1. Course number and name
   (a)TC1011 Programming I

2. Credits and contact hours
   (b)3-0-8

3. Instructor's or course coordinator's name
   (c)Jakeline Marcos Abed

4. Text book, title, author, and year
   (d)* Deitel, Harvey M., 1945-, C# for programmers / Harvey M. Deitel, Paul J. Deitel., 2nd ed., Upper Saddle River, NJ : Pearson/Prentice Hall, 2006, New Jersey, 2006, eng, [0131345915]
   * Deitel, Harvey M., 1945-, C++ how to program / H.M. Deitel, P.J. Deitel., 2nd ed., Upper Saddle River, NJ : Prentice Hall, c1998., New Jersey, c1998., eng, [0135289106]
   * Deitel, Harvey M., 1945-, C : how to program / H.M. Deitel, P.J. Deitel, 3rd ed, Upper Saddle River, N.J. : Prentice Hall, 2001, New Jersey, 2001, eng, [0130895725]
   a. other supplemental materials
      (e)

5. Specific course information
   a. brief description of the content of the course (catalog description)
      (f)An introductory level course, focused on principles, concepts, and methods of programming with emphasis on applications in the electronics field. This course includes basic problem solving, fundamental algorithms and data structures such as arrays. How to use programming in solving engineering problems.
   b. prerequisites or co-requisites
      (g)TC1001
   c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program
      (h)Required

6. Specific goals for the course
   a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.
      (j)1. Analyze and explain the behavior of simple programs involving the fundamental programming constructs.
      2. Analyze and explain the use of standard conditional and iterative control structures and functions.
      3. Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and the definition of functions.
      4. Choose appropriate conditional and iteration constructs for a given programming task.
      5. Apply the techniques of structured (functional) decomposition to break a program into smaller pieces.
      6. Describe the mechanics of parameter passing.

   b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.
      (k)

7. Brief list of topics to be covered

(l)Programing Fundamentals:
1. Introduction
a. Agorithm and Program definitions
b . Using programs to solve problems
c . Program development lifecycle
d . Pseudocode and programming languages
e . Programming environment
2. Programming basics
a. Basic structure of a program
b . Input and output statements
c . Defining data types, literals and variables
d . Arithmetic, relational and logical operators
3. Documentation and coding conventions
4. Functions
a. Function definition and parameters
b . Predefined functions
c . Creating functions
d . Functions that return a value
e . Void functions
f . Divide and conquer strategy design
5. Control Structures
a. Condition (if and switch)
b . Repetition (for, while and do-while)
6. Arrays
a. Definition of array
b . Using arrays to represent and process complex data
7. Strings
a. Definition of string
b . Operations with strings
c . Using strings for word processing
8. Files
a. File definition
b . Operations with files
c . Using files to persist and retrieve information