

Department of Computer Science and Engineering
National Institute of Technology Calicut

Tentative Course Details: Monsoon 2012

CSU 312 PRINCIPLES OF PROGRAMMING LANGUAGES

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

Course:

No: CSU 312

Title: PRINCIPLES OF PROGRAMMING LANGUAGES

Lecture Hours: Wed 6pm- 7pm, Thu 5pm- 6pm, Fri 1pm- 2pm

Room:

Instructor:

Name: Sarang Sukumar A

Office: CSED faculty room, Main Block

Office Hours: By appointment

Telephone: 9400547253

Email: sarangsukumar@nitc.ac.in

Course Objective:

- To introduce the students to the basic principles and techniques of programming languages.

References:

- Ravi Sethi. Programming Languages: Concepts and Constructs. Addison Wesley 1996.
- Benjamin C Pierce. Types and Programming Languages, MIT Press, 2002
- Michael L Scott Programming Language Pragmatics. Elsevier. 2004.

Evaluations:

Mid-Term Exam I : 20%

Mid-Term Exam II : 20%

Assignments : 10%

Final Exam : 50%

Course Schedule:

week1	Syntax, Semantics and Pragmatics; Variables, Expressions, Statements, Conditional and iterative constructs.
week2	Data abstraction Basic types:-arrays, records, unions, sets, pointers, modules.
week3	Procedural abstraction:-name,binding, scope, parameter passing, interface.
week4	TEST1
week5	Introduction to untyped arithmetic expressions: Syntax, Semantics, and evaluations strategies.
week6	Untyped lambda calculus.
week7	Abstract and concrete syntax of untyped lambda calculus.
week8	Operational semantics of untyped lambda calculus.
week9	Programming in the lambda calculus.
week10	TEST2
week11	Introduction to Typed arithmetic expressions: Types and typing relations.
week12	Simply typed lambda calculus:-Function types.
week13	Typing relation, safety.
week14	Extensions to simply typed lambda calculus:-Unit type, Let bindings,
week15	Pairs, tuples, records...
week16	Sum, variant, recursion.

Grading Policy:

- Grading will be relative.
- Even though the grading will be relative here is a tentative marks to grade conversion formula:
90-100: S; 80-89: A; 70-79: B; 60-69: C; 50-59: D; 40-49: E; <40: F.
- Absence 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. Normally the corresponding weightage of the exam will be added to other exams.
- All issues regarding valuation of exams and assignments 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 or assignment and will be reported to the department council for further action. (Refer to department policy on academic integrity: http://cse.nitc.ac.in/sites/default/_les/Academic-Integrity.pdf)