

CS 271 Computer Architecture and Assembly Language

Course Calendar* Winter 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
#1: Program #1 Week 1 Quiz Week 1 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 • Introduction to MASM assembly language. <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>
#2: Week 2 Quiz Program #2 Week 2 Quiz Program #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 <p>Re-read Irvine Chapter 1.3, 1.4 Read Irvine Chapter 4.1, 4.2, 4.5 (and 6.3)</p>
#3: Week 3 Quiz Week 3 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>
#4: Week 4 Quiz Program #3 Week 4 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>
#5: Week 5 Quiz Program #4 Week 5 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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#6: Midterm Exam Program #4 Midterm Exam	<ul style="list-style-type: none"> Review for Midterm Exam <p style="text-align: center;">Midterm Exam Tuesday in class</p>
#7: Week 7 Quiz Program #5 Week 7 Quiz	<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>
#8: Week 8 Quiz Program #6 Week 8 Quiz Program #5	<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>
#9: Week 9 Quiz Week 9 Quiz	<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
#10: Week 10 Quiz Week 10 Quiz Program #6	<ul style="list-style-type: none"> Parallelism Advanced architectures Review for final exam
#11: Finals Week	<p style="text-align: center;">Final Exam Thursday 6pm in Gilbert 224</p>