

CS 271 Computer Architecture and Assembly Language

Course Calendar* Summer 2020

*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: 06/21 – 06/28 Syllabus Quiz Week 1 Summary Exercises Program #1 Syllabus Quiz Week 1 Summary Exercises	<ul style="list-style-type: none"> • 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 – 2.3 Chapter 3.1 – 3.5
#2: 06/28 – 07/05 Week 2 Summary Exercises Program #2 Quiz #1 Week 2 Summary Exercises Program #1 Quiz #1	<ul style="list-style-type: none"> • MASM assembly language: <ul style="list-style-type: none"> ◦ 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 6.2) Chapter 5 (Section 5.5 is optional)
#3: 07/05 – 07/12 Week 3 Summary Exercises Week 3 Summary Exercises Program #2	<ul style="list-style-type: none"> • Binary arithmetic • Floating-point representation • Parity • Error detection/correction, • Hamming codes Read Irvine Chapter 6.1, 6.2 Chapter 7.3, Chapter 12.1
#4: 07/12 – 07/19 Week 4 Summary Exercises Program #3 Midterm Exam Week 4 Summary Exercises	<ul style="list-style-type: none"> • MASM procedures: <ul style="list-style-type: none"> ◦ 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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<p>#5: 07/19 – 07/26</p> <p>Week 5 Summary Exercises Program #4</p> <p>Week 5 Summary Exercises Program #3</p>	<ul style="list-style-type: none"> • MASM assembly language: <ul style="list-style-type: none"> ○ Detailed parameter passing ○ More on the system stack ○ Random numbers ○ Arrays ○ Array parameters
<p>#6: 07/26 – 08/02</p> <p>Week 6 Summary Exercises Program #5 Quiz #2</p> <p>Week 6 Summary Exercises Program #4 Quiz #2</p>	<ul style="list-style-type: none"> • MASM assembly language: <ul style="list-style-type: none"> ○ Data-related operators ○ <i>n</i>-Dimensional arrays and string processing ○ Low-level I/O • RPN • IA-32 floating-point unit (FPU) <p>Read Irvine Chapter 9.1, 9.2 ,9.4, 9.5 Read Irvine Chapter 12.2</p>
<p>#7: 08/02 – 08/09</p> <p>Week 7 Summary Exercises</p> <p>Week 7 Summary Exercises Program #5</p>	<ul style="list-style-type: none"> • Recursion • MASM assembly language: <ul style="list-style-type: none"> ○ Macros ○ String processing • Digital logic level: <ul style="list-style-type: none"> ○ Gates, circuits, integrated circuits <p>Read Irvine Chapter 8.3 (through 8.3.1) Read Irvine Chapter 10.2 (through 10.2.4)</p>
<p>#8: 08/09 – 08/16</p> <p>Week 8 Summary Exercises Final Exam</p> <p>Week 8 Summary Exercises</p>	<ul style="list-style-type: none"> • How computers come together • Parallelism • Advanced architectures • Research topics in Computer Architectures • Review for final exam <p style="text-align: center;">Final Exam (Available Thursday – Sunday only)</p>