

# FLORIDA ATLANTIC UNIVERSITY™

## Graduate Programs—NEW COURSE PROPOSAL

UUPC APPROVAL \_\_\_\_\_  
 SCNS SUBMITTAL \_\_\_\_\_  
 CONFIRMED \_\_\_\_\_  
 BANNER POSTED \_\_\_\_\_  
 CATALOG POSTED \_\_\_\_\_  
 WEB POSTED \_\_\_\_\_

DEPARTMENT NAME: INFORMATION TECHNOLOGY AND  
OPERATIONS MANAGEMENT

COLLEGE OF: BUSINESS

RECOMMENDED COURSE IDENTIFICATION:

PREFIX ISM COURSE NUMBER 6225 LAB CODE (L or C) \_\_\_\_\_

COMPLETE COURSE TITLE: BUSINESS DATA COMMUNICATIONS

EFFECTIVE DATE (first term course will be offered): FALL 2012

INSTRUCTIONAL METHOD  
(V, BB, IC, EC, ETC.):

CREDITS: 3

LAB/DISCUSSION:

TEXTBOOK INFORMATION:

SEE ATTACHED SAMPLE SYLLABUS

LECTURE: Y

FIELD WORK:

GRADING: REGULAR X PASS/FAIL \_\_\_\_\_ SATISFACTORY/UNSATISFACTORY \_\_\_\_\_

COURSE DESCRIPTION, NO MORE THAN 3 LINES: THIS IS AN INTRODUCTORY COURSE IN DATA COMMUNICATIONS AND COMPUTER NETWORKING. YOU WILL BE INTRODUCED TO THE FUNDAMENTAL NETWORK BUILDING BLOCKS AND THE CONCEPTS BEHIND THEIR OPERATIONS. AVAILABLE ONLY TO GRADUATE STUDENTS LACKING AN UNDERGRADUATE COURSE IN BUSINESS DATA COMMUNICATIONS.

PREREQUISITES: FULLY ADMITTED  
GRADUATE STUDENTS

COREQUISITES:

OTHER REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL):

Check box to enforce\*

Check box to enforce\*

Check box to enforce\*

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE: TERMINAL DEGREE IN APPROPRIATE FIELD

Other departments, colleges that might be affected by the new course must be consulted. List entities that have been consulted and attach written comments from each.

DEPARTMENT OF COMPUTER & ELECTRICAL ENGINEERING AND COMPUTER SCIENCE—SEE ATTACHED EMAIL

Faculty Contact, Email, Complete Phone Number

Jahyun Goo, [jgoo@fau.edu](mailto:jgoo@fau.edu), 561-297-2352

### SIGNATURES

### SUPPORTING MATERIALS

<p><b>Approved by:</b></p> <p>Department Chair: <u>[Signature]</u> on behalf of Tamara Dineen</p> <p>College Curriculum Chair: <u>[Signature]</u></p> <p>College Dean: <u>[Signature]</u></p> <p>UGPC Chair: _____</p> <p>Dean, Graduate Studies _____</p>	<p><b>Date:</b></p> <p><u>9/27/11</u></p> <p><u>9/27/11</u></p> <p><u>9-27-11</u></p> <p>_____</p> <p>_____</p>	<p>Syllabus—must include course objectives.</p> <p>Written Consent—required from all departments affected.</p> <p>Go to: <a href="http://graduate.fau.edu/gpc/">http://graduate.fau.edu/gpc/</a> to download this form</p>
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\* "Enforce" prerequisites or other registration controls adds these restrictions to the course schedule; students whose academic careers do not show these prerequisites or other details will not be able to register. When box is not checked, restrictions show in catalog description only.

Email this form and syllabus to [Graduate Studies](mailto:GraduateStudies@fau.edu) one week **before** the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website by committee members prior to the meeting.

# ISM 6225: Business Data Communications

## 3 credit hours

### Term

Instructor:	Jahyun Goo, Ph.D.	Lecture Location:	TBD
Office:	FL 218, Boca Campus	Class Time:	TBD
Phone:	561-297-2352	Course Web Site:	<a href="http://blackboard.fau.edu">http://blackboard.fau.edu</a>
Email:	<a href="mailto:jgoo@fau.edu">jgoo@fau.edu</a>	Office Hours:	TBD

#### PREREQUISITE

Fully admitted graduate students.

#### DESCRIPTION

This course is part of the Foundation Courses of the MSITM program. This is an introductory course in Data communications and Computer Networking. You will be introduced to the fundamental network building blocks and the concepts behind their operations. It has three primary objectives:

1. To understand the fundamental principles of the technologies underlying modern business telecommunications and computer networks.
2. To understand the role of data communications in modern business, its impact on the business organizational structures, and its use for business strategic advantages.
3. To understand the state of art of data communications technologies widely used in business organizations and the issues in network management.

Available only to graduate students lacking an undergraduate course in business data communications. Prior course work or professional experience may be considered in lieu of this course, with departmental approval.

#### LEARNING GOALS

**Content Knowledge (Declarative, Technical, Research).** Students will reinforce learning of fundamental principles of data communication concepts and the technologies underlying modern business telecommunications and computer networks such as OSI reference model, voice and data networks and their convergence. They will also be introduced to the types of network architectures on which the business telecommunications are based such as local area networks, wide area networks, and the Internet. Students will reinforce their skills to research and gather information to gain useful business understanding about emerging communications technologies and their usage in real world of business practices.

**Communication (Written, Oral, Team).** Students will reinforce their writing skills by writing a paper on an in-depth research topic, using several sources such as business magazines, academic journals, and web sites. Students will reinforce their oral skills by presenting to the class a team semester project consisting of a literature review and analysis of a specific data/voice communication topic, chosen by them, of a real world business problem. Students will reinforce their team communication skills by working on a team semester long project with the objective to research a business data communications topic on an advanced, real world business problem.

**Critical Thinking and Problem Solving.** Students will demonstrate proficiency in applying data communication techniques for the purpose of evaluating and selecting data and voice communications technologies as well as the management of data/voice networks. They will demonstrate the ability to compare the network pieces in layers (in OSI model and/or TCP/IP protocol suite) and choose the most appropriate solution for the needs of computing.

#### WEB-ASSISTED COURSE

The course will be assisted through a web-based course management tool, Blackboard. The course web site will house all information regarding announcement, class schedule, exam dates, reading assignments, projects, class notes etc. The site is for students to allow 24×7 access to class materials. Depending on class pace and needs change to the schedule may be made. All changes will be announced on the course web site.

## REQUIRED TEXTBOOK

White, Curt M., *Data Communications and Computer Networks: A Business User's Approach, 5th Edition*, Course Technology, 2009, ISBN 1-4239-0303-X (Required)

## GRADING AND ASSIGNMENTS

Grading will be done on the basis of:

Grade Percentage Breakdown	
Mid-term Exam I	20%
Mid-term Exam II	20%
Final Exam	20%
Individual Research Project	20%
Case Write-up	
Assignments; pop quizzes	20%
<b>Total</b>	<b>100%</b>

Final Grade Assignment		
A	100	– 93.00
A-	92.99	– 89.00
B+	88.99	– 87.00
B	86.99	– 83.00
B-	82.99	– 79.00
C+	78.99	– 77.00
C	76.99	– 73.00
C-	72.99	– 69.00
D+	68.99	– 67.00
D	66.99	– 63.00
D-	62.99	– 59.00
F	58.99	– 0.00

1. **Exams.** Three (3) lecture exams will be administered throughout the semester (see Course Schedule). Exams will be given in a multiple-choice format, which will be closed book and no notes. They are comprehensive, covering all the assigned reading and lecture notes, but non-accumulative. Note that material presented in class will supplement the assigned reading. Therefore, class attendance and good note taking are essential tactics for success. Exams are multiple-choice format; please come to the test with a #2 pencil and a **green** Scantron sheet.
2. **Individual Research Project.** There will be a semester research project given during the semester. This is basically a research project, which combines technical knowledge with managerial skills. Each student enrolled in the graduate level is expected to deliver a project report. Please refer to the project addendum for details regarding the topics of the project and due dates.
3. **Case Write-up Assignments.** Graduate students are required to do case studies with reading of scholarly articles on topics chosen by the students and approved by the professor.
4. **Pop Quiz.** Several pop quizzes may be planned over the semester, if necessary.

**Because everyone will be graded in exactly the same way, in fairness of other students, the instructor cannot and will not arbitrarily move the grading scale to accommodate individuals' specific needs or desires. All requests for an unearned extra or "bonus" point at the end of the semester in order to move you into the next grade category will be rejected.**

## SUBMISSION GUIDELINES

1. **Due Date and late completion of an assignment.** All assignments due by 12 PM (noon) on the due date indicated in the course schedule. For each day that the assignment is late, **five points will be deducted** from the assignment's score. No extra assignments are permitted for additional credit in this course unless assigned by the instructor to the entire class.
2. **Email Submission.** All assignments are to be submitted by email to the instructor's email address. Be sure you receive an acknowledgement from the instructor for each assignment. Every assignment the instructor receives will have an acknowledgement sent. If you did not get the acknowledgment, the instructor did not get the assignment. All email submissions must be received prior to the stated deadline.

3. **Format of Submission.** The following format must be used when submitting assignments via email. In the "Subject" line of your email must indicate the followings: ISM6220 YourName NameOfDeliverable  
Example: *ISM6220 John Project Proposal*.

Note: Remember to **put the course name in the subject field of every e-mail message** that you send me. E-mail messages that are missing this information are likely to be automatically redirected to a folder the instructor will seldom check.

## CLASS POLICIES

1. **E-mail.** Students are required to check your email throughout the course. By University Policy, every email communication related to the course is supposed to use FAU email account. If you use a non-FAU e-mail address as your primary e-mail address, arrange for your FAU e-mail to be forwarded to your non-FAU account.
2. **Responsibilities.** Each student is responsible for keeping up with the class schedule, checking FAU email, and checking the course web site. **Religious Accommodation:**  
<http://www.fau.edu/academic/registrar/catalog/academics.php> (Listed under the "Policies for all students" section)
3. **Electronic Devices.** In order to minimize the level of distraction, all beepers and cellular phones must be on quiet mode during class meeting times. Students who wish to use a laptop computer/PDA for note taking need prior approval of the instructor since key clicks and other noises can distract other students.
4. **Exam and Assignment Make-up Policy.** There are no make-up exams and assignments for this course. If there are emergencies or other non-academic circumstances beyond your control that preclude you from taking a scheduled exam or from submitting a due assignment, please let the instructor know at the earliest possible opportunity before the exam or assignment so that alternate arrangements can be determined.
5. **Incompletes.** There are no incompletes for this course, except in the case of extraordinary circumstances (e.g., excessive absences due to severe illness) and the instructor determines that an incomplete is most appropriate.
6. **Honor Code.** The FAU Honor Code governs all student activities throughout the course. Cheating, plagiarism, copying, and unauthorized collaboration are unacceptable and are subject to disciplinary actions, including a grade "F" in the course and a letter of fact in the student's record, according to the rules of the University and College of Business. As I will employ the plagiarism detection service, students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Terms and Conditions of Use posted on the Turnitin.com site. Code of Academic Integrity:  
[http://www.fau.edu/regulations/chapter4/4.001\\_Code\\_of\\_Academic\\_Integrity.pdf](http://www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf)
7. **ADA.** In compliance with the Americans with Disabilities Act (ADA), students who require special accommodations to properly execute coursework due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) – in Boca Raton, SU133 (561-297-3880); in Davie, MOD 1 (954-236-1222); in Jupiter, SR 117 (561-799-8585); or at the Treasure Coast, CO 128 (772-873-3305) – and follow all OSD procedures. Students with disabilities needing academic accommodations should review Florida Atlantic University's ADA Policy and work with the Florida Atlantic University's Office for Students with Disabilities. ADA policy:  
[http://www.fau.edu/eop/ada/ada\\_policy.php](http://www.fau.edu/eop/ada/ada_policy.php)

## COURSE OUTLINE

Week	Lecture	Reading Assignments	Deliverables Due
1	Introduction to Computer Networks and Data Communications	Ch1	
2	Fundamentals of Data and Signals	Ch2	
3	Conducted and Wireless Media	Ch3	2-paged Project Proposal
4	Making Connections: Interface Standards, Multiplexing, and Compression	Ch4&5	
5	<b>Mid-term Exam I</b>		
6	Errors, Error Detection, and Error Control	Ch6	
7	Local Area Networks: The Basics	Ch7	
8	Local Area Networks: Internetworking		
9	Local Area Networks: Software and Support Systems	Ch8	Executive Summary & Outline
10	<b>Mid-term Exam II</b>		
11	Introduction to Metropolitan Area Networks & Wide Area Networks	Ch9	
12	The Internet	Ch10	Draft of research report (Optional)
13	Project Presentation		
14	<b>Thanksgiving Recess (NO CLASS)</b>		
15	<b>Final Exam</b>		Final Research Report

### SUPPLEMENTARY USEFUL REFERENCES:

The following are some of the extremely useful reference books for technical professionals, which might come handy in case you decide to pursue a career in the fields of networking and telecommunications.

- ***Applied Data Communications: A Business Approach*** by J. Goldman, Second Edition, J Wiley Publishers
- ***Telecommunications Essentials*** by Lillian Goleniewski, Addison-Wesley.
- ***Internetworking with TCP/IP, Vol. 3, Client-server Programming and Applications*** by Douglas E. Comer, Prentice Hall Publisher. (Excellent reference for distributed programming over TCP/IP networks)
- ***Business Data Communications*** by Raymond R. Panko, Prentice Hall Inc.
- ***TCP/IP Illustrated, Vol. 1.*** by Richard Stevens, Addison Wesley Publisher. (A very practical book with lots of useful network diagnostic tools and programs.)

- ***TCP/IP Network Administration*** by Craig Hunt, O'Reilly & Associates, Inc. (A must for network and system administrators dealing with internetworking.)
- ***Internet Routing Architectures*** by Bassam Halabi. Cisco Press.
- ***Computer Networks: A Systems Approach*** by L. Peterson and B. Davie. Morgan Kaufmann Publishers Inc.
- ***The Art of Computer Systems Performance Analysis*** by Raj Jain. John Wiley, New York.
- ***High-Speed Networks: TCP/IP and ATM Design Principles*** by William Stallings, Prentice Hall.
- ***How to set up and maintain a Web Site*** by Lincoln Steinz. Addison-Wesley Publisher.
- ***Residential Broadband*** by George Abe. Cisco Press.
- ***High-Performance Communication Networks***, by Jean Walrand and Pravin Varaiya, Morgan Kauffmann Publishers Inc.