

# C404: Assembly Language

## Table of contents

0.1	Course summary . . . . .	1
0.2	Course Goals . . . . .	2
0.3	Textbooks . . . . .	2
0.4	Lab Resources . . . . .	3
0.5	Grading . . . . .	3
0.6	Tentative Schedule . . . . .	3

## List of Figures

1	<a href="#">Assembly Language for x86</a> . . . . .	2
---	---	---

## List of Tables

### 0.1 Course summary

This course covers the organization and behavior of real computer systems at the assembly-language level. Topics include the mapping of statements and constructs in a high-level language onto sequences of machine instructions, as

well as the internal representation of simple data types and structures. Numerical computation and subroutines are examined.

## 0.2 Course Goals

You will gain the following knowledge in topics related to assembly language:

- Intel and AMD processor architecture and programming.
- Describe von Neumann architecture and how its components interact.
- Real-address mode and protected mode programming.
- Assembly language directives, macros, operators, and program structure.
- Demonstrate how fundamental high-level programming constructs are implemented at the machine-language level.
- Understand the Assembly Language's procedures, parameter passing and stack operations.
- Programming methodology, showing how to use assembly language to create system-level software tools and application programs.
- Diagnosing and debuggin assembly language programs.

## 0.3 Textbooks

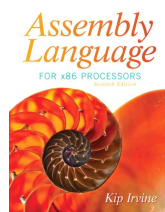


Figure 1: Assembly Language for x86

- *Assembly Language for x86 Processors*
- by **Kip Irvine**
- Pearson 2019, 8th Edition

## 0.4 Lab Resources

It is quite important to try all examples in the lecture notes. You have two options:

1. Use online compilers (Quick and easy):

- [OneCompiler.com](https://www.onecompiler.com)

2. See Lab(1)

## 0.5 Grading

Activity	Weight
Labs	40%
Final Exam	60%

## 0.6 Tentative Schedule

Week #	Topic	Kip	Assignment
Week 1	Basic Concepts	Ch.1-2	Lab(1)