University / Academy: Menoufia University

College / Institute: Faculty of Electronic Engineering

Department: Computer Science and Engineering

Course Specification

1- Course basic information:		
Course Code: CSE 463	**Course Title:** **Compiler Design**	**Academic year: 2011/2012** **Level (4) – Semester : 1**
Faculty requirement	**Teaching hours: Lecture** 3 **Tutorial** 1 **Lab** 1	

2- Aim of the course	- The course introduces the students the compiler design. - Teaches phases of compiler. - In addition, the course aims to develop student skills to implement techniques of compiler design.
3- Intended Learning Outcomes: implement techniques of compiler design.	
A- Knowledge and Understanding:	- a1. Concepts and theories of mathematics and sciences, appropriate to the computer science and engineering - a13 Engineering principles in the fields of logic design, circuit analysis, machine and assembly languages, computer organization and architectures, memory hierarchy, advanced computer architectures, - a16. Related research and current advances in the field of computer software and hardware
B- Intellectual Skills	b1 Select appropriate mathematical and computer-based methods for modeling and analyzing problems. b2 Select appropriate solutions for engineering problems based on analytical thinking b14 Select the appropriate mathematical tools, computing methods, design techniques and tools in computer engineering disciplines, for modeling and analyzing computer systems.
C- Professional Skills	c1 Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to solve engineering problems c11. Exchange knowledge and skills with engineering community and industry. c14. Use appropriate specialized computer software, computational tools and design packages

	throughout the phases of the life cycle of system development c15. Write computer programs on professional levels achieving acceptable quality measures in software development.
D- General Skills	d2 Work in stressful environment and within constraints d6. Effectively manage tasks, time, and resources
4- Course Contents	An introduction to compiler design. Topics covered in this course include: Lexical analysis, Syntax analysis, Syntax-directed translation, Type checking and other static analysis, Run-time environments, Code generation, Program optimization
5- Teaching and Learning Methods	- Lectures. - Exercises and tutorials. - Research assignments.
6- Teaching and Learning Methods for disable students	N/A
7- Student Assessment	
a- Assessment Methods	- Reports, assignments, exercises, and midterm and final written exams to assess knowledge and understanding. - Regular oral and written quizzes to assess intellectual skills - Oral exams to assess professional skills. - Reports, assignments, and discussions to assess general and transferable skills.
b- Assessment Schedule	- Quizz-1: Week no 5 - Mid-Term exam: Week no 8 - Quizz-2: Week no 11 - Quizz-3: Week no 14 - Final – term examination: Week no 15
c- Weighting of Assessment	- Class tutorial and quizzes : 5 % - Mid-term examination: 10 % - Case study and/or practical exam: 20 % - Final – term examination: 60 % - Other types of assessment: 5 % Total 100 %

8- List of text books and references:	
a- Course notes	- There are lectures notes prepared in the form of a book authorized by the department.
b- Text books	– S. Bergmann, Compiler Design: Theory. Tools, and Examples, Wm. C. Brow Publishers, 1994. – P. D Terry, Programming Language Translation: A Practical approach, Addison-Wesley Publishing Company, 1986. – T. Pittman, and J. Peters, The Art of Compiler Design: Theory and Practice, Prentice Hall International Editions, 1992. – 4- A. Aho, R. Sethi, and J. D. Ullman, 1986 Compilers Principles, Techniques. And Tools, Addison-Wesley Publishing Company, 1986.
c- Recommended books	- None.
d- Periodicals, Web sites ……etc	- None.

Course Contents - ILOs Matrix

Content Topics	Week	A- Knowledge & Understanding	B- Intellectual skills	C- Professional and practical skills	D- General and transferable skills
An introduction to compiler design	1	a1, a13,a16			
Topics covered in this course include: Lexical analysis, Syntax analysis, Syntax-directed translation	2/5	a1, a13, a16			
Type checking and other static analysis	6		b2		
Run-time environments	7/8	a16	b2	c1,c14, c15	d6
Code generation	9/12	a16	b1, b2	c1,c11	d2, d6
Program optimization	13/14	a13,a16	b1, b2,b14	c1	d2,d6

Course coordinator: **Head of Department:**

Dr. Hoda Sorour **Prof. Nawal Ahmed El-Fishawy**

Date: / /