



## Course specifications (Postgraduate Degree)

Course Title:	Technology
Course Code:	150TEC-1
Program:	Deanship of Preparatory Year
Department:	Computer Skills
College:	Deanship of Preparatory Year
Institution:	Najran University



## Table of Contents

<b>A. Course Identification.....</b>	<b>3</b>
6. Mode of Instruction (mark all that apply) .....	3
<b>B. Course Objectives and Learning Outcomes.....</b>	<b>3</b>
1. Course Description .....	3
2. Course Main Objective.....	4
3. Course Learning Outcomes .....	4
<b>C. Course Content .....</b>	<b>4</b>
<b>D. Teaching and Assessment .....</b>	<b>5</b>
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods.....	5
2. Assessment Tasks for Students .....	5
<b>E. Student Academic Counseling and Support .....</b>	<b>5</b>
<b>F. Learning Resources and Facilities.....</b>	<b>6</b>
1. Learning Resources .....	6
2. Educational and research Facilities and Equipment Required .....	6
<b>G. Course Quality Evaluation .....</b>	<b>7</b>
<b>H. Specification Approval Data .....</b>	<b>7</b>



## A. Course Identification

<b>1. Credit hours:</b> 2
<b>2. Course type</b> <input checked="" type="checkbox"/> Required <input type="checkbox"/> Elective
<b>3. Level/year at which this course is offered:</b> 2
<b>4. Pre-requisites for this course (if any):</b> NA
<b>5. Co-requisites for this course (if any):</b> NA

## 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	42	70%
2	Blended		
3	E-learning	18	30%
4	Correspondence		
5	Other		

## 7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
<b>Contact Hours</b>		
1	Lecture	30
2	Laboratory/Studio	
3	Seminars	
4	Others (specify)	
	<b>Total</b>	
<b>Other Learning Hours*</b>		
1	Study	40
2	Assignments	15
3	Library	15
4	Projects/Research Essays/Theses	
5	Others (specify)	
	<b>Total</b>	100

\* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

## B. Course Objectives and Learning Outcomes

<b>1. Course Description</b> This course introduces the student to concepts of problem solving using constructs of logic inherent in computer programming languages. Students apply problem solving concepts by analyzing problems and constructing, testing, and implementing algorithms using pseudocode. Topics include: program flowchart, control structures, and programming fundamentals.
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## 2. Course Main Objective

The purpose of this course is to:

1. Solve problems in computers according to problem solving steps
2. Develop algorithms using sequential and decision logic structures.
3. Develop algorithms using various loop logic structures.
4. Transcribe the algorithm in pseudocode language.
5. Test the solution of the pseudocode language.

## 3. Course Learning Outcomes

Course Learning Outcomes (CLOs)		Aligned PLOs*
1	<b>Knowledge</b>	
1.1	Describe the steps of problem solving process	
1.2		
2	<b>Skills</b>	
2.1	Design the algorithms using flowchart and pseudocode.	
2.2	Evaluate the solution of the problem.	
2.3		
2...		
3	<b>Competence</b>	
3.1	Demonstrate the solution using decision logic structures and loops.	
3.2		
3.3		
3...		

\* Program Learning Outcomes

## C. Course Content

No	List of Topics	Contact Hours
1	General Problem Solving Concept	2
2	Beginning Problem Solving Concept	6
3	First Midterm Exam	1
4	Planning Your Solution	4
5	Problem Solving with Decisions	4
6	Second Midterm Exam	1
7	Problem Solving with the Loops	6
8	Final Exam	2
9		
10		
Total		



## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	<b>Knowledge</b>		
1.1	Describe the steps of problem solving process	<ul style="list-style-type: none"> <li>Lectures</li> <li>Classroom dialogue and discussion</li> <li>Brain storming and class participation</li> </ul>	<ul style="list-style-type: none"> <li>- 1<sup>st</sup> midterm exam</li> <li>- 2<sup>nd</sup> midterm exam</li> <li>- Assignments</li> <li>- Final exam</li> </ul>
1.2			
...			
2.0	<b>Skills</b>		
2.1	Design the algorithms using flowchart and pseudocode.	<ul style="list-style-type: none"> <li>Lectures</li> <li>Classroom dialogue and discussion</li> <li>Brain storming and class participation</li> </ul>	<ul style="list-style-type: none"> <li>- 1<sup>st</sup> midterm exam</li> <li>- 2<sup>nd</sup> midterm exam</li> <li>- Assignments</li> <li>- Final exam</li> </ul>
2.2	Evaluate the solution of the problem		
...			
3.0	<b>Competence</b>		
3.1	Demonstrate the solution using decision logic structures and loops	<ul style="list-style-type: none"> <li>Lectures</li> <li>Classroom dialogue and discussion</li> <li>Brain storming and class participation</li> </ul>	<ul style="list-style-type: none"> <li>- 1<sup>st</sup> midterm exam</li> <li>- 2<sup>nd</sup> midterm exam</li> <li>- Assignments</li> <li>- Final exam</li> </ul>
3.2			
...			

### 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm exam	6th	20%
2	Second Midterm ( theoretical )	11	20%
3	Assignments	During the semester	10%
4	Final exam	16	50%

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

**Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:**

- Giving the suitable support through the office hours of the teaching staff member.
- Extra lectures and lessons to the students who need support.
- The Faculty members must be in their offices at least 10 hours per week.



## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	"Computer Skills2", Collected lectures by Computer Skills Department, Preparatory Year Deanship, 2018.
<b>Essential Reference Materials</b>	<ul style="list-style-type: none"> <li>- Maureen Sprankle and Jim Hubbard, <i>Problem solving &amp; programming Concepts</i>, 9th Edition, 2011</li> <li>- Jones and Bartlett, <i>Problem Solving Basics and Computer Programming, A programming language independent companion to Roberge/Bauer/Smith, "Engaged Learning for Programming in C++: A Laboratory Course"</i>, Publishers, 2nd Edition, ©2001, ISBN 0763714232, By Ronald A. Pasko For CS397-Special Problems, Spring 2002.</li> </ul>
<b>Electronic Materials</b>	<ul style="list-style-type: none"> <li>- Digital library (<a href="http://lib.nu.edu.sa/digitallibrary.aspx">http://lib.nu.edu.sa/digitallibrary.aspx</a>)</li> </ul>
<b>Other Learning Materials</b>	<ul style="list-style-type: none"> <li>- Links provided by teachers</li> <li>- Handouts and presentations prepared by department</li> <li>- Slides and recorded lectures on blackboard</li> </ul>

### 2. Educational and research Facilities and Equipment Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom with 22-28 Computers, 22-28 chairs and desks, Access to Internet
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	<ul style="list-style-type: none"> <li>- Data Show, Smart board</li> <li>- Windows 8.1</li> <li>- Microsoft Office 2013</li> </ul>
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	VDI (virtual desktop infrastructure) Dual 2.4GHz Intel Xeon(R)E5 2680 V4 4096 MB Windows 8.1 64 bit Arabic/English, Office 2013 Arabic/English



## G. Course Quality Evaluation


Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course evaluation	Students	Questionnaires
Effectiveness of teaching and assessment	Students	Questionnaires
Extent of achievement of course learning outcomes	Department coordinator and course coordinator	Direct
Quality of learning resources	Peer Reviewer	Direct

**Evaluation Areas/Issues** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

<b>Council / Committee</b>	Ahmed Mohammed Sayed Khaled Alshawabekeh Mohammed Ghaleb Omer	
<b>Reference No.</b>	1-18-5-1440	
<b>Date</b>	29\2\2019	

Department coordinator  
Dr AminAl Awady