

CS 271 Computer Architecture and Assembly Language

Course Calendar* Winter 2017

*Weeks are shown Sunday-Sunday, Assignments are due the 2nd 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: 01/08 – 01/15 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. <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: 01/15 – 01/22 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 <p>Re-read Irvine Chapter 1.3, 1.4 Read Irvine Chapter 4.1, 4.2, 4.5 (and 6.3)</p>
#3: 01/22 – 01/29 Week 3 Summary Exercises Week 3 Summary Exercises 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: 01/29 – 02/05 Week 4 Summary Exercises Program #3 Week 4 Summary Exercises	<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: 02/05 – 02/12 Week 5 Summary Exercises Program #4 Quiz #2 Week 5 Summary Exercises Program #3 Quiz #2	<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>Read Irvine Chapter 4.4 Read Irvine Chapter 8.1, 8.2</p>

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<p>#6: 02/12 – 02/19</p> <p>Program #4</p>	<ul style="list-style-type: none"> • MASM assembly language: <ul style="list-style-type: none"> ◦ More system stack ◦ Parameter passing • Review for Midterm Exam <p style="text-align: center;">Midterm Exam (Available Thursday – Sunday only)</p>
<p>#7: 02/19 – 02/26</p> <p>Week 7 Summary Exercises Program #5</p> <p>Week 7 Summary Exercises</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>#8: 02/26 – 03/05</p> <p>Week 8 Summary Exercises Program #6 Quiz #3</p> <p>Week 8 Summary Exercises Program #5 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 Re-read Irvine Chapter 12.1</p>
<p>#9: 03/05 – 03/12</p> <p>Week 9 Summary Exercises</p> <p>Week 9 Summary Exercises</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>#10: 03/12 – 03/19</p> <p>Week 10 Summary Exercises Quiz #4</p> <p>Week 10 Summary Exercises Program #6 is due Quiz #4</p>	<ul style="list-style-type: none"> • Parallelism • Advanced architectures • Review for final exam
<p>#11: 03/19 – 03/22</p> <p>Finals Week</p>	<p style="text-align: center;">Final Exam (Available Sunday – Wednesday only)</p>