

CS 271 Computer Architecture and Assembly Language Course Calendar* Fall 2012

***Note:** The schedule may be adjusted if it becomes apparent that more/less time is needed for some of the topics. Additional tasks may be assigned and graded.

Unit / Week	Topics
#1: 09/24 - 09/28	<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>Program #1 is assigned</p> <p>Read Irvine Chapter 1</p> <p style="text-align: center;">Chapter 2.1, 2.2</p> <p style="text-align: center;">Chapter 3.1, 3.4, 3.5</p>
#2: 10/01 - 10/05 Program #1 is due 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 <p>Program #2 is assigned</p>

	<p>Re-read Irvine Chapter 1.3, 1.4</p> <p>Read Irvine Chapter 4.1, 4.2, 4.5</p>
<p>#3: 10/08 - 10/12</p> <p>Program #2 is due</p>	<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</p>
<p>#4: 10/15 - 10/19</p>	<ul style="list-style-type: none"> • Binary arithmetic • Floating-point representation • Parity, error detection/correction, Hamming codes <p>Program #3 is assigned</p> <p>Read Irvine Chapter 6.1, 6.2, 6.3, and 7.4</p> <p>Read Irvine Chapter 12.1</p>
<p>#5: 10/22 - 10/26</p> <p>Program #3 is due</p> <p>Quiz #2</p>	<ul style="list-style-type: none"> • MASM procedures: <ul style="list-style-type: none"> ◦ Calls/returns ◦ Functional decomposition, parameters ◦ Documentation • Introduction to the system stack <p>Program #4 is assigned</p> <p>Re-read Irvine Chapter 4.4</p> <p>Read Irvine Chapter 8.1, 8.2</p>
<p>#6: 10/29 - 11/02</p>	<ul style="list-style-type: none"> • MASM assembly language: <ul style="list-style-type: none"> ◦ More system stack ◦ Parameter passing

<p>Program #4 is due</p> <p>Midterm Exam (proctored)</p>	<ul style="list-style-type: none"> • Review for Midterm Exam
<p>#7: 11/05 - 11/09</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>Program #5 is assigned</p> <p>Read Irvine Chapter 9.5</p>
<p>#8: 11/12 - 11/16</p> <p>Program #5 is due</p> <p>Quiz #3</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</p> <p>Re-read Irvine Chapter 12.1</p>
<p>#9: 11/19 - 11/23</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

	Program #6 is assigned
#10: 11/26 - 11/30 Program #6 is due Quiz #4	<ul style="list-style-type: none"> • Parallelism • Advanced architectures • Review for final exam
Finals Week 12/03 - 12/07	Final Exam (proctored)