

Instructor

Stan Warford

Email: Stan.Warford@Pepperdine.edu

Office: RAC 112

Phone : 310-506-4332 (on campus, x4332)

Office hours

Monday, 11:00 – 11:50

Thursday 1:00 – 1:50

And by appointment

Tuesday, 9:00 – 9:50

Friday, 11:00 – 11:50

Course Web page

The course Web page will be used to post the assignments and late-breaking announcements. You are responsible for checking it regularly.

<http://www.cslab.pepperdine.edu/warford/cosc330/>

Objective

The primary objective of this course is for you to obtain a working knowledge of the lower levels of abstraction of a computer system. In Computer Science I and II, you learned the C++ programming language. In Data Structures you continued with the C++ programming language. C++ is at Level 6, the high-order languages level. In this course you will learn Level 5, the assembly level, and Level 3, the instruction set architecture level, as well as Java at Level 6.

Each level of abstraction in a computer system has a language, so learning the lower levels of abstraction is equivalent to learning new languages. The language at Level 5 is assembly language and the language at Level 3 is machine language. Your knowledge will be a working knowledge because you will learn how to program in these languages. Most programming in the industry today is at Level 6 and not at these lower levels. So, why learn these lower level languages? Because an in-depth understanding of how computers work is possible only by considering the design of the levels of abstraction and the relationships between the levels.

The secondary objective of this course is to continue to develop your programming skill at Level 6. Later in the course you will be required to write a large (hundreds of lines of code) programming project in Java using the object-oriented techniques from the Data Structures course.

Learning outcomes

Convert data between high-level representation and binary.

Translate a program in an high-order language to assembly language.

Analyze an artificial language specified by a finite state machine or grammar.

Implement a translator from a high-order language to assembly language.

Required text

J. Stanley Warford, *Computer Systems*, Fourth edition, Jones and Bartlett Publishers, 2010.

Text rebate

As the author of our text, if you purchase it new I will personally refund on your request 15% of the retail price you paid.

Final grade

30% Homework

40% Tests (20% each test)

30% Final - cumulative

Class schedule

The course web page has the schedule for the homework assignments, which are due twice weekly. The exam schedule is as follows:

Test 1, Thursday, February 11

Test 2, Thursday, March 18

Final, Wednesday, April 28, 10:30 a.m. – 1:00 p.m.

Late homework policy

Written assignments are due in class on the due date. If you need more time after class, you may hand the assignment in to my office by 5:00 on the due date. Programming assignments are due electronically on Sun at midnight on the due date. Half credit for homework one assignment late. No credit thereafter. Partial submissions (that is, some problems on time and others late for half credit) are not allowed. You will receive liberal partial credit, so it is better to turn in an incomplete attempt than to turn in for late credit. Note that your total homework score is equivalent to one and a half tests.

Course evaluations

Course evaluations are required online near the end of the semester and count as a homework assignment. After you complete the evaluation, save your proof of completion for this course as a PDF document and email it to me.

Attendance policy

Attendance is important and may affect your final grade. You are responsible for making sure that your attendance has been recorded. Please provide written documentation for excused absences. There will be no makeup exams. If you miss an exam due to illness or an unexpected major emergency, the final exam score will be substituted for your missed exam score. Doctor's note required for all missed exams.

Disability notice

Any student with a documented disability (physical, learning, or psychological) needing academic accommodations should contact the Disability Services Office (Main Campus, Tyler Campus Center 264, x6500) as early in the semester as possible. All discussions will remain confidential. Please visit <http://www.pepperdine.edu/disabilityservices/> for additional information.