

CIS-350
INFRASTRUCTURE TECHNOLOGIES

SPRING 2011

Section 01 – Tue, Thu: 2:30PM-3:45PM, COB 003

INSTRUCTOR

Dr. J. Zurada, Professor, College of Business (COB), Room 306, ph. 852-4681

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Course web site: <https://blackboard.louisville.edu/webapps/login>

TEXT

1. *The Architecture of Computer Hardware, Systems Software, & Networking: An Information Technology Approach*, I. Englander, Wiley, 4th edition, 2009, ISBN: 978-0-471-71542-9.
2. Other materials may be supplied by instructor and will be handed out in class and/or posted on Blackboard.

REFERENCES

Systems Architecture, S.D. Burd, 6th edition, Course Technology, 2011, ISBN: 978-0-538-47533-4

PREREQUISITES - CIS 199, ECON 201, ECON 202, ACCT 201, ACCT 202, MGMT 201

OFFICE HOURS: Tue, Thu: 1:30PM-2:30PM, 4PM-5:30PM; and other times by appointment.

COURSE DESCRIPTION (from the Course Catalog)

This course provides an introduction to IT infrastructure issues and covers topics related to computer and systems architecture and communication networks, with an overall focus on the services and capabilities that IT infrastructure solutions enable in an organizational context. It gives students the knowledge and skills that they need for communicating effectively with professionals whose special focus is on hardware and systems software technology and for designing processes and solutions that require in-depth understanding of the IT infrastructure capabilities and limitations. It also prepares students for interaction with external vendors of IT infrastructure components and solutions.

COURSE OBJECTIVES

1. To provide the fundamental concepts relating data representation and data formats; computer hardware, architecture, and networks; operating systems; and data communications.
2. To provide some experience with different operating systems such as UNIX/Linux.
3. To introduce students to systems concepts as well as client/server and web-based computing and applications.

GRADED COMPONENTS AND GRADE DETERMINATION

4 Tests (including 1 take-home)	-	65%
Assignments: (Labs, Homeworks, In-class Activities, Pop-quizzes (if any), and Student Reports (if any))	-	35%
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Total:	-	100%

The course grade will be based as per the following distribution:

A+	97.0 – 100%	A	92.0 – 96.99%	A-	90.0 – 91.99%
B+	87.0 – 89.99%	B	82.0 – 86.99%	B-	80.0 – 81.99%
C+	77.0 – 79.99%	C	72.0 – 76.99%	C-	70.0 – 71.99%
D+	67.0 – 69.99%	D	62.0 – 66.99%	D-	60.0 – 61.99%
F	59.99%-0				

METHODOLOGY/POLICIES/ETC

- A. Topics noted in the "Tentative Course Outline" section of the syllabus will be covered through a combination of lectures, homeworks, in-class activities, and labs. I strongly encourage you to participate in classes. The material from the textbook will be covered selectively. Not every section in every chapter will be covered. The student will be fully responsible for all the material covered in class and the work assigned, whether present in class or not. Missing the class discussion may hurt the understanding of the material, and in-class activities cannot be made-up. (To earn credit for in-class activities you need to be present in class on the day when they are held and actually work the problems assigned with your group.) Due dates for homeworks, labs, and other assignments will be posted on Blackboard. The instructor reserves the rights to grade only selected homework problems, say, 1 or 2 problems out of 5 assigned.
- B. In class I will follow the lecture notes in Word/pdf posted on Blackboard, write on board, and/or use PowerPoint (PP) presentations. Though the instructor will provide you with summary notes of the text for most of the chapters, you should also take your own notes in class and read your textbook. Some empirical studies have shown that handwriting your notes is generally believed to be more effective than using word-processing software or just watching PP presentations for the understanding and retention of the material.
- C. The vast majority of the class materials including the course syllabus and schedule, PP presentations of lectures, lecture notes, labs, homeworks, in-class activities, and the solutions for the two latter ones will be posted on Blackboard at <https://blackboard.louisville.edu/webapps/login>. No hard copies of these materials will be given to the students. You need to come to class prepared, i.e., print and read the course materials before we cover them in class. Brief pop-quizzes may be administered to check your preparation for the class. During each class students should have their individual nametags put on the desk in front of them.
- D. It is your responsibility to attend every class and turn assignments on time. If you choose to miss class, come late or leave earlier, ask your colleagues what was covered in class. If you have questions, which require longer answers, about any assigned problems (homeworks, labs, in-class activities, tests, etc.) or material covered in class, please come to my office. Face to face interaction is much more educational, more effective, and less time consuming than my replying to your e-mails.
- E. Student conduct. Students are not forced to come to class. If students come to class, they chose to stay for the entire class period. Accidental leaving and returning to class, whenever you desire, is not allowed and will not be tolerated. Such behavior is considered Bad Conduct and shows bad manners. Furthermore, such behavior disturbs your classmates and instructor. Cell phones and pagers must be turned off. The use of laptop computers is restricted to this class only. No food or drink in COB classrooms and all computer labs. The only exception is a bottle or cup of water.
- F. Everything submitted for grading must reflect your own work. Labs and homeworks should be handed in before class starts. All late assignments will be penalized 10% per calendar day. No assignments will be accepted after solutions are handed in, posted on Blackboard or discussed in class. Prior permission is needed for make-up examinations. "No shows" on test day will automatically receive a "zero" for that test.
- G. Posting and correction of grades. Grades will be posted on the course website (Blackboard) and students need to check them periodically. If a posted grade(s) is incorrect, please dispute it within 2 weeks after it is

posted by coming to my office, calling me or sending e-mail. No grades will be changed two weeks after the posting.

H. Student Academic Rights and Responsibilities

"Every student is expected to be thoroughly familiar with the University's Code of Student Rights and Responsibilities and Student Conduct which can be found in the 'General Information' section of this catalog.

Every student is responsible for reading the academic policies in the Undergraduate Catalog and official announcements of the COB and for abiding by such regulations.

Specifically, every student is responsible for knowing the grade point averages and program requirements needed for graduation. Students are encouraged to see a COB academic advisor to clarify any questions or concerns.

Along with preparing for and attending class, each student has the responsibility to promote high academic standards.

Students are expected to cooperate in all classes with faculty members to achieve an optimal learning environment. Inappropriate classroom behavior may result in the student being withdrawn from the course, and potentially assigned academic penalties. Inappropriate classroom behavior will be dealt with in the same manner as academic dishonesty.

The COB will not tolerate academic dishonesty. The COB has a strong policy of academic discipline for action against students who commit academic dishonesty or conduct themselves inappropriately in the classroom. A proven case of academic dishonesty will normally result in the student being denied admission to or dismissed from the COB.

Academic dishonesty is defined by the Code of Student Conduct in the Undergraduate Catalog. Its definition pertains to but is not limited to cheating, fabrication, falsification, multiple submission, plagiarism, and complicity. It is the student's responsibility to maintain high standards of ethical conduct, intellectual integrity and to be familiar with the definition of academic dishonesty.

As evidence of the seriousness with which the COB regards these matters, academic dishonesty allegations are handled in accordance with COB Procedures for Dealing with Academic Dishonesty."

The Summer 2010 - Spring 2011 University of Louisville Undergraduate Catalog,
<http://louisville.edu/undergradatecatalog>

I. CIS Faculty Statement Regarding Academic Dishonesty

The CIS faculty takes violations of the university policy on academic dishonesty seriously. Students are encouraged to review the policy and to understand the consequences of any action that is proven to be a violation of the policy.

Students are expected to do their own work when assignments and exams require individual work. For example, students may not copy the work of others, either manually or electronically, under these conditions. Further, students who allow their work to be copied by others risk violation of the academic dishonesty policy.

The CIS faculty will take full and complete action against any student who violates the academic dishonesty policy. In proven cases of violation of the policy, students may be suspended from the COB, as stipulated in the University of Louisville undergraduate and graduate catalogs. Cases of academic dishonesty will be processed in accordance with COB procedures.

J. Americans with Disabilities Act

“The University of Louisville is committed to providing equal opportunity for persons with disabilities in full compliance with the Americans with Disabilities Act of 1990 (ADA), and Section 504 of the Rehabilitation Act of 1973 (504). The University’s 504/ADA Coordinator is responsible for all campus activities relevant to Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. The University Affirmative Action Officer will monitor compliance and assist all unit heads in meeting their equal opportunity obligations. The University Disability Resource Center staff will assist the university community in fulfilling its responsibility by serving as an information resource center and coordinating support services for students with disabilities.”

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- K. The last day to withdraw from this course without academic penalty is **Mon, Feb 28**. The Standards and Admissions Committee adheres strictly to this date except in cases of extreme emergency.
- L. The schedule and procedures for grading in this course are subject to change in the event of extenuating circumstances. Any changes to this syllabus, course schedule, due dates, course requirements, or grading criteria will be announced in writing and posted on Blackboard as far in advance as possible.

TENTATIVE COURSE OUTLINE (Subject to Change as Needs Dictate)

The textbook is by I. Englander. Note that from some chapters we will cover several sections only. Also, some chapters and/or sections within each chapter will be covered superficially. An abbreviation LN stands for Lecture Notes (in Word/pdf) which will be posted on Blackboard.

Date	Topic	Required Reading prior Class
Tue, Jan 11	Syllabus and Course Schedule, Course Administration Computers and Systems	Chapter 1 (Sections 1.0-1.6), pp. 2-35.
Thu, Jan 13	An Introduction to Systems Concepts and Systems Architecture	Chapter 2 (Sections 2.0-2.2), pp. 39-63.
Tue, Jan 18	Number Systems	The lecture will be based on LN only. Do not need to read Chapter 3 (pp. 69-90).
Thu, Jan 20	Number Systems	The lecture will be based on LN only. Do not need to read Chapter 3 (pp. 69-90).
Tue, Jan 25	Representing Numerical Data	The lecture will be based on LN only. Do not need to read Chapter 5 (pp. 137-159).
Thu, Jan 27	Data Formats	Chapter 4 (Sections 4.0-4.7), pp. 97-130.
Tue, Feb 1	The Little Man Computer	Chapter 6 (Sections 6.0-6.6), pp. 178-193.
Thu, Feb 3	The CPU and Memory	Chapter 7 (Sections 7.0-7.5), pp. 199-218. Sections 7.6-7.8 on pp. 218-235 will be covered very superficially.
Tue, Feb 8	The CPU and Memory	Chapter 7 (Sections 7.0-7.5), pp. 199-218. Sections 7.6-7.8 on pp. 218-235 will be covered very superficially.
Thu, Feb 10	CPU and Memory: Design, Enhancements and Implementation	Chapter 8 (Sections 8.0-8.6), pp. 240-271.

Tue, Feb 15	Test 1: Chapters 1-6, and LN (to the <u>extent</u> it was covered in class, homeworks, and class activities. Also, any materials assigned for reading.	
Thu, Feb 17	Input/Output	Chapter 9 (Sections 9.0-9.5), pp. 277-303.
Tue, Feb 22	Computer Peripherals	Chapter 10 (Sections 10.0-10.9), pp. 307-338.
Thu, Feb 24	Computer Peripherals	Chapter 10 (Sections 10.0-10.9), pp. 307-338.
Tue, Mar 1	Modern Computer Systems – Read this chapter on your own. Networks and Data Communications	Chapter 11 (Sections 11.0-11.5), pp. 343-365. Chapter 12 (Sections 12.0-12.6), pp. 368-418.
Thu, Mar 3	Networks and Data Communications	Chapter 12 (Sections 12.0-12.6), pp. 368-418.
Tue, Mar 8	Ethernet and TCP/IP Networking	Chapter 13 (Sections 13.0-13.8), pp. 423-443.
Thu, Mar 10	Test 2 – Chapters 7-11 and LN (to the extent it was covered in class and/or assigned for reading) as well as homeworks and in-class activities.	
Tue, Mar 15 Thu, Mar 17	Spring Break (no classes)	
Tue, Mar 22	Communication Channel Technology	Chapter 14 (Sections 14.0-14.4), pp. 447-472.
Thu, Mar 24	Operating Systems: An Overview	Chapter 15 (Sections 15.0-15.5), pp. 479-510.
Tue, Mar 29	The User View of Operating Systems	Chapter 16 (Sections 16.0-16.6), pp. 515-545.
Thu, Mar 31	MS-DOS	LN
Tue, Apr 5	Unix/Linux	LN
Thu, Apr 7	Unix/Linux	LN
Tue, Apr 12 Thu, Apr 14	Test 3 – Chapters 12-14 and LN (to the extent it was covered in class and/or assigned for reading) as well as homeworks and in-class activities. IT Tour – The tour of UofL Computing Hardware and Software Facilities: Miller Technology Hall, Belknap Campus. The day of the tour may be changed. or Guest Speaker: The day of the presentation may change depending on the speaker's availability	This will be either a take home test or an on-line test. If the former, the test has to be picked up in class on Tue, Apr 12 and returned on Thu, Apr 14, at 2:30PM sharp. If the latter, the test will be posted on BB on Tue, Apr 12 and taken by Thu, Apr 14, 2:30PM. The time allowed for the test will be about 1.5-2 hours.
Tue, Apr 19	File Management - Read this chapter on your own. The Internal Operating System	Chapter 17 (Sections 17.0-17.10), pp. 549-587. Chapter 18 (Sections 18.0-18.11), pp. 593-645.
Thu, Apr 21	The Internal Operating System	Chapter 18 (Sections 18.0-18.11), pp. 593-645.
Wed, Apr 27, 11:30AM-12:45PM	Test 4 - Chapters 15–18, and LN (to the extent it was covered in class and/or assigned for reading) as well as homeworks, in-class activities and labs on MS-DOS and Unix/Linux.	

Note: Please keep in mind that I have a **hearing disability** which severely impairs the hearing in my right ear and reduces the hearing in my left ear. This is a condition that cannot be easily remedied with a hearing aid. To allow me to answer your questions please remain quiet during lectures and ask your questions loudly and clearly. If necessary, I will ask you to repeat the question and approach you.