



## MIS 543 – Business Data Communications and Networking

### General Information

#### *Instructor*

Jesse Bockstedt, PhD

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430V1 McClelland Hall

(520) 621-3927

Office hours: 2:30-3:30 PM Tuesdays and Thursdays, or by appointment.

#### *Location and Time*

Section 001 – Tu Th 11:00 AM - 12:15 PM, McClelland Hall Rm 127

Section 002 – Tu Th 12:30 PM - 1:45 PM, McClelland Hall Rm 127

Please attend only your assigned section.

#### *Teaching Assistants*

Pranav Sohoni

[pranavsohoni@email.arizona.edu](mailto:pranavsohoni@email.arizona.edu)

Location: McClelland Hall Rm 424

Phone: (765) 464-9314

Office hours: Tu & Th 3:30-4:30 PM or by appt

Qiang Gao

[qiangg@email.arizona.edu](mailto:qiangg@email.arizona.edu)

Location: McClelland Hall Rm 433

Phone: (520) 309-3988

Office hours: Wed & Fri 4-5PM or by appt

#### *Course Materials*

Course notes, lecture slides, handouts and other electronic materials will be made available on the course Blackboard page at <http://blackboard.eller.arizona.edu>

Required Case Study

- iPremier(A): Denial of Service Attach (Graphic Novel Version), Robert D. Austin, Jeremy C. Short, Harvard Business School, Jun 29, 2009, 609094-PDF-ENG. Purchase case study online at <https://cb.hbsp.harvard.edu/cbmp/access/20655166>

Text Book

- Business Data Communications and Networking, Fitzgerald, Dennis, & Durcikova, Wiley Publishing, 11<sup>th</sup> Edition 2012, ISBN: 978-1-118-08683-4

Other useful books

- Designing for Cisco Internetwork Solutions (DESGN), Sean Wilkins, Cisco Press, 3<sup>rd</sup> Edition, ISBN: 158720424X
- Network + Guide to Networks, Tamara Dean, Cengage Course Technology, 5<sup>th</sup> edition 2010, ISBN: 1-423-90245-9

Cisco Certification Resources

- CCDA Certification: <https://learningnetwork.cisco.com/community/certifications/ccda/syllabus>
- Cisco Support Community: <https://supportforums.cisco.com/index.jspa>

## Course Objectives

This course provides an in-depth knowledge of the principles of hierarchical network design to structure and modularize an enterprise network. It will also provide knowledge on data communications and networking requirements, including networking technologies, hardware, and software. This course focuses on the technology and methods that are currently available. Key topic areas of the course are:

- Network Standards, Technologies & Protocols
- Structuring and Modularizing the Network
- Designing Campus Infrastructure and Data Center
- Designing for Basic Wireless Networking
- Designing IP Addressing
- Designing Remote Connectivity
- Evaluating Security Solutions for the Network

## Teaching Method

Class sessions will consist of various combinations of:

- Lectures and discussions prepared and led by the instructor
- Guest speakers
- Field trips
- Hands-on Labs
- Case-studies
- Network design case competition

## Grading

- |   |     |
|---|-----|
| • Exam 1 (individual assessment)              | 30% |
| • Exam 2 (individual assessment)              | 30% |
| • Labs and Case Study (individual assessment) | 15% |
| • Final Project (group assessment)            | 25% |

**Exam 1 and Exam 2** Each exam will cover all material in the text, additional readings, class discussions, guest lectures, lab visits, case studies, and labs completed by the class. The test is a closed-book and closed-notes test. Note on MAKE-UP Tests: absolutely no make-up exams will be allowed (see FAQ).

**Homework and Labs** The goals of the class assignments are to provide some practical, hands-on experience, help you better understand the class material, and to help you prepare for the exams. Several assignments will be given throughout the semester. These will include at least one case study write-up, multiple in class lab exercises, and multiple take-home assignments. The assignment with the lowest score will be dropped from your total score. Take-home assignments are due at the start of the class on the specified due date; no late labs will be accepted. More information on assignments will be provided in class and on Blackboard.

**Final Project (team activity)** The purpose of the final project is to provide the opportunity to apply the concepts learned in the class to complete a real-world network design project, which you will present it in front of our client, Nextrio. Your network design will be evaluated and graded by the client and the presentation will be in the form of a case competition. This project will be done in conjunction with MIS 509. The project description and logistics of the case competition will be provided to you on Blackboard.

As a function of class size, your instructor will assign you to small teams (3-5 members). Teams will be created based on your previous experience in networking and other business areas. All members of your team are expected to contribute to the project. Each team member will be evaluated by the team using a peer evaluation form.

Final Deliverables:

1. Hard copy of your slides (handouts – 6 slides per page) and project write-up at the time of your presentation.
2. Upload the soft copy of your slides and write-up on Blackboard no later than midnight the night before the case competition (subject to change due to room scheduling).
3. Dress code for presentation (approximately 20 minutes long): business professional.
4. Team member participation form.
5. Team member peer review forms (due within 48 hours of the final presentation).

**Attendance** Class attendance is extremely important for success in this course. We will be covering a lot of complex material and it is in your best interest to be present, take notes, and participate in in-class discussions and activities. You are expected to attend every class; however, attendance will not be recorded and your grade does not depend on your attendance. Missing multiple classes will put you at a significant disadvantage when it comes to exams and assignments, and I will not provide any additional tutoring or help for students that regularly miss class (unless there is a justifiable medical reason for the absence).

**Doctoral Student Paper:** This is a requirement for all MIS doctoral students taking this class as well as doctoral students from other departments who have selected MIS as a minor for their PhD program. We will meet 5 times outside of normal class hours to discuss assigned research readings (details will be posted to Blackboard). You are required to write: (1) Two paper reviews, (2) one topic analysis (3) one research in progress paper (targeted to a conference), and (4) two reviews/critiques of research papers submitted by your colleagues. Topics for these papers should relate to the impact of networking, network security, and/or telecommunications on society, business and individuals (more information will be given during our first meeting). Additional information, including due dates, schedule and reading list will be provided on Blackboard. Your work will account for 30% towards your final grade (Exam 1 and 2 will each account for 15%).

**Extra Credit Policy:** Extra credit opportunities may be offered to all students through Blackboard at the instructor's discretion. However, no extra credit opportunities or make-up assignments will be offered after final grades have been calculated.

## Tentative Class Schedule Fall 2012

<i>Week</i>	<i>Day</i>	<i>Topic</i>	<i>Assignments</i>	<i>Readings</i>
1	Aug 27	Course Introduction	Install Wireshark	Syllabus
	Aug 29	Network Architecture for the Enterprise		
2	Sep 3	Networking Standards and Models	Install Packet Tracer	Ch. 1
	Sep 5			
3	Sep 10	Application Layer Protocols: HTTP & Email	HTTP & Email	Ch. 2
	Sep 12			
4	Sep 17	Physical Layer: Transmission and Media		Ch. 3-4
	Sep 19			
5	Sep 24	Transport Layer	Patch Cable	Ch. 5
	Sep 26			
6	Oct 1	Network Layer and Routing	TCP/IP	Ch. 5
	Oct 3			
7	Oct 8	Subnetting		Ch. 6
	Oct 10	Review of Exam 1		
8	Oct 15	Exam 1		Ch. 7
	Oct 17	UITS Switch Room Visit		
9	Oct 22	LAN and WLAN		Ch. 8
	Oct 24			
10	Oct 29	Lance Hoopes (Eller IT)	Router Setup	Ch. 8, 9
	Oct 31	Backbone Networks		
11	Nov 5	WAN and VPN		Ch. 9
	Nov 7	Internet Access Technology		Ch. 11
12	Nov 12	Network Design	PGP Encryption & Network Security	Design Readings
	Nov 14	Network Design		Ch. 10
13	Nov 19	Network Security		Ch. 10
	Nov 21	Network Security		
	Nov 22	Case competition		
14	Nov 26	<i>No Class</i>		
	Nov 28	<i>No Class – Thanksgiving Break</i>		
15	Dec 3	iPremier Case Discussion	Case Write-up	iPremier Case
	Dec 5	Review for Exam 2		
16	Dec 10	Exam 2		

**Syllabus and Schedule are subject to change. All changes will be announced in class and/or on the course Blackboard site.**

## Frequently Asked Questions (FAQ)

### ***Q1. How can I do well in this class?***

A1. Read the recommended chapters and other readings before class. Be attentive in class and take notes. Study your notes on a regular basis, don't just cram for exams. If something is not clear, ask for a clarification immediately. Do not be shy. If you have questions, be sure to talk to me or a TA at the end of a class or see us in office hours. If you miss a question on an exam or lab, make sure you understand why your answer was incorrect. Attending, being attentive in, and taking notes in every class are important for securing a good grade in this course.

### ***Q2. Should I buy the book for this course?***

A2. Yes. It is highly recommended that you buy the textbook(s) and keep up with readings throughout the course.

### ***Q3. If I miss an exam or an in-class lab, can I make it up at a later date?***

A3. Only if you furnish a doctor's note clearly stating that it was not possible for you to come to school on the day you missed the class.

### ***Q4. When do you post scores from labs, assignments and exams?***

A4. The TAs and I will do our best to grade your labs, assignments and exams and post the results to Blackboard within one week of the due date.

### ***Q5. If I have an emergency (e.g., my computer breaks down) on the day a lab/homework assignment is due, would you allow me to submit it late without any penalty?***

A5. No. I will post each lab/assignment in advance of the due date, so, if you choose to wait until the last moment to work on it, you will have to assume the risk of any possible emergency.

### ***Q6. If I send you a draft of my lab, write-up, project, would you tell me if I am missing anything?***

A10. No. I will be happy to explain any topic or answer specific questions related to the course and assignments, but I will not provide any intermediate feedback on drafts or provide any pre-grading.

### ***Q7. I need to see you but I cannot come during your office hour. Can I come at some other time?***

A11. YES. I am on campus almost every weekday from 8 am to 5 pm and have an open door policy. However, I do recommend that prior to showing up, you set up an appointment via email to make sure that I am available and free when you arrive.

### ***Q8. I did not attend the last class. Did I miss anything important?***

A12. Yes.

### ***Q9. Do you offer extra credit assignments towards the end of the semester if I am about to earn a failing grade or a grade below my expectations?***

A13. No. I do not think it is fair to selectively offer extra credit assignments. If I offer it to one student, I have to offer it to everyone. Extra credit may be offered during the semester to all students, but it will not be offered selectively for "special circumstances".

### ***Q10. If I need a passing grade in the course to graduate, would you consider revising my grade in case I earn a failing grade?***

A14. No. If failing the class stops you from graduating, it is your responsibility to work extra hard to ensure a passing grade in the class. However, if you seek extra help, I will be happy to provide it throughout the semester.