

CSS 448 Translation of Programming Languages

Spring 2011

<http://courses.washington.edu/css448/zander/>

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Office Hours: M, T, W 8 - 9pm
or by appointment

Course description:

This course covers the fundamentals of translation including an introduction to the structure and organization of programming languages. We review regular expressions and context-free grammars. Within the fundamentals of translation, translating techniques, e.g., LR, LL, and recursive descent are studied. We study syntax and lexical analysis, symbol tables, semantics and parsing, and code generation. Prerequisite: CSS 343

Grading:	Translator project and homework	55%	
	Midterm exam	25%	A scale of 90, 80, 70, 60
	Final exam	20%	will be approximately followed.

Textbook: Some compiler book. I will primarily use

- Compilers - Principles, Techniques, and Tools by A. Aho, M. Lam (2nd edition), R. Sethi, and J. Ullman, Addison-Wesley, any edition (known as "the dragon book")
- Engineering a Compiler, K. Cooper and L. Torczon, Morgan Kaufmann

Policies:

You will work with a partner on the translation project, although if you can convince me that should work alone, I will allow it. You and your partner must document who does what on the project.

All work other than the project must be done independently. Any collaboration of work will result in severe penalty. You may discuss a homework problem statement and any clarification with each other, but any actual work to be turned in, must be done without collaboration.

All assignments are graded on correctness, readability, and good organization. Code is additionally graded on clear and complete documentation, efficiency (no unnecessarily complicated or unnecessary code), good style, clarity and format of output, and following instructions.

Any homework is due at the beginning of class on the due date. It may be turned in at the next lecture for a 20% reduction in grade but not thereafter unless prior arrangements have been made.

To request academic accommodations due to a disability, please contact Disabled Student Services (DSS) 425.352.5307, 425.352.5303 (TDD), 425.352.3581 (FAX), or at dss@uwb.edu. The DSS counselors will contact me and we can discuss accommodations.

Course goals:

This course is designed to provide you with an understanding of the terminology, techniques, and underlying theory in the translation of programming languages. The overall goal of CSS 448 is to take you through the translation process, both theoretically and practically. Translation is from one language or representation to another. Many different techniques to accomplish this are studied and the most powerful is implemented. Good software engineering and algorithm analysis techniques are used throughout. As with most technical courses, it takes time to learn and master the subject. Expect to spend an average of 10 to 15 hours a week outside of class time on this course.