

ÇANKAYA UNIVERSITY

Department of Industrial Engineering

Spring, 2018

IE 218 - Computer Applications in Industrial Engineering

(3 2 4 credits – 7 ECTS)

Course Description:

This course is designed to provide a background necessary to develop computer based applications required in IE activities. The topics covered in the course are basics of programming Excel VBA and Excel Applications. Introduction of basic data structures, predefined functions, programming basics, Introduction to algorithmic thinking, Flowcharting basics, debugging and tracing, Review of conditionals and loop structures, Advanced loop structures, Arrays and their applications and developing basic algorithms, Basic file operations, I/O using files, Introduction to functions, subroutines and recursion, User interface design, Computations on matrix operations and matrix inversion, List processing: Ordered vs Linked lists.

	Instructor	Assistant
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Weekly Course Schedule:

Week	Topic(s)
1	Review of programming basics in C#
2	Advanced programming topics in C#
3	Advanced programming topics in C#
4	Programming Industrial Engineering problems by using C#
5	Graphical User Interfaces with Windows Forms - 1
6	Graphical User Interfaces with Windows Forms - 2
7	Introduction to SQL Server
8	Windows Forms and SQL - 1
9	Windows Forms and SQL - 2
10	Introduction to MS Excel
11	If clauses and loops in Excel VBA
12	Arrays in Excel VBA
13	Functions and Subroutines in Excel VBA
14	Forms in Excel VBA

Grading:

Homeworks:	10% (2 hws)
Lab work:	20% (4 lab works)
Project:	15%
Midterm	25%
Final:	30%
Total:	100%

Textbooks

Author(s)	Title	Publisher	Publication Year	ISBN
Paul Deitel and Harvey Deitel	C# 2012 for programmers	Prentice Hall	2014	978-0-13-344057-7
S. C. Chapra	Introduction to VBA for Excel	Pearson Higher Education	2009	978-0132396677

Policy on Homework and Exams:

Cheating in homework and exams has serious consequences. Therefore, all work submitted should reflect your honest effort

All the announcements, including the examination dates will be posted on webonline.cankaya.edu.tr

Instructor has the right of changing syllabus.

Term project:

There will be a term project covering the fundamental issues of programming. In this project, the students are expected to prepare a program individually.