CS 4090 : LANGUAGE DESIGN AND IMPLEMENTATION

Semester Hours: 3.0   *Contact Hours:* 3

Coordinator: Yan Wu

Text: Selected Works from Multiple Sources

Author(s):   VARIOUS

Year: Various

SPECIFIC COURSE INFORMATION

Catalog Description:

Fundamental concepts of languages. Processors, data, operations, sequence control, data control, storage management, syntax, translation. Prerequisite: CS 2170 and CS 3350.

Course type: **ELECTIVE**

SPECIFIC COURSE GOALS

- I can explain the difference between a compiler and interpreter.
- I understand and can implement the different phases of a compiler (e.g., lexical, syntactic, semantic, code generation).
- I can explain parser error recovery techniques.
- I know how to translate abstract syntax trees into an intermediate language.
- I understand source code optimization techniques.

LIST OF TOPICS COVERED

- Introduction (1 week)
- Compilers (4 weeks)
- Implementation of Language Features (3 weeks)
- Error Analysis and Recovery (1 week)
- Symbol Tables (1 week)
- Role of Linker (1 week)

- Code Optimization (2 weeks)
- Differences Between Compilers & Interpreters (1 week)