

General Information

Class meetings: TTh 5:00-6:15pm in CIS 1047

Professor: Jay Ligatti (ligatti@cse.usf.edu)

Office hours: TTh 3:30-5pm, and other times by appointment, in ENB 333

Teaching Assistant: Cagri Cetin (cagricetin@mail.usf.edu)

Office hours: WF 4:30-5:30pm, in ENB 323

Duties: Grade assignments and answer questions about assignments

Recommended Textbook: *Compiler Construction: Principles and Practice* by K. Louden

Please check the course webpage (<http://www.cse.usf.edu/~ligatti/compilers-17>) regularly for announcements, assignments, and an up-to-date schedule. Grades will be posted on Canvas (<http://my.usf.edu/>). I may also send announcements via Canvas, so please ensure that your current email address is stored there.

Course objectives: Students having successfully completed this course will understand the basic techniques of software compilation, including lexical, syntactic, and semantic analyses, code generation and optimization, and garbage collection.

Tentative Schedule

<u>Week</u>	<u>Dates</u>	<u>Topics</u>	<u>Recommended Reading</u>
1	08/22, 08/24	Introduction; Compilation phases; DJ	1.1-1.7
2	08/29, 08/31	Lexical analysis	2.1-2.3, 2.6
3	09/05, 09/07	Lexical analysis; Syntactic analysis	2.4, 3.1-3.4
4	09/12, 09/14	Syntactic analysis	5.1-5.2, 4.3.1-4.3.2
5	09/19, 09/21	Syntactic analysis	5.3-5.5, 4.1-4.2, 4.3.3
6	09/26, 09/28	Abstract syntax trees	
7	10/03, 10/05	Test I; Abstract syntax trees	
8	10/10, 10/12	Semantic analysis	
9	10/17, 10/19	Semantic analysis; Code generation	7.1
10	10/24, 10/26	Code generation	
11	10/31, 11/02	Test II*; Code generation	7.3.1
12	11/07, 11/09	Code generation	7.4
13	11/14, 11/16	Garbage collection	
[Thanksgiving Reading Day/Break]			
14	11/28, 11/30	Code optimizations; Bootstrapping	8.9
Final Exam*, 12/05 (Tuesday), 3-5pm			*All tests are cumulative

Grading and Attendance

Tests: There will be three tests (on 10/03, 10/31, and 12/05). Tests are closed notes, books, laptops, phones, smart watches, neighbors, associates, contemporaries, etc. Graduate students will be asked to solve additional problems, beyond what is asked of undergraduates.

Assignments: There will also be six programming assignments, due at 11:59pm on the following dates: 9/3, 9/17, 10/08, 10/22, 11/12, and 12/1. These assignments will build up a compiler for programs written in a new language called DJ (Diminished Java).

Final-grade breakdown:

37%	Assignments	(5% Assignment I; 3% Assignment II; 5% Assignment III; 5% Assignment IV; 9% Assignment V; 10% Assignment VI)
63%	Tests	(19% Test I; 19% Test II; 25% Test III)

100%	Total	

Extra credit: You may complete an independent project for extra credit. You'll have to demonstrate the project and turn in a description of your work. If interested, please email a proposal to ligatti@cse.usf.edu.

Attendance: I don't take attendance in class, but absences put you at risk for missing assignments, schedule updates, and material not covered in the textbook. Students who'll miss class for religious reasons must notify me of the date(s) in writing by 8/25/17. Finally, please do not sell notes from or record class lectures without my permission.

Late assignments: For each day an assignment is late—up to a maximum of 3 days—the grade is reduced 10%. For example, if you submit a 90%-correct assignment 2 days late, your overall assignment score will be 70%.

Grading scale: The scale for final letter grades is as follows, using standard notation for ranges: A ($\infty,93]$ A- (93,90] B+ (90,87] B (87,83] B- (83,80] C+ (80,77] C (77,73] C- (73,70] D+ (70,67] D (67,63] D- (63,60] F (60,0]. An A+ is awarded for exceptionally outstanding work.

Academic honesty: Everything you turn in for this class must be your own work. On all work that you submit, I'll ask you to write and sign a pledge promising that you've not cheated. If you're caught cheating, you'll receive an FF grade for the class.

Of course, every part of this syllabus is subject to adjustment as the semester progresses. Please contact me as soon as possible if you're dissatisfied with the course policies, discussions, assignments, grading, etc.; I'll be happy to accommodate reasonable requests for modifications.