General Information
Class meetings: MW 5:00-6:15pm in ENG 003

Professor: Jay Ligatti (ligatti@cse.usf.edu)
Office hours: MW 3:30-5pm, and other times by appointment, in ENB 333

Teaching Assistant: Jean-Baptiste (JB) Subils (subils@mail.usf.edu)
Office hours: TTh 4:30-5:30pm, in ENB 323
Duties: Grade and answer questions about assignments

Required Textbook: *Elements of ML Programming (ML97 edition)*, by J. Ullman, 1998

Recommended Textbook: *Types in Programming Languages*, by Benjamin Pierce, 2002
(available online: http://www.netlibrary.com/urlapi.asp?action=summary&v=1&bookid=70966)

Announcements: Please check the course website (http://www.cse.usf.edu/~ligatti/pl-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 specifying, designing, and analyzing programming languages.
Topics include syntax, operational semantics, type systems, type safety, lambda calculus,
functional programming, polymorphism, and side effects.

Tentative **Schedule**

Week	Dates	Topics	Reading (in ML book)
1	01/09, 01/11	Introduction; ML basics; Polymorphism	1-3.1, 5.3
2	01/18	ML functions	3.2-3.6.3, 4.1-4.2, 5.1
3	01/23, 01/25	Higher-order functions; Currying	5.4-5.6
4	01/30, 02/01	ML type system; Deductive systems	6.1-6.3
5	02/06, 02/08	Deductive systems; Syntax; Review	Class notes
6	02/13, 02/15	Test I; Dynamic semantics	Class notes
7	02/20, 02/22	Dynamic semantics; λ-calculi	Class notes
8	02/27, 03/01	λ-calculi; Static semantics	Class notes
9	03/06, 03/08	Type systems; Type safety	Class notes
		[Spring "break"]	
10	03/20, 03/22	Type safety; Review	Class notes
11	03/27, 03/29	Test II; Aggregate data types	Class notes
12	04/03, 04/05	Recursive types	Class notes
13	04/10, 04/12	Side effects; References; Loops	5.2, 7.2-7.3
14	04/17, 04/19	Control-flow effects; Evaluation contexts	Class notes
15	04/24, 04/26	Control-flow effects; Review	Class notes
Final	05/01 (Monday), 3-5pm		All tests are cumulative

Grading and Attendance

Tests: There will be three tests (02/13, 03/27, and 05/01). 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 be 6 assignments, due by 5pm on the following Mondays: 01/23, 02/06, 02/27, 03/20, 4/10, and 04/24. Solutions to programming portions of assignments must be uploaded to Canvas; solutions to theory portions of assignments must be submitted in hardcopy.

Final-grade breakdown: 40% Assignments (first one worth 5%, rest are worth 7% each)
$\qquad\qquad\qquad$ 60% Tests$\qquad$(first test worth 17%, second 17%, third 26%)
$\qquad\qquad\qquad$ 100% Total

Late assignments: Assignments may be submitted up to 2 days late, with a 15% penalty. For example, submitting a 90% correct solution late earns a 75%. If any part of an assignment is submitted late, then the whole assignment is considered to have been submitted late.

Extra credit: You may complete an independent project for extra credit. You'll have to explain 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 will miss class for religious reasons must notify me of the date(s) in writing by the end of the first week of classes. Finally, please do not sell notes from, or record, class meetings without my permission.

Grading system: The scale for final letter grades is as follows, using standard notation for ranges: A (∞,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,-∞). An A+ may be 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 have not cheated. If you are caught cheating, you will receive an FF grade for the class. Do not post your solutions online, even after the semester ends.

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