FACULTY OF ENGINNERING
1st Year 2nd Semester

ENF 102E Basic Computer Science and C/C++ Programming								**FACULTY OF ENGINEERING**	
Semester	**Methods of Education**							**Credits**	
	Lecture	**Recit.**	**Lab.**	**Project/Field Study**	**Homework**	**Other**	**Total**	**Credit**	**ECTS Credit**
2	28	10	20	10	32	-	100	3	4.0

Language	English
Compulsory / Elective	Compulsory
Prerequisites	None
Course Contents	Problem solving, developing Algorithms and Flowcharts, Basic Programming principles, History and basic contents of C++ lnguage; lexical elements (keywords, constants), Operators and statements, Visual programming tools, object oriented programming environments, Pointers, Control statements, Object oriented programming basics.
Course Objectives	To teach how to use programming in C/C++ in efficiently solving engineering problems.
Learning Outcomes and Competences	The students are expected to develop algorithms for solving engineering problems, write codes in C/C++, compile and execute them.
Textbook and /or Reference	• Deitel, H.M. & Deitel, P.J. (2010). C++ How to Program, 7/e, Pearson. • Capper, D. (2001). Introducing C++ for Scientist, Engineers and Mathematicians, Springer.

Assessment Criteria		**If any, mark as (x)**	**Percentage (%)**
	Midterm Exams	X	30
	Quizzes	X	6
	Homeworks	-	-
	Projects	-	-
	Term Paper	-	-
	Laboratory Work	X	24
	Other	-	-
	Final Exam	X	40

Instructors	
Week	**Subject**
1	Introduction to Programming, Sample Algorithms and Flowcharts
2	Problem solving, developing Algorithms and Flowcharts
3	Basic Programming principles, C Language – summary of contents (variables, loops)
4	C Language – summary of contents (decision making techniques, arrays, multiple arrays)
5	Problem analysis with C++ programming language, C++ character set, data types, terms
6	Operators and statements
7	Data input/output statements
8	Visual programming tools, running and testing programs in object oriented programming environments
9	Visual programming tools, running and testing programs in object oriented programming environments
10	Pointers, Pointer Expressions and Pointer Arithmetic, Relationship Between Pointers and Arrays
11	Control statements, Library functions and building functions
12	Struct and filing operations
13	Class and Object terms
14	Inheritance, Polymorphism and Abstract Class terms