

King Fahd University of Petroleum and Minerals
Department of Information and Computer Science
ICS 410-01(071)
Programming Languages

Instructor: Dr. Mamdouh M. Najjar **Office:** 22-308 **Phone:** 2404 **Mobile:** 0505821661

E-mail address: najjar@kfupm.edu.sa

Office Hour: U.T. 9:20 - 10:20 PM or by appointment

Class Time: U.T. 8:00 - 9:15 AM **Location:** 24-133

Catalog Description:

ICS 410 Programming Languages

(3-0-3)

Programming Paradigms: Object-oriented, imperative, functional, and logic. Application development in these paradigms. Fundamentals of Language Design: Syntax and Semantics. Language implementation: virtual machines; compilation, interpretation, and hybrid.

Prerequisite: ICS 202

Textbook: *Concepts of Programming Languages*, Seventh Edition, by Robert W. Sebesta, Pearson Addison Wesley, (2006) ISBN: 0-321-312511.

Companion Website: <http://www.aw.com/sebesta>

Course Objectives:	Upon completion of the course the students should be able to understand the <ol style="list-style-type: none">1. Basic issues in the design and implementation of programming languages.2. Syntax and semantics specifications of programming languages.3. Language design trade-offs.4. Major programming paradigms: Object-Oriented, Procedural, Functional, and Logical.
Course Learning Outcomes:	Upon completion of the course, students will be able to: <ol style="list-style-type: none">1. identify various design issues in programming languages and illustrate with examples how the design issues have been handled in various popular programming languages.2. understand and use formal tools like BNF/EBNF, attribute grammars, operational semantics, etc. to model syntax and semantics of programming languages.3. Understand various design tradeoffs like cost and reliability, efficiency and flexibility, etc. needed to develop a programming languages.4. Show basic program development skill in four programming paradigms: object-oriented, imperative, functional, and logic.

Grading Policy:

▶ Attendance	5%	
▶ Four Quizzes	20%	Sept. 25, Oct. 25, Nov. 27, Dec. 30, 2007
▶ Prog. Assignment	25%	
▶ Mid-term Exam	20%	Nov. 11, 2007 (Class Time)
▶ Final Exam	30%	Wednesday 7:00 PM, January 23, 2008

1% = 4 Points

▶ A+ >= 380	A >= 360
▶ B+ >= 340	B >= 320
▶ C+ >= 300	C >= 280
▶ D+ >= 260	D >= 240
▶ F < 240	

Important notes:

- 1- Attendance to class is required and will be checked every time.
- 2- Penalties: late: (-1 point = -0.25%), Absent: (-2 points = -0.5%).
- 3- Present any official excuse you may have to me no later than one week after you resume attendance.
- 4- Missing FOUR classes will result in a DN grade in the course.
- 5- Homework and programming assignments must be submitted in class in the due date.
- 6- Grades are final one week after the graded materials are returned to you.
- 7- No make up for exams or any other class work.
- 8- Check your course performance with me before the withdrawal deadlines.