CS 271 Computer Architecture and Assembly Language
Course Calendar* Summer 2019

*NOTE: Weeks are shown Sunday through Sunday. Assignments are due the 2nd Sunday, unless otherwise noted.
*NOTE: Subject to change based on material pace

New Assignments are in BLACK. **Due Assignments are in RED.**

Unit / Week	Topics
#1: 06/24 – 07/01 **Syllabus Quiz** **Week 1 Summary Exercises** **Program #1** **Syllabus Quiz** **Week 1 Summary Exercises**	• Introductions • Programming languages • Virtual machines • Computer architectures, processor types, metrics • Machine instructions, instruction execution cycle • CISC, x86 architectures, Intel IA-32 architecture • Introduction to MASM assembly language. **Read** Irvine Chapter 1 Chapter 2.1, 2.2, 2.3 Chapter 3.1, 3.2, 3.3 (pg 71 only), 3.4, 3.5

#2: 07/01 – 07/08
 	
Week 2 Summary Exercises
Program #2
Quiz #1
 	
Week 2 Summary Exercises
Program #1
Quiz #1
	• MASM assembly language:
	  ○ Constants, variables
	  ○ Libraries, assembling, linking, loading
	  ○ Addressing modes
	  ○ Arithmetic operations
	  ○ Conditions, decisions, repetition
	  ○ Modular development
	  ○ Data validation & Debugging
	• Internal/external data representation
	
	Re-read Irvine Chapter 1.3, 1.4
	Read Irvine Chapter 4.1, 4.2, 4.5 (and 6.3)
	Chapter 5 (Section 5.5 is optional)

#3: 07/08 – 07/15 **Week 3 Summary Exercises** **Week 3 Summary Exercises** **Program #2**	• Binary arithmetic • Floating-point representation • Parity • Error detection/correction, • Hamming codes **Read** Irvine Chapter 6.1, 6.2, 6.3, Chapter 7.3, 12.1

#4: 07/15 – 07/22
 	
Week 4 Summary Exercises
Program #3
Midterm Exam
 	
Week 4 Summary Exercises
	• MASM procedures:
	  ○ Calls/returns
	  ○ Functional decomposition, parameters
	  ○ Documentation
	• The System Stack & passing parameters
	
	Read Irvine Chapter 4.4
	Read Irvine Chapter 8.1, 8.2
	Midterm Exam
	(Available Saturday – Monday only)

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#5: 07/22 – 07/29
 	
Week 5 Summary Exercises
Program #4
 	
Week 5 Summary Exercises
Program #3
	• MASM assembly language:
	  ○ Detailed parameter passing
	  ○ More on the system stack
	  ○ Random numbers
	  ○ Arrays
	  ○ Array parameters
	
	Read Irvine Chapter 9.5

#6: 07/29 – 08/05
 	
Week 6 Summary Exercises
Program #5
Quiz #2
 	
Week 6 Summary Exercises
Program #4
Quiz #2
	• MASM assembly language:
	  ○ Data-related operators
	  ○ *n*-Dimensional arrays and string processing
	  ○ Low-level I/O
	• RPN
	• IA-32 floating-point unit (FPU)
	
	Read Irvine Chapter 9.1, 9.2, 9.4, 9.5
	Re-read Irvine Chapter 12.1

#7: 08/05 – 08/12
 	
Week 7 Summary Exercises
 	
Week 7 Summary Exercises
Program #5
	• Recursion
	• MASM assembly language:
	  ○ Macros
	  ○ String processing
	• Digital logic level:
	  ○ Gates, circuits, integrated circuits

#8: 08/12 – 08/19 **Week 8 Summary Exercises** **Final Exam** **Week 8 Summary Exercises**	• How computers come together • Parallelism • Advanced architectures • Research topics in Computer Architectures • Review for final exam **Final Exam** **(Available Wednesday – Friday only)**