

CS 271 Computer Architecture and Assembly Language Course Calendar* Fall 2018

*Assignments are due end-of-week Sunday 11:59pm unless otherwise specified. Schedule subject to change based on material pace.

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

Unit / Week	Topics
#0: Program #1 Week 0 Quiz Week 0 Quiz	<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 <p>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</p>
#1: Week 1 Quiz Program #2 Week 1 Quiz Program #1	<ul style="list-style-type: none"> • MASM assembly language: <ul style="list-style-type: none"> ○ Introduction ○ Constants, variables ○ Libraries, assembling, linking, loading ○ Addressing modes ○ Arithmetic operations ○ Conditions, decisions, repetition <p>Re-read Irvine Chapter 1.3, 1.4 Read Irvine Chapter 4.1, 4.2, 4.5 (and 6.3)</p>
#2: Week 2 Quiz Week 2 Quiz Program #2	<ul style="list-style-type: none"> • MASM assembly language: <ul style="list-style-type: none"> ○ Modular development ○ Data validation ○ Debugging • Internal/external data representation <p>Read Irvine Chapter 5.1, 5.2, 5.3, 5.4, 5.6, 5.7</p>
#3: Week 3 Quiz Program #3 Week 3 Quiz	<ul style="list-style-type: none"> • Binary arithmetic • Floating-point representation • Parity, error detection/correction, Hamming codes <p>Read Irvine Chapter 6.1, 6.2, 6.3, Chapter 7.3 Chapter 12.1</p>
#4: Week 4 Quiz Program #4 Week 4 Quiz Program #3	<ul style="list-style-type: none"> • MASM procedures: <ul style="list-style-type: none"> ○ Calls/returns ○ Functional decomposition, parameters ○ Documentation • MASM assembly language: <ul style="list-style-type: none"> ○ The system stack ○ Parameter passing <p>Read Irvine Chapter 4.4 Read Irvine Chapter 8.1, 8.2</p>

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<p>#5: Midterm Exam Program #4 Midterm Exam</p>	<ul style="list-style-type: none"> • Review for Midterm Exam <p style="text-align: center;">Midterm Exam Thursday in class</p>
<p>#6: Week 6 Quiz Program #5 Week 6 Quiz</p>	<ul style="list-style-type: none"> • MASM assembly language: <ul style="list-style-type: none"> ○ More parameter passing ○ Random numbers ○ Arrays, array parameters <p>Read Irvine Chapter 9.5</p>
<p>#7: Week 7 Quiz Program #6 Week 7 Quiz Program #5</p>	<ul style="list-style-type: none"> • MASM assembly language: <ul style="list-style-type: none"> ○ Data-related operators ○ Low-level I/O • RPN • IA-32 floating-point unit (FPU) <p>Read Irvine Chapter 9.1, 9.2, 9.4, 9.5 Re-read Irvine Chapter 12.1</p>
<p>#8: Week 8 Quiz Week 8 Quiz</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>#9-10: Week 9-10 Quiz Week 9-10 Quiz Program #6</p>	<ul style="list-style-type: none"> • Parallelism • Advanced architectures • Review for final exam
<p>#11: Finals Week</p>	<p style="text-align: center;">Final Exam Wednesday 9:30am</p>