CS 5090 LANGUAGE DESIGN AND IMPLEMENTATION

Semester Hours: 3.0
Coordinator: Robert Dyer
Text: Selected Works from Multiple Sources
Author(s): VARIOUS
Year: VARIOUS

Contact Hours: 3

SPECIFIC COURSE INFORMATION

Catalog Description:
Fundamental concepts of languages. Processors, data, operations, sequence control, data control, storage management, syntax, translation. Prerequisite: Full Admission to MS in CS program or consent of department is required for enrollment.

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 intermediate language.
• I understand source code optimization techniques.
• I can analyze relevant research and communicate my findings.

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)