

**CS 12**

**Instructor: Michael Lyle**  
**Assembly Language Programming**  
Course Information

**Spring 2017**

**Class:** T 12:30-2:30, Th 12:30-1:30, Lab 1:30-2:30

**Email:** [mlyle@santarosa.edu](mailto:mlyle@santarosa.edu)

**Office hours:** Tuesdays 10-11:30 in CS office  
(CS office is in Maggini Hall, 3<sup>rd</sup> floor)

**Phone:** 527-4778

**Course Description:** An introduction to computer organization, computer design, and programming in Assembly Language, to learn how higher-level languages, such as C and C++, are translated and executed by the hardware.

**Text:** <http://bob.cs.sonoma.edu/> for a link to the online version.

Robert G. Plantz	<i>Introduction to Computer Organization</i>	Self Published
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**In addition, we will use the Raspberry Pi computer (Complete kits from many vendors: approximately \$80) and learn ARM processor assembly language. You will need the computer by the 3rd week of class.**

**Student Learning Outcomes and Course Objectives:**

Upon completion of this course, students will:

Be able to describe how computer hardware works to execute computer programs.

Be able to describe what Assembly Language is.

Demonstrate an understanding of how high level languages such as C and C++ are translated and executed on a CPU.

Be able to articulate their understanding of how a modern CPU is organized.

**The Way the Class Works:**

We begin each class meeting on time by taking roll. Any graded material is returned to the students, and a general question and answer session follows.

Once a week, there is a short quiz over the previous week's lecture material. After the quiz, there will be a lecture on the current topic, as outlined in the class plan.

For the lab portion of the class, there will be a Moodle assignment outlining the lab procedures, and a general discussion of the lab. Students are then free to complete the lab, helping each other as necessary, and asking for help from the instructor when needed. After completion of the lab, and turning in the lab assignment, students are free to leave, or work quietly on other projects.

Please review the SRJC Catalog: Rules and Regulations.

If you have a disability that requires accommodation in this class, you must notify me before the end of the second meeting of class regarding the nature of the accommodation(s) you require. You must also register with the campus office of Disability Resources Department, located in Analy Hall. DRD will provide you with written confirmation of your verified disability and authorize recommended accommodations. This authorization must be presented to me before any accommodations can be made.

Attendance is mandatory: students may be dropped after 2 absences. It is important to be on time and ready to learn for each class.

The final exam will be 12-3, Thursday May 25.

**Grading:** The quizzes make up 30% of the grade, the labs/programs make up 40% of the grade, and the final exam makes up 30% of the grade. The two lowest quiz grades will not count toward the final grade, nor will the lowest lab grade. Late work will be accepted, but is highly discouraged. Letter grades will be assigned based on demonstrated proficiency within statistical groupings: all students within a particular Gaussian distribution receive the same letter grade. There are usually 3 to 4 distinct distributions in numeric totals, leading to the same grade within distributions.

Quizzes are graded on a 10 point scale. Labs assignments and programming assignments are also graded on a 10 point scale, with 8 points for completing the assignment correctly with good style, and 2 points for independent work beyond the assignment.

**General Reminders:** Co-operative work is encouraged in lab and during the class, but is not acceptable on quizzes and exams. All work turned in must be original. It is not possible to pass this course without attending class and doing all the work assigned. Failure in this class does not constitute failure in life: do not confuse the two, and retaking the class does not reflect on your character in any way. It is much more important that you learn the material thoroughly than it is to squeak by with the lowest possible passing grade.

I respond to email within 48 hours if posted M-F, but do not check or respond to email on a regular basis on the weekends.

Schedule with tentative dates are on a separate sheet.