**CS 271  Computer Architecture and Assembly Language**  
**Course Calendar*  Winter 2021**

*Weeks are shown Sunday-Sunday, Assignments are due the 2nd Sunday 11:59pm Pacific Time unless otherwise specified. Schedule subject to change based on material pace. New Assignments are in BLACK. Due Assignments are in RED.*

<table>
<thead>
<tr>
<th>Module</th>
<th>Topics</th>
</tr>
</thead>
</table>
| #1: 01/03 – 1/10 | • Introduction to Assembly Language  
• Internal Data Representation  
• Binary/Hexadecimal Arithmetic  
• Computer Architecture Fundamentals  
• IA-32 Basic Execution Environment |
| Syllabus Quiz  
Module 1 Summary Exercises  
Project #0 | |
| #2: 1/10 – 1/17 | • MASM Assembly  
  o Introduction  
  o How Instructions Work  
  o Defining Data (Variables)  
  o Arithmetic Operations  
• Irvine Procedures and your First Program |
| Module 2 Summary Exercises  
Project #1 | |
| #3: 1/17 – 1/24 | • MASM Assembly  
  o Conditions and Control Structures  
  o Repetition Structures  
• Using the Visual Studio Debugger |
| Module 3 Summary Exercises  
Project #2  
Module 3 Summary Exercises  
Project #1 | |
| #4: 1/24 – 1/31 | • MASM Assembly  
  o Defining Constants  
  o Data Validation  
• Endianness  
• IEEE 754 Floating Point Format |
| Module 4 Summary Exercises  
Project #3  
Quiz #1  
Module 4 Summary Exercises  
Project #2  
Quiz #1 | |
| #5: 1/31 – 2/07 | • The Runtime Stack  
• Program Design (Modularization)  
• MASM Assembly  
  o Procedure Calls/Returns  
  o Procedure Documentation  
  o Passing Parameters to Procedures |
| Module 5 Summary Exercises  
Module 5 Summary Exercises  
Project #3 | |
| #6: 2/07 – 2/14 | • Error Detecting Codes  
• Review for Midterm Exam |
| Project #4  
Midterm Exam  
Midterm Exam | **Midterm Exam (Available Thursday – Sunday only)** |
<table>
<thead>
<tr>
<th>Module</th>
<th>Topics</th>
</tr>
</thead>
</table>
| #7: 2/14 – 2/21 | **Module 7 Summary Exercises**  
Project #5  
Module 7 Summary Exercises  
Project #4
| • MASM Assembly  
  o More Parameter Passing (Stack)  
  o Arrays & Array parameters |
| #8: 2/14 – 2/28 | **Module 8 Summary Exercises**  
Project #5
| • MASM Assembly  
  o Data-related operators  
  o String Processing  
  o Macros |
| #9: 2/28 – 3/07 | **Module 9 Summary Exercises**  
Project #6  
Quiz #2  
Module 9 Summary Exercises  
Quiz #2
| • Reverse Polish Notation (RPN)  
• IA-32 floating-point unit (FPU) |
| #10: 3/07 – 3/14 | **Module 10 Summary Exercises**  
Project #6
| • CISC vs. RISC Architectures  
• Parallelism  
• Review for final exam |
| #11: 3/14 – 3/17 | **Final Exam**  
(Final Exam is available Sunday – Wednesday only)  
Finals Week |