

# Syllabus for ICS312

## Machine-level and Systems Programming

### Fall 2007

**Overview:**

In this class we will study machine instructions for commonly-used microprocessors and learn how to write programs in assembler language. We will understand the fundamental relationships between basic elements of computer architectures, machine-level languages and high-level languages. We will learn about "systems programs" (assemblers, linkers, compilers, debuggers). We will gain basic knowledge about how compilers work.

**Prerequisites:**

212 or consent

**Textbook:**

We will use free texts available for download for this class (if you want printed copies, you will have to print them at your own expense, for instance using ITS services and your own paper, not on ICS printers):

- PC Assembly Language, A. Carter  
<http://www.drpaulcarter.com/pcasm/pcasm-book-pdf.zip>
- NASM User Manual  
<http://www.nasm.us/doc/nasmdoc0.html>

Other texts of interest are:

- The art of assembly programming, John W. Lockwood  
<http://www.arl.wustl.edu/~lockwood/class/cs306/books/artofasm/toc.html>
- Assembly Language for Intel-Based Computers (5<sup>th</sup> Edition), Kip Irvine, Prentice Hall, ISBN 978-0132383103

**Lectures:**

Tuesday / Thursday, 4:30PM-5:45PM,

**Instructor:**

Henri Casanova  
Office/Phone: POST 310C / 956-2649  
Office hours: Wednesdays 1PM-3PM  
e-mail: [henric@hawaii.edu](mailto:henric@hawaii.edu)

**Course Website:**

[http://navet.ics.hawaii.edu/~casanova/courses/ics312\\_spring09](http://navet.ics.hawaii.edu/~casanova/courses/ics312_spring09)

The Website is the main source for lecture materials and assignments.

**Exams, assignments, and grading:**

This class will have in-class quizzes (15% of the grade), homework/programming assignments (40% of the grade), two midterm exams (20% of the grade), and a final exam (25% of the grade). Quizzes will always be announced in advance.

Grading will be as follows

> 90%	A
≥ 80% and < 90%	B
≥ 70% and < 80%	C
≥ 60% and < 70%	D
< 60%	F

**Assignments: What to turn in?**

- Turn in your own work. It is okay to discuss homework with others, but the work you turn in should always be your own.
- Answers should always include how the answer was derived.

**Assignments: How to turn in?**

- *E-mail* (preferred): to [henric@hawaii.edu](mailto:henric@hawaii.edu), including the course number and the assignment number in the subject line of the e-mail
- *Hard copy*: At the beginning of the last lecture before the day/time the assignment is due.

**Late Work:**

Late work will not be accepted unless previously authorized by the instructor. Late work will receive a grade of 0.

**Academic Dishonesty:**

All occurrences of academic dishonesty, as defined below, will result in a grade of 0 for the assignment or exam, and in a memo in your ICS department file describing the incident. Which will be done for all students involved. Should there be more than one memo of this type in your file, the incident will be referred to the Dean of Students. Disciplinary sanctions range from a warning to expulsion from the university, as seen at: <http://www.hawaii.edu/student/conduct/discipline.html>.

The University of Hawaii defines academic dishonesty as follows:

Because UHM is an academic community with high professional standards, its teaching, research, and service purposes are seriously disrupted and subverted by academic dishonesty. Such dishonesty includes cheating and plagiarism as defined below. Ignorance of these definitions will not provide an excuse for acts of academic dishonesty.

1. Cheating includes but is not limited to giving or receiving unauthorized assistance during an examination; obtaining unauthorized information about an examination before it is given; submitting another's work as one's own; using prohibited sources of information during an examination; fabricating or falsifying data in experiments and other research; altering the record of any grade; altering answers after an examination has been submitted; falsifying any official University record; or misrepresenting of facts in order to obtain exemptions from course requirements.
2. Plagiarism includes but is not limited to submitting, in fulfillment of an academic requirement, any work that has been copied in whole or in part from another individual's work without attributing that borrowed portion to the individual; neglecting to identify as a quotation another's idea and particular

phrasing that was not assimilated into the student's language and style or paraphrasing a passage so that the reader is misled as to the source; submitting the same written or oral or artistic material in more than one course without obtaining authorization from the instructors involved; or "drylabbing," which includes obtaining and using experimental data and laboratory write-ups from other sections of a course or from previous terms.