Class meetings: MW 2:00-3:15pm in BSN 2205 <mark>(until 3/11/20)</mark>
Instructor: Jay Ligatti (ligatti@usf.edu)
Office hours: MW 3:30-5pm, and other times by appointment, in ENB 333 <mark>(until 3/11/20)</mark>

Teaching Assistant: Kevin Dennis (kevindennis@mail.usf.edu)
Office hours: TTh 12-1:30pm, in ENB 327 <mark>(until 3/11/20)</mark>
Duties include: Grading assignments and answering questions about assignments

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

URLs: Please check the course webpage (http://www.cse.usf.edu/~ligatti/compilers/20) regularly for announcements, assignments, and an up-to-date schedule. You will also use Canvas (http://my.usf.edu/) to upload programming assignments and see course grades.

Course description: In-depth, graduate-level study of compiler design and implementation. Lexical, syntactic, and semantic analysis. Type safety. Code generation. Run-time support. Garbage collection. Code optimizations.

Tentative Schedule

Week	Dates	Topics	Recommended Reading
1	01/13, 01/15	Introduction; Compilation phases; DJ	1.1-1.7
2	01/22	Lexical analysis	2.1, 2.3
3	01/27, 01/29	Lexical analysis	2.2, 2.4, 2.6
4	02/03, 02/05	Syntactic analysis	3.1-3.4, 5.1-5.2
5	02/10, 02/12	Syntactic analysis	5.3-5.5, 4.3.1-4.3.2
6	02/17, 02/19	Syntactic analysis; Abstract syntax trees	4.1-4.2, 4.3.3
7	02/24, 02/26	Test I; Abstract syntax trees	
8	03/02, 03/04	Semantic analysis	
9	03/09, 03/11	Semantic analysis	
10	03/23, 03/25	Semantic analysis	
11	03/30, 04/01	Code generation	
12	04/06, 04/08	Code generation	
13	04/13, 04/15	Garbage collection	
14	04/20, 04/22	Code optimizations	8.9
15	04/27, 04/29	Code optimizations; Bootstrapping	

Final Exam*, 05/04 (Monday), 12:30-2:30pm   *All tests are cumulative

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.

Usage of Phones and Other Devices: Besides taking notes (which is encouraged), please do not record class lectures in any way, including taking photographs or audio or video recordings.

Tests: There will be <mark>*two*</mark> tests (on 02/24 and 05/04). Graduate students will be asked to solve additional problems, beyond what is asked of undergraduates.

Essay Policy: Tests may include one or more essay questions. Respond in complete sentences. Avoid extraneous details in your responses. Also avoid using bulleted/enumerated lists in your responses. Essays will be graded based on readability, correctness, and thoroughness.

Assignments: There will be six programming assignments, due at 11:59pm on the following dates: 01/26, 02/09, 03/01, 03/22, 04/12, and 04/29. These assignments will build a compiler for programs written in a new language called DJ (Diminished Java). Do not post your assignment solutions on any medium that could be accessed by other current or future Compilers students (e.g., in a public GitHub repository), as doing so may make you an accessory to another student's plagiarism.

Late Assignments: For each day an assignment is late—up to a maximum of 2 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%.

(Non-)Group Work Policy: Everything you turn in for this course—tests and assignments—must be your own, individual work. Tests are closed books, notes, computers, phones, smart devices, friends, neighbors, etc., except that you will need a computer and digital camera/scanner to receive and send the final exam (details will be sent later).

Final-Grade Breakdown:
    56%   Assignments (5% Assignment I; 3% Assignment II; 5% Assignment III;
                    5% Assignment IV; 18% Assignment V; 20% Assignment VI)
    44%   Tests   (19% Test I; 25% Final Exam)

    100% Total

Grading Scale: The scale for final letter grades is as follows, using standard notation for ranges: A (∞,93.3] A- (93.3,90] B+ (90,86.7] B (86.7,83.3] B- (83.3,80] C+ (80,76.7] C (76.7,73.3] C- (73.3,70] D+ (70,66.7] D (66.7,63.3] D- (63.3,60] F (60,0]. An A+ may be awarded for exceptionally outstanding work.

Email: For questions related to the course material, schedule, or grading, please first email the teaching assistant. If you have done so but are not satisfied with the response, please email the instructor. Allow at least 48 hours for a response.

Old Tests: To give you an idea of the sorts of questions I've asked in the past, previous years' tests are posted online, linked from the course webpage. Although the TA and I will provide hints on how to solve old test problems during our office hours, due to heavy volumes of questions, we will not respond to emailed questions about old test problems. Because topics and problems change each year, I recommend focusing your study time on notes from this year's class meetings.

Academic Honesty: Again, everything you turn in for this course must be your own, individual work. Students caught violating academic integrity will receive an FF grade for the course.

Additional USF policies (e.g., regarding academic integrity) may be accessed at: https://www.usf.edu/provost/faculty/core-syllabus-policy-statements.aspx

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, grading, assignments, etc.; I'll be happy to consider reasonable requests for modification.