

**Department of Computer Science and Engineering
National Institute of Technology Calicut**

Tentative Course Details : Winter Semester 2016

CS3005 Compiler Design

(The instructor reserves the right to adjust the syllabus when required)

Course:

Code : CS3005
Title : Compiler Design
Lecture Hours : Mon 11.15am - 12.15pm, Tue 8.00am - 9.00am, Thu 9.00am - 10.00am,
Fri 2.00pm - 3.00pm.
Room : ELHC403/NLHC101

Instructors:

Name	: Vineeth Paleri	Saleena N
Office	: CSE201C	CSE203A
Telephone	: 0495-2286802	0495-2286807
Email	: vpaleri@nitc.ac.in	saleena@nitc.ac.in
Office Hours	: By appointment	

Course Objective:

To introduce the principles and techniques of programming language translation.

References:

- Aho A.V., Lam M.S., Sethi R., and Ullman J.D. Compilers: Principles, Techniques, and Tools. Pearson Education, 2007.
- Appel A.W and Palsberg J. Modern Compiler Implementation in Java. Cambridge University Press, 2002.

Grading: Marks Distribution:

Mid-Term Exam I : 25%
Mid-Term Exam II : 25%
Quizzes : 10%
Final Exam : 40%

Course Schedule:

	Evaluation	Topic
Week 01		Introduction to Programming Language Translation
Week 02		Lexical Analysis: Specification and Recognition of tokens
Week 03	Quiz1	Syntax Analysis: Predictive parsers
Week 04		Syntax Analysis: LR(0) parsers
Week 05		Syntax Analysis: SLR and LR(1) parsers
Week 06	Midterm I	
Week 07		Syntax Analysis: SLR and LR(1) parsers
Week 08		Semantic Analysis: Type Expressions, Type systems
Week 09	Quiz2	Semantic Analysis: Symbol Tables, Type checking
Week 10		Intermediate Code Generation: Intermediate Representation
Week 11		Intermediate Code Generation: Syntax Directed Translation
Week 12		Intermediate Code Generation: Syntax Directed Translation
Week 13	Midterm II	
Week 14		Intermediate Code Generation: Syntax Directed Translation
Week 15		Run-time Environments: Storage organization, Activation records
Week 16		Introduction to Code Optimization
Week 17		Introduction to Machine Code Generation

Grading: Policies:

- Grading will be relative.
- Even though the grading will be relative here is a tentative grade distribution:
90-100: S; 80-89: A; 70-79: B; 60-69: C; 50-59: D; 40-49: E; 30-39: R; <30: F.
- Absence for exams without prior written permission from the instructor will be equivalent to zero marks in the corresponding exam.
- There will be no makeup exams except in case of genuine reasons. In the event of such exceptional cases, the student must discuss the matter with the instructor and must get written permission before the date of exam.
- All issues regarding valuation of exams must be resolved within one week after the marks are announced.

Standard of Conduct:

Each student is expected to adhere to high standards of ethical conduct, especially those related to cheating and plagiarism. Any submitted work MUST BE an individual effort. Any academic dishonesty will result in zero marks in the corresponding exam and will be reported to the department council for record keeping and for permission to assign F grade in the course(Refer to department policy on academic integrity:
<http://www.cse.nitc.ac.in/sites/default/files/Academic-Integrity.pdf>).