

The University of Maryland Asian Division  
**IFSM 310 Software and Hardware Concepts**

TERM 3

January 23 - March 15, 2006  
Monday / Wednesday 1830-2130

Syllabus

INSTRUCTOR: BJ Gleason  
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Website: <http://thinairlabs.com>  
Office Hours: Before and After Class, by appointment.

TEXTBOOKS: Burd, Stephen (2006) Systems Architecture, 5<sup>th</sup> edition

PREREQUISITE: **Don't even think about taking this course if you have not finished IFSM 300 and MATH 012.** Students are expected to have the knowledge of topics listed under IFSM 300 and MATH 012 and their prerequisites.

COURSE DESCRIPTION: A survey of computer systems. Emphasis is on the interrelationships of hardware architecture, system software, and application software. Topics include the architectures of processors and storage systems and implications for system software design. Discussion also covers the effects of the design of hardware and system software on the development of application programs in a business environment. Students may receive credit for only one of the following courses: CMIS 270, CMIS 310, CMSC 311, or IFSM 310.

INTERNET ACCESS: Students will be expected to have e-mail and Internet access. Most of the homework assignments will require extensive use of these resources.

MAILING LIST: **Students are required to sign up for the class mailing list before the first class meeting. This is your first graded assignment.** See the website for instructions.

COURSE OBJECTIVES: On successful completion of this course, the student should be able to:

- Explain relationships between critical hardware components and systems software
- Demonstrate competence in working with a computer's numbering systems
- Describe the central processing unit (CPU) components and functions
- Identify and define both the internal and peripheral input, output, storage devices, and technology
- Explain the basics of networking and performance implications of the LAN technologies
- Differentiate between and compare the functions and types of various operating systems
- Identify and define the components of file management
- Describe the operation, organization, and instruction set of a simple computer and demonstrate the application of this simple instruction set in performing operations
- Describe digital logical circuit and storage devices as well as their components and circuitry and explain their relationship and use within the simple computer

EVALUATION:

Attendance / Participation	10%
Homework	10%
Quizzes	15%
Exams (2)	40%
Final Examination	25%

**POLICIES, PROCEDURES AND GRADES:** IAW with the University of Maryland, University Catalog, Asian Division, and the Student Handbook (current editions). These cover essential information such as attendance, grading, make-up work and plagiarism.

**ATTENDANCE:** Because much of the material in this class consists of in-class group problem solving activities, class attendance is essential. Students are expected to attend all scheduled classes. However, if a student must miss a class due to military obligations or other unavoidable circumstances, every effort must be made by the student to obtain class notes and other material discussed. Communication with the instructor is vital and the student should notify the instructor of any anticipated absences. **There are NO makeups for missed assignments or examinations unless the instructor is informed ahead of time. Attendance is taken only at the beginning of class.**

**HOMEWORK:** **All assignments must be turned in at the beginning of class on the due date.** In the event of bonafide duty-related absence on the due date, arrangements must be made with the instructor in advance. **Homework is not accepted late.**

**PLAGIARISM POLICY:** Plagiarism is to steal or use the ideas or writings of another as one's own. This may be avoided in most instances by giving credit/recognition to the original author. Cases of plagiarism are handled consistent with current UMUC guidelines. See the UMUC policies at the following URL: <http://www.umuc.edu/policy/>

**PHONES:** Are to be tuned off before class begins. Emergency personnel should set their devices to vibrate.

**SCHEDULE:** Schedule is subject to change, however all subjects will be covered.

Week	DISCUSSION TOPICS	Chapters
Week 1	Computer Technology: Your Need to Know Introduction to Systems Architecture	1, 2
Week 2	Data Representation Processor Technology and Architecture	3, 4
Week 3	<b>Exam 1</b> Data Storage Technology	5
Week 4	System Integration and Performance Input/Output Technology	6, 7
Week 5	Data and Network Communication Technology Computer Networks <b>Exam 2</b>	8, 9
Week 6	Application Development Operating Systems	10, 11
Week 7	File and Secondary Storage Management Internet and Distributed Application Services	12, 13
Week 8	System Administration <b>Final Exam</b>	14

**Prerequisite Quiz: Are you ready for this class?**

1. What is the intersection of a row and a column in a spreadsheet called?
2. What is the unique identifier in a relational database called?
3. The firm is connected to the elements in its environment by \_\_\_\_\_.
3. During the planning phase, the systems analyst functions as \_\_\_\_\_.
4. What is the final step in the SDLC?