

ATTACHMENT 5.

Kingdom of Saudi Arabia
The National Commission for Academic Accreditation &
Assessment

T6. Course Specifications
(CS)

Course Specifications

14014106-3 Programming Languages

Institution : Umm Al-Qura University	Date : 14/4/2016
College/Department : College of Computers and Information Systems/Computer Science	

A. Course Identification and General Information

1. Course title and code: 14014106-3 Programming Languages			
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			
4. Name of faculty member responsible for the course Khaled Nasser ElSayed			
5. Level/year at which this course is offered : 4 th year / (level 9 or 10)			
6. Pre-requisites for this course (if any)) 14013103-4 Advanced Programming			
7. Co-requisites for this course (if any) None			
8. Location if not on main campus Al-Abidiyah campus (Boys) and Al-Zaher campus (Girls), Makkah Al Mukarramah			
9. Mode of Instruction (mark all that apply)			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments: Mainly traditional classroom will dominant the mode on instruction. There is a need to apply some modes in some situations.			

B Objectives

<p>1. What is the main purpose for this course?</p> <ol style="list-style-type: none"> To learn the ways to evaluate among different programming languages. To learn the basic of programming languages syntax description. To learn the concepts of declaring data types and exception handling techniques. Summary of the main learning outcomes for students enrolled in the course. Apply concepts from prerequisite courses, especially formal languages and architecture courses, in the context of evaluating the features of programming languages. Explain and evaluate design and implementation features of programming languages. Apply conceptual knowledge of the syntax of languages, as well as the design of language data structures and control statements, to the efficient implementation of a working language
<p>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)</p> <ol style="list-style-type: none"> Increase the use of the latest Web-based reference material and textbooks. Review and update the course materials as part of preparation to teach this course. Gather students' opinions about their success in achieving course objectives by the end of the semester. This is done through number of survey questions that map one-to-one with course objectives.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

<p>Course Description: This Course should give a wide overview of social implications and application of computing and Information Technologies and its ethics</p>

1 Topics to be Covered		
List of Topics	No of Weeks	Contact hours per week
Preliminaries: Reason for studying concepts of programming languages, Programming Domains, Language Evaluation Criteria Influences on Language Design, Language Categories, Language design Trade-Off, Implementation, Introduction of Object Oriented Programming.	2	3
Describing Syntax and Semantics: Introduction of Syntax and Semantics, The General Problems of Describing Syntax (Language Recognizers, Language Generator), Formal Methods of Describing Syntax.	2	3
Describing Syntax and Semantics: Attribute of Grammars: Static Semantics, Attribute & Grammars Defined, Intrinsic Attributes, Examples of Attribute Grammars, Computing Attribute Values, Evaluation, Describing the Meaning of Programs: Dynamic Semantics.	2	3
Data Types: Introduction of Data Types, Primitive Data Types, Character String Types, User-Defined Ordinal Types	1	3
Data Types: Types of Arrays, Associative Arrays, Record Types	1	3

Data Types: Union Types, Structure Types, Set Types, Pointer Types	1	3
Support of Object Oriented Programming Concepts: Design Issues for Object Oriented Languages, Support for Object Oriented Programming in C++,	2	3
Support of Object Oriented Programming Concepts: Support for Object Oriented Programming in Java, The Object Oriented Model of java Script	2	3
Exception Handling: Introduction to Exception Handling, Exception handling in PL/I, Exception Handling in C++, Exception Handling in Java	2	3
Preliminaries: Reason for studying concepts of programming languages, Programming Domains, Language Evaluation Criteria Influences on Language Design, Language Categories, Language design Trade-Off, Implementation, Introduction of Object Oriented Programming.	2	3
Describing Syntax and Semantics: Introduction of Syntax and Semantics, The General Problems of Describing Syntax (Language Recognizers, Language Generator), Formal Methods of Describing Syntax.	2	3
Describing Syntax and Semantics: Attribute of Grammars: Static Semantics, Attribute & Grammars Defined, Intrinsic Attributes, Examples of Attribute Grammars, Computing Attribute Values, Evaluation, Describing the Meaning of Programs: Dynamic Semantics.	2	3
Data Types: Introduction of Data Types, Primitive Data Types, Character String Types, User-Defined Ordinal Types	1	3
Data Types: Types of Arrays, Associative Arrays, Record Types	1	3
Data Types: Union Types, Structure Types, Set Types, Pointer Types	1	3

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory or Studio	Practical	Other:	Total
Contact Hours	45 h			0		45 h
Credit	3 h			0		3 h

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

3 h

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	Apply concepts from prerequisite courses, especially formal languages and architecture courses, in the context of evaluating the features of programming languages.	<i>lectures, assignments, and an individual project</i> <i>Providing references and supporting reading materials for self-study.</i>	<i>Assignments</i> <i>Quizzes</i> <i>Midterm</i> <i>Group Project</i> <i>Final Exam</i>
1.2	Explain and evaluate design and implementation features of programming languages.	<i>lectures, assignments, and an individual project</i> <i>Providing references and supporting reading materials for self-study.</i> Open-communication with students – show willingness to assist and take questions from students and clarify explanations in the class	<i>Assignments</i> <i>Quizzes</i> <i>Midterm</i> <i>Group Project</i> <i>Final Exam</i>
1.3	Apply conceptual knowledge of the syntax of languages, as well as the design of language data structures and control statements, to the efficient implementation of a working language	<i>lectures, assignments, and an individual project</i> Open-communication with students – show willingness to assist and take questions from students and clarify explanations in the class	<i>Assignments</i> <i>Quizzes</i> <i>Midterm</i> <i>Group Project</i> <i>Final Exam</i>
2.0	Cognitive Skills		
2.1	Students will be able to analyze varying perspectives regarding programming languages and their categories and domains	Seminars and open discussion and debates (groups)	Presentation, project, midterm, final exam
2.2	Students will be able to critically analyze issues of the different issues in the topics the studied locally and internationally	Seminars and open discussion and debates (groups)	Presentation, project, midterm, final exam
2.3	Students will propose creative solutions to local issues to the use of technology	Seminars and Projects	Presentation, project

3.0	Interpersonal Skills & Responsibility		
3.1	Leadership	<p><i>Collaborative Project work</i></p> <p>Project management skills should be implemented</p> <p>Communication skills with others via projects</p>	<p>Project presentations</p> <p>Observation of collaborative work</p> <p>Campaign work development</p>
3.2	Group work	<p><i>Collaborative Project work</i></p> <p>Public presenting via campaign</p> <p>Communication skills with others via projects</p>	<p>Project presentations</p> <p>Observation of collaborative work</p> <p>Success rate of group communication</p>
3.3	Group communication skills	<p><i>Collaborative Project work</i></p> <p>Communication skills with others via projects</p>	<p>Observation of collaborative work</p> <p>Success rate of group communication</p>
3.4	Debate skills	<p><i>Collaborative Project work</i></p> <p>Project management skills should be implemented</p>	<p>Observation of collaborative work</p> <p>Campaign work development</p>
3.5	Public speaking	<p>Public presenting via campaign</p> <p>Communication skills with others via projects</p>	<p>Project presentations</p> <p>Success rate of group communication</p>
4.0	Communication, Information Technology, Numerical		
4.1	Leadership	<p><i>Collaborative Project work</i></p> <p>Project management skills should be implemented</p>	<p>Project presentations</p> <p>Observation of collaborative work</p> <p>Campaign work development</p>

		Communication skills with others via projects	
4.2	Group work	<i>Collaborative Project work</i> Public presenting via campaign Communication skills with others via projects	Project presentations Observation of collaborative work Success rate of group communication
4.3	Group communication skills	<i>Collaborative Project work</i> Communication skills with others via projects	Observation of collaborative work Success rate of group communication
4.4	Debate skills	<i>Collaborative Project work</i> Project management skills should be implemented	Observation of collaborative work Campaign work development
4.5	Public speaking	Public presenting via campaign Communication skills with others via projects	Project presentations Success rate of group communication
5.0	Psychomotor		
5.1	N/A	N/A	N/A
5.2			

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.) (I = Introduction P = Proficient A = Advanced)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)										
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
1.1		P		P		A		A	P		
1.2		P		P		A		A	A		
1.3		A		P		A		P	P		
2.1		P		P		A		P	P		

2.2		A		A		P		P	P		
2.3		P		A		A		P	P		
3.1		P		A		A		P	A		
3.2		P		A		A		P	A		
3.3		A		A		P		A	A		
3.4		P		A		A		A	P		
3.5		P		A		A		P	A		
4.1		P		P		A		A	A		
4.2		P		P		P		A	A		
4.3		A		P		A		A	P		
4.4		A		P		A		A	P		
4.5		A		P		A		A	A		
5.1											

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	Assignments	-	0
2	Quiz-1	4	10
3	Midterm	8	20
5	Group Project	12	20
6	Quiz_2	13	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)

Three Office Hours

E Learning Resources

1. List Required Textbooks

Sebesta R.W., Concepts of Programming Languages, 10th Edition, Addison-Wesley, 2012

2. List Essential References Materials (Journals, Reports, etc.)

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

Essentials Of Programming Languages, Daniel P. Friedman And Mitchell Wand, Third Edition

4. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

[Web sites for all Programming languages](#)

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

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.) Lecture room Computer Lab
2. Computing resources (AV, data show, Smart Board, software, etc.) Internet facility Web sites access
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) PRINTERS MAC LABS (preferred for campaigns)

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching Questionnaires Individual and Group Meetings
2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department Comparisons of Assessments tools
3 Processes for Improvement of Teaching Workshops, Research of new issues
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) Peer Reviews and Sample Second Marking Jury marking for campaign effectiveness
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Monthly Progress Report tells the achievements and drawbacks may need improvement

Name of Instructor: Khaled Nasser ElSayed

Signature: _____ Date Report Completed: 14/2/2016

Name of Course Instructor Khaled Nasser ElSayed

Program Coordinator: _____

Signature: _____ Date Received: _____