

COP5621/CIS4930 Compiler Construction
General Information - Fall 2020
103 Love, 8:00am-9:15am Tuesday and Thursday

Instructor: David Whalley

Office: 160 Love; Phone: 644-3506; Office Hours: 1:00pm-2:30pm Tuesday, Thursday

Prerequisites: COT4420 (Theory of Computation) and CDA3100 (Computer Organization I)

Texts: Aho, Lam, Sethi, and Ullman. *Compilers: Principles, Techniques, and Tools (second edition)*.
Recommended: Harbison and Steele. *C: A Reference Manual*.

Class Homepage: The class home page is at <http://www.cs.fsu.edu/~whalley/cop5621.html>. The page will contain a variety of information, which will include the syllabus, schedule, slides, and assignments.

Objectives: The objectives for the course include learning how to write and use tools for lexical analysis (scanning), syntactic analysis (parsing), semantic analysis (other checks), intermediate code generation, and target code generation. The students should also learn to identify various compiler optimizations and how to perform them by hand.

Slides: There is a lot of material to cover in this class. Lecturing from slides will allow me to cover the material at a more rapid pace. I will be presenting slides that I have developed as well as figures and tables from the text. Pdf files for the slides I have developed for the class will be made available from the class homepage prior to their presentation.

Grading: There will be four exams (60% total) and continuous programming assignments (40% total). Keep all graded material to provide evidence of grades. A final comprehensive exam may be given in place of the fourth exam.

Class Attendance and Punctuality: Roll is not taken, but you are responsible for all material presented in class. Exams and due dates will be scheduled in advance. A grade of zero will be recorded for missed exams and late assignments unless prior arrangements are made. Assignments turned in after the due date, but by the beginning of the next scheduled class will be penalized 10%. Assignments will not be accepted that are more than one class period late.

Programming Assignments: There will be at least four major programming assignments. These are to write portions of the various phases of a compiler for a large subset of C. Though successive phases will build on previous phases, inability to successfully complete a particular assignment or phase is no reason to panic. Executables or code for previous phases will be provided. The following list shows the assignments and the approximate number of lines of code (including comments) necessary to complete them. There will also be a few additional small programming assignments to introduce you to concepts and Unix tools.

cscan	C lexical analyzer	375
cparse	C parser	350
csem	C semantic routines	625
cgen	C code generator	625

Cheating: Students are encouraged to discuss programs in general and to help one another find bugs in existing programs. Copying another's code or writing code for someone else is cheating. Keep listings to provide evidence of creative development.

University Attendance Policy: Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy: The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and...[to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>)

Americans with Disabilities Act: Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; and (2) bring a letter to the instructor indicating the need for accommodation and what type. Please note that instructors are not allowed to provide classroom accommodation to a student until appropriate verification from the Student Disability Resource Center has been provided. This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the: Student Disability Resource Center 874 Traditions Way 108 Student Services Building Florida State University Tallahassee, FL 32306-4167 (850) 644-9566 (voice) (850) 644-8504 (TDD) sdrc@admin.fsu.edu <http://www.disabilitycenter.fsu.edu>

This syllabus and other class materials are available in alternative format upon request.

Syllabus Change Policy: Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.