

# Department of Computer Science INFS 515 Computer Organization Fall 2018

Instructor: Dr. Lei He E-mail: lhe3@gmu.edu

Classroom: Art and Design Building L008 Day & Time: Tue 7:20pm – 10:00pm

Office Hour: By appointment

#### **Course Description**

Computer hardware architecture concepts including arithmetic and logical operations, number systems, machine representation of numbers, instruction set formats, addressing techniques, memory organization, internal processor structure and operation. Symbolic assembly language and fundamental operating systems concepts: process synchronization and scheduling, interrupt and memory management, virtual memory, file I/O and disk management. Credit cannot be applied to a graduate degree in the Volgenau School or the BS degree in computer science.

#### **Textbooks**

## □ Required

The Architecture of Computer Hardware and System Software: An Information Technology Approach, by Irv Englander

Publisher: Wiley; 5th Edition (January 21, 2014) ISBN-10: 1118322630

#### **Course Format**

Lectures will be given by the instructor. Besides material from the textbook, topics not discussed in the book may also be covered. Handouts of material not covered in the book will be made available. Grading will be based on homework assignments and exams.

#### **Course Outcome**

As an outcome of taking this class, a student will be able to

- Understand the basic concepts and techniques related to computer systems, including both hardware and software;
- Know the current standards and protocols of computer network and the Internet;
- Read research papers pertaining to modern computing technologies.

## **Grading**

☐ Week 3: Data representation ☐ Week 4: Little man computer ☐ Week 5: CPU and memory ☐ Week 6: Input and output

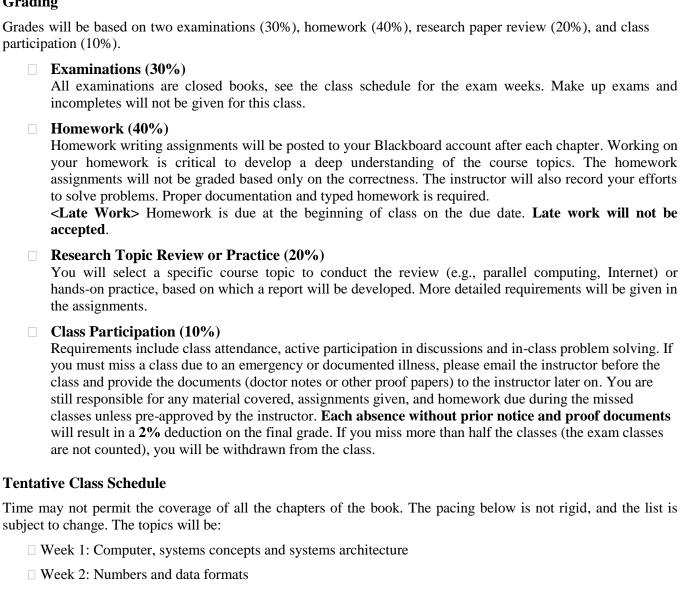
☐ Week 8: Computer peripherals

☐ Week 12: Ethernet and TCP/IP ☐ Week 13: Operating systems

☐ Week 10: Modern computer systems

☐ Week 11: Networks and data communications

□ Week 7: Exam 1.



☐ Week 14: File management
☐ Week 15: Internal operating system
□ Week 16: Exam 2

### **Honor Code Statement**

Collaboration on homework is permitted; copying of solutions is not. The work you hand in should be your own. Please check the Mason Honor Code at <a href="http://www.gmu.edu/academics/catalog/9798/honorcod.html">http://www.gmu.edu/academics/catalog/9798/honorcod.html</a>, and the CS Department policies <a href="http://cs.gmu.edu/wiki/pmwiki.php/HonorCode/HomePage">http://cs.gmu.edu/wiki/pmwiki.php/HonorCode/HomePage</a>.

## **Disability Accommodations**

If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 993-2474, <a href="http://ods.gmu.edu">http://ods.gmu.edu</a>. All academic accommodations must be arranged through the ODS.