagement activities are listed in the table below:

Join a Professional Association	Book Review	TV Show Review	Movie/Documentary Review
Informational Interview with an Aspirational Professional	Review a Certification and Devise a Step-by-Step Study Plan	Present a complete job market analysis for a specific occupational role	Attend a Conference, Seminar, Workshop, or Guest Speaker Event

Complete Self-Study Courses and Badges	Course Lecture/ Technical Presentation (prior approval required, counts for two activities)		

ADMINISTRATIVE

Academic Honesty:

All portions of the Auburn University student academic honesty code (Title XII) found in the AU Office of Provost website will apply to university courses. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

Contingency Plan:

If normal class activities are disrupted due to illness, emergency, or crisis (such as a local or global pandemic), the syllabus and other course plans and assignments may be modified to allow completion of the course. If this occurs, an addendum to your syllabus and/or course assignments will replace the original materials. Students will be expected to actively seek information on how the course will continue.

Special Accommodations Due to Disabilities:

Students who need special accommodations, as provided for by the Americans with Disabilities Act, should make an appointment as soon as possible with the faculty member to discuss their accommodation memo. It is essential that the faculty member be aware of necessary accommodations at the beginning of the course. The student must bring a copy of his/her Accommodation Letter and an Instructor Verification Form to the meeting. If the student does not have these forms but needs special accommodations, he/she should contact the Program for Students with Disabilities at 1288 Haley Center, 334-844-2096 (V/TT).

Other Notes:

1. This syllabus is subject to change with prior notice based on the pace and needs of the class and other unforeseen circumstances. Any change or other information about the class will be announced during or on Canvas.
2. No cell phone communication during class. If you must text message, take/make a phone call, or check Facebook, please step out in the hallway. Cell phones may be used briefly to Google the definition of a word, the calculator function, and class-related activities only.

3. It is the student's responsibility to make sure that they are officially enrolled in the class and maintain that status. Being a member of the Canvas list does not imply or guarantee that one is officially enrolled in the class.
4. If you have problems with course content, materials or projects, let me know as soon as possible. See me during office hours or send me an email. Auburn University is committed to your academic success and offers many resources to assist you
5. The norm for higher education is that each hour of class meeting time requires that you spend a minimum of 3 hours per hour of class time reading and reviewing course-related material. For IT-related courses, it can be higher.
6. Class meetings should be treated as business appointments. Be on time and prepared to contribute to class discussion.
7. The best way to communicate with me is through email. Typically, you can expect a response within 24 hours. Multiple emails to get a faster reply will NOT work. While sending an email, your subject should have the following (SUBJECT: IS – COURSE -SECTION), or else I cannot guarantee that I have received or read your email. This applies even if you email through Canvas.