ATTACHMENT 5.

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

Course Specifications
(CS)

Computer Programming – II

(COMP 2311)

1440-1441

I Semester

Course Specifications

Institution: King Saud University	**Date**: 30-Dec-2019 (1440-1441 I Sem.)
College/Department: Community College / Computer Science Department	

A. Course Identification and General Information

1. Course title and code: COMP 2311 Computer Programming – II
2. Credit hours: 3
3. Program(s) in which the course is offered: (If general elective available in many programs indicate this rather than list programs) Computer Science Program
4. Name of faculty member responsible for the course: Mr. Saad AlOtaibi, Mr. Mohammed Aiyaz Hussain
5. Level/year at which this course is offered: Level – 3
6. Pre-requisites for this course (if any): COMP 1210 Computer Programming – I
7. Co-requisites for this course (if any): None
8. Location if not on main campus: Community College
9. Mode of Instruction (mark all that apply):

a. Traditional classroom		What percentage?	
b. Blended (traditional and online)	√	What percentage?	100%
c. E-learning		What percentage?	
d. Correspondence		What percentage?	
f. Other		What percentage?	

Comments: **None**

B. Objectives

1. What is the main purpose for this course? • **To understand the concepts of Object Oriented Programming.** • **To understand how to use Classes and Objects.** • **To understand the purpose of constructors and usage of default and parameterized constructors and overload constructors.** • **To understand the concept of Polymorphism.** • **To understand the concept of Inheritance and code reusability.** • **To be able to define and use Arrays as a data structure.** • **To be able to create a database connection.** • **To be able to perform basic database operations.** • **To create sequential files and add and modify data in the files.**
2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field) • **Giving more marks to the practical assignments.** • **Posting all lecture notes and lab tutorials on LMS for easy access to the students.** • **Encouraging the students to use subject related websites to get more understanding of the concepts.** • **Encouraging students to do projects with real life problems using object oriented concepts.**

C. Course Description

(Note: General description in the form used in Bulletin or handbook)

Course Description:

This course encompasses advanced topics in VB.NET programming. It includes three main areas: Object Oriented Programming, arrays and advanced Graphical User Interfaces.
The OOP section focuses on OOP concepts and principles and their role in developing solutions to real world problems.
The second part of the course introduces arrays as an efficient and practical data structure while the third main topic provides students with practical skills in building advanced GUI including menus, contextual menus and multiple forms.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
Revision of COMP 1210 Computer Programming – I	**1**	**4**
Foundations of Object Oriented Programming (OOP) • Introduction to the main concepts of OOP • Classes. Objects. Methods • Instance variables. Local variables. Scope	**2**	**8**
• Constructors • Value type and reference type • Constant members • Database connection	**2**	**8**
• Value Types and Reference Shared/Class Methods vs. Instance Methods • Subroutine vs. Function Methods • Perform basic database operations (1) **Major Exam-1 & Lab Exam-1**	**2**	**8**

• Passing Arguments. • Method Overloading. • Optional parameters • Perform basic database operations (2)	**2**	**8**
Arrays: • One-dimensional arrays • Arrays operations	**2**	**8**
Advanced concepts of Graphical User Interface (GUI) • Multiple forms • Menus • Context menus **Major Exam-2 & Lab Exam-2**	**1**	**4**
Files, Printing, and Structure • Writing to a file • Reading from a file • File operation	**1**	**4**
Distributing VB.NET Applications • Packaging VB.NET application. • Deployment of VB.NET application	**1**	**4**
Revision	**1**	**4**

2. Course components (Total contact hours and Credits per semester):

	Lecture	Tutorial	Laboratory or Studio	Practical	Other:	Total
Contact Hours	**30**			**30**		**60**
Credit	**2**			**1**		**3**

3. Additional private study/learning hours expected for students per week.

*** Writing more complex programs based on simple programs that are discussed and executed in the class.**
*** Browsing the recommended websites to learn more about the concepts discussed in class.**
*** Studying the course recommend book and the additional reading lists for each lecture.**
*** Discussing the course topics with the instructor in his office hours.**

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	Recognize Object Oriented Programming concepts and features.	• Explaining the course concepts using PowerPoint presentations. • Demonstrating those concepts by writing programs in Visual Basic. • Give programming assignments to the students to practice more during the class sessions	- Student's interaction during lecture presentations and practical demonstrations - Classroom practical assignments - Major Exams. - Practical Exams
1.2	Describe the need and benefits of using arrays as a data structure		
1.3	Describe the need and uses of advanced GUI features of Visual Basic		

2.0	**Cognitive Skills**		
2.1	Analyze various Object Oriented Programming constructs to solve a given problem.	• Encouraging students to visit the library to study the various reference books to understand the different ways of solving the same problems and finding the best procedure. • By explaining the case studies of real life applications • Implement the same problem in different ways and study the difference in their performance.	- Programming assignments - Debugging programs - Objective questions - Major Exams - Practical Exams - Student's attention during classroom activities
2.2	Demonstrate efficient and effective use of arrays as a data structure		
2.3	Compose a complex program consisting of multiple forms, menus and procedures.		
3.0	**Interpersonal Skills & Responsibility**		
3.1	Use effective oral and written communication skills.	• Task assignment • Group discussions • Case studies • Presentations	• Viva • Working in a team for project • Response in the classroom
4.0	**Communication, Information Technology, Numerical**		
4.1	Work effectively in a team environment	• Debate sessions • Information gathering • Group activities • Internet search	• Observation • Assignments • Presentations • Q/A sessions • Project
5.0	**Psychomotor**		
5.1	N/A	N/A	N/A

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)						
	1.1	2.1	2.2	2.3	3.1	3.2	4.1
1.1	√						
1.2	√						
1.3	√						
2.1		√	√	√			
2.2		√	√	√			
2.3		√	√	√			
3.1					√	√	
4.1							√

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Practical Assignments	3, 4, 5, 6, 7, 8, 9, 10, 11, 12	10%
2	Major Exam 1	7	10%
3	Practical Exam 1	7	10%
4	Major Exam 2	12	10%
5	Practical Exam 2	12	10%
6	Project	14	10%
7	Final Exam	16	40%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week) **- 5 office hours per week at different timings on each day of week.** **- By using E-mail.** **- Use of the LMS.** **- The role of the academic advisor in the department.** **- Revision week at the beginning of semester to revise the concepts that are needed to understand the topics of the course and also there is a revision week towards the end of the semester where all the topics of the course are revised in brief with emphasis given to the topics that the students want to give special attention.**

E. Learning Resources

1. List Required Textbooks **VB.NET How to Program, Dietel & Dietel, 5th Edition, Prentice Hall Pearson Education.**
2. List Essential References Materials (Journals, Reports, etc.) **None**
3. List Recommended Textbooks and Reference Material (Journals, Reports, etc) **Tony Gaddis and Kip R. Irvine. 2016. *Starting Out with Visual Basic* (7th ed.). Pearson**
4. List Electronic Materials, Web Sites, Facebook, Twitter, etc. ***http://lms.ksu.edu.sa***
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software. • ***Lecture Notes and presentations provided by the teacher.*** • ***Lab assignments are provided by teacher.***

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) **Computer Lab with at least 24 PCs connected through the network and a PC for the tutor for delivering lectures and presentations.**
2. Computing resources (AV, data show, Smart Board, software, etc.) **A PC for every student with SQL-SERVER and VB.net.** **A Classroom having AV, data show, Smart Board.**
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) • **Latest hardware and Software.**

G. Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching
• **Making a comparison between student results in different exams.** • **Making a comparison between student results in different semesters.** • **Students' opinion through questionnaires.** • **At the end of each semester the college conducts student's feedback through a questionnaire about the teacher and the course to be filled by each student**
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department
• **Students' feedback every semester.** • **Effective supervision from the department head.** • **The instructor of the course must introduce a report about the course and this report must be added to the portfolio of the course at the end of every semester.** • **By knowing the student's response from their performance in exams and in doing practical assignments.**

3. Processes for Improvement of Teaching • **Review of course contents periodically by the teacher.** • **Using modern day techniques like discussion and assignments.** • **Using presentation graphics to explain a topic.** • **Having a portfolio for the subject each semester and before start of each semester going through that portfolio to understand the subject and how the students fared so as to modify the contents of the subject accordingly**
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) • **Making a comparison between samples of answers of students of different sections of the same course taught by different teachers.** • **Students Lab Marks.**
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. • **The courses are reviewed as and when the need arises.** • **Making a course portfolio that includes everything about the course in each semester. This includes quizzes, home works, major exams, assignments, reports and final exams. Also, it includes the model answers of exams and samples of student answers.**

Name of Instructors: **Mr. Saad Al Otebi, Mr. Mohammed Aiyaz Hussain**

Signature: _____ Date Report Completed: 25-12-2019

Name of Field Experience Teaching Staff _____

Program Coordinator: _____**Dr. Fayez AlQahtani**_____

Signature: _____ Date Received: _____