

Online syllabus: Throughout the entire semester, this syllabus will be online at the URL

<http://www.mgnet.org/~douglas/Classes/cs441g-f05/syllabus.pdf>

University rules allow the syllabus to be changed during the semester as long as adequate warning is given to the class.

Course Description: The techniques of processing, specifying, and translating high-level computer languages are studied. Topics include finite state machines and lexical analysis, context-free grammars for language specification, attributed translation grammars, language parsing, and automatic generation of compilers by SLR, LALR, and other methods for analyzing context-free grammars. Other topics may include code optimization, semantics of programming languages, and top-down parsing.

Prerequisites: CS-315 and engineering standing.

Classroom(s): RMB 323 (CRMS building).

Class web page: <http://www.mgnet.org/~douglas/Classes/cs441g-f04>

Office hours: Before and after Tuesday classes, when available. Call 257-2438 before coming over.

Textbook: Kenneth C. Louden, Compiler Construction: Principles and Practice, PWS Publishing Company, 1997, ISBN: 0534939724.

Suggested reading:

- John R. Levine, Tony Mason, and Doug Brown, Lex & Yacc, O'Reilly & Associates, 1992, ISBN: 1565920007.
- an online book: C. C. Douglas, Compilers for Algorithmic Languages, <http://www.MGNet.org>, Cos Cob, CT, 2nd Edition, 2004.

Homework/class project: The homework is a three part course project. Each part is due at latest when stated on the homework web page. However, any part can be turned in early. Late work will not normally be accepted unless arrangements have been made well in advance. Do not come to me with excuses like my dog ate my computer.

Grading: 100% of the grade will come from the project and the homework. A good estimate of the split is 70/30. Graduate and undergraduate students will be graded on a separate scale with graduate students receiving more items to complete on both the project and homework assignments.

Viruses/worms/Trojan horses/etc.: Please scan your your work that you turn in electronically. I reserve the right to give you a 0 on anything that I receive that is infected.

Cheating Policy: Getting caught cheating or plagiarizing will result in a grade of E and possibly much worse, including expulsion from the university and legal proceedings against you. I have zero tolerance for cheaters. I will enforce whatever is the latest university policy.

Class evaluation special topics: This class has taught me how to

37. Learn how to write a regular expression.
38. Generate a lexer.
39. Generate a parser.
40. Write a code generator.
41. Design and write a complex programming project.
42. Document a large programming project, including what works and what does not or is not implemented.