DEPARTMENT OF INDUSTRIAL ENGINEERING
COURSE SYLLABUS

COURSE TITLE	ENGLISH CODE/NO	ARABIC CODE/NO.	CREDITS			
			Th.	Pr.	Tr.	Total
Computer Applications in IE-1	**IE 322**	هـ ص 322	3	2	-	3

Pre-requisites:	IE 321

Course Role in Curriculum	*Required or Elective:*	Required Core Course

Catalogue Description:
Basics of computer programming languages. Object oriented programming concepts. Development of application and appropriate algorithms for solving Industrial Engineering problems.

***Textbooks*:**
Visual C# 2010 How to Program, Paul Dietel & Harvey Deitel. 4th Ed., 2011, Prentice Hall, ISBN 978-0-13-038937.

Supplemental Materials:
First day materials, Course project guidelines, Guide to assignments

Course Learning Outcomes:
By the completion of the course the student should be able to:

1. **Understand** the integrated development environments.
2. **Translate** real world problem into mathematical model.
3. **Develop / select** an algorithm for solving the problem.
4. **Convert** pseudo codes into C# codes.
5. **Design and Develop** a software prototype for solving the problem.
6. **Understand** the importance of lifelong learning.
7. **Access** information from various online resources

	Topics to be Covered:	***Duration in Weeks***
1	Visual IDE, its structure and compilation.	1
2	Lifelong Learning.	1
3	Computer memory concepts and data types.	1
4	Introduction to algorithms, pseudo codes.	1
5	Control structure and decision making.	2
6	Arithmetic, logical and relational operators.	2
7	Methods and classes.	2
8	Introduction to arrays.	2
9	Windows forms and developing software prototype.	3

Student Outcomes addressed by the course: (Put a √ sign)

(a)	an ability to apply knowledge of mathematics, science, and engineering	
(b)	an ability to design and conduct experiments, as well as to analyze and interpret data	
(c)	an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify, formulate, and solve engineering problems	√
(f)	an understanding of professional and ethical responsibility	
(g)	an ability to communicate effectively	
(h)	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
(i)	a recognition of the need for, and an ability to engage in life-long learning	√
(j)	a knowledge of contemporary issues	
(k)	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	

Key Student Outcomes assessed in the course: (e) and (i)

Instructor or course coordinator: Dr. Manzoor Hussain Sheikh
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