



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Visual Programming
2	Course number	1902210
3	Credit hours (theory, practical)	3 Credit Hours
	Contact hours (theory, practical)	3
4	Prerequisites/corequisites	-
5	Program title	Computer Information Systems
6	Program code	02
7	Awarding institution	The University of Jordan
8	Faculty	King Abdullah II School for Information Technology
9	Department	Computer Information Systems
10	Level of course	2
11	Year of study and semester (s)	Fall Semester – 2015/2016
12	Final Qualification	BSc
13	Other department (s) involved in teaching the course	-
14	Language of Instruction	English
15	Date of production/revision	January, 2016
16	Required/ Elective	Elective

16. Course Coordinator:**Rana Yousef, Phd.***Office numbers (11-12: Sun, Mon, Tue)**Tel: +96265355000 ex 22641**Email address: rana.yousef@ju.edu.jo***17. Other instructors:**

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18. Course Description:

Introduction to Visual Basic and Visual Studio environment: Controls, components, wizard; Language constructs and structures: Variables, assignment, arithmetic, selection, repetition, arrays, functions; Advanced controls: Frames, Labels, Boxes and others; Strings: Operations and formatting. Graphics: Coordinate systems and drawing methods

19. Course aims and outcomes:

A- Aims:
The main goal of this course is to equip students with knowledge about visual programming concepts, as well as the skills required to design and implement different applications using VB.Net.
B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...
A1) Familiarize the student with Microsoft Visual Basic.NET Integrated Development Environment (IDE).
A2) Understand memory concepts, operators and data types
A3) Understand basic problem solving techniques using control structures, procedures and arrays
A4) Understand the design principles of graphical user interface (GUI) and its components.
B1) Employ analytical skills to solve problems.
B2) Distinguish between different control structures.
B3) Compare between functions and sub procedures.
B4) Develop algorithms using selection, repetition, procedures, strings and arrays.
B5) Design a graphical user interface.
B6) Recognize and employ analytical skills to solve problems.
C1) Analyze a problem and write VB.Net code to solve it.
C2) Test the code using different set of data types
C3) Instill in students the requirement to develop programs that conforms to industry standards and Naming Conventions.
C4) Instill in the student the fact that the debugger is one of the most crucial parts of the Visual Studio.NET development environment.
D1) Work individually and within a group to design a graphical user interface.
D2) Work effectively to implement a VB program that solves the problem under study.
D3) Work individually and within a group to solve certain problems.

20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
Introduction BENEFITS OF MICROSOFT .NET LANGUAGES SUPPORTED IN .NET WHAT IS VISUAL STUDIO 2005? VISUAL STUDIO 2005 APPLICATION TEMPLATES ADDING CONTROLS TO A WINDOWS FORMS PROJECT HOW TO ADD CODE TO A CONTROL	1		A.1 A.4	In class questions	Textbook: Chapter 1

<p>Message Boxes AND windows Form Control</p> <p>HOW TO OUTPUT INFORMATION IN A MESSAGE BOX</p> <p>1. MESSAGE BOX: 2. MAGBOX:</p> <p>More controls and properties</p> <p>PROPERTIES : VISIBLE , ENABLED , FONT FORM OPACITY PROPERTY PICTURE BOX CONTROL DISPLAYING DATE MONTH CALENDAR</p> <p>Tool tip</p>	2		<p>A.4 B.2 B.5 D.1</p>	practical exercise	Textbook: Chapter 4 Lecture Notes from the e-learning website
<p>Data types and variables</p> <p>PREDEFINED DATA TYPE CONSTANTS AND VARIABLES DECLARATION OF VARIABLES HOW TO ASSIGN VALUES TO VARIABLES HOW TO DECLARE CONSTANTS</p> <p>Variables scope and strings</p> <p>WHAT IS VARIABLE SCOPE? LEVELS OF SCOPE EXAMPLE OF SCOPES EXERCISE: STRINGS CREATING INSTANCES FROM THE FORM</p>	3		<p>A.2 A.3 C.1 C.2 D.2</p>	practical exercise	Textbook: Chapter 5 Lecture Notes from the e-learning website
<p>Console applications</p> <p>HOW TO CREATE CONSOLE APPLICATION WRITE, WRITELINE READ, READLINE</p>	4		<p>C.4 D.2 D.3</p>	practical exercise	Reference 2: chapter 6 Lecture Notes from the e-learning website
<p>Expressions in VB</p> <p>ARITHMETIC OPERATORS AND PRECEDENCE IN VISUAL BASIC LOGICAL EXPRESSIONS WORKSHEET</p>	5		<p>A.3 D.2 D.3</p>	practical exercise	Textbook: Chapter 5 Lecture Notes from the e-learning website
<p>Selection</p> <p>TYPES OF CONDITIONAL STATEMENT</p>	6		<p>B.4 D.2 D.3</p>	practical exercise	Textbook: Chapter 5 Lecture

WORKSHEET					Notes from the e-learning website
Looping FOR – NEXT WHILE LOOP DO – LOOP -WHILE DO – LOOP –UNTIL FOR EACH EXIT – DO, EXIT – FOR	7		A.3 B.4 D.2 D.3	Midterm Exam	Textbook: Chapter 5 Lecture Notes from the e-learning website
Events FORM LOAD EVENT CLICK EVENT MOUSE DOWN/ MOUSE UP KEY DOWN TEXT CHANGED TEXT VALIDATING Useful components and controls ERROR PROVIDERS PROGRESS BARS THE TIMER COMPONENT	8		C.3 C.4 B.3 D.2 D.3	practical exercise	Reference 2: chapter 10 Lecture Notes from the e-learning website
Arrays WHAT IS AN ARRAY? HOW TO CREATE AND USE A SINGLE DIMENSIONAL ARRAY? HOW TO CREATE AND USE A MULTIDIMENSIONAL ARRAY? RESIZING ARRAYS ARRAY METHODS	9		B.4 D.2 D.3	practical exercise	Textbook: Chapter 7 Lecture Notes from the e-learning website
Methods and random numbers OVERVIEW ON METHODS PREDEFINED FUNCTIONS USER DEFINED METHODS – SUB: NO RETURN VALUE USER DEFINED METHODS – FUNCTION: RETURN VALUE METHOD. METHOD + AARRAYS BYVAL VS BYREF RECURSION. RECURSION EXAMPLES STATIC VARIABLES IN METHODS RANDOM NUMBERS	10		D.2 D.3	Practical Exam	Textbook: Chapter 9 Lecture Notes from the e-learning website
More & more Interesting controls ! CHECKBOX	11		A.4 B.5 C.2 D.2	practical exercise	Reference 2: chapter 14

RADIO BUTTONS GROUPBOX MORE METHODS ON COMBO BOX & LIST BOX ADD RANGE OPEN FILE DIALOG COLOR DIALOG FONT DIALOG PROJECT .. SIMPLE WORD PROCESSOR			D.3		Lecture Notes from the e-learning website
Classes WHAT ARE CLASSES AND ABJECT FIELDS, PROPERTIES, METHODS, AND EVENTS HOW TO DEFINE A NEW CLASS HOW TO ADD FIELDS TO A CLASS HOW TO ADD PROPERTIES TO A CLASS READONLY AND WRITEONLY KEYWORDS: ADD METHODS TO A CLASS CREATING CONSTRUCTORS IN THE CLASS INHERITANCE OVERRIDING POLYMORPHISM MORE EXAMPLES ON POLYMORPHISM ARRAY OF CLASSES ARRAY OF CLASSES + POLYMORPHISM	12		D.2 D.3	practical exercise	Textbook: Chapter 9 Lecture Notes from the e-learning website
Error Handling RUN TIME ERRORS RUN-TIME EXCEPTIONS AND EXCEPTION HANDLING EXAMPLES EXAMPLE OF ERROR THAT IS UNHANDLED: EXAMPLE USING OF ERROR HANDLING	13		C.3 D.2 D.3	practical exercise	Reference 2: chapter 16 Lecture Notes from the e-learning website
DataBase Revision 1)QUERY SQL COMMAND: 2) NONQUERY : USE DML LIKE: INSERT/UPDATE/DELETE Database in VB.net , Theory part HISTORY OF ADO.NET WHY ADO.NET? THE ADO.NET DATA ARCHITECTURE	14		D.1	practical exercise	Lecture Notes from the e-learning website

Practical Implementation of Database in VB.net CREATING DATABASE IN SQL SERVER 1) THE CONNECTION BETWEEN THE FORM AND DATABASE 2) THE SQLCOMMAND 2.1) THE SQL NONQUERY COMMAND: INSERT , DELETE , UPDATE 2.2) THE SQL QUERY COMMAND + THE DATA READER :(SELECT)	15		C.3 D.2 D.3	practical exercise	Textbook: Chapter 12 Lecture Notes from the e-learning website
FINAL EXAM	16			Final Exam	

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

Teaching (T) Strategies: Class Contact is 3 hours per week. The Course will be delivered using different means like lectures, discussions and hands-on exercises.

Learning (L) Methods: Students attend classes, ask questions and participate in discussions, do weekly in-class tasks and assignments to help them understand and practice the covered topics. All lectures are conducted in the lab. Students will access the e-learning platform for more instruction and supported learning materials.

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Assessment (A) Methods: There will be several assessment methods to evaluate the performance of the students such as class participation; conducting the Midterm and the Final Exams. Grading a number of in-class assignments as well as conducting a practical exam.

Assessment Weights:

In class assignments and practical exercises	10%
Midterm Exam	30%
Practical Exam	10%
Final Exam	50%

23. Course Policies:

A- Attendance policies: Class attendance is mandatory. University regulations will be applied. Regular attendance is essential for satisfactory completion of this course.

B- Absences from exams and handing in assignments on time: Any student who misses any exam will receive a failing grade. Permission for makeup will be granted only if the student notifies the instructor in due time and presents evidence of an officially excused absence.

C- Health and safety procedures: -

D- Honesty policy regarding cheating, plagiarism, misbehavior: The honor code applies to all work turned in for this course including exams and assignments. It is important that you understand the solutions to all problems, and the best way to gain an understanding is to work them out and write them up by yourself. Hence the policy is that you must submit your own work. You may not share your work with other students, unless it is allowed as group. Violating the policy will be taken as a no submission state for the assignment. University regulations will be preserved at all times.

E- Grading policy:

0-45	F	46-49	D-	50-52	D	53-55	D+
56-58	C-	59-61	C	62-68	C+		
69-72	B-	73-76	B	77-82	B+	83-86	A- 87-100 A

F- Available university services that support achievement in the course: PCs with the required software in the KASIT labs: 202, 203. KASIT Library and JU Main library.

24. Required equipment:

Required software: Microsoft Visual Studio 2010 or 2012

25. References:

A- Required book (s), assigned reading and audio-visuals:

Bill Sheldon and others, Professional Visual Basic 2010 and .NET 4, 1st edition, 2010, Wiley Publishing, Inc. ISBN: 978-0-470-50224-2

B- Recommended books, materials, and media:

1. Deitel, Visual Basic 2010 How to Program, 5th Edition, Prentice Hall, 2006. Code Example Download: <http://www.prenhall.com/deitel>
2. Tahani Salah Khatib, Visual Programming in VB.NET, 1st Edition, 2014.
3. www.developer.com/net/vb
4. www.devx.com/dotnet
5. www.vbcity.com
6. www.aewnet.com/root/dotnet/vbnet

26. Additional information:

Name of Course Coordinator: Rana Yousef -Signature: ----- Date: -----

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

Copy to:

Head of Department
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Course File