



Course Specification

Course Name: Computer Arabization]

Course Code: CS443]

I. Basic Course Information

Major or minor element of program: [Major]

Department offering the course: [Computer Science Department]

Academic level: [400 Level]

Semester in which course is offered: First (fall) semester

Course pre-requisite(s): [Operating System - 1 (CS241)]

Credit Hours: 3

Contact Hours Through:

Lecture	Tutorial*	Practical*	Total
2.5	0.0	1.5	4.0

* 1.5 hours for **either** Tutorial or Practical

Approval date of course specification: September 2014

II. Overall Aims of Course

[To understand arabization topics to be able to develop application to support Arabic in non-Arabic enabled environment or operating system.]

III. Program ILOs covered by course

Program Intended Learning Outcomes (By Code)			
Knowledge & Understanding	Intellectual Skills	Professional Skills	General Skills
[K2,K16,K18]	[I12,I16,I17]	[P2,P6,P13,P15]	[G1,G2,G7]



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IV. Intended Learning Outcomes of Course (ILOs)

a. Knowledge and Understanding

On completing the course, students should be able to:

- K.1 Explain Arabization and Code pages.
- K.2 Illustrate the segment and types.
- K.3 Show the ordering rules.
- K.4 Recognize Arabic shaping rules.
- K.5 Recognize event driven programming.]

b. Intellectual/Cognitive Skills

On completing the course, students should be able to:

- I.1 Distinguish between the different alignments and direction (Right-to-Left, Left-to-Right).
- I.2 Analyse intermingled text to classify segmented text.
- I.3 Classify the characters in the segmented text to identify the right shapes.

c. Practical/Professional Skills

On completing the course, students should be able to:

- P.1 Develop new APIs library and new programming Operating System environment.
- P.2 Learn new Operating System Tools and commands.
- P.3 Enhance programming skills under other Operating Systems.
- P.4 Develop a GUI Project using XLib.]

d. General and Transferable Skills

On completing the course, students should be able to:

- G.1 Use previous skills in Programming with C++.
- G.2 Use previous skills in Programming with Data Structure.
- G.3 Use previous skills in Programming with File Structure.
- G.4 Use previous skills in Programming with Operating System 1.
- G.5 Work in Teams through group projects.]

V. Course Matrix Contents

	Main Topics / Chapters	Duration (Weeks)	Course ILOs Covered by Topic (By ILO Code)			
			K & U	I.S.	P.S.	G.S.
1-	[Introduction to Arabization]	[1]	[K1]	[I1]	[]	[]
2-	[Representing different Languages in Code Pages and Code Conversion]	[1]	[K1]	[I1]	[P1,P3]	[]
3-	[Introducing Segmentation method and segment types]	[1]	[K2]	[I2]	[P1,P3]	[]
4-	[Introducing Ordering rules]	[1]	[K3]	[]	[]	[]
5-	[Examples of Ordering rules]	[1]	[K3]	[]	[P2,P3,P4]	[]
6-	[How to apply methods and rules on other Operating Systems (e.g. Linux) with Tools]	[2]	[K4]	[I3]	[]	[G4]
7-	[Shaping rules and Data Structure using OS Fonts]	[1]	[K5]	[I1]	[]	[G1,G2,G3]
8-	[Introducing Keyboard Handling within Application programs & Introducing program template]	[1]	[]	[]	[P2,P3,P4]	[All]
9-	[Developing a Simple Arabic Text Editor Project]	[1]	[]	[]	[P4]	[All]
10-	[Project Term]	[3]	[]	[]	[]	[All]
	Net Teaching Weeks	13				



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VI. Course Weekly Detailed Topics / hours / ILOs

Week No.	Sub-Topics	Total Hours	Contact Hours	
			Theoretical Hours	Practical Hours*
1	Introduction to Arabization.	2.5	2.5	
2	Representing different Languages in Code Pages and Code Conversion.	4	2.5	1.5
3	Introducing Segmentation method and segment types.	4	2.5	1.5
4	Introducing Ordering rules.	4	2.5	1.5
5	Examples of Ordering rules	4	2.5	1.5
6	How to apply methods and rules on other Operating Systems (e.g. Linux) with Tools.	4	2.5	1.5
7	Midterm Exam			
8	Shaping rules and Data Structure using OS Fonts.	4	2.5	1.5
9	Shaping rules and Data Structure using OS Fonts.	4	2.5	1.5
10	Introducing Keyboard Handling within Application programs & Introducing program template.	4	2.5	1.5
11	Developing a Simple Arabic Text Editor Project.	4	2.5	1.5
12	Introducing program template.	4	2.5	1.5
13	Project Presentations by teams - Part I	4	2.5	1.5
14	Project Presentations by teams - Part II	4	2.5	1.5
15	Final Exam			
Total Teaching Hours		51	33	18

* No Practical/Tutorial during the first week of the semester

VII. Teaching and Learning Methods

Teaching/Learning Method	Selected Method	Course ILOs Covered by Method (By ILO Code)			
		K & U	Intellectual Skills	Professional Skills	General Skills
Lectures & Seminars	*	All	All	P1,P3	
Tutorials	*			P1,P2,P3	
Computer lab Sessions	*	All		All	
Practical lab Work	*	All		P1,P2,P3	G1,G2,G3,G4
Reading Materials					
Web-site Searches	*			P2,P3,P4	
Research & Reporting					
Problem Solving / Problem-based Learning					
Projects					
Independent Work					



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Group Work	*					G5
Case Studies						
Presentations						
Simulation Analysis						
Others (Specify):						

VIII. Assessment Methods, Schedule and Grade Distribution

Assessment Method	Selected Method	Course ILOs Covered by Method (By ILO Code)				Assessment Weight / Percentage	Week No.
		K & U	I.S.	P.S.	G.S.		
Midterm Exam	*	K1,K2,K3,K4				10%	7
Final Exam	*	K1,K2,K3,K4				60%	15
Quizzes							
Course Work							
Report Writing							
Case Study Analysis							
Oral Presentations							
Practical							
Group Project	*	K2,K3,K4,K5	I1,I2,I3	All	All	10%	6
Individual Project	*	K2,K3,K4,K5	I1	All	G1,G2,G3,G4	20%	12
Others (Specify):							

IX. List of References

Essential Text Books	•	Provided Tutorial for XLib APIs and Linux.
Course notes	•	None
Recommended books	•	None
Periodicals, Web sites, etc....	•	Linux Commands, X Window and XLib programming.

X. Facilities required for teaching and learning

List the facilities required <ul style="list-style-type: none"> • Lecture Room • Labs prepared with Linux OS
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Course coordinator: Prof. Salwa El-Gamal

Head of Department: Prof. Abeer El Korany

Date: September 2014