Image result for logo bracu**CSE 161: Computer Programming**

**General Information:**

**Course ID**: CSE161

**Section**: 1

**Semester**: Spring 2018

**Course pre-requisite**: Null

**Course credits**: 3

**Class room number**: UB30101

**“Everybody in this country should**

**learn to program a computer,**

**because it teaches you how to think”**

**- Steve Jobs , co-founder and CEO of**

**Apple Inc. (1955 - 2011)**

**Instructor Information:**

**Name and title**: Md. Shamsul Kaonain (MSN)

**Contact info*: mkaonain@bracu.ac.bd***

**Consultation room location/number**: UB50414

**Consultation hours**: By appointment

11-12:30/SUN, TUES

9:30-11, 12:30-3:30/MON, WED

**Course overview:**

This course gives an overview of basic control and flow structures, data types, operators, and decision-making. Advanced topics like arrays, classes, and objects are also introduced. Students also learn to build and test small computer programs using an appropriate computer programming language. Students are expected to do significant amount of practice on problem solving and program design to reinforce the lecture material. The course includes a compulsory 3-hour weekly lab session, where students implement the concepts learnt by writing computer programs.

**Learning outcomes:**

By the end of this course, students will be able to:

* Identify the basic structures of computer programs (Tech Awareness)
* Identify common problem patterns and associate them with programming structures (Critical Thinking Skills)
* Apply solution patterns to relevant real-world problems (Critical Thinking Skills)
* Analyze computer programs and verify output (Quantitative Skills)
* Design small computer programs (Critical Thinking Skills)

**Teaching-learning methodology:**

* Interactive discussion
* Oral questions by teacher answered orally by students
* Problem solving

**Required course materials:**

**Suggested Book:**

* The Java Tutorials at http://download.oracle.com/javase/tutorial/getStarted
* Java API Specifications at http://www.oracle.com/technetwork/java/api-141528.html

**Lecture Slides:**

* \\TSR\CSE\MSN\

**Miscellaneous:**

* Students are expected to bring their own calculator, several pens, pencils, eraser, and scale/ruler in each class.

**Optional course materials:**

**Video Tutorials:**

* + \\TSR\ CSE\Annajiat\CSE 110 Theory\Course Supplementary Materials

**Optional Books:**

* + How to Solve It by Computer, R. G. Dromey, Prentice Hall
  + Java How to Program, Harvey M. Deitel, Paul J. Deitel, Prentice Hall
  + Head First Java by Kathy Sierra and Bert Bates, O'Reilly Media
  + Thinking in Java by Bruce Eckel , Prentice Hall
  + Beginning Java, Ivor Horton, Wrox
  + The Complete Reference, Java, Herbert Schildt, McGraw Hill

**Course content:**

* Problem Solving (solution design)
* Flow Control Design Tool
* Intro to Programming
* Analyzing solutions (tracing)

**Tentative Evaluation**:

* Attendance : 5%
* Assignments: 10%
* Class Tests/ Quizzes: 10%
* Lab including Lab Assignments : 25%
* Mid Term Exam : 20% (on the weekend before/after midterm week)
* Final Exam : 30%

**Tentative course schedule:**

|  |  |
| --- | --- |
| **Lecture** | **Topic** |
| **Week - 1** | Introduction to problem solving |
| **Week – 2** | Flow Control Design Tool |
| **Week – 3** | Non-Sequential Program Statements |
| **Week – 4** | Data types, Conventions, Operators |
| **Week – 5** | Loops |
| **Week – 6** | Midterm and Review |
| **Week – 7** | Practice tracing and programming |
| **Week – 8** | Practice tracing and programming |
| **Week – 9** | Arrays |
| **Week – 10** | Practice work on arrays |
| **Week – 11** | Introduction to objects and classes |
| **Week – 12** | Review |

**General policy:**

**Grading criteria:**

The grades at the University will be indicated

in the following manner:

90 - 100 = A (4.0) Excellent

85 - <90 = A- (3.7)

80 - <85 = B+ (3.3)   
75 - <80 = B (3.0) Good  
70 - <75 = B- (2.7)   
65 - <70 = C+ (2.3)   
60 - <65 = C (2.0) Fair  
57 - <60 = C- (1.7)   
55 - <57 = D+ (1.3)   
52 - <55 = D (1.0) Poor  
50 - <52 = D- (0.7)

<50 = F (0.0) Failure

**Grades without numerical value:**

P: Pass

A course may be taken for a pass/fail grade providing that the instructor approves the option and the student carries 12 credits for regular letter grades in that semester.

I: Incomplete

Incomplete is assigned only when a student has failed to complete one or more requirements of the course for an unavoidable reason/accidental circumstance and has applied for I grade.

W: Withdrawal

Withdrawal is assigned to a student who withdraws from the course within the deadline for withdrawal with 'W' grade.

**Attendance policy:**

The course has been designed maintaining linear dependencies for some topics. That is why the students are expected to maintain 100% attendance. A student has to enter class within the first 10 minutes of the class to be marked as present for that particular class. If a student fails to maintain 70% attendance, s/he will be barred from the course. However, in case of illness (keeping in accordance with BRACU policy), exceptions can be made.

**Latecomer policy:**

In case of late submission, grading rules adopted and followed in the department will be applicable to this course. Cause of late submission or absence has to be well supported by appropriate documents.

**Gender policy:**

Gender equity among male and female students in class will be maintained as per the BRAC University concern and BRAC's consistent endeavors on women empowerment. Therefore, all students will be evaluated equally based on their performance in the course concerned regardless of their gender.

**Inclusive education policy statement:**

Each of the students shall be given equal access to laboratory resources, relevant materials and consultation hours, free from discrimination based on gender, language, sexual orientation, pregnancy, culture, ethnicity, religion, health or disability, socioeconomic background or geographic location, as per the inclusive education policy of Bangladesh.