

Course Specifications

Computer Science Department

**Information Technology
Programme**

2015-2016

Level1



Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College Of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | Information Technology |
| Course : | Computer Programming 1 |
| Course Coordinator : | Hassen HAMOUDA |
| Programme Coordinator : | Adel ALSHAMRY |
| Course Specification Approved Date : | 11-05-1436 |



A. Course Identification and General Information

| | | | |
|--|---|------------------|---------|
| 1 - Course title : | Computer Programming 1 | Course Code: | CSC 112 |
| 2. Credit hours : | 3 (2+2+0) | | |
| 3 - Program(s) in which the course is offered: | | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | College Of Science and Humanities at Alghat | | |
| 6 - Level/year at which this course is offered : | First Year / Level 1 | | |
| 7 - Pre-requisites for this course (if any) : | None | | |
| 8 - Co-requisites for this course (if any) : | None | | |
| 9 - Location if not on main campus : | | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 90 % |
| B - Blended (traditional and online) | <input checked="" type="checkbox"/> | What percentage? | 5 % |
| D - e-learning | <input checked="" type="checkbox"/> | What percentage? | 5 % |
| E – Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | ..... |  |  |

B Objectives

| |
|--|
| <p>What is the main purpose for this course?</p> <p>Data types, variables, assignment, general structure of a program; Input/Output; Arithmetic expression; Introduction to Classes and Objects; Relational operators; Boolean expression, logical operators; conditional Statements: If..Else, Switch; Loop: for, while, do .. while; Methods: Constructor, getter/setter, Method overloading; Array; Exception handling.</p> |
| <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> • Periodical review of the course by the instructor and the department courses planning committee. • Attempting to use computer softwares and projectors in teaching the course. • Giving students some materials supplementing the textbook. • Questionnairng students about the way of teaching the course. |





C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| Chapter 1 Introduction to computers and basic programming concepts and constructs <ul style="list-style-type: none"> writing simple C programs main parts of C programs main function variables built-in data type | 2 | 6 |
| Chapter 2 <ul style="list-style-type: none"> Using cout and cin Variable Definitions | 2 | 6 |
| Chapter 3 <ul style="list-style-type: none"> The if Statement The if/else Statement The if/else if Statement switch Statement | 2 | 6 |
| Chapter 4 <ul style="list-style-type: none"> The while Loop The do while Loop The for Loop | 3 | 9 |
| Chapter 5 <ul style="list-style-type: none"> Functions and Arguments Value-Returning Functions | 2 | 6 |
| Chapter 6 <ul style="list-style-type: none"> Accessing Array Elements with a Loop Passing an Array to a Function | 2 | 6 |
| Chapter 7 <ul style="list-style-type: none"> The Binary Search The Selection Sort | 2 | 6 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|---------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 30 | ..... | 30 | ..... | ..... | 60 |





| | | | | | | |
|--------|---|-------|---|-------|-------|---|
| Credit | 2 | | 1 | | | 3 |
|--------|---|-------|---|-------|-------|---|

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

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|--|
| 1.0 | Knowledge | | |
| 1.1 | <ul style="list-style-type: none"> Identify the basic components of a computer system; | <ul style="list-style-type: none"> Lectures. Supplemental notes to clarify some important topics. Homework assignments. Practical Hours with teacher assistant. Advising students to use computer softwares applicable to the course content. Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> Med-terms and final exams Evaluation of teacher assistant in class discussions |
| 1.2 | <ul style="list-style-type: none"> Design an algorithm to solve a given problem using the top-down design approach; | | |
| 1.3 | <ul style="list-style-type: none"> Understand and use the three basic programming structures: sequence, selection, repetition; | | |
| 1.4 | <ul style="list-style-type: none"> Understand and use functions; Know the difference between call-by-value and call-by-reference parameters; | | |
| 1.5 | <ul style="list-style-type: none"> Use arrays, strings and pointers to manipulate data. | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | <ul style="list-style-type: none"> The ability to recognize if a problem is suitable to be formulated as a programming. | <ul style="list-style-type: none"> Lectures. Practical class and homework assignments with teacher assistant. Supplemental | <ul style="list-style-type: none"> In class discussions with students. Med terms and final exams. In class and |
| 2.2 | <ul style="list-style-type: none"> The ability to solve C++ programming problems. | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|---|---|--|--|
| 2.3 | <ul style="list-style-type: none"> Design and code small to medium sized problems from the start using C++ constructs, such as input/output statements, if-then-else statements, while and for loops, functions. | materials to the textbook. <ul style="list-style-type: none"> Related computer softwares and websites. | homework assignments with teacher assistant. |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> Individual assignments. Solving problems individually during class hours, and then discussing solutions. Questions directed to all students during class hours, and then discussing answers. | <ul style="list-style-type: none"> Evaluating students' individual works by homeworks and exams. Observing encouragement of students to give answers and to discussion inside class hours. |
| 3.2 | <ul style="list-style-type: none"> The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |
| 4.0 Communication, Information Technology, Numerical | | | |
| 4.1 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homeworks and in class assignment. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and final exams. |
| 4.2 | <ul style="list-style-type: none"> The ability to use the required developments tools to write, compile, trace and debug C++ programs. | | |
| 4.4 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | | |
| 5.0 Psychomotor | | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |

5. Schedule of Assessment Tasks for Students During the Semester:





| | Assessment task | Week Due | Proportion of Total Assessment |
|---|---|----------|--------------------------------|
| 1 | <ul style="list-style-type: none"> Homeworks and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none"> Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none"> Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none"> Practical exam | 15 | 20% |
| 5 | <ul style="list-style-type: none"> Final exam | 15 | 30% |
| 6 | ..... | ..... | ..... |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

1. List Required Textbooks :

1. C++: How To Program, Deitel and Deitel, 5th edition, Prentice Hall, 2005.

2. List Essential References Materials :

1. Programming: Principles and Practice Using C++ (2nd Edition), Bjarne Stroustrup, 2nd edition, Addison-Wesley Professional, 2014.
2. C++ Programming: From Problem Analysis to Program Design, De D. S. Malik, 7th edition Course Technology, 2014.

3. List Recommended Textbooks and Reference Material :

- Any textbook that contains examples of formulating C++ programs.

4. List Electronic Materials :

- Websites on the internet that are relevant to the topics of the course.

Examples:

- <http://www.learncpp.com/>
- <http://www.cplusplus.com/doc/tutorial/>
- <http://www.cprogramming.com/tutorial/c++-tutorial.html>





5. Other learning material :

- Microsoft Visual Studio 2013 software.
- Turbo C++ software.
- Borland C++ software

F. Facilities Required

1. Accommodation

- Lecture room with at least 35 seats.
- Personal computer with Visual Basic Studio, Turbo C++ Software.

2. Computing resources

- Computer lab room containing at least 35 systems for lab hours.
- Microsoft Visual Studio 2013, Turbo C++, Borland C++ softwares.
- Projector.

3. Other resources

- Central Printer.
- Scanner.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.





4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Hassen HAMOUDA
Signature : 
Date : 11/ 05 / 1436 H

Department Head

Name : Adel ALSHAMRY
Signature :
Date : ... / ... / H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College Of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | Information Technology |
| Course : | Introduction to Computer |
| Course Coordinator : | Magdi Mohammed Hamoda |
| Programme Coordinator : | Adil Alshmary |
| Course Specification Approved Date : | 11/05/1436 |



A. Course Identification and General Information

| | | | |
|--|-------------------------------------|------------------|---------|
| 1 - Course title : | Introduction to Computing | Course Code: | 107 CAP |
| 2. Credit hours : | 3 (2+2+0) | | |
| 3 - Program(s) in which the course is offered: | ..... |  |  |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | | | |
| 6 - Level/year at which this course is offered : | First Year/Level 1 | | |
| 7 - Pre-requisites for this course (if any) : | None | | |
| 8 - Co-requisites for this course (if any) : | None | | |
| 9 - Location if not on main campus : | (.....) | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 90 % |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | % |
| D - e-learning | <input checked="" type="checkbox"/> | What percentage? | 10 % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | ..... |  |  |

B Objectives

| |
|--|
| <p>What is the main purpose for this course?</p> <p>The aim of this course is to introduce the concepts of information technology and using computer, office and the Internet effectively.</p> <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> • Periodical review of the course by the instructor and the department courses planning committee. • Attempting to use computer software's and projectors in teaching the course. • Giving students some materials supplementing the textbook. • Questionnaire students about the way of teaching the course. |
|--|

C. Course Description





1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| Introduction to information Technology | 2 | 6 |
| Operating Systems (Microsoft Windows©) | 2 | 6 |
| Word Processing (Microsoft Word©) | 2 | 6 |
| Data Sheets (Microsoft Excel©) | 2 | 6 |
| Presentations (Microsoft Power Point©) | 2 | 6 |
| Databases (Microsoft Access©) | 2 | 6 |
| Internet (Microsoft IE©) | 1 | 3 |
| E/Mails (Microsoft Outlook©) | 1 | 3 |
| E/Learning and Distance Learning | 1 | 3 |
| | | |
| | | |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 30 | ..... | 30 | ..... | ..... | 60 |
| Credit | ..... | ..... | ..... | ..... | ..... | ..... |

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





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|--|--|---|--|
| 1.0 Knowledge | | | |
| 1.1 | Understand all the basic concepts of information technology and its related terminologies. | <ul style="list-style-type: none"> • Lectures. • Supplemental notes to clarify some important topics. • Homework assignments. • Practical Hours with teacher assistant. • Advising students to use computer softwares applicable to the course content. • Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> • Med-terms and final exams • Evaluation of teacher assistant in class • discussions |
| 1.2 | Have the advanced skills developed for the use of office productivity packages | | |
| 1.3 | The ability to search through the Internet effectively. | | |
| 1.4 | The ability to fully utilize an e/mail service. | | |
| 1.5 | Knowledge of e/learning and distance education systems and how they work and their benefits. | | |
| 2.0 Cognitive Skills | | | |
| 2.1 | Discuss issues and problems involved in the design and implementation of operating systems. | <ul style="list-style-type: none"> • Lectures. • Practical class and homework assignments with teacher assistant. • Supplemental materials to the textbook. • Related computer softwares and websites. | <ul style="list-style-type: none"> • In class discussions with students. • Med terms and final exams. • In class and homework assignments with teacher assistant. |
| 2.2 | Identify the abstract services common to all operating systems | | |
| 2.3 | Define the basic operations system components and understand how the entire system fits together | | |
| 2.4 | Develop hands-on experiences with the practical side of operating systems by programming and simulating different aspects. | | |
| | Describe CPU Scheduling, synchronization, and deadlock. | | |
| | Identify security and protection issues in computer systems | | |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> • Individual | <ul style="list-style-type: none"> • Evaluating |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|---|
| 3.2 | The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | assignments. <ul style="list-style-type: none"> Solving problems individually during class hours, and then discussing solutions. Questions directed to all students during class hours, and then discussing answers. | students' individual works by homeworks and exams. <ul style="list-style-type: none"> Observing encouragement of students to give answers and to discussion inside class hours. |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homeworks and in class assignment. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and final exams. |
| 4.2 | Acquaintance of using internet to get information related to the course. | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |

5. Schedule of Assessment Tasks for Students During the Semester:

| Assessment task | Week Due | Proportion of Total Assessment |
|-----------------|----------|--------------------------------|
|-----------------|----------|--------------------------------|





| | | | |
|---|---|---------------|-------|
| 1 | <ul style="list-style-type: none">Homeworks and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none">Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none">Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none">Practical exam | 15 | 20% |
| 5 | <ul style="list-style-type: none">Final exam | 15 | 30% |
| 6 | ..... | ..... | ..... |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

1. List Required Textbooks :

Computer Science: An Overview , J. Glenn Brookshear , 12th Edition

2. List Essential References Materials :

Introduction to Computers and the Internet," Prof. Abdullah Abdulaziz Almosa, 2014

3. List Recommended Textbooks and Reference Material :

4. List Electronic Materials :

5. Other learning material :

-

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats.

2. Computing resources

- Computer lab room containing at least 25 systems for lab hours.
- Microsoft Office 2010





- Windows 8
- Internet connection
- Projector.

3. Other resources

- Central Printer.
- Scanner.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and software.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H





Course's Coordinator

Name : Magdi Hamoda
Signature :
Date : 03/ 05 / 1436 H

Department Head

Name : Adil Alshammari
Signature :
Date : 03/ 05 / 1436 H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College of Science & Humanities Alghat |
| Academic Department : | Computer Science. |
| Programme : | Mathematics |
| Course : | Calculus(I) |
| Course Coordinator : | .Dr. Abdelmoneim Ali Mohamed Hamed |
| Programme Coordinator : | |
| Course Specification Approved Date : | |



A. Course Identification and General Information

| | | | |
|--|-------------------------------------|------------------|----------|
| 1 - Course title : | Calculus I | Course Code: | Math 101 |
| 2. Credit hours : | 3hours | | |
| 3 - Program(s) in which the course is offered: | Bsc in Computer Science | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | Dr. Abdelmoneim Ali | | |
| 6 - Level/year at which this course is offered : | 1 | | |
| 7 - Pre-requisites for this course (if any) : | none | | |
| 8 - Co-requisites for this course (if any) : | none | | |
| 9 - Location if not on main campus : | AlGhat- college building | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 100% |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | |
| D - e-learning | <input type="checkbox"/> | What percentage? | |
| E - Correspondence | <input type="checkbox"/> | What percentage? | |
| F - Other | <input type="checkbox"/> | What percentage? | |
| Comments : | ..... |  |  |

B Objectives

| |
|--|
| <p>What is the main purpose for this course?</p> <ul style="list-style-type: none"> • To identify the domain of real functions of various kinds. • Identification of limit of function. • Understand the continuity of function and methods of differentiation. • The use of calculus in analytic geometry |
| <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> • The use of new teaching methods, such as cooperative learning and rely on thinking skills. • Increase use of references that depend on information technology or the Internet. |





- Self-reliance in the study.
- The use and benefit of learning resources library.

C. Course Description

1. Topics to be covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| <ul style="list-style-type: none"> • Real numbers • Inequalities | 2 | 6 |
| <ul style="list-style-type: none"> • Functions • injective function and its inverse | 1 | 3 |
| <ul style="list-style-type: none"> • Limit of functions | 2 | 6 |
| <ul style="list-style-type: none"> • Definition of continuity, properties of a continuous function on an interval. | 1 | 3 |
| <ul style="list-style-type: none"> • Derivatives • Basic theorems for differentiation. | 1 | 3 |
| <ul style="list-style-type: none"> • Methods of differentiation. • Test 1 | 1 | 3 |
| <ul style="list-style-type: none"> • critical points. • absolute and local extrema. | 1 | 3 |
| <ul style="list-style-type: none"> • mean value theorem. | 1 | 3 |
| <ul style="list-style-type: none"> • Intervals of increase and decrease | 1 | 3 |
| <ul style="list-style-type: none"> • first derivative and second derivative tests for local extrema. | 1 | 3 |
| <ul style="list-style-type: none"> • concavity and reflection points. • Test 2 | 1 | 3 |
| <ul style="list-style-type: none"> • asymptote, curve sketching, applied extrema problems, related rates. | 1 | 3 |
| Conic sections | 1 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|--|---------|----------|------------|-----------|--------|-------|
| | | | | | | |





| | | | | | | |
|----------------------|-----------|----------|----------|----------|----------|----|
| Contact Hours | 15 | 0 | 0 | 0 | 0 | 45 |
| Credit | 45 | 0 | 0 | 0 | 0 | 45 |

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

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|---|---|---|
| 1.0 | Knowledge | | |
| 1.1 | <ul style="list-style-type: none"> Understanding of the basic concepts of calculus, as well as the basic theory in calculus. How to find geometric applications of differentiation. | <ul style="list-style-type: none"> Lectures. Supplemental notes to clarify some important topics. Homework assignments. | <ul style="list-style-type: none"> Med-terms and final exams Evaluation of teacher assistant in class discussions |
| 1.2 | <ul style="list-style-type: none"> The student applies some theories studied in previous stages that will help him to understand this subject. | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | Discuss issues and applications of Calculus | <ul style="list-style-type: none"> Lectures. homework assignments with teacher assistant. Supplementary materials to the textbook. | <ul style="list-style-type: none"> In class discussions with students. Med terms and final exams. In class and homework assignments with |
| 2.2 | Identify the functions common to all | | |
| 2.3 | Define the basic Rules of derivatives. | | |
| 2.4 | The student should be able to classify critical points | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|---|---|---|--|
| | | | teacher assistant |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | <ul style="list-style-type: none"> Development of dealing with others and take responsibility skills. | <ul style="list-style-type: none"> Individual assignments. | <ul style="list-style-type: none"> Evaluating students' individual works by homework's and exams. |
| 3.2 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | Solving problems individually during class hours, and then discussing solutions. Concern for the activating the feedback | Observing encouragement of students to give answers and to discussion inside class hours |
| | • | • | |
| 4.0 Communication, Information Technology, Numerical | | | |
| 4.1 | <ul style="list-style-type: none"> Communicate technical information effectively. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Sharing communication between the student and the professor by the internal network and web site. promote the use of research papers. | <ul style="list-style-type: none"> Direct questions to student during class hours. Home works and in class assignments. Med terms and final exams |
| 4.2 | <ul style="list-style-type: none"> Participation and discussion during the lectures | | |
| 4.3 | <ul style="list-style-type: none"> Perform research and encourage performing team work activity | | |
| 4.4 | <ul style="list-style-type: none"> Preparing reports and improves their communication skills using the internet to search for related topics. | | |
| 4.5 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | | |
| 4.6 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | | |
| 5.0 Psychomotor | | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |





5. Schedule of Assessment Tasks for Students during the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|--|----------|--------------------------------|
| 1 | <ul style="list-style-type: none">Homework's and assignments | On going | 10% |
| 2 | <ul style="list-style-type: none">Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none">Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none">Final exam | 16 | 50% |
| | <ul style="list-style-type: none">Total | - | 100% |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 2 hr/ week

E. Learning Resources

1. List Required Textbooks :

- The principle of Differentiation and Integration, Part 1, Dr.Saleh Alsanousy,Dr.Ma'arouf Samhan , Dr.Yousif Kamees and Dr.Kamal Abdulrahman.second edition
- Calculus (I), Dr. Ibraheim Sarmini, ksu press 1425
- Calculus(Early Transcendentals)-J.Stewart-1999.

2. List Essential References Materials :

Calculus,W.SWOKOWSKI,M.OLINICK,D.PRINCE,Sixth edition,PWS Publishing co

3. List Recommended Textbooks and Reference Material :

4. List Electronic Materials :

- <http://archives.math.utk.edu/visual.calculus/>
- <http://www.calculus.org/>
- <http://ies.co.jp/math/products/cac/menu.html>
-





5. Other learning material :

-

F. Facilities Required

1. Accommodation

- Lecture room with at least 35 seats.

2. Computing resources

- Lap top
- Over head projector

3. Other resources

- Extra exercises

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Mid-term and final tests.
- Evaluative activities and exercises.
- Course evaluation by student .
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.





- Studying the outcomes of the student's evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (.....) Date ... / ... / H

Course's Coordinator

Name : Abdelmoneim Ali
Mohamed Hamed
Signature :
Date : 12/ 2 / 1436 H

Department Head

Name :
Signature :
Date : ... / ... / H



Level2



Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College Of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | Information Technology |
| Course : | Computer Programming II |
| Course Coordinator : | Hassen HAMOUDA |
| Programme Coordinator : | Adel ALSHAMRY |
| Course Specification Approved Date : | 11-05-1436 |



A. Course Identification and General Information

| | | | |
|--|-------------------------------------|------------------|---------|
| 1 - Course title : | Computer Programming 2 | Course Code: | CSC113 |
| 2. Credit hours : | 4 (3+2+0) | | |
| 3 - Program(s) in which the course is offered: | | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | | | |
| 6 - Level/year at which this course is offered : | First Year /Level 2 | | |
| 7 - Pre-requisites for this course (if any) : | Programming I | | |
| 8 - Co-requisites for this course (if any) : | None | | |
| 9 - Location if not on main campus : | | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 90 % |
| B - Blended (traditional and online) | <input checked="" type="checkbox"/> | What percentage? | 5 % |
| D - e-learning | <input checked="" type="checkbox"/> | What percentage? | 5 % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | ..... |  |  |

B Objectives

| |
|--|
| <p>What is the main purpose for this course?</p> <p>Object-Oriented Concepts and on how the three key concepts, encapsulation, inheritance, and polymorphism, are applied. stream classes, constructors and destructors, data hiding, application classes, generics, containers and the graphical user interface. Introduction to GUI components and API package, Recursion, Class: Operator overloading, Dynamic structure, generics, Inheritance, polymorphism, More on GUI components</p> <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> • Periodical review of the course by the instructor and the department courses planning committee. • Attempting to use computer softwares and projectors in teaching the course. • Giving students some materials supplementing the textbook. • Questionnairng students about the way of teaching the course. |
|--|



C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|--|--------------|---------------|
| Chapter 1: Classes and Objects <ul style="list-style-type: none"> • Structure Definition • Classes vs objects • Interface and Implementation • Constructors and Destructors • Set and get Functions • const Objects and const Member | 3 | 12 |
| Chapter 2: Functions <ul style="list-style-type: none"> • const parameters, const return types • friend Functions and friend Classes • static Class Members • Composition • Dynamic Memory Management (creating object at run-time) • Arrays of objects | 2 | 8 |
| Chapter 3: Inheritance <ul style="list-style-type: none"> • Base Classes and Derived Classes • protected Member • public, protected and private Inheritance • Inheritance Hierarchy • Software reusability using Inheritance • Multiple inheritance | 2 | 8 |
| Chapter 4: Polymorphism <ul style="list-style-type: none"> • Relationships Among Objects in an Inheritance Hierarchy • Invoking Base-class Functions from Derived Class Objects • Aiming Derived-Class Pointers at Base Class Objects • Derived-Class Member-Function Calls via Base-Class Pointers • Virtual Functions • Abstract classes and pure virtual functions | 2 | 8 |
| Chapter 5: Operator Overloading <ul style="list-style-type: none"> • Fundamentals of operator overloading • Restrictions of operator overloading • Global and member operators • Overloading Stream-Insertion and Stream-Extraction Operators • Overloading Unary Operators (++,--,! Etc..) • Overloading Binary Operators(+,-,* etc..) | 2 | 8 |
| Chapter 6: File processing <ul style="list-style-type: none"> • Files and Streams classes in C++ • Creating a Sequential File | 2 | 8 |





| | | |
|---|---|---|
| <ul style="list-style-type: none"> • Reading Data from a Sequential File • Updating Sequential Files • Random-Access Files • Creating a Random-Access File • Writing and updating Random-Access File | | |
| Chapter 7: Templates <ul style="list-style-type: none"> • Function Templates • Class Templates • Containers and templates | 2 | 8 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 45 | ..... | 30 | ..... | ..... | 75 |
| Credit | 3 | ..... | 1 | ..... | ..... | 4 |

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

| |
|---|
| - |
|---|

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|---|---|---|
| 1.0 | Knowledge | | |
| 1.1 | <ul style="list-style-type: none"> • Ability to state the basic concepts of Object Oriented Programming. | <ul style="list-style-type: none"> • Lectures. • Supplemental notes to clarify some important | <ul style="list-style-type: none"> • Med-terms and final exams |
| 1.2 | <ul style="list-style-type: none"> • Ability to list the benefits of OOP over traditional structured programming | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|--|--|---|--|
| 1.3 | <ul style="list-style-type: none"> Ability to implement object-oriented concepts including: <ul style="list-style-type: none"> Encapsulation. Information hiding. Data abstraction. Inheritance hierarchies. Polymorphism. Operator overloading. | <p>topics.</p> <ul style="list-style-type: none"> Homework assignments. Practical Hours with teacher assistant. Advising students to use computer softwares applicable to the course content. Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> Evaluation of teacher assistant In class discussions |
| 2.0 Cognitive Skills | | | |
| 2.1 | <ul style="list-style-type: none"> Understand the basic OO programming concepts. | <ul style="list-style-type: none"> Lectures. Practical class and homework assignments with teacher assistant. Supplemental materials to the textbook. Related computer softwares and websites. | <ul style="list-style-type: none"> In class discussions with students. Med terms and final exams. In class and homework assignments with teacher assistant. |
| 2.2 | <ul style="list-style-type: none"> Compare the OO programming approach against the traditional approach. | | |
| 2.3 | <ul style="list-style-type: none"> Identify the main objects/classes, methods, attributes from given problem specifications. | | |
| 2.4 | <ul style="list-style-type: none"> Design and code small to medium sized problems from the start using the appropriate OO concepts and other concepts introduced (class, inheritance, polymorphism, generic programming etc) | | |
| 2.5 | <ul style="list-style-type: none"> Create and manipulate Files using the available I/O file streams classes. | | |
| 2.6 | <ul style="list-style-type: none"> Contribute to a group effort to realize an OOP based solution | | |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> Individual assignments. Solving problems individually during class hours, and then discussing solutions. Questions | <ul style="list-style-type: none"> Evaluating students' individual works by homeworks and exams. Observing encouragement of students to |
| 3.2 | <ul style="list-style-type: none"> The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|---|--|--|
| | | directed to all students during class hours, and then discussing answers. | give answers and to discussion inside class hours. |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homeworks and in class assignment. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and final exams. |
| 4.2 | <ul style="list-style-type: none"> The ability to use the required developments tools to write, compile, trace and debug C++ object oriented programs. | | |
| 4.3 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|----------|---------------------------|----------|--------------------------------|
| 1 | Homeworks and assignments | Weekly | 10% |
| 2 | Med term exam I | 7 | 20% |
| 3 | Med term exam II | 12 | 20% |
| 4 | Practical exam | 15 | 20% |
| 5 | Final exam | 15 | 30% |
| 6 | ..... | ..... | ..... |





| | | |
|--|--|--|
| | | |
|--|--|--|

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

1. List Required Textbooks :

1. C++: How To Program, Deitel and Deitel, 5th edition, Prentice Hall, 2005.

2. List Essential References Materials :

1. Programming: Principles and Practice Using C++ (2nd Edition), Bjarne Stroustrup, 2nd edition, Addison-Wesley Professional, 2014.
1. C++ Programming: Program Design Including Data Structures, De D. S. Malik, Thomsonm 6th edition Course Technology, 2012
1. The C++ Programming Language, Bjarne Stroustrup, 4th edition, Addison-Wesley Professional, 2013.

3. List Recommended Textbooks and Reference Material :

- Any textbook that contains examples of formulating C++ programs.

4. List Electronic Materials :

- Websites on the internet that are relevant to the topics of the course.

Examples:

- <http://www.studytonight.com/cpp/cpp-and-oops-concepts.php>
- http://www.tutorialspoint.com/cplusplus/cpp_object_oriented.htm
- https://www3.ntu.edu.sg/home/ehchua/programming/cpp/cp3_OOP.html

5. Other learning material :

- Microsoft Visual Studio 2013 software.
- Turbo C++ software.
- Borland C++ software





F. Facilities Required

1. Accommodation

- Lecture room with at least 35 seats.
- Personal computer with Microsoft Visual Studio 2013 software.

2. Computing resources

- Computer lab room containing at least 35 systems for lab hours.
- Microsoft Visual Studio 2013, Turbo C++, Borland C++ softwares.
- Projector.

3. Other resources

- Central Printer.
- Scanner.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students- faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.





- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students' evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Hassen HAMOUDA
Signature : 
Date : 11/ 05 / 1436 H

Department Head

Name : Adel ALSHAMRY
Signature :
Date : ... / ... / H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | Faculty of Science & Humanities/Al Ghat |
| Academic Department : | Mathematics Department |
| Programme : | Bachelor |
| Course : | Calculus (II) |
| Course Coordinator : | Dr.Abdoalrahman Saleh Abdoalrahman Omer |
| Programme Coordinator : | Us. Adel alshamary |
| Course Specification Approved Date : | |



A. Course Identification and General Information

| | |
|--|---|
| 1 - Course title : Calculus (II) | Course Code: Math 102 |
| 2. Credit hours : 3 Hours | |
| 3 - Program(s) in which the course is offered: Computer Science | |
| 4 - Course Language : English Language | |
| 5 - Name of faculty member responsible for the course: Abdoalrahman Saleh Abdoalrahman Omer | |
| 6 - Level/year at which this course is offered : Level 2/1st year | |
| 7 - Pre-requisites for this course (if any) : • None | |
| 8 - Co-requisites for this course (if any) : • Calculus (I) Math 101 | |
| 9 - Location if not on main campus : Students Sections | |
| 10 - Mode of Instruction (mark all that apply) | |
| A - Traditional classroom | <input checked="" type="checkbox"/> ok What percentage? 100 % |
| B - Blended (traditional and online) | <input type="checkbox"/> What percentage? % |
| D - e-learning | <input type="checkbox"/> What percentage? % |
| E - Correspondence | <input type="checkbox"/> What percentage? % |
| F - Other | <input type="checkbox"/> What percentage? % |
| Comments : | |

B Objectives

| |
|---|
| <p>What is the main purpose for this course? Student's ability to integrate functions and identify integration applications</p> |
| <p>Briefly describe any plans for developing and improving the course that are being implemented : Encourage students to research and study and to obtain reliable information from the Internet. - Providing library Arabic and English books in the field of probability theory. - The establishment of electronic libraries (digital).</p> |





C. Course Description

1. Topics to be covered

| List of Topics | No. of Weeks | Contact Hours |
|--|--------------|---------------|
| Definition - Definite integration – Definite integration properties - Infinite integration | 3 weeks | 9 hours |
| The main value theorem for integration – Fundamental theorem of calculate integration | 2 weeks | 6 hours |
| Methods of integration (substitution, parts, partial fractions) | 3 weeks | 9 hours |
| Trigonometric substitutions | 2 weeks | 6 hours |
| Integration applications (L'Hôpital's rule -Line integral) | 2 weeks | 6 hours |
| Calculate of integration for (Surface area - Volumes of solids of revolution) - polar coordinates | 3weeks | 9 hours |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|----------|
| Contact Hours | 3 | None | None | None | None | 45 |
| Credit | 45 | None | None | None | None | 45 hours |

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

None





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|---|--|---|---|
| 1.0 Knowledge | | | |
| 1.1 | 1 To accommodate students the basic concepts and terminology integration 2. Be able to describe methods of solving integration | 1 Lectures, explanation, examples 2. Examples, exercises and duties | 1 Example solution after each paragraph (definition theory law result) with the participation of students 2. Examples solved by the students on the blackboard |
| 2.0 Cognitive Skills | | | |
| 2.1 | 1. Remember and understand the information. 2. Knowledge of theories concepts | 1. Access to research. 2. Web sites for the latest studies in the field of knowledge integration methods 3. Collective discussion and solution of the issues. | 1. Written tests. 2. Sudden Quiz tests. 3. A group discussion during exercise. 4. Objective research. |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | 1. The ability to think and communication between him and other colleagues in the same material and other materials and this is very important to improve the relationship with some students. The student will develop its capacity to think and debate. 2. Improve the student's ability to participate in solving integration issues | -Duties and collective research. | 1. Observation during collective work and writing reports. 2. Calendar collective research. |
| 4.0 Communication, Information Technology, Numerical | | | |
| 4.1 | 1. The ability to use the Internet and computer use in the writing duties. 2. Participate in scientific forums. | 1. Assigning students work written reports on issues that are | 1. Research projects. 2. Observation and follow-up Altaqarroualeml_khasat scientific presentations. |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|------------------------------|
| | | addressed in the decision. 2. Assigning students to submit and view certain topics related to decision . | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | | |
| 5.2 | Not applicable | | |
| 5.3 | Not applicable | | |

5. Schedule of Assessment Tasks for Students during the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|----------|-----------------------------------|--------------------|--------------------------------------|
| 1 | Midterm Exam(1) | 6 | 20% |
| 2 | Midterm Exam(2) | 12 | 15% |
| 3 | Find and duties and participation | During the courses | 10% |
| 4 | Attendance | End the courses | 5% |
| 5 | Final Exam | End the Semester | 50% |





D. Student Academic Counseling and Support

- Allow a period of time of each lecture inquiries to the benefit.
- Mandatory office hours.

E. Learning Resources

1. List Required Textbooks :

- Principles of Calculus, Part II written by Dr. Saleh SNOUSSI and D.marov Samhan and others = Kherigil House Publishing and Distribution

2. List Essential References Materials :

- Principles of Calculus, Part II written by Dr. Saleh SNOUSSI and D.marov Samhan and others = Kherigil House Publishing and Distribution
- calculus - Shum series

3. List Recommended Textbooks and Reference Material :

- Calculus, W. Swokowski, M. Olinick, D. Pence, Sixth Edition, PWS Publishing co.

4. List Electronic Materials :

- www.arabiccalculus.com
- <http://www.wykamath.com/calculus.php>
-

5. Other learning material :

- None

F. Facilities Required

1. Accommodation

- nine Hall for 40 students.
- Provide halls smart blackboards.

2. Computing resources

- Laptop computer - projector system

3. Other resources

- None





G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Students evaluate the results of the students first and then design questionnaires to find out the weaknesses in decision and then treatment.

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- self-evaluation.
- akd meetings with students to express an opinion with full transparency.

3 Processes for Improvement of Teaching :

- Hold meetings on a regular basis (monthly or quarterly) by faculty members (who are studying the same curriculum) from inside and outside the university to discuss various teaching methods to take advantage of them and then Alttaiwirwalthaddat.
- The use of electronic mail Email - to communicate with students.
- Encourage students to attend periodic scientific meetings organized by relevant topics scheduled to college

4. Processes for Verifying Standards of Student Achievement

- a random sample of students' papers corrected by faculty member who has taught decision.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- Training and development through periodic training sessions and workshops.
- the ongoing revision of the curriculum by faculty members from within and outside the university and periodic review to keep up with developments and updates.

Course Specification Approved

Department Official Meeting No (.....) Date ... / / H

Course's Coordinator

Name : Dr. Abdoalrahman
Saleh Abdoalrahman

Signature :
Date : 12/ 3 / 1437 H

Department Head

Name : Us.
Adel
alshamary
Signature :
Date :



Level3



Course Specifications

| | |
|--------------------------------------|---|
| Institution: | Faculty of Science & Humanities/Al Ghat |
| Academic Department : | Mathematics Department |
| Programme : | Bachelor |
| Course : | Discrete Mathematics |
| Course Coordinator : | Dr.Abdoalrahman Saleh Abdoalrahman Omer |
| Programme Coordinator : | Us.Adel Alshamary |
| Course Specification Approved Date : | |



A. Course Identification and General Information

| | |
|--|---|
| 1 - Course title : Discrete Mathematics Course Code: Math 151 | |
| 2. Credit hours : 3 Hours | |
| 3 - Program(s) in which the course is offered: Computer Science | |
| 4 – Course Language : English Language | |
| 5 - Name of faculty member responsible for the course: Abdoalrahman Saleh Abdoalrahman Omer | |
| 6 - Level/year at which this course is offered : Level 3/2^{sec} year | |
| 7 - Pre-requisites for this course (if any) : • None | |
| 8 - Co-requisites for this course (if any) : • None | |
| 9 - Location if not on main campus : Students Sections | |
| 10 - Mode of Instruction (mark all that apply) | |
| A - Traditional classroom | <input checked="" type="checkbox"/> Ok What percentage? 100 % |
| B - Blended (traditional and online) | <input type="checkbox"/> What percentage? % |
| D - e-learning | <input type="checkbox"/> What percentage? |
| E – Correspondence | <input type="checkbox"/> What percentage? % |
| F - Other | <input type="checkbox"/> What percentage? |
| Comments : | |

B Objectives

What is the main purpose for this course?

- Understand the concept of **Mathematical Logic and methods of proof.**
- Definition of Sets and Relations functions.
- Understand the concept of Boolean algebra and theorems graphics and trees .

Briefly describe any plans for developing and improving the course that are being implemented :

- Encourage students to research and study and to obtain reliable information from the Internet.
- To provide the library with books in Arabic and English in specific and discrete mathematics.
- The establishment of electronic libraries (digital).





C. Course Description

1. Topics to be covered

| List of Topics | No. of Weeks | Contact Hours |
|--|--------------|---------------|
| Mathematical Logic and methods of proof – Mathematical Induction | 4 weeks | 12 hours |
| Sets – Relations – Functions | 5 weeks | 15 hours |
| Boolean algebras and their applications | 2 weeks | 6 hours |
| Graph Theory | 2 weeks | 6 hours |
| Trees and their applications | 2 weeks | 6 hours |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|----------|
| Contact Hours | 3 | None | None | None | None | 45 |
| Credit | 45 | None | None | None | None | 45 hours |

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

None





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|---|--|---|
| 1.0 | Knowledge | | |
| 1.1 | 1. That students absorb the concepts and terminology of logic Sports. 2. Be capable of proof described relations. | 1 Lectures, explanation, examples 2. Examples, exercises and duties | 1 Example solution after each paragraph (definition theory law result) with the participation of students 2. Examples solved by the students on the blackboard |
| 2.0 | Cognitive Skills | | |
| 2.1 | 1. Remember and understand the information. 2. Knowledge of theories concepts | 1. Access to research. 2. Web sites for the latest studies in the field of knowledge and the specific Discrete Mathematics. 3. Collective discussion and solution of the issues. | 1. Written tests. 2. Sudden Quiz tests. 3. A group discussion during exercise. 4. Objective research. |
| 3.0 | Interpersonal Skills & Responsibility | | |
| 3.1 | 1. The ability to think and communication between him and other colleagues in the same material and other materials and this is very important to improve the relationship with some students. The student will develop its capacity to think and debate. 2. Improve the student's ability to participate in solving the issues. | -Duties and collective research. | 1. Observation during collective work and writing reports. 2. Calendar collective research. |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | 1. The ability to use the Internet and computer use in the writing duties. 2. Participate in scientific forums. | 1. Assigning students work written reports on | 1. Research projects. 2. Observation and follow-up Altaqarroualeml_khasat |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|--------------------------------------|
| | | issues that are addressed in the decision. 2. Assigning students to submit and view certain topics related to decision . | scientific presentations. |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | | |
| 5.2 | Not applicable | | |
| 5.3 | Not applicable | | |

5. Schedule of Assessment Tasks for Students during the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|----------|-----------------------------------|--------------------|---|
| 1 | Midterm Exam(1) | 6 | 20% |
| 2 | Midterm Exam(2) | 12 | 15% |
| 3 | Find and duties and participation | During the courses | 10% |
| 4 | Attendance | End the courses | 5% |
| 5 | Final Exam | End the Semester | 50% |





D. Student Academic Counseling and Support

- Allow a period of time of each lecture inquiries to the benefit.
- Mandatory office hours.

E. Learning Resources

1. List Required Textbooks :

- Discrete Mathematics authored D.marov Samhan and Ahmed Hrary.

2. List Essential References Materials :

- Discrete Mathematics authored D.marov Samhan and Ahmed Hrary.
- Discrete Mathematics -ssalh Shum

3. List Recommended Textbooks and Reference Material :

4. List Electronic Materials :

- www.arabicdiscret.com

5. Other learning material :

- None

F. Facilities Required

1. Accommodation

- nine Hall for 40 students.
- Provide halls smart blackboards.

2. Computing resources

- Laptop computer - projector system

3. Other resources

- None

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Students evaluate the results of the students first and then design questionnaires to find out the weaknesses in decision and then treatment.

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :





- self-evaluation.
- akd meetings with students to express an opinion with full transparency.

3 Processes for Improvement of Teaching :

- Hold meetings on a regular basis (monthly or quarterly) by faculty members (who are studying the same curriculum) from inside and outside the university to discuss various teaching methods to take advantage of them and then Alttaiwirwalthaddat.
- The use of electronic mail Email - to communicate with students.
- Encourage students to attend periodic scientific meetings organized by relevant topics scheduled to college

4. Processes for Verifying Standards of Student Achievement

- a random sample of students' papers corrected by faculty member who has taught decision.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- Training and development through periodic training sessions and workshops.
- the ongoing revision of the curriculum by faculty members from within and outside the university and periodic review to keep up with developments and updates.

Course Specification Approved

Department Official Meeting No (.....) Date ... / / *H*

Course's Coordinator

Name : Dr. Abdoalrahman
Saleh Abdoalrahman

Signature :

Date : 12/ 3 / 1437H

Department Head

Name :

Us.Adel
Alehamary

Signature :

Date :





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College of Science and Humanities at Alghat |
| Academic Department : | Computer Science. |
| Programme : | Information Technology |
| Course : | Data structure |
| Course Coordinator : | Mahmoud Obeidat. |
| Programme Coordinator : | Adil Alshammari |
| Course Specification Approved Date : | 11/05/1436 |



A. Course Identification and General Information

| | |
|---|---|
| 1 - Course title : Data structure | Course Code: CSC 212 |
| 2. Credit hours : 3 (2+2+0) | |
| 3 - Program(s) in which the course is offered: | |
| 4 – Course Language : English | |
| 5 - Name of faculty member responsible for the course: | |
| 6 - Level/year at which this course is offered : Second Year /Level 3 | |
| 7 - Pre-requisites for this course (if any) : ● CSC 113 | |
| 8 - Co-requisites for this course (if any) : ● None | |
| 9 - Location if not on main campus : (.....) | |
| 10 - Mode of Instruction (mark all that apply) | |
| A - Traditional classroom | <input checked="" type="checkbox"/> What percentage? 90 % |
| B - Blended (traditional and online) | <input type="checkbox"/> What percentage? % |
| D - e-learning | <input checked="" type="checkbox"/> What percentage? 10 % |
| E - Correspondence | <input type="checkbox"/> What percentage? % |
| F - Other | <input type="checkbox"/> What percentage? % |
| Comments : | |

B Objectives

What is the main purpose for this course?

- Introduction to Problem Solving (Problem solving, modular design, abstraction and information hiding, OO design. Key issues in programming: modularity, modifiability, ease of use, fail-safe programming, style, debugging.); Recursion; Abstract Data Types; Linked Lists; Stacks; Queues; Algorithm Efficiency (Measuring the efficiency of Algorithms: execution time of algorithms; algorithm growth rates, order-of-magnitude analysis (big O notation)); Sorting (Selection Sort, Bubble Sort, Insertion Sort, Merge Sort, Quick Sort); Trees (Terminology, The ADT, Binary Tree (traversals of a BT, representations of a BT); The ADT Binary Search Tree; The ADT Balanced Search Tree (2-3 Trees, 2-3-4 Trees); AVL Trees; Tables and Priority Queues (The ADT Table The ADT Priority Queue (a variation of the ADT Table, Heaps, a heap implementation of the ADT PQ); Hashing (Hash functions, resolving collisions, efficiency of hashing, designing a good hash function); Graphs (Terminology, Graphs as ADTs, implementing graphs, Graph Traversals: Depth-First Traversal, Breadth-First Traversal, Applications of Graphs).

Briefly describe any plans for developing and improving the course that are being implemented :





- Periodical review of the course by the instructor and the department courses planning committee.
- Attempting to use computer softwares and projectors in teaching the course.
- Giving students some materials supplementing the textbook.
- Questionnairng students about the way of teaching the course.

C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| Abstract Data Types | 1 | 3 |
| Performance Measurement: Time & Space Complexity, Big-O notation. | 1 | 3 |
| Lists | 2 | 6 |
| Stacks | 1 | 3 |
| Queues | 1 | 3 |
| Trees: General Trees, Binary Trees, Balanced Search Trees | 2 | 6 |
| Heaps: Min and Max Heap, HeapSort | 1 | 3 |
| Hashing Techniques: Hashing Functions, Collision Resolution Strategies. | 1 | 3 |
| Sorting Algorithms | 2 | 6 |
| Searching | 1 | 3 |
| Graph | 1 | 3 |
| Recursion | 1 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 30 | ..... | ..... | 30 | ..... | 60 |
| Credit | 30 | ..... | ..... | 15 | ..... | 45 |

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





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|--|
| 1.0 | Knowledge | | |
| 1.1 | To recognize the efficiency trade-offs of using arrays, hash tables, linked lists, heaps, and trees. | <ul style="list-style-type: none"> • Lectures. • Supplemental notes to clarify some important topics. • Homework assignments. • Practical Hours with teacher assistant. • Advising students to use computer softwares applicable to the course content. • Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> • Med-terms and final exams • Evaluation of teacher assistant in class • discussions |
| 1.2 | To recognize when a general collection, stack, queue, priority queue, or graph structure is required to solve a problem. | | |
| 1.3 | To be able to implement the insert, delete, and search operations on all the structures presented. | | |
| 1.4 | To code sufficiently well to do the work required in the Computer Architecture, Software Engineering, Networking, and Operating Systems Internals courses. | | |
| 1.5 | To be able for each data structure presented, to state in big O notation the running times. | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | <ul style="list-style-type: none"> • The ability to recognize if a problem is suitable to be formulated as a programming. | <ul style="list-style-type: none"> • Lectures. • Practical class and homework assignments with teacher assistant. • Supplemental materials to the textbook. • Related computer softwares and websites. | <ul style="list-style-type: none"> • In class discussions with students. • Med terms and final exams. • In class and homework assignments with teacher assistant. |
| 2.2 | <ul style="list-style-type: none"> • The ability to solve C++ programming problems. | | |
| 2.3 | <ul style="list-style-type: none"> • Understanding of sorting and searching techniques. | | |
| 2.4 | <ul style="list-style-type: none"> • Understanding of how common computational problems can be solved efficiently on a computer | | |
| 3.0 | Interpersonal Skills & Responsibility | | |
| 3.1 | <ul style="list-style-type: none"> • The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> • Individual assignments. • Solving problems individually during class hours, and then | <ul style="list-style-type: none"> • Evaluating students' individual works by homeworks and exams. |
| 3.2 | <ul style="list-style-type: none"> • The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |





| | | | |
|------------|---|--|---|
| | | <ul style="list-style-type: none"> discussing solutions. • Questions directed to all students during class hours, and then discussing answers. | <ul style="list-style-type: none"> • Observing encouragement of students to give answers and to discussion inside class hours. |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | <ul style="list-style-type: none"> • Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> • Lecturing by the course instructor and the teacher assistant. • Handouts of supplemental materials in addition to the textbook. • Homeworks and in class assignment. | <ul style="list-style-type: none"> • Direct questions to student during class hours. • Homeworks and in class assignments. • Med terms and final exams. |
| 4.2 | <ul style="list-style-type: none"> • The ability to use the required developments tools to write, compile, trace and debug C++ programs. | | |
| 4.4 | <ul style="list-style-type: none"> • Acquaintance of using internet to get information related to the course. | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|----------|---|----------|--------------------------------|
| 1 | <ul style="list-style-type: none"> • Homeworks and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none"> • Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none"> • Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none"> • Practical exam | | 20% |
| 5 | <ul style="list-style-type: none"> • Final exam | | 30% |
| 6 | ..... | ..... | ..... |





D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

1. List Required Textbooks :

Data Structures and Problem Solving using C++, Mark Allen Weiss,2007,Addison-Wesley, third edition

2. List Essential References Materials :

Data structures and Algorithms in C++, 2012, Adam Drozdek

3. List Recommended Textbooks and Reference Material :

- Any textbook that contains examples of formulating C++ programs.

4. List Electronic Materials :

- Websites on the internet that are relevant to the topics of the course

Examples:

- <http://www.cprogramming.com/tutorial/c++-tutorial.html>

5. Other learning material :

- Microsoft Visual Studio software.

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats.
- Personal computer with Visual Studio 2013.

2. Computing resources

- Computer lab room containing at least 25 systems for lab hours.
- Microsoft Visual Studio 2013.
- Projector.

3. Other resources

- Central Printer.
- Scanner.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings





2 Other Strategies for Evaluation of Teaching by the Program/Department

Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved

Department Official Meeting No (20) Date **11 / 05 / 1436 H**

Course's Coordinator

Name : Mahmoud Obeidat
Signature :
Date : 03/ 05 / 1436 H

Department Head

Name : Adil Alshammari
Signature :
Date : 03/ 05 / 1436 H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | Information Technology |
| Course : | Computer Organization & Assembly language |
| Course Coordinator : | Faisal Mohammed Nafie |
| Programme Coordinator : | Adil Alshammari |
| Course Specification Approved Date : | 11/05/1436 |



A. Course Identification and General Information

| | | | |
|--|-------------------------------------|----------------------|-------------|
| 1 - Course title : Computer Organization | | Course Code: 221 CAP | |
| 2. Credit hours : | | 3(2+2+0) | |
| 3 - Program(s) in which the course is offered: | | | |
| 4 – Course Language : English | | | |
| 5 - Name of faculty member responsible for the course: | | | |
| 6 - Level/year at which this course is offered : | | Second Year/Level3 | |
| 7 - Pre-requisites for this course (if any) : | | | |
| | | | |
| 8 - Co-requisites for this course (if any) : | | | |
| | | | |
| 9 - Location if not on main campus :AlGhat | | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 90 % |
| B - Blended (traditional and online) | <input checked="" type="checkbox"/> | What percentage? | 5 % |
| D - e-learning | <input checked="" type="checkbox"/> | What percentage? | 5 % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | | | |
| | | | |

B Objectives

The purpose of this course is to introduce the information technology students to Computing systems below that of a high-level programming language. The material covered can be broadly separated into the categories of assembly language Programming and Computer Organization. Under the heading of assembly language programming students will be introduced to the I86 instruction set, low-level Assembly language programming. Topics under computer organization include digital logic design (combinational circuits, sequential circuits, finite state machines) and Basic computer architecture (system bus, memory hierarchy and input/output devices).

Briefly describe any plans for developing and improving the course that are being implemented.

- Periodical review of the course by the instructor and the department courses planning committee.
- Attempting to use computer software's and projectors in teaching the course.
- Giving students some materials supplementing the textbook.
- Questionnaire students about the way of teaching the course.





C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|--------------------------------------|--------------|---------------|
| Introduction | 1 | 3 |
| Basic Concept | 3 | 9 |
| Data Organization | 2 | 6 |
| Representation Of numbers | 2 | 6 |
| System Organization | 2 | 6 |
| 8086 Assembly Language Programming 1 | 2 | 6 |
| 8086 commands | 2 | 6 |
| Review | 1 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|---------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 15 | 0 | 30 | 0 | 0 | 45 |
| Credit | 2 | 0 | 0 | .1 | 0 | 3 |

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





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|---|--|---|
| 1.0 | Knowledge | | |
| 1.1 | The student will gain knowledge and understanding of: Basic computer organization. Data representation, Integer and floating-point arithmetic, Instruction sets and instruction formats, Addressing modes, Machine and Assembly language programming, ALU design, Interrupts, Memory system and cache memory | <ul style="list-style-type: none"> • Lectures. • Supplemental notes to clarify some important topics. • Homework assignments. • Practical Hours with teacher assistant. • Advising students to use computer software's applicable to the course content. • Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> • Med-terms and final exams • Evaluation of teacher assistant in class • discussions |
| 1.2 | Recognize the different Instruction Set Architectures (ISA) and their advantages and disadvantages with respect to coding efficiency and implementation efficiency | | |
| 1.3 | Appreciate how numerical values (integer and floating-point) are represented in digital computers. | | |
| 1.4 | Understand both integer and floating-point computer arithmetic and the effect of a processor's arithmetic unit on its overall performance. | | |
| 1.5 | Understanding the Graphics Environment in Computer. | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | Classify the main types of memory technology. | <ul style="list-style-type: none"> • Lectures. • Practical class and homework assignments with teacher assistant. • Supplemental materials to the textbook. • Related computer software's and websites | <ul style="list-style-type: none"> • In class discussions with students. • Med terms and final exams. • In class and homework assignments with teacher assistant. • In class discussions with students. • Med terms and final exams. • In class and |
| 2.2 | Design a simple ALU in a typical Data path and control unit designs | | |
| 2.3 | Understanding System Numerical and logical gates | | |
| 2.4 | Understanding the deference between high level language and machine language | | |
| 2.5 | Understanding the type of modern processors | | |
| 2.6 | Understanding how data represented in computer | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|--|
| | | | homework assignments with teacher assistant. |
| 3.0 | Interpersonal Skills & Responsibility | | |
| 3.1 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> Individual assignments. Solving problems individually during class hours, and then discussing solutions. | <ul style="list-style-type: none"> Evaluating students' individual works by homework's and exams. Observing encouragement of students to give answers and to discussion inside class hours |
| 3.2 | <ul style="list-style-type: none"> The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homework's and in class assignments. |
| 4.2 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |





5. Schedule of Assessment Tasks for Students during the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|--|----------|--------------------------------|
| 1 | <ul style="list-style-type: none"> Home works and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none"> Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none"> Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none"> Practical exam | 15 | 20% |
| 5 | <ul style="list-style-type: none"> Final exam | 15 | 30% |
| 6 | ..... | ..... | ..... |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

- List Required Textbooks :**
 - Hennessy/Patterson's Computer Organization & Design The Hardware/Software Interface .
 - Mano & Kime, Logic and Computer Design Fundamentals, 2nd Edition Updated. NJ: Prentice Hall.
- List Essential References Materials :**
 - 3- Marut ,Yu , Assembly Language Programming for the IBM PC , Mc Graw Hill
- List Recommended Textbooks and Reference Material :**

.....

.....
- List Electronic Materials :**
 -
 -





5. Other learning material :

- William Stallings, Computer Organization and Architecture: Designing for Performance , 9th Edition, Prentice Hall, 2012.

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats.

2. Computing resources

- Computer lab room containing at least 25 systems for lab hours.
- Windows OS
- Projector

3. Other resources

- Central Printer.
- Scanner

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and soft wares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewer.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other





departments.

- Studying the outcomes of the student's evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Faisal Mohammed
Signature :
Date : 03/ 05 / 1436 H

Department Head

Name : Adil Alshammari
Signature :
Date : 03/ 05 / 1436 H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College of Science and Humanities at Alhat. |
| Academic Department : | Computer Science... |
| Programme : | Information Technology |
| Course : | Visual Programming |
| Course Coordinator : | Abd Alaziz Babiker |
| Programme Coordinator : | Adel ALSHAMRY. |
| Course Specification Approved Date : | 18./2/1436 H |



A. Course Identification and General Information

| | | | |
|--|--|--------------|--------------------------|
| 1 - Course title : Visual Programming | Course Code: 211 CAB | | |
| 2. Credit hours :(3) <input type="checkbox"/> | | | |
| 3 - Program(s) in which the course is offered: Information Technology..... | | | |
| 4 – Course Language : ...English. <input type="checkbox"/> | | | |
| 5 - Name of faculty member responsible for the course: Abd Alaziz Babiker | | | |
| 6 - Level/year at which this course is offered : Second Year / level 1 | | | |
| 7 - Pre-requisites for this course (if any) : | | | |
| <ul style="list-style-type: none"> • 113 CSC (Computer Programming -2.) | | | |
| 8 - Co-requisites for this course (if any) : | | | |
| <ul style="list-style-type: none"> •None .. <input type="checkbox"/> | | | |
| 9 - Location if not on main campus : | | | |
| (.....) <input type="checkbox"/> | | | |
| 10 - Mode of Instruction (mark all that apply) <input type="checkbox"/> | | | |
| A - Traditional classroom <input type="checkbox"/> | <input type="checkbox"/> What percentage? <input type="checkbox"/> <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">100 %</td><td><input type="checkbox"/></td></tr></table> <input type="checkbox"/> | 100 % | <input type="checkbox"/> |
| 100 % | <input type="checkbox"/> | | |
| B - Blended (traditional and online) <input type="checkbox"/> | <input type="checkbox"/> What percentage? <input type="checkbox"/> <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">..... %</td><td><input type="checkbox"/></td></tr></table> <input type="checkbox"/> | % | <input type="checkbox"/> |
| % | <input type="checkbox"/> | | |
| D - e-learning <input type="checkbox"/> | <input type="checkbox"/> What percentage? <input type="checkbox"/> <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">..... %</td><td><input type="checkbox"/></td></tr></table> <input type="checkbox"/> | % | <input type="checkbox"/> |
| % | <input type="checkbox"/> | | |
| E - Correspondence <input type="checkbox"/> | <input type="checkbox"/> What percentage? <input type="checkbox"/> <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">..... %</td><td><input type="checkbox"/></td></tr></table> <input type="checkbox"/> | % | <input type="checkbox"/> |
| % | <input type="checkbox"/> | | |
| F - Other <input type="checkbox"/> | <input type="checkbox"/> What percentage? <input type="checkbox"/> <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">% </td><td><input type="checkbox"/></td></tr></table> <input type="checkbox"/> | % | <input type="checkbox"/> |
| % | <input type="checkbox"/> | | |
| Comments : | | | |

B Objectives

What is the main purpose for this course?

This course involves using an Object Oriented Programming language like Java to cover the fundamentals of visual programming; Topics include files manipulation; related data structures; exception handling and Graphical User Interfaces (SWING technology, event handling and models), Developing applications for the web environment; Basic concepts of Human Computer Interaction; Comparison between the selected language and other visual languages. A large programming project is given in phases to develop a large application with an OO language..

Briefly describe any plans for developing and improving the course that are being implemented :

- Periodical review of the course by the instructor and the courses planning committee in the section .
- use computer software and projectors in teaching the course.
- Giving students some materials supplementing the textbook.





- Questionnaire students about the way of teaching the course.

C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| Introduction to Programming Concept /Microsoft Visual Basic | 1 | 3 |
| Forms/ Controls / GUI | 2 | 6 |
| Variables and Constant | 1 | 3 |
| Making Decision | 2 | 6 |
| Loops - Menus | 3 | 9 |
| Data Structure | 3 | 9 |
| Building Windows Application and Errors | 3 | 9 |

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

| <input type="checkbox"/> | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|--------------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 2 | ..... | ..... | 2 | ..... | 60 |
| Credit | 2 | ..... | ..... | 1 | ..... | 45 |

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

.....

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





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|--|
| 1.0 | Knowledge | | |
| 1.1 | A knowledge an Object Oriented Programming language | Lectures. | Med-terms and final exams |
| 1.2 | An understanding visual programming concepts | Supplemental notes to clarify some important topics. | Home work |
| 1.3 | A knowledge an IDE of visual studio .NET and GUI | Homework assignments. | In class discussions |
| 1.4 | A knowledge a developing applications for the web environment | Practical Hours with teacher assistant. | |
| | | Advising students to use computer software applicable to the course content. | |
| | | Office hours to clarify anything related to the course. | |
| | | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | An ability to using Microsoft Visual basic.Net | Practical class and homework. | In class discussions with students. |
| 2.2 | apply and use controls tools, to create GUI | Supplemental materials to the textbook. | Med terms and final exams. |
| 2.3 | An Ability to analyze a real business problem | Related computer software and websites | In class and homework assignments |
| 2.4 | Apply writing code in Visual basic.Net | | |
| 2.5 | Apply test and debug | | |
| | | | |
| 3.0 | Interpersonal Skills & Responsibility | | |
| 3.1 | The ability to work independently to accomplish assigned tasks. | Individual assignments. | Evaluating students' individual works by home works and exams |
| 3.2 | The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | Solving problems individually during class hours, and then discussing solutions. | Observing encouragement of students to give answers and to discussion inside |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|---|
| | | | class hours. |
| | | Questions directed to all students during class hours, and then discussing answers. | |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | Acquaintance of using computer software related to the course. | Lecturing by the course instructor and the teacher assistant. | Direct questions to student during class hours. |
| 4.2 | The ability to use the required developments tools to write, compile, trace and debug Visual basic programs. | Handouts of supplemental materials in addition to the textbook. | Home works and class assignments. |
| 4.3 | Acquaintance of using internet to get information related to the course. | Home works and in class assignment. | Med terms and final exams |
| 5.0 | Psychomotor | | |
| 5.1 | None | | |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|----------|--|----------|--------------------------------------|
| 1 | Home works and assignments | Weekly | 10% |
| 2 | Med term exam I (Theory and Practical) | 7 | 20% |
| 3 | Med term exam II (Theory and Practical) | 12 | 20% |
| 4 | Final practical exam | | 20% |
| 5 | Final theory exam | | 30% |



D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours is 6 hours / week

E. Learning Resources

1. List Required Textbooks :

Visual Basic 2012 How to Program (6th Edition) Paperback – May 11, 2013 by Paul Deitel (Author), Harvey Deitel (Author), Abbey Deitel (Author)

2. List Essential References Materials :

- Programming in Visual Basic 2010 , Jim McKeow..

3. List Recommended Textbooks and Reference Material :

- المرجع الأساسي لمستخدمي Visual Basic. NET مجدي محمد ابو العطا ، كمبيو ساينس العربية لعلوم الحاسب، 2007

4. List Electronic Materials :

- <http://www.visual-basic-tutorials.com/> .
- <http://faculty.mu.edu.sa/ababiker/v%20b>

5. Other learning material :

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats

2. Computing resources

- Computer lab room containing at least 25 seats.
- Personal computer with Microsoft Visual Studio software
- Projector

3. Other resources

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:



- Course evaluation by student
- Students and faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- . Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- External review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and software.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical and outside revisions of its methods of teaching.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students' evaluation of the course and using these outcomes to improve teaching the course

Course Specification Approved

Department Official Meeting No (.....) Date ... / / H

Course's Coordinator

Department Head

Name : Abd Elaziz Babiker

Name : Adel ALSHAMRY

Signature :

Signature :

Date : 18..../ 2 / 1436 H

Date :/ ... / H



Level4



Course Specifications

Muharram 1437 H

| | |
|--------------------------------------|---|
| Institution: | College of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | Information Technology |
| Course : | Networks and Internet Technologies |
| Course Coordinator : | Faisal Mohammed Nafie. |
| Programme Coordinator : | Adil Alshammari |
| Course Specification Approved Date : | 11/05/1436 |



A. Course Identification and General Information

| | | | |
|--|-------------------------------------|------------------|-------------|
| 1 - Course title : | Networks and Internet Technologies | Course Code: | 240 CAP |
| 2. Credit hours : | 3(3+0+1) | | |
| 3 - Program(s) in which the course is offered: | | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | | | |
| 6 - Level/year at which this course is offered : | Second Year/Level4 | | |
| 7 - Pre-requisites for this course (if any) : | ..... |  |  |
| 8 - Co-requisites for this course (if any) : | • | | |
| 9 - Location if not on main campus : | ..... |  |  |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 90 % |
| B - Blended (traditional and online) | <input checked="" type="checkbox"/> | What percentage? |% |
| D - e-learning | <input checked="" type="checkbox"/> | What percentage? | 10 % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | ..... |  |  |

B Objectives

Definition of computer networks, objectives and applications. Computer network types: LANs, PANs, MANs and WANs. Computer network architecture: layering, protocols & standard models. The ISO OSI & TCP/IP reference models. Physical layer of computer network: The transmission media; signal types, signal characteristics and impairments, modulation techniques and modems. Data Transmission Basics: Synchronous and asynchronous transmission, synchronization levels; bit, character and frame. Transmission Modes; full, half duplex, simplex, parallel & serial. Data Link layer: Data link layer functions & standards. Local Area Networks: Topology and media access methods. LAN protocols and the IEEE 802 standard, Ethernet and IBM token ring LANs. Wireless LANs. WANs & Data Transport Networks, ATM & ISDN. Comprehensive coverage of Internet technologies, Web authoring, WWW Client/ Server architecture, HTML.

Briefly describe any plans for developing and improving the course that are being implemented :

- Periodical review of the course by the instructor and the department courses planning committee.
- Attempting to use computer software's and projectors in teaching the course.
- Giving students some materials supplementing the textbook.





- Questionnaire students about the way of teaching the course.

C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| CHAPTER1: INTRODUCTION TO COMPUTER NETWORKING | 2 | 6 |
| CHAPTER2: OSI and TCP/IP MODELS | 4 | 12 |
| CHAPTER3: PHYSICAL MEDIA | 1 | 3 |
| CHAPTER4: LAN TECHNOLOGIES | 1 | 3 |
| CHAPTER5: DATA LINK LAYER | 3 | 9 |
| CHAPTER6: WAN TECHNOLOGIES | 1 | 3 |
| CHAPTER7: NETWORK LAYER | 3 | 9 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 45 | 0 | 0 | 0 | 0 | 3 |
| Credit | 3 | 0 | 0 | .0 | 0 | 3 |

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

.....

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|-----|--|-------------------------------|---------------------------------|
| 1.0 | Knowledge | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|---|---|--|
| 1.1 | Explaining computer network architectures | lecture, small group work, whole group and small group discussion, In class Exercises, homework assignments, D2l | Final Exam, Mid term Exams, class room participation, In class Exercises, homeworks, D2l quizzes |
| 1.2 | Explaining network protocols | | |
| 1.3 | Defining network interconnecting devices | | |
| 1.4 | Explaining network addresses | | |
| 1.5 | Explaining WAN technologies | | |
| 1.6 | Explaining the functionality of the different layers within a network architecture | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | Comparing computer network architectures | Small group work, whole group and small group discussion, case studies, debates, In class Exercises, homework assignments, brainstorming, D2l | Final Exam, Mid term Exams, class room participation, In class Exercises, homeworks, presentation, D2l homeworks |
| 2.2 | Distinguishing among network interconnecting devices | | |
| 2.3 | Computing network addresses | | |
| 2.4 | Comparing WAN technologies | | |
| 2.5 | Conceptualizing the functionality of the different layers within a network architecture | | |
| 3.0 | Interpersonal Skills & Responsibility | | |
| 3.1 | Working productively with others as part of a team | Small group work, whole group and small group discussion, role playing , individual and collective presentation | Classroom participation, collective presentations |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | Communicating scientific works via presentations and D2L platform | Debates, whole group and small group discussion, role playing, individual and collective presentation, D2l | Classroom participation, presentations, D2l class room participation |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |





5. Schedule of Assessment Tasks for Students during the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|---|---|--------------------------------|
| 1 | <ul style="list-style-type: none"> class room participation, In class Exercises, homeworks D2l homeworks, D2l quizzes, presentation, D2l class room participation | <ul style="list-style-type: none"> Weekly Week 12 | 10% |
| 2 | Mid term exam I | Week 7 | 20% |
| 3 | Mid term exam 2 | Week 12 | 20% |
| 4 | Final exam | Semester End | 50% |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

1. List Required Textbooks :

Data Communications & Networking, Behrouz Forouzan, McGraw Hill 2004.

2. List Essential References Materials :

- Data and Computer Communications, William Stallings, Seventh Edition, Prentice Hall.

3. List Recommended Textbooks and Reference Material :

- Farouzan, *Data Communications and Networking*, 5th Edition, McGraw Hill 2012

4. List Electronic Materials :

-
-
-

5. Other learning material :

- Windows o s





F. Facilities Required

| |
|---|
| 1. Accommodation <ul style="list-style-type: none">• Lecture room with at least 25 seats. |
| 2. Computing resources <ul style="list-style-type: none">• Computer lab room containing at least 25 systems for lab hours.• Linux OS• Projector. |
| 3. Other resources <ul style="list-style-type: none">• Central Printer.• Scanner. |

G Course Evaluation and Improvement Processes

| |
|---|
| 1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching: <ul style="list-style-type: none">• Course evaluation by student• Students-faculty meetings |
| 2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor : <ul style="list-style-type: none">• Discussions within the group of faculty teaching the course.• Departmental internal review of the course.• Outside review of the course. |
| 3 Processes for Improvement of Teaching : <ul style="list-style-type: none">• Providing computer labs containing up-to-date computers and softwares.• Conducting and attending workshops given by experts on the teaching and learning methodologies.• Periodical departmental and outside revisions of its methods of teaching.• Monitoring of teaching activates by senior faculty members. |
| 4. Processes for Verifying Standards of Student Achievement <ul style="list-style-type: none">• Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers. |
| 5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement : <ul style="list-style-type: none">• The course material and learning outcomes are periodically reviewed internally and externally.• Comparing course content and teaching methodologies with similar courses offered at other departments.• Studying the outcomes of the student's evaluation of the course and using these outcomes to improve teaching the course.• |





Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Faisal Mohammed
Signature :
Date : 03/ 05 / 1436 H

Department Head

Name : Adil Alshammari.
Signature :
Date : 03/ 05 / 1436 H





Course Specifications

Muharram 1437 H

| | |
|--------------------------------------|---|
| Institution: | College of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | Information Technology |
| Course : | Fundamentals of Database Systems |
| Course Coordinator : | Abd Alaziz Babiker |
| Programme Coordinator : | Adil Alshammari |
| Course Specification Approved Date : | 11/05/1436 |



A. Course Identification and General Information

| | | | |
|--|---|------------------|----------------|
| 1 - Course title : | Visual Programming | Course Code: | CAP 261 |
| 2. Credit hours : | (3) | | |
| 3 - Program(s) in which the course is offered: | Information Technology | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | Abd Alaziz Babiker | | |
| 6 - Level/year at which this course is offered : | Forth | | |
| 7 - Pre-requisites for this course (if any) : | <ul style="list-style-type: none"> • 212 AAI (Data Structure.) | | |
| 8 - Co-requisites for this course (if any) : | None | | |
| 9 - Location if not on main campus : | (.....) | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input type="checkbox"/> | What percentage? | 50 % |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | % |
| D - e-learning | <input type="checkbox"/> | What percentage? | % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | 50 % |
| Comments : | Practical in Lab | | |

B Objectives

| |
|---|
| <p>What is the main purpose for this course?</p> <p>Characteristics of the database approach. Database concepts and architecture; Data models, schemas and instances; Program data independence, Database languages and interfaces. Data models for database systems; The E-R DM, Relational DM and Relational Algebra. Relational model constraints; Domain, key, and integrity constraints. SQL-relational DB language; Data definition, queries, update statements, and views in SQL. Database design; functional dependencies, Normal forms. Introduction to OO databases.</p> |
| <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> • Periodical review of the course by the instructor and the courses planning committee in the section . • use computer software and projectors in teaching the course. • Giving students some materials supplementing the textbook. • Questionnaire students about the way of teaching the course. |





C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| Chapter 1: Database concepts and architecture | 3 | 9 |
| Chapter 2: ER Data Models | 2 | 6 |
| Chapter 3: EER Data Models | 1 | 3 |
| Chapter 4: The Relational Data Model | 3 | 9 |
| Chapter 5: Functional Dependencies and Normalization for Relational Databases | 3 | 9 |
| Chapter 6: SQL-The Structured Query Language | 3 | 9 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|-----------|----------|------------|-----------|--------|-------|
| Contact Hours | 30 | ..... | ..... | 30 | ..... | 60 |
| Credit | 2 | ..... | ..... | 1 | ..... | 3 |

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

.....





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|--|
| 1.0 | Knowledge | | |
| 1.1 | Explaining integrity constraints | lecture, small group work, whole group and small group discussion, In class Exercises, homeworks assignments, D2I | Final Exam, Mid term Exams, class room participation, In class Exercises, homeworks, D2I homeworks, D2I quizzes |
| 1.2 | Explaining and Applying data normalization | | |
| 1.3 | Explaining SQL queries | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | Applying integrity constraints | Small group work, whole group and small group discussion, Practical lab, case studies, debates, In class Exercises, homeworks assignments, brainstorming, D2I | Final Exam, Mid term Exams, class room participation, In class Exercises, Practical Exam, homeworks, presentation, D2I homeworks |
| 2.2 | Developing Entity relationship Data Models and relational related to database problems | | |
| 2.3 | Applying data normalization | | |
| 2.4 | Implementing SQL queries | | |
| 3.0 | Interpersonal Skills & Responsibility | | |
| 3.1 | Working productively with others as part of a team | Small group work, whole group and small group discussion, role playing , individual and collective presentation | Classroom participation, collective presentation |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | Communicating scientific works via presentations and D2L platform | Debates, whole group and small group discussion, role playing, individual and collective presentation, D2I | Classroom participation, presentations, D2I classroom participation |
| 5.0 | Psychomotor | | |
| 5.1 | None | | |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|----------|---|---|--------------------------------|
| 1 | <ul style="list-style-type: none"> class room participation, In class Exercises, homeworks | <ul style="list-style-type: none"> Weekly Week 12 | 10% |





| | | | |
|---|--|--------------|-----|
| | <ul style="list-style-type: none">D21 homeworks, D21 quizzes, presentation, D21 class room participation | | |
| 2 | Mid term exam I | Week 7 | 20% |
| 3 | Mid term exam 2 | Week 12 | 20% |
| 4 | Practical exam | Week 15 | 20% |
| 5 | Final exam | Semester End | 30% |





D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours is 6 hours / week

E. Learning Resources

1. List Required Textbooks :

- 1- **Fundamentals of Database Systems (6th Edition) Hardcover – April 9, 2010 by Ramez Elmasri (Author), Shamkant B. Navathe (Author)**
 - Essential references

2. List Essential References Materials :

1- Carlos Coronel, Steven Morris, and Peter Rob, Database Principles: Fundamentals, Design, Implementation, and Management, 9th Edition, Cengage Learning, 2011.

3. List Recommended Textbooks and Reference Material :

4. List Electronic Materials :

- <http://faculty.mu.edu.sa/ababiker/database>

5. Other learning material :

-

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats

2. Computing resources

- Computer lab room containing at least 25 seats.
- Personal computer with Microsoft Visual Studio 2013 software
- Projector

3. Other resources

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students and faculty meetings





2 Other Strategies for Evaluation of Teaching by the Program/Department

Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- External review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and software.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical and outside revisions of its methods of teaching.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students' evaluation of the course and using these outcomes to improve teaching the course

Course Specification Approved

Department Official Meeting No (20) Date **11 / 05 / 1436 H**

Course's Coordinator

Name : Faisal Mohammed

Signature :

Date : 03/ 05 / 1436 H

Department Head

Name : Adil Alshammari.

Signature :

Date : 03/ 05 / 1436 H





Course Specifications

| | |
|-------------------------------------|---|
| Institution: | College of Science and Humanities at Alghat |
| Academic Department : | Computer Science. |
| Programme : | Computer architecture |
| Course : | Information Security |
| Course Coordinator : | Sahli Nihel |
| Programme Coordinator : | Adil Alshammari |
| Course Specification Approved Date: | 15/08/1437 |



A. Course Identification and General Information

| | | | |
|--|--|------------------|----------|
| 1 - Course title : | COMPUTER ARCHITECTUR | Course Code: | CAP 223. |
| 2. Credit hours : | 2 (2+2+0) | | |
| 3 - Program(s) in which the course is offered: | ..... |  |  |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | College Of Science and Humanities at Alghat | | |
| 6 - Level/year at which this course is offered : | Level 1 / First Year | | |
| 7 - Pre-requisites for this course (if any) : | <ul style="list-style-type: none"> • None | | |
| 8 - Co-requisites for this course (if any) : | <ul style="list-style-type: none"> • None | | |
| 9 - Location if not on main campus: | (.....) | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 100 % |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | % |
| D - e-learning | <input type="checkbox"/> | What percentage? | % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | ..... |  |  |

B Objectives

What is the main purpose for this course?

This course focuses on the design of the CPU and computer system at the architectural (or Functional) level: CPU instruction sets and functional units, data types, control unit design, Interrupt handling and DMA, I/O support, memory hierarchy, virtual memory, and buses and bus timing.

Introduction to digital systems: What constitutes a general purpose computer; design of a Minimal hardwired CPU.

Assembly level machine organization: System buses, timing, arbitration, and bus protocol; the General fetch-execute cycle with interrupts; multiple bus systems.

Memory system organization & architecture: Memory design and hierarchy; alignment; L1 and L2 caches; paging and virtual memory.

Interfacing, communication External storage devices: magnetic and optical. buffering of I/O, Polling , interrupt-driven I/O, interrupt-driven I/O with DMA.

Functional organization: integer and floating-point units, CPU instruction sets and addressing





modes, RISC; CISC, long instruction word RISC processors ,use of multiple functional units, Pipelining

Briefly describe any plans for developing and improving the course that are being implemented :

- Periodical review of the course by the instructor and the department courses planning committee.
- Attempting to use computer softwares and projectors in teaching the course.
- Giving students some materials supplementing the textbook.
- Questionnairng students about the way of teaching the course.

C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| chapter 1: Fundamentals of computer design, Performance evaluation, Instruction set principles. Understand the factors that contribute to computer performance. | 4 | 3 |
| Chapter 2 <ul style="list-style-type: none"> • Processor organization and design, Pipelining, Instruction and arithmetic pipelines, Dynamic and speculative execution • Understanding the tradeoffs of the approaches and techniques related to pipelining (hazards, forwarding, and branch prediction). | 4 | 3 |
| Chapter 3 <ul style="list-style-type: none"> • Precise exception, CISCs, RISC, and VLIW processors, Memory Hierarchy, Virtual memory, Multilevel caches, Storage and I/O, Introduction to Analyze Input/Output systems | 4 | 3 |
| Chapter3 : , multiprocessors, and clusters <ol style="list-style-type: none"> 1. Storage and I/O. 2. Multicore, multiprocessors, and clusters. New trends in computer architecture. | 4 | 3. |
| Chapter 4 | 4 | 3 |
| , New trends in computer architecture. • | ..... | ..... |
| Multicore, multiprocessors, and clusters. • | ..... | ..... |
| New trends in computer architecture. • | ..... | ..... |





| | | |
|--|--|--|
| Identify the characteristics of multicore, multiprocessors, and clusters | | |
| | | |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 45 | ..... | 45 | ..... | ..... | 90 |
| Credit | ..... | ..... | ..... | ..... | ..... | ..... |

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

| |
|-------|
| |
|-------|

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|--|
| 1.0 | Knowledge | | |
| 1.1 | Understand all the basic concepts of information technology and its related terminologies. | <ul style="list-style-type: none"> Lectures. Supplemental notes to clarify some important topics. Homework assignments. Practical Hours with teacher assistant. Advising students to use computer softwares applicable to the course content. | <ul style="list-style-type: none"> Med-terms and final exams Evaluation of teacher assistant in class discussions |
| 1.2 | Have the advanced skills developed for the use of office productivity packages | | |
| 1.3 | The ability to search through the Internet effectively. | | |
| 1.4 | The ability to fully utilize an e/mail service. | | |
| 1.5 | Knowledge of e/learning and distance education systems and how they work and their benefits. | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|---|--|--|--|
| | | <ul style="list-style-type: none"> Office hours to clarify anything related to the. | |
| 2.0 Cognitive Skills | | | |
| 2.1 | Cognitive Skills: This course requires the student to demonstrate the following: | <ul style="list-style-type: none"> Lectures. Practical class and homework assignments with teacher assistant. Supplemental materials to the textbook. Related computer softwares and websites. | <ul style="list-style-type: none"> In class discussions with students. Med terms and final exams. In class and homework assignments with teacher assistant. |
| 2.2 | Apply the factors that contribute to computer performance | | |
| 2.3 | Select the most appropriate performance metric when evaluating a computer | | |
| 2.4 | . Identify the characteristics of CISCs, RISC, and VLIW processors. Analyze multilevel caches systems Analyze the effect of memory and memory hierarchy on performance. Analyze Input/Output systems. Identify the characteristics of multicore, multiprocessors, and clusters | | |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> Individual assignments. Solving problems individually during class hours, and then discussing solutions. Questions directed to all students during class hours, and then discussing answers. | <ul style="list-style-type: none"> Evaluating students' individual works by homeworks and exams. Observing encouragement of students to give answers and to discussion inside class hours. |
| 3.2 | <ul style="list-style-type: none"> The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |
| 4.0 Communication, Information Technology, Numerical | | | |
| 4.1 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher | <ul style="list-style-type: none"> Direct questions to student during class |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|--|
| 4.2 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | assistant. <ul style="list-style-type: none"> Handouts of supplemental materials in | hours. <ul style="list-style-type: none"> Homeworks and in class assignments. |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | Not applicable | Not applicable | Not applicable. |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|---|----------|--------------------------------|
| 1 | <ul style="list-style-type: none"> Homeworks and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none"> Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none"> Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none"> Practical exam | 15 | 20% |
| 5 | <ul style="list-style-type: none"> Final exam | 15 | 30% |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week





E. Learning Resources

1. computer organization and architectures How To, Deitel and Deitel, 9th edition, Prentice Hall, 2013

2. List Essential References Materials :

1- William Stallings, Computer Organization and Architecture (6th edition)(2010)

2- Hennessy / Patterson, Computer Architecture: A Quantitative Approach (2012)

3. Hennessy and Patterson, Computer Organization and Design, the hardware/software interface, 4th Edition. 2008

4. Computer architect Fifth Edition: The Hardware/Software Interface
(The Morgan Kaufmann Series in... by David A. Patterson and John L.
Hennessy (Oct 10, 2013)

5. List Recommended Textbooks and Reference Material :

6. Any textbook that contains examples of computer organization and architectures

•

4. List Electronic Materials :

5. Other learning material : work ship

•

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats.

2. Computing resources

- Computer lab room containing at least 25 systems for lab hours.
- Microsoft Office 2010
- Windows 8
- Internet connection
- Projector.

3. Other resources

- Central Printer.
- Scanner.





G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Sahli Nihel
Signature :
Date : 14/ 8 / 1437 H

Department Head

Name : Elshamri Adel
Signature :
Date : .../ ... / H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College of Science & Humanities Alghat |
| Academic Department : | Computer Science. |
| Programme : | Mathematics |
| Course : | Probability and Statistics Engineers |
| Course Coordinator : | .Dr. Abdelmoneim Ali Mohamed Hamed |
| Programme Coordinator : | |
| Course Specification Approved Date : | |



A. Course Identification and General Information

| | | | |
|--|---|------------------|----------|
| 1 - Course title : | Probability and Statistics Engineers | Course Code: | Stat 324 |
| 2. Credit hours : | 3hours | | |
| 3 - Program(s) in which the course is offered: | Bsc in Computer Science | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | Dr.Abdelmoneim Ali Mohamed Hamed | | |
| 6 - Level/year at which this course is offered : | 4 th | | |
| 7 - Pre-requisites for this course (if any) : | none | | |
| 8 - Co-requisites for this course (if any) : | none | | |
| 9 - Location if not on main campus : | AlGhat- college building | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 100% |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | |
| D - e-learning | <input type="checkbox"/> | What percentage? | |
| E - Correspondence | <input type="checkbox"/> | What percentage? | |
| F - Other | <input type="checkbox"/> | What percentage? | |
| Comments : | ..... |  |  |

B Objectives

What is the main purpose for this course?

Upon completion of this course, students will:

- Know the basic axioms and set theory upon which probability theory is based including sample spaces and events, mutual exclusivity, conditional probability, Bayes theorem..
- Understand the concept of random variables and probability, sampling distributions.
- Know various well-known distributions and how they are used in practice.
- Collect data and understand its context.
- Explore and visualize data through numerical and graphical summaries.
- Identify common errors in sampling and experimenting.
- Analyze data using introductory probability models and statistical methods.





Briefly describe any plans for developing and improving the course that are being implemented :

- 1- The use of new teaching methods, such as cooperative learning and rely on thinking skills.
- 2- Increase use of references that depend on information technology or the Internet.
- 3- Self-reliance in the study.
- 4- The use and benefit of learning resources library.

C. Course Description

1. Topics to be covered

| List of Topics | No. of Weeks | Contact Hours |
|---|------------------|---------------|
| Introduction to Statistics & Data Analysis | 1 st | 3 |
| Sample Space, Events, Counting Sample Points , Additive Rules. | 2 nd | 3 |
| Conditional Probability, Independent Events, Multiplicative Rules, Bayes Rule. | 3 rd | 3 |
| Concept of Random Variable, Discrete Probability Distributions, Continuous Probability Distributions. | 4 th | 3 |
| Sampling distribution of the mean. | 5 th | 3 |
| Discrete Uniform Distribution, Binomial Distribution, Poisson Distribution. | 6 th | 3 |
| Revision and Test 1 | 7 th | 3 |
| Continuous Uniform Distribution, Normal Distribution. | 8 th | 3 |
| Exponential Distribution, Random Sampling, Sampling Distribution of Means, t-Distribution | 9 th | 3 |
| Introduction to Estimation, Statistical Inference, | 10 th | 3 |





| | | |
|--|------------------|---|
| Estimating the Mean, Standard Error. | | |
| Estimating the Difference Between Two Means, Estimating a Proportion, Estimating the Difference between Two Proportions. | 11 th | 3 |
| Statistical Hypotheses, Testing a Statistical Hypothesis. | 12 th | 3 |
| Revision and Test2 | 13 th | 3 |
| One- and Two-Tailed Tests, Tests Concerning a Single Mean, Tests on a Single Mean when variance is unknown | 14 th | 3 |
| Tests on Two Means, Test on a Single Proportion, Test on two Proportions. | 15 th | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|-----------|----------|------------|-----------|----------|-------|
| Contact Hours | 15 | 0 | 0 | 0 | 0 | 45 |
| Credit | 45 | 0 | 0 | 0 | 0 | 45 |

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

| |
|----------|
| 0 |
|----------|

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





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|---|---|--|---|
| 1.0 Knowledge | | | |
| 1.1 | The student recognizes the principles of the theory of distribution. | <ul style="list-style-type: none"> Lectures. Supplemental notes to clarify some important topics. Homework assignments. | <ul style="list-style-type: none"> Med-terms and final exams Evaluation of teacher assistant in class discussions |
| 1.2 | The student recognizes the theory of estimation. | | |
| 1.3 | . The student should be able to use these principles in the solving problems. | | |
| 1.4 | The student recognizes the hypothesis testing and how it is used in applications. | | |
| 2.0 Cognitive Skills | | | |
| 2.1 | The ability to know the concept of theory of estimation. | <ul style="list-style-type: none"> Activation of modern teaching methods such as cooperative learning and education mini-built and education. Activation of the use of modern technological means (computer, internet, conferences, etc ...) | <ul style="list-style-type: none"> Assessment of student skills in the use of interactive technology through research and offers progressive.. Student participation and discussion in the classroom. |
| 2.2 | The development of the student's ability to use the test of hypothesis. | | |
| 2.3 | The development of the student's ability to apply these concepts to solve applications.. | | |
| | | | |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | <ul style="list-style-type: none"> Develop the student's ability to dialogue and discussion with others. | Lecture administration, reflecting the importance of scientific material in the course. | <ul style="list-style-type: none"> Participation actors in the classroom and the student's commitment to bear responsibility guide. |
| 3.2 | <ul style="list-style-type: none"> Development of interpersonal skills and responsibility. | <ul style="list-style-type: none"> Students discuss how to solve assignments and duties Keenness on activating the feedback. | Observing encouragement of students to give answers and to discussion inside class hours |
| 3.3 | <ul style="list-style-type: none"> The ability to work in groups for dialogue, discussion and research. | | |
| 4.0 Communication, Information Technology, Numerical | | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|---|
| 4.1 | <ul style="list-style-type: none"> Communicate technical information effectively. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Home work and in class assignment Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. <p>Home works and in class assignment.....</p> | <ul style="list-style-type: none"> Direct questions to student during class hours. Home works and in class assignments. <p>Med terms and final exams</p> <ul style="list-style-type: none"> Direct questions to student during class hours. Home works and in class assignments. <p>Med terms and final exams</p> |
| 4.2 | <ul style="list-style-type: none"> Participation and discussion during the lectures | | |
| 4.3 | <ul style="list-style-type: none"> Perform research and encourage performing team work activity | | |
| 4.4 | <ul style="list-style-type: none"> Preparing reports and improves their communication skills using the internet to search for related topics. | | |
| 4.5 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | | |
| 5.6 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |

5. Schedule of Assessment Tasks for Students during the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|--|----------|--------------------------------|
| 1 | <ul style="list-style-type: none"> Homework's and assignments | On going | 10% |





| | | | |
|---|---|----|------|
| | | | |
| 2 | <ul style="list-style-type: none">• Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none">• Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none">• Final exam | 16 | 50% |
| 5 | <ul style="list-style-type: none">• Total | - | 100% |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 2 hr/ week

E. Learning Resources

1. List Required Textbooks :

- Introduction to Probability and Statistics, Adel Mufleh Alwadian, A.A.Alsawy and Abdulla Ali Alkhareejy, Ibn Rushd,1426.
- Probability and random variables, PhD, Basil zannon
- **PROBABILITY AND STATISTICS FOR ENGINEERS AND SCIENTISTS , R. E. WALPOLE and R.H. MYERS, Macmillan Publishing .**

2. List Essential References Materials :

- **Probability and Statistics in the Engineering and Computer Sciences**

Engineering statistics.

- Probability and random variables, PhD, Basil zannon.
- Probability and Mathematical statistics – Hogg and Crage

4. List Recommended Textbooks and Reference Material :

Statistical reports
Scientific Journals.

4. List Electronic Materials :

- http://www.analyzemath.com/statistics/introduction_statistics.html
- <http://ar.wikipedia.org/wiki/>





5. Other learning material :

- Depend on teacher

F. Facilities Required

1. Accommodation

- Lecture room with at least 32 seats.

2. Computing resources

- Over head Projector

3. Other resources

- Statistical programs such as SPSS

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Mid-term tests
- Final test
- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

-
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

Evaluation of the final tests

Evaluation exercises performed by students

Use some statistical signs that indicate the extent to which student achievement

Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.





- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the student's evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (.....) Date ... / / H

Course's Coordinator

Name : Abdelmoneim Ali
Mohamed Hamed
Signature :
Date : 12/ 2 / 1436 H

Department Head

Name :
Signature :
Date : .../ ... / H





Course Specifications

| | |
|----------------------------|--|
| Institution: | College of Sciences and Humanity Studies in AL Ghat. |
| Academic Department :IT | |
| Programme: | IT. |
| Course : | Analysis and Design Systems |
| Course Coordinator : | Dr.Howida Ibrahim HamadIdriss |
| Programme Coordinator : | A.AdellAshamary |



Course Specification Approved Date : 06/ 02 / 1436 H

A. Course Identification and General Information

| | | | |
|--|---|------------------|--------------------------------------|
| 1 - Course title : | Systems Analysis Desing | Course Code: | 252 IT |
| 2. Credit hours : | (3hours) | | |
| 3 - Program(s) in which the course is offered: | Analysis and Design Systems | | |
| 4 – Course Language : | English. | | |
| 5 - Name of faculty member responsible for the course: | HowidaIbrahim . | | |
| 6 - Level/year at which this course is offered : | Fourth Level | | |
| 7 - Pre-requisites for this course (if any) : | • | | |
| 8 - Co-requisites for this course (if any) : | • | | |
| 9 - Location if not on main campus: |) Information Technology Building. | | |
| 10 - 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" value="..... %"/> |
| D - e-learning | <input type="checkbox"/> | What percentage? | <input type="text" value="..... %"/> |
| E - Correspondence | <input type="checkbox"/> | What percentage? | <input type="text" value="..... %"/> |
| F - Other | <input type="checkbox"/> | What percentage? | <input type="text" value="..... %"/> |
| Comments : | ..... |  |  |

B Objectives

What is the main purpose for this course?

- 1- Introduce student how to identify the requirements of the system.
- 2- How to translate requirments into a model of the information system.
- 3- HOW TO USE THE TOOLS ANALYSIS AND DESIGN OF INFORMATION
- 4- Knowledge of systems analysis and design in the electronic business environment

Briefly describe any plans for developing and improving the course that are being implemented :

The course materials were posted on the department Website that could be accessed by the students enrolled in the course.





C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|--|--------------|---------------|
| Lecture1: The systems Development Environment | ...1... | ...3.... |
| Lecture2: The Origins of Software | 1... | ...3. |
| Lecture3: Managing the Information Systems Project | ..1. | ...3. |
| Lecture4: Identifying and Selecting Systems project | ...1.... | ...3. |
| Lecture5: Initiating and planning Systems Development Projects | ..1. | ...3. |
| Lecture6: Structuring System Process Requirements | ...1... | ...3. |
| Lecture7 : Determining System Requirement | ...1... | ...3. |
| Lecture8: Structuring System Logic Requirements | ...1... | ..3 |
| Lecture9: Structuring S | 1 | 3 |
| Lecture10: Designing Forms and Reports | 1 | 3 |
| Lecture11: Designing Databases | 1 | 3 |
| Lecture12: Designing Interfaces and Dialogues | 1 | 3 |
| Lecture13: Finalizing Design Specification | 1 | 3 |
| General Review | 1 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|-----------|----------|------------|-----------|--------|--------|
| Contact Hours | 45 | ..... | ..... | ..... | ..... | ..45.. |
| Credit | ..... | ..... | ..... | ..... | ..... | ..... |

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

...3 hours weekly for the homework ...





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|---|---|---|
| 1.0 | Knowledge | | |
| 1.1 | Acquire the vocabulary of what has been explained in the desired researched and comprehensiveness | -In-class lecturing where the previous knowledge is linked to the current and future topics. -Homework assignments | In class short MCQs quizzes |
| 1.2 | Access knowledge and scientific fact and concepts in the field of analysis and design systems | | Major and final exams |
| 1.3 | Students definition systems analysis and design systems | | Case analysis and discussion |
| 1.4 | | | Internet research |
| 1.5 | | | Group assignments and reports |
| 2.0 | Cognitive Skills | | |
| 2.1 | Accommodate students basic concepts and terminology in the science of analysis and design | Homework assignments | In class short MCQs quizzes |
| 2.2 | Use of technology | Problem solving. | Major and final exams |
| 2.3 | Model construction and implementation | Case studies related to the course topics. | Checking the problems solved in the homework assignments. |
| 3.0 | Interpersonal Skills & Responsibility | | |
| 3.1 | Work independently and as part of a team. | -writing group reports -Solving problems in groups. | Grading homework assignments. |
| 3.2 | Manage resources, time and other members of the group. | | |
| 3.3 | Communicate results of work to others. | | |
| 4.0 | Communication, Information Technology, Numerical | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|-----|--|--|---|
| 4.1 | Use computational tools | • Writing reports | Use of appropriate technologies including Excel and power point presentations |
| 4.2 | Report writing | • Incorporating the use and utilization of computer in the course requirements | |
| 5.0 | Psychomotor | | |
| 5.1 |Not Applicable..... | Not Applicable | Not Applicable |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|--|----------|--------------------------------|
| 1 | Class activities (in class quizzes, and homework) | weekly | 10% |
| 2 | Major exams I | 7 | 20% |
| 3 | Major exams II | 12 | 20% |
| 4 | Final exam | 16 | 50% |

D. Student Academic Counseling and Support

Office hours 4 hr/ week

E. Learning Resources

1. List Required Textbooks :

- Jeffery A Hoffer, Joey F. George, and Joseph S. Valcich [Modern systems Analysis and Design ,4th Edition, 2008 ,Addison Wesley, (ISBN: 0-201-33541-6)

2. List Essential References Materials :

- Kenneth E. Kendall and Julie E. Kendal ,(Systems Analysis and Design, 4 th Edition, Prentic–Hall Int: 1998(ISBN: 0-13-646621-4)

3. List Recommended Textbooks and Reference Material :





-

4. List Electronic Materials :

- Websites on the internet that are relevant to the topics of the course

5. Other learning material :

- Multimedia associated with the text book and the relevant websites

F. Facilities Required

1. Accommodation

- Lecture room with max 30 seats

2. Computing resources

3. Other resources

- Illustration tools relevant to the course material

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students- faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Peer consultation on teaching
- Departmental council discussions
- Discussions within the group of faculty teaching the course

3 Processes for Improvement of Teaching :

- Conducting workshops given by experts on the teaching and learning Methodologies.
- Periodical departmental revisions of its methods of teaching
- Monitoring of teaching activates by senior faculty members

4. Processes for Verifying Standards of Student Achievement

- Providing samples of all kind of assessment in the departmental course portfolio of each course
- Assigning group of faculty members teaching the same course to grade same questions for various students. Faculty from other institutions are invited to review the accuracy of the grading policy

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :





- The course material and learning outcomes are periodically reviewed and the changes to be taken are approved in the departmental and higher councils.
- The head of department and faculty take the responsibility of implementing the proposed changes.

Course Specification Approved
Department Official Meeting No(.....) Date ... / / *H*

Course's Coordinator

Name : Dr.Howida Ibrahim
HamadIdriss

Signature :

Date : 06 / 02 / 1437*H*

Department Head

Name : Adel Alshmary

Signature :

Date : // 1437*H*



Level5



Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College Of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | Information Technology |
| Course : | Web Engineering & Applications |
| Course Coordinator : | Hassen HAMOUDA |
| Programme Coordinator : | Adel ALSHAMRY |
| Course Specification Approved Date : | 11-05-1436 |

A. Course Identification and General Information



| | | |
|---|--|---------|
| 1 - Course title : Web Engineering & Applications | Course Code: CAP 311 | |
| 2. Credit hours : 3 (2+2+0) | | |
| 3 - Program(s) in which the course is offered: | | |
| 4 – Course Language : English | | |
| 5 - Name of faculty member responsible for the course: | | |
| 6 - Level/year at which this course is offered : Third Year/ Level 5 | | |
| 7 - Pre-requisites for this course (if any) : Computer Programming 1 | | |
| 8 - Co-requisites for this course (if any) : None | | |
| 9 - Location if not on main campus : | | |
| 10 - Mode of Instruction (mark all that apply) | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> What percentage? | 90 % |
| B - Blended (traditional and online) | <input checked="" type="checkbox"/> What percentage? | 5 % |
| D - e-learning | <input checked="" type="checkbox"/> What percentage? | 5 % |
| E - Correspondence | <input type="checkbox"/> What percentage? | % |
| F - Other | <input type="checkbox"/> What percentage? | % |
| Comments : | | |
| | | |

B Objectives

| |
|--|
| <p>What is the main purpose for this course?</p> <p>Detailed study of the engineering methods and technologies for building highly interactive web sites and portals for e-commerce and other web-based applications. Engineering principles for building web sites that exhibit high reliability, usability, security, availability, scalability and maintainability are presented. Methods such as client-server programming, component-based software development, middleware, and reusable components are covered. Student will learn technologies such as HTML, CSS, JavaScript and XML. A development platform (e.g. ASP.Net or Java or PHP) is covered by the course and used by students to develop a large web application in phases. Employing analysis and design techniques and HCI concepts are important issues in this project.</p> |
| <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> Periodical review of the course by the instructor and the department courses planning committee. Attempting to use computer softwares and projectors in teaching the course. Giving students some materials supplementing the textbook. |



- Questionnairng students about the way of teaching the course.

C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| Chapter 1: Internet <ul style="list-style-type: none"> • Overview, history. | 1 | 3 |
| Chapter 2 <ul style="list-style-type: none"> • Introduction (History of the Internet - Basic concepts) • Client Side scripting Vs Server Side Scripting | 1 | 3 |
| Chapter 3: HTML language <ul style="list-style-type: none"> • Introduction to HTML language (Heading - Formatting) • HTML Lists – Images – Lists – Tables • Forms – Frames – Iframes • The HTML voice and video code - meta Element | 3 | 9 |
| Chapter 4 : Cascading Style Sheets (CSS) <ul style="list-style-type: none"> • Ways of Inserting CSS • CSS Background – CSS Font – CSS Text • Multiple Style Sheets • CSS Padding – CSS Margin – CSS Border • CSS List – CSS Links • CSS Pseudo-Classes – CSS Position – CSS Layer • CSS Layers – CSS Float | 2 | 6 |
| Chapter 5 : Java Script <ul style="list-style-type: none"> • Basics of java script • statements - variables - If ....Else - Functions - For .. loop • Array – intro to object – string | 2 | 6 |
| Chapter 6: PHP language <ul style="list-style-type: none"> • Install and configure a Web server • Install and configure PHP • Install and configure MySQL • Create basic PHP scripts and PHP code blocks • Variables and constants • Data types • Expressions and operators • Casting data types of variables • Operator precedence | 3 | 9 |
| Chapter 7: XML <ul style="list-style-type: none"> • Introduction to XML • Basic XML concepts • Defining XML Data Formats. • Query XML Data | 3 | 9 |



| | | |
|--|--|--|
| | | |
|--|--|--|

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 30 | ..... | 30 | ..... | ..... | 60 |
| Credit | 2 | ..... | 1 | ..... | ..... | 3 |

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

| |
|---|
| - |
|---|

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|--|
| 1.0 | Knowledge | | |
| 1.1 | <ul style="list-style-type: none"> Upon completion of this course, student should be familiar with the following: Front-end development technologies including HTML, CSS, and JavaScript. | <ul style="list-style-type: none"> Lectures. Supplemental notes to clarify some important topics. Homework assignments. Practical Hours with teacher assistant. Advising students to use computer softwares applicable to the course content. Office hours to clarify anything related to the | <ul style="list-style-type: none"> Med-terms and final exams Evaluation of teacher assistant In class discussions |
| 1.2 | <ul style="list-style-type: none"> Ability to know how a web server works and the facilities it utilizes to service client requests. | | |
| 1.3 | <ul style="list-style-type: none"> Ability to create a static and dynamic web site. | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|---|--|--|--|
| | | course. | |
| 2.0 Cognitive Skills | | | |
| 2.1 | <ul style="list-style-type: none"> The student is expected to be able to: Understand Web platform and fundamentals of Internet Technology. | <ul style="list-style-type: none"> Lectures. Practical class and homework assignments with teacher assistant. Supplemental materials to the textbook. Related computer softwares and websites. | <ul style="list-style-type: none"> In class discussions with students. Med terms and final exams. In class and homework assignments with teacher assistant. |
| 2.2 | <ul style="list-style-type: none"> Understand the Internet security issues and implement client requirements. | | |
| 2.3 | <ul style="list-style-type: none"> Understand the basic Internet services, design and publish simple web sites. | | |
| 2.4 | <ul style="list-style-type: none"> Understand the client-side web programming and its techniques. | | |
| 2.5 | <ul style="list-style-type: none"> Understand the concepts of the Internet, including e-commerce, web server, and a Web application layers 3, MySQL, PHP, and alternative Rich Internet Applications. | | |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> Individual assignments. Solving problems individually during class hours, and then discussing solutions. Questions directed to all students during class hours, and then discussing answers. | <ul style="list-style-type: none"> Evaluating students' individual works by homeworks and exams. Observing encouragement of students to give answers and to discussion inside class hours. |
| 3.2 | <ul style="list-style-type: none"> The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |
| 4.0 Communication, Information Technology, Numerical | | | |
| 4.1 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and |
| 4.2 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|------------------------------|
| | | textbook. • Homeworks and in class assignment. | final exams. |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|----------|---------------------------|----------|--------------------------------------|
| 1 | Homeworks and assignments | Weekly | 10% |
| 2 | Med term exam I | 7 | 20% |
| 3 | Med term exam II | 12 | 20% |
| 4 | Practical exam | 15 | 20% |
| 5 | Final exam | 15 | 30% |
| 6 | ..... | ..... | ..... |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

- 1. List Required Textbooks :**
1. Java for the Web with Servlets, JSP, and EJB, Budi Kurniawan, 2002, New Riders Press.
 2. HTML 4 for the World Wide Web, 4th ed., Castro, Peachpit Press.





3. Java 2: The Complete Reference, Naughton and Schildt, Osborne/McGraw Hill.

2. List Essential References Materials :

1. HTML and CSS: Design and Build WebSites, Jon Duckett, Thomsonm 1th edition, 2011
2. JavaScript and JQuery: Interactive Front-End Web Development, Jon Duckett, Thomsonm 1th edition, 2014.
3. Learning PHP, MySQL, JavaScript, CSS & HTML5: A Step-by-Step Guide to Creating Dynamic Websites, 3th edition, Robin Dixon,2014

3. List Recommended Textbooks and Reference Material :

- Any textbook that contains examples of formulating C++ programs.

4. List Electronic Materials :

- Websites on the internet that are relevant to the topics of the course

Examples:

- <http://www.w3schools.com/html/>
- <http://ar.html.net/>
- <http://www.khayma.com/hpinarabic/htmintro.html>
- <http://html.net/tutorials/javascript/>

5. Other learning material :

- DreamWeaver CSS6 software.

F. Facilities Required

1. Accommodation

- Lecture room with at least 35 seats.
- Personal computer with Dreamweaver CSS6 software.

2. Computing resources

- Computer lab room containing at least 35 systems for lab hours.
- Microsoft Visual Studio 2013, Turbo C++, Borland C++ softwares.
- Projector.

3. Other resources

- Central Printer.
- Scanner.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student





- Students- faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students' evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Hassen HAMOUDA
Signature : 
Date : 11/ 05 / 1436 H

Department Head

Name : Adel ALSHAMRY
Signature :
Date : .../ ... / H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College of Science and Humanities at Alghat |
| Academic Department : | Computer Science. |
| Programme : | Information Technology |
| Course : | Operating System |
| Course Coordinator : | Mahmoud Obeidat. |
| Programme Coordinator : | Adil Alshammari |
| Course Specification Approved Date : | 11/05/1436 |



A. Course Identification and General Information

| | | | |
|--|-------------------------------------|------------------|---------|
| 1 - Course title : Operating system | Course Code: CAP 332 | | |
| 2. Credit hours : 3 (2+2+0) | | | |
| 3 - Program(s) in which the course is offered: | | | |
| 4 – Course Language : English | | | |
| 5 - Name of faculty member responsible for the course: | | | |
| 6 - Level/year at which this course is offered : Third Year /Level 5 | | | |
| 7 - Pre-requisites for this course (if any) : | | | |
| <ul style="list-style-type: none"> • CSC 212 • CAP 223 | | | |
| 8 - Co-requisites for this course (if any) : | | | |
| <ul style="list-style-type: none"> • None | | | |
| 9 - Location if not on main campus : | | | |
| (.....) | | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 90 % |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | % |
| D - e-learning | <input checked="" type="checkbox"/> | What percentage? | 10 % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | | | |
| | | | |

B Objectives

| |
|--|
| <p>What is the main purpose for this course?</p> <p>Introduction; Operating System services; CPU Scheduling; Disk Scheduling; Memory Management; Process synchronization.</p> |
| <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> • Periodical review of the course by the instructor and the department courses planning committee. • Attempting to use computer software's and projectors in teaching the course. • Giving students some materials supplementing the textbook. • Questionnaire students about the way of teaching the course. |





C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|-----------------------------|--------------|---------------|
| Introduction | 1 | 3 |
| Operating-System Structures | 2 | 6 |
| Processes | 2 | 6 |
| Threads | 1 | 3 |
| CPU Scheduling | 2 | 6 |
| Process Synchronization | 2 | 6 |
| Deadlocks | 1 | 3 |
| Main Memory | 2 | 6 |
| Files | 1 | 3 |
| I/O Systems | 1 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|---------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 30 | ..... | ..... | 30 | ..... | 60 |
| Credit | 30 | ..... | ..... | 15 | ..... | 45 |

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





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|--|
| 1.0 | Knowledge | | |
| 1.1 | To study the operations performed by Operating System as a resource manager. | <ul style="list-style-type: none"> • Lectures. • Supplemental notes to clarify some important topics. • Homework assignments. • Practical Hours with teacher assistant. • Advising students to use computer softwares applicable to the course content. • Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> • Med-terms and final exams • Evaluation of teacher assistant in class • discussions |
| 1.2 | To learn the evolution of Operating systems. | | |
| 1.3 | To study computer security issues and Operating System tools. | | |
| 1.4 | To code sufficiently well to do the work required in the Computer Architecture, Software Engineering, Networking, and Operating Systems Internals courses. | | |
| 1.5 | To be able for each data structure presented, to state in big O notation the running times. | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | Discuss issues and problems involved in the design and implementation of operating systems. | <ul style="list-style-type: none"> • Lectures. • Practical class and homework assignments with teacher assistant. • Supplemental materials to the textbook. • Related computer softwares and websites. | <ul style="list-style-type: none"> • In class discussions with students. • Med terms and final exams. • In class and homework assignments with teacher assistant. |
| 2.2 | Identify the abstract services common to all operating systems | | |
| 2.3 | Define the basic operations system components and understand how the entire system fits together | | |
| 2.4 | Develop hands-on experiences with the practical side of operating systems by programming and simulating different aspects. | | |
| | Describe CPU Scheduling, synchronization, and deadlock. | | |
| | Identify security and protection issues in computer systems | | |
| 3.0 | Interpersonal Skills & Responsibility | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|--|
| 3.1 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> Individual assignments. Solving problems individually during class hours, and then discussing solutions. Questions directed to all students during class hours, and then discussing answers. | <ul style="list-style-type: none"> Evaluating students' individual works by homeworks and exams. Observing encouragement of students to give answers and to discussion inside class hours. |
| 3.2 | <ul style="list-style-type: none"> The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homeworks and in class assignment. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and final exams. |
| 4.2 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|---|----------|--------------------------------------|
| 1 | <ul style="list-style-type: none"> Homeworks and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none"> Med term exam I | 7 | 20% |





| | | | |
|---|--|-------|-------|
| 3 | <ul style="list-style-type: none">• Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none">• Practical exam | | 20% |
| 5 | <ul style="list-style-type: none">• Final exam | | 30% |
| 6 | ..... | ..... | ..... |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

| |
|---|
| 1. List Required Textbooks : <ul style="list-style-type: none">1. Operating system Concepts , Fourth Edition, Abraham Silberschatz, Peter Baer Glvin, Greg Gagne, 2012. |
| 2. List Essential References Materials : <ul style="list-style-type: none">2. Modern Operating Systems, Tanenbaum, 3rd edition, Prentice Hall, 2007. |
| 3. List Recommended Textbooks and Reference Material : <ul style="list-style-type: none">• |
| 4. List Electronic Materials : <ul style="list-style-type: none">• |
| 5. Other learning material : <ul style="list-style-type: none">• Linux Os |

F. Facilities Required

| |
|---|
| 1. Accommodation <ul style="list-style-type: none">• Lecture room with at least 25 seats. |
| 2. Computing resources <ul style="list-style-type: none">3. Computer lab room containing at least 25 systems for lab hours.4. Linux OS5. Projector. |
| 3. Other resources <ul style="list-style-type: none">• Central Printer.• Scanner. |





G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Mahmoud Obeidat
Signature :
Date : 03/ 05 / 1436 H

Department Head

Name : Adil Alshammari
Signature :
Date : 03/ 05 / 1436 H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College of Science and Humanities at Alghat |
| Academic Department : | Computer Science. |
| Programme : | Information Technology |
| Course : | PC Environment and Peripherals |
| Course Coordinator : | Mahmoud Obeidat. |
| Programme Coordinator : | Adil Alshammari |
| Course Specification Approved Date : | 11/05/1436 |



A. Course Identification and General Information

| | | | |
|--|---|------------------|---------|
| 1 - Course title : | PC Environment and Peripherals | Course Code: | CAP 322 |
| 2. Credit hours : | 3 (2+2+0) | | |
| 3 - Program(s) in which the course is offered: | ..... |  |  |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | | | |
| 6 - Level/year at which this course is offered : | Third Year/Level 5 | | |
| 7 - Pre-requisites for this course (if any) : | <ul style="list-style-type: none"> CAP 223 | | |
| 8 - Co-requisites for this course (if any) : | <ul style="list-style-type: none"> None | | |
| 9 - Location if not on main campus : | (.....) | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 90 % |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | % |
| D - e-learning | <input checked="" type="checkbox"/> | What percentage? | 10 % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | ..... |  |  |

B Objectives

What is the main purpose for this course?

The objective of the course is to provide an introduction to basic computer maintenance, general PC repair and system hardware upgrades (in accordance with all industry safety standards) . Students are required to disassemble then reassemble a PC. The course starts with an overview of basic PC components and various operating systems diagnostic tools. The course then covers PC maintenance including repairing and upgrading assorted hardware such as hard drives, CD-ROM drives, memory chips, CPUs , modems ,and printers. Other topics covered include common preventive maintenance practices, electrical power, and environmental concerns.

Briefly describe any plans for developing and improving the course that are being implemented :

- Periodical review of the course by the instructor and the department courses planning committee.





- Attempting to use computer software's and projectors in teaching the course.
- Giving students some materials supplementing the textbook.
- Questionnaire students about the way of teaching the course.

C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| Introduction | 1 | 3 |
| PC Components, Features, and System Design | 1 | 3 |
| Motherboards and Buses | 1 | 3 |
| BIOS | 1 | 3 |
| Memory | 1 | 3 |
| Hard Disk Storage | 1 | 3 |
| Flash and Removable Storage | 1 | 3 |
| Video Hardware Audio Hardware External I/O Interfaces | 1 | 3 |
| Power Supplies | 1 | 3 |
| Building or Upgrading Systems | 3 | 9 |
| PC Diagnostics, Testing, and Maintenance | 3 | 9 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 30 | ..... | ..... | 30 | ..... | 60 |
| Credit | 30 | ..... | ..... | 15 | ..... | 45 |

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



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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|--|
| 1.0 | Knowledge | | |
| 1.1 | Perform installation, configuration, and upgrading of various peripheral devices. | <ul style="list-style-type: none"> • Lectures. • Supplemental notes to clarify some important topics. • Homework assignments. • Practical Hours with teacher assistant. • Advising students to use computer software applicable to the course content. • Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> • Med-terms and final exams • Evaluation of teacher assistant in class • discussions |
| 1.2 | Diagnose and troubleshoot problems with microcomputer peripherals. | | |
| 1.3 | Document repair and troubleshooting steps according to industry best practice | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | Safety and preventive maintenance including the potential hazards to personnel and equipment when working with lasers, high voltage equipment, ESD, and items that require special disposal procedures that comply with environmental guidelines. knowledge of preventive maintenance products, procedures, environmental hazards, and precautions when working on microcomputer systems | <ul style="list-style-type: none"> • Lectures. • Practical class and homework assignments with teacher assistant. • Supplemental materials to the textbook. • Related computer softwares and websites. | <ul style="list-style-type: none"> • In class discussions with students. • Med terms and final exams. • In class and homework assignments with teacher assistant. |
| 2.2 | specific terminology, facts, ways and means of | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|--|
| | dealing with classifications, categories and principles of motherboards, processors, and memory in microcomputer systems. | | |
| 2.3 | Diagnosing and troubleshooting common module problems and system malfunctions. This includes knowledge of the symptoms relating to common problems | | |
| 3.0 | Interpersonal Skills & Responsibility | | |
| 3.1 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> Individual assignments. Solving problems individually during class hours, and then discussing solutions. Questions directed to all students during class hours, and then discussing answers. | <ul style="list-style-type: none"> Evaluating students' individual works by homeworks and exams. Observing encouragement of students to give answers and to discussion inside class hours. |
| 3.2 | <ul style="list-style-type: none"> The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homework's and in class assignment. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homework's and in class assignments. Med terms and final exams. |
| 4.2 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |





5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|--|----------|--------------------------------|
| 1 | <ul style="list-style-type: none"> Homework's and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none"> Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none"> Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none"> Practical exam | | 20% |
| 5 | <ul style="list-style-type: none"> Final exam | | 30% |
| 6 | ..... | ..... | ..... |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

- List Required Textbooks :
 - UPGRADING AND REPAIRING PCS , 20th Edition, Scott Mueller
 - Meyers, M. A+ Certification All-in –one , 8th Edition.
- List Essential References Materials :
 - Complete PC Upgrade & Maintenance Guide : Mark Minasi
- List Recommended Textbooks and Reference Material :
 -





4. List Electronic Materials :

-

5. Other learning material :

-

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats.

2. Computing resources

- Computer lab room containing at least 25 systems for lab hours.
- Windows OS
- Projector.

3. Other resources

- Central Printer.
- Scanner.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and





externally.

- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the student's evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Mahmoud Obeidat
Signature :
Date : 03/ 05 / 1436 H

Department Head

Name : Adil Alshammari
Signature :
Date : 03/ 05 / 1436 H





Course Specifications

| | |
|--------------------------------------|--|
| Institution: | College of Science & Humanities Alghat |
| Academic Department : | Computer Science. |
| Programme : | Mathematics |
| Course : | Linear Algebra |
| Course Coordinator : | Dr. Abdelmoneim Ali Mohamed Hamed |
| Programme Coordinator : | |
| Course Specification Approved Date : | |



A. Course Identification and General Information

| | | | |
|--|--------------------------------------|------------------|----------|
| 1 - Course title : | Linear Algebra | Course Code: | Math 244 |
| 2. Credit hours : | 3hours | | |
| 3 - Program(s) in which the course is offered: | Bsc in Computer Science | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | Dr. Abdelmoneim Ali Mohamed Hamed | | |
| 6 - Level/year at which this course is offered : | 5 th | | |
| 7 - Pre-requisites for this course (if any) : | Math 102 | | |
| 8 - Co-requisites for this course (if any) : | • | | |
| 9 - Location if not on main campus : | AlGhat- college building | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 100% |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | |
| D - e-learning | <input type="checkbox"/> | What percentage? | |
| E - Correspondence | <input type="checkbox"/> | What percentage? | |
| F - Other | <input type="checkbox"/> | What percentage? | |
| Comments : | • | | |

B Objectives

| |
|---|
| <p>What is the main purpose for this course?</p> <ul style="list-style-type: none"> • Know the basic operations on matrices. • Be able to solve systems of homogeneous and non-homogenous linear equations. • Be able to solve find the inverse of $n \times n$ matrix. • understanding the concepts of vectors, and vector space. |
| <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> |





C. Course Description

1. Topics to be covered

| List of Topics | No. of Weeks | Contact Hours |
|--|--------------|---------------|
| • Matrices and their operations.. | 2 | 6 |
| • Types of matrices | 1 | 3 |
| • Elementary transformations | 1 | 3 |
| • Linear systems of equations.(homogeneous and non-homogeneous). | 1 | 3 |
| • Solving Linear systems by Kramer,s Rule and Gaus Jordan. | 1 | 3 |
| • Determinants, elementary properties. | 1 | 3 |
| • Test1 | 1 | 3 |
| • Inverse of a matrix. | 1 | 3 |
| • Vector spaces, linear independence. | 1 | 3 |
| • finite dimensional spaces. | 1 | 3 |
| • linear subspaces. | 1 | 3 |
| • Test2 | | |
| • Inner product spaces.. | 1 | 3 |
| • Linear transformations, kernel and image of a linear transformation | 1 | 3 |
| • Eigen values and Eigen vectors of a matrix and of a linear operator. | 1 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 15 | 0 | 0 | 0 | 0 | 45 |
| Credit | 45 | 0 | 0 | 0 | 0 | 45 |

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

0





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|--|--|---|---|
| 1.0 Knowledge | | | |
| 1.1 | Understand the basic concepts of linear algebra, such as matrices and its operations, determinate | <ul style="list-style-type: none"> • Lectures. • Supplementary notes to clarify some important topics. • Homework assignments. | <ul style="list-style-type: none"> • Oral and written tests. • Evaluation of teacher assistant in class • discussions |
| 1.2 | Identification of linear systems and ways of solving them. | | |
| 1.3 | Understanding the concept of vector space and its related topics such as linear independence, finite dimensional spaces. | | |
| 1.4 | Identify the basis and Dimension and the rank of the matrix, inner product and linear transformation. | | |
| 2.0 Cognitive Skills | | | |
| 2.1 | To be able to do matrix operations and compute the deter | <ul style="list-style-type: none"> • Lectures. • Practical class and homework assignments with teacher assistant. • Activation of modern teaching methods such as cooperative education and mini Education. • Related computer software's and websites. | <ul style="list-style-type: none"> • In class discussions with students. • Med terms and final exams. • In class and homework assignments with teacher assistant. • Assess student skills in the use of interactive technology through research and offers progressive. |
| 2.2 | The ability to find the invers of the matrix. | | |
| 2.3 | To identify the linear combination , linear dependent and linear independence | | |
| 2.4 | The development of the student's ability to use these concepts. | | |
| 2.5 | The development of the student's ability to apply the above principles in practical applications. | | |
| 3.0 Interpersonal Skills & Responsibility | | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|---|---|--|---|
| 3.1 | <ul style="list-style-type: none"> Develop the student's ability to dialogue and discussion with others. | Lecture administration, reflecting the importance of scientific material in the course. | <ul style="list-style-type: none"> Participation actors in the classroom and the student's commitment to bear responsibility guide. |
| 3.2 | <ul style="list-style-type: none"> Development of interpersonal skills and responsibility. The ability to work in groups for dialogue, discussion and research. | <ul style="list-style-type: none"> Students discuss how to solve assignments and duties Keenness on activating the feedback. | Observing encouragement of students to give answers and to discussion inside class hours |
| 4.0 Communication, Information Technology, Numerical | | | |
| 4.1 | <ul style="list-style-type: none"> Communicate technical information effectively. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homework and in class assignment Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Home works and in class assignment | <ul style="list-style-type: none"> Direct questions to student during class hours. Home works and in class assignments. <p>Med terms and final exams</p> <ul style="list-style-type: none"> Direct questions to student during class hours. Home works and in class assignments. <p>Med terms and final exams</p> |
| 4.2 | <ul style="list-style-type: none"> Participation and discussion during the lectures | | |
| 4.3 | <ul style="list-style-type: none"> Perform research and encourage performing team work activity | | |
| 4.4 | <ul style="list-style-type: none"> Preparing reports and improves their communication skills using the internet to search for related topics. | | |
| 4.5 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | | |
| 5.6 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | | |
| 5.0 Psychomotor | | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |





5. Schedule of Assessment Tasks for Students during the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|--|----------|--------------------------------|
| 1 | <ul style="list-style-type: none">Homework's and assignments | On going | 10% |
| 2 | <ul style="list-style-type: none">Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none">Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none">Final exam | 16 | 50% |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 2 hr/ week

E. Learning Resources

1. List Required Textbooks :

Elementary Linear Algebra with applications By:
Howard Anton, **Edition:** 9th Edition, **Publisher:**
Wiley & Sons

Elementary Linear Algebra, By: R.E Larson and B.H Edward,, **Edition:** A Publication of
D.C.Health and company.

Finite Dimensional Vector Spaces by P.R Halmos, Springer 1974.

2. List Essential References Materials :

3. List Recommended Textbooks and Reference Material :

4. List Electronic Materials :





- Elementary Abstract and Linear Algebra
- Linear Algebra
- A first Course in Linear Algebra

5. Other learning material :

- Student companion site for the textbook: Elementary Linear Algebra, online lecture note by K.Mathews
- A first course in linear Algebra, the Linear Algebra with freedom.

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats.

2. Computing resources

- Laptop
- Over head projector.

3. Other resources

- Matlab, maple (mathematical software).

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

-
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :





- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the student's evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (.....) Date ... / / H

Course's Coordinator

Name : Abdelmoneim Ali
Mohamed Hamed
Signature :
Date : 12/ 2 / 1436 H

Department Head

Name :
Signature :
Date : ... / ... / H



Level6



Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College of Science And Humanities at AlGhat |
| Academic Department : | Computer Science |
| Programme : | Information Technology |
| Course : | Software Engineering |
| Course Coordinator : | Abd alaziz Babiker |
| Programme Coordinator : | Adil Alshammari |
| Course Specification Approved Date : | 11/05 / 1436 H |



A. Course Identification and General Information

| | | | |
|--|--------------------------------|------------------|----------------|
| 1 - Course title : | Visual Programming | Course Code: | 312 CAP |
| 2. Credit hours : | 3 | | |
| 3 - Program(s) in which the course is offered: | Information Technology. | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | Abd Alaziz Babiker | | |
| 6 - Level/year at which this course is offered : | Sixth | | |
| 7 - Pre-requisites for this course (if any) : | 261 CAP , 252 CAP | | |
| 8 - Co-requisites for this course (if any) : | None | | |
| 9 - Location if not on main campus : | (.....) | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input type="checkbox"/> | What percentage? | 90 % |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | % |
| D - e-learning | <input type="checkbox"/> | What percentage? | 10% |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | |
| Comments : | | | |

B Objectives

What is the main purpose for this course?
 Application systems implementation, functional testing, user acceptance testing, and installation strategies. The processes of maintaining information systems, types of maintenance, measuring and controlling of maintenance effectiveness.
 Software quality assurance, quality concepts, the ISO 9000 & ISO 9126 quality factors, technical metrics for software and examples of function-based, specification quality, testing metrics. Technical metrics for object-oriented systems, class-oriented metrics. Software Development Methodologies, requirement engineering, and configuration management

Briefly describe any plans for developing and improving the course that are being implemented :

- Periodical review of the course by the instructor and the courses planning committee in the section .
- use computer software and projectors in teaching the course.
- Giving students some materials supplementing the textbook.
- Questionnaire students about the way of teaching the course.





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C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| INTRODUCTION TO SOFTWARE & SOFTWARE ENGINEERING | 1 | 3 |
| OBJECT-ORIENTED CONCEPTS | 3 | 9 |
| UML : USE CASE, SEQUENCE AND CLASS DIAGRAMS | 3 | 9 |
| THE SOFTWARE PROCESS | 2 | 6 |
| THE SOFTWARE PROCESS Models and Testing | 2 | 6 |
| SOFTWARE QUALITY | 2 | 6 |
| WHITE BOX (FUNCTIONAL) TESTING | 1 | 3 |
| BLACK BOX (STRUCTURAL) TESTING | 1 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|-----------|----------|------------|-----------|--------|-----------|
| Contact Hours | 45 | ..... | ..... | ..... | ..... | 45 |
| Credit | 3 | ..... | ..... | ..... | ..... | 3 |

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

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|--|
| 1.0 | Knowledge | | |
| 1.1 | The ability to define the software process steps | lecture, small group work, whole group and small group discussion, In class Exercises, homework assignments, D2l | Final Exam, Mid term Exams, class room participation, In class Exercises, homeworks, D2l homeworks, D2l quizzes |
| 1.2 | The ability to define the principles of object-oriented software construction | | |
| 1.3 | The ability to define the software development models | | |
| 1.4 | The ability to define the software testing types | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | The ability to discuss the software process steps | Small group work, whole group and small group discussion, case studies, debates, In class Exercises, homework assignments, brainstorming, D2l | Final Exam, Mid term Exams, class room participation, In class Exercises, homeworks, presentation, D2l homeworks |
| 2.2 | The ability to define the software requirements specification | | |
| 2.3 | The ability to analyze an actual problem and to define the appropriate software design | | |
| 2.4 | The ability to apply the principles of object-oriented software construction | | |
| 2.5 | The ability to apply the software development models | | |
| 2.6 | The ability to apply the software testing types | | |
| 3.0 | Interpersonal Skills & Responsibility | | |
| 3.1 | The ability to work productively with others as part of a team | Small group work, whole group and small group discussion, role playing , individual and collective presentation | Classroom participation, collective presentations |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | The ability to communicate scientific works via presentations and D2L platform | Debates, whole group and small group discussion, role playing, individual and collective presentation, D2l | Classroom participation, presentations, D2l class room participation |
| 5.0 | Psychomotor | | |
| 5.1 | None | | |



5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|---|---|--------------------------------|
| 1 | <ul style="list-style-type: none"> class room participation, In class Exercises, homeworks D2l homeworks, D2l quizzes, presentation, D2l class room participation | <ul style="list-style-type: none"> Weekly Week 12 | 10% |
| 2 | Mid term exam I | Week 7 | 20% |
| 3 | Mid term exam 2 | Week 12 | 20% |
| 4 | Final exam | Semester End | 50% |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours is 6 hours / week

E. Learning Resources

1. List Required Textbooks :

1. [Software Engineering: A Practitioner's Approach, 7th International edition by Roger Pressman \(Apr 1, 2009\)](#)

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2. List Essential References Materials :

- 1- [Software Engineering \(9th Edition\) by Ian Sommerville \(Mar 13, 2010\)](#)
2. Essentials Of Software Engineering by Frank Tsui, Orlando Karam and Barbara Bernal (Feb 7, 2013)

3. List Recommended Textbooks and Reference Material :

- بعض المراجع العربية الخاصة بهندسة البرمجيات

3. List Electronic Materials :

- <http://faculty.mu.edu.sa/ababiker/software%20eng>
- <http://www.kutub.info/686>





5. Other learning material :

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats

2. Computing resources

- Computer lab room containing at least 25 seats.
- Projector

3. Other resources

- Central Printer

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students and faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- External review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical and outside revisions of its methods of teaching.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students' evaluation of the course and using these outcomes to improve teaching the course





Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Abd Alaziz Babiker
Signature :
Date : 03/ 05 / 1436 H

Department Head

Name : Adil Alshammari
Signature :
Date : 03/ 05 / 1436 H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College Of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | BSC In IT |
| Course : | Network Operating System |
| Course Coordinator : | Dr_Alshafie Gafaar |
| Programme Coordinator : | Adel ALSHAMRY |
| Course Specification Approved Date : | |



A. Course Identification and General Information

| | | | |
|--|-------------------------------------|------------------|--------------|
| 1 - Course title : Network Operating system | Course Code: CAP 333 | | |
| 2. Credit hours : 3 (2+2+0) | | | |
| 3 - Program(s) in which the course is offered: | | | |
| 4 – Course Language : English | | | |
| 5 - Name of faculty member responsible for the course: College Of Science and Humanities at Alghat | | | |
| 6 - Level/year at which this course is offered : Level 6 | | | |
| 7 - Pre-requisites for this course (if any) : None | | | |
| 8 - Co-requisites for this course (if any) : • None | | | |
| 9 - Location if not on main campus : (.....) | | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 100 % |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | % |
| D - e-learning | <input type="checkbox"/> | What percentage? | % |
| E – Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | | | |

B Objectives

| |
|---|
| <p>What is the main purpose for this course?</p> <p>Practices and procedures for installing and configuring modern network operating systems, including user accounts, file, print and terminal servers, mobile computing, and disaster protection.</p> <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> Periodical review of the course by the instructor and the department courses planning committee. Attempting to use computer software's and projectors in teaching the course. Giving students some materials supplementing the textbook. Questionnaire students about the way of teaching the course. |
|---|





C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|------------------------------------|--------------|---------------|
| Introduction | 1 | 3 |
| Network Operating-System | 1 | 3 |
| Learning The Shell | 2 | 6 |
| Manipulating Files And Directories | 2 | 6 |
| Permissions | 2 | 6 |
| Processes. | 1 | 3 |
| Networking | 2 | 6 |
| Archiving And Backup | 2 | 6 |
| Text Processing | 1 | 3 |
| Writing Shell Scripts | 1 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|-----------|----------|------------|-----------|--------|-------|
| Contact Hours | 15 | ..... | 15 | ..... | ..... | 45 |
| Credit | 2 | ..... | 2 | ..... | ..... | 3 |

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





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|--|--|---|--|
| 1.0 Knowledge | | | |
| 1.1 | To study the operations performed by Operating System as a resource manager. | <ul style="list-style-type: none"> Lectures. Supplemental notes to clarify some important topics. Homework assignments. Practical Hours with teacher assistant. Advising students to use computer softwares applicable to the course content. Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> Med-terms and final exams Evaluation of teacher assistant in class discussions |
| 1.2 | To learn the evolution of Operating systems. | | |
| 1.3 | To study computer security issues and Operating System tools. | | |
| 1.4 | To code sufficiently well to do the work required in the Computer Architecture, Software Engineering, Networking, and Operating Systems Internals courses. | | |
| 2.0 Cognitive Skills | | | |
| 2.1 | Installing to computer networks (case study Linux) | <ul style="list-style-type: none"> Lectures. Practical class and homework assignments with teacher assistant. Supplemental materials to the textbook. Related computer softwares and websites. | <ul style="list-style-type: none"> In class discussions with students. Med terms and final exams. In class and homework assignments with teacher assistant. |
| 2.2 | Using the Shell | | |
| 2.3 | Editing Files with vim and vi | | |
| 2.4 | Understanding Processes Understanding Shell Scripts | | |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> Individual assignments. Solving problems individually | <ul style="list-style-type: none"> Evaluating students' individual works by homeworks and |
| 3.2 | <ul style="list-style-type: none"> The ability to communicate and to discuss | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|---|
| | related topics of the course with instructor inside and outside class. | during class hours, and then discussing solutions. <ul style="list-style-type: none"> • Questions directed to all students during class hours, and then discussing answers. | exams. <ul style="list-style-type: none"> • Observing encouragement of students to give answers and to discussion inside class hours. |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | <ul style="list-style-type: none"> • Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> • Lecturing by the course instructor and the teacher assistant. • Handouts of supplemental materials in addition to the textbook. • Homeworks and in class assignment. | <ul style="list-style-type: none"> • Direct questions to student during class hours. • Homeworks and in class assignments. • Med terms and final exams. |
| 4.2 | <ul style="list-style-type: none"> • Acquaintance of using internet to get information related to the course. | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |





5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|---|----------|--------------------------------|
| 1 | <ul style="list-style-type: none">Homeworks and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none">Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none">Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none">Practical exam | 15 | 20% |
| 5 | <ul style="list-style-type: none">Final exam | 15 | 30% |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

1. Palmer/Walters/Badgett/Jonker, Guide to Operating Systems, 3rd Edition, Course Technology, 2004

2. List Essential References Materials :

The Linux® Command Line William E. Shotts, Jr. Copyright ©2008-2009, William E. Shotts, Jr

3. List Recommended Textbooks and Reference Material :

- List Required Textbooks : Linux® Bible 8th Edition Copyright © 2012 by John Wiley & Sons, Inc., Indianapolis, Indiana

4. List Electronic Materials :

- Modern Operating Systems, Tanenbaum, 3rd edition, Prentice Hall, 2007.

5. Other learning material :





F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats.

2. Computing resources

- Computer lab room containing at least 25 systems for lab hours.
- Linux OS
- Projector.

3. Other resources

- Central Printer.
- Scanner.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students evaluation of the course and using these outcomes to improve teaching the course.





Course Specification Approved
Department Official Meeting No (20) Date ... / / H

Course's Coordinator

Name : Dr. Alshafie Gafaar
Signature :
Date : .../ ... / H

Department Head

Name : Adel ALSHAMRY
Signature :
Date : .../ ... / H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College Of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | BSC In IT |
| Course : | Database Management system CAP 364 |
| Course Coordinator : | Dr_Alshafie Gafaar |
| Programme Coordinator : | Adel ALSHAMRY |
| Course Specification Approved Date : | |



A. Course Identification and General Information

| | | | | | | | | | | | |
|--|---|------------------|--------------|------------------|---------|------------------|---------|------------------|---------|------------------|---------|
| 1 - Course title : Database Management system | Course Code: CAP 364 | | | | | | | | | | |
| 2. Credit hours : 4 (3+2+0) | | | | | | | | | | | |
| 3 - Program(s) in which the course is offered: | | | | | | | | | | | |
| 4 – Course Language : English | | | | | | | | | | | |
| 5 - Name of faculty member responsible for the course: College Of Science and Humanities at Alghat | | | | | | | | | | | |
| 6 - Level/year at which this course is offered : six | | | | | | | | | | | |
| 7 - Pre-requisites for this course (if any) : • Fundamentals database | | | | | | | | | | | |
| 8 - Co-requisites for this course (if any) : • None | | | | | | | | | | | |
| 9 - Location if not on main campus : (.....) | | | | | | | | | | | |
| 10 - Mode of Instruction (mark all that apply) | | | | | | | | | | | |
| A - Traditional classroom | <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="text-align: center;">X</td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> </table> | X | | | | | | | | | |
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| B - Blended (traditional and online) | <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="text-align: center;"> </td></tr> </table> | | | | | | | | | | |
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| D - e-learning | <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="text-align: center;"> </td></tr> </table> | | | | | | | | | | |
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| E - Correspondence | <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="text-align: center;"> </td></tr> </table> | | | | | | | | | | |
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| F - Other | <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="text-align: center;"> </td></tr> </table> | | | | | | | | | | |
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| What percentage? | % | | | | | | | | | | |
| Comments : | | | | | | | | | | | |

B Objectives

| |
|---|
| <p>DBMS architecture and administration; Centralized and Client-Server approaches, System Catalog, Data Dictionary. Transaction management; Transactions: concepts, characteristics. Recovery techniques, Concurrency control techniques: Serializability, Deadlock, Locking schemes, Time-stamp ordering, Multi-version, Optimistic techniques; DB security; Distributed databases; Distributed DBMS, Data fragmentation and replication, Distributed transactions management. Object-Oriented databases. Introducing to new emerging DB technologies and applications; Web DBs, Multimedia DBs, Data Warehousing and Data Mining, etc. The lab covers all the issues of DBA, including installation, configuration, operation, optimization, user management, recovery and backup, etc. A well known DBMS is selected to allow real experiences for students.</p> |
| <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> • Periodical review of the course by the instructor and the department courses planning committee. • Attempting to use ORACLE 10g and projectors in teaching the course. |





- Giving students some materials supplementing the textbook.
- Questionnairing students about the way of teaching the course.

C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|--|--------------|---------------|
| introduction to database and DBMS. Characteristics of database approach. Database concepts, environment and architecture. Data Independence . | 2 | 8 |
| Data model and schema. DBMS interface. Database languages. Basic Client/Server Architectures | 2 | 8 |
| Introduction ,Reviews Advanced SQL skills | 3 | 12 |
| PL/Sql as a programming language | 3 | 12 |
| Exception Handling(Syntax , Types, Definitions) | 2 | 8 |
| Subprograms(Procedures and Functions) | 2 | 8 |
| Revision | 1 | 4 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 45 | ..... | 45 | ..... | ..... | 90 |
| Credit | 2 | ..... | 2 | ..... | ..... | 4 |

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

.....

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





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|--|--|--|--|
| 1.0 Knowledge | | | |
| 1.1 | Describe advanced database concepts | <ul style="list-style-type: none"> Lectures. | <ul style="list-style-type: none"> Med-terms and final exams |
| 1.2 | Design and implement complex databases schemas using ER diagrams, normalization, integrity constraints, and advanced database system features such as stored procedures and triggers | <ul style="list-style-type: none"> Supplemental notes to clarify some important topics. | <ul style="list-style-type: none"> Evaluation of teacher assistant in class |
| 1.3 | Use PL/SQL programming with DBMS ORACLE 10g | <ul style="list-style-type: none"> Practical Hours with teacher assistant. | <ul style="list-style-type: none"> discussions |
| 2.0 Cognitive Skills | | | |
| 2.1 | Installing oracle 10g | <ul style="list-style-type: none"> Lectures. | <ul style="list-style-type: none"> In class discussions with students. |
| 2.2 | Familiars with user account and authorization | <ul style="list-style-type: none"> Practical class and homework assignments with teacher assistant. | <ul style="list-style-type: none"> Med terms and final exams. |
| 2.3 | Creation database and queries (update ,insertion, deletion,) | <ul style="list-style-type: none"> Supplemental materials to the textbook. | In class and homework assignments with |
| 2.4 | Familiars with constraint and the retaliation table | Related computer | <ul style="list-style-type: none"> In class discussions with students. |
| 2.5 | Use triggers | <ul style="list-style-type: none"> Lectures. | <ul style="list-style-type: none"> Med terms and final exams. |
| 2.6 | Pl/sql programming | <ul style="list-style-type: none"> Practical class and homework assignments with teacher assistant. | In class and homework assignments with |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> Individual assignments. Solving problems individually during class hours, and then discussing | <ul style="list-style-type: none"> Evaluating students' individual works by homeworks and exams. Observing encouragement |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|-----|--|--|--|
| | | solutions. <ul style="list-style-type: none"> • Questions directed to all students during class hours, and then discussing answers. | of students to give answers and to discussion inside class hours. |
| 3.2 | <ul style="list-style-type: none"> • The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |
| 3.3 | <ul style="list-style-type: none"> • The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> • Individual assignments. • Solving problems individually during class hours, and then discussing solutions. • Questions directed to all students during class hours, and then discussing answers. | <ul style="list-style-type: none"> • Evaluating students' individual works by homeworks and exams. • Observing encouragement of students to give answers and to discussion inside class hours. |
| 3.4 | <ul style="list-style-type: none"> • The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |
| 3.5 | <ul style="list-style-type: none"> • The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> • Individual assignments. • Solving problems individually during class hours, and then discussing solutions. • Questions directed to all students during | <ul style="list-style-type: none"> • Evaluating students' individual works by homeworks and exams. • Observing encouragement of students to give answers and to discussion |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|---|--|--|--|
| | | class hours, and then discussing answers. | inside class hours. |
| 3.6 | <ul style="list-style-type: none"> The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |
| 4.0 Communication, Information Technology, Numerical | | | |
| 4.1 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homeworks and in class assignment. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and final exams. |
| 4.2 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homeworks and in class assignment. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and final exams. |
| 4.3 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and final exams. |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|--|
| | | <ul style="list-style-type: none"> Homeworks and in class assignment. | |
| 4.4 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homeworks and in class assignment. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and final exams. |
| 4.5 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homeworks and in class assignment. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and final exams. |
| 4.6 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homeworks and in class assignment. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and final exams. |
| 5.0 | Psychomotor | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|-----|---|--|--|
| 5.1 | <ul style="list-style-type: none"> The ability to recognize if a problem is suitable to be formulated as a DBMS. | <ul style="list-style-type: none"> Lectures. Practical class and homework assignments with teacher assistant. Supplemental materials to the textbook. Related computer softwares and websites. | <ul style="list-style-type: none"> In class discussions with students. Med terms and final exams. In class and homework assignments with teacher assistant. |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|---------------------------|----------|--------------------------------------|
| 1 | Homeworks and assignments | Weekly | 10% |
| 2 | Med term exam I | 7 | 20% |
| 3 | Med term exam II | 12 | 20% |
| 4 | Practical exam | 15 | 20% |
| 5 | Final exam | 15 | 30% |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

1. List Required Textbooks :

- R. Elmasri; S. Navathe; Fundamentals of Database systems; 3rd ed.; 2000. Addison Wesley.
- OCP Oracle 9i , DBA Fundamentals , Biju Thomas & Bob Bryla , Sybex Inc 2002 (For DBMS Lab)

2. List Essential References Materials :





3. List Recommended Textbooks and Reference Material :

- Oracle Technology Network: <http://otn.oracle.com/docs/content>
- Complete reference oracle 10g

4. List Electronic Materials :

- Oracle Press 2003, Oracle 9i PL/Sql;
- Oracle 9i Programming
- Fundamentals of Database Systems, Elmasri & Navathe, Addison Wesley, 2004
- Reference manual, Oracle Press 2014
- Any reference oracle administration

5. Other learning material :

- Oracle Press 2003, Oracle 9i PL/Sql;
- Oracle 9i Programming
- Fundamentals of Database Systems, Elmasri & Navathe, Addison Wesley, 2004

F. Facilities Required

1. Accommodation

- Lecture room with at least 45 seats.
- Personal computer with Oracle 10 Software.

2. Computing resources

- Computer lab room containing at least 35 systems for lab hours.
 - Oracle 10g software's.
- Projector.

3. Other resources

- Central Printer.
- Server.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students- faculty meetings
-

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning





methodologies.

- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members..

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students' evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved

Department Official Meeting No (20) Date ... / / H

Course's Coordinator

Name : Dr. Alshafie Gafaar
Signature :
Date : .../ ... / H

Department Head

Name : Adel ALSHAMRY
Signature :
Date : .../ ... / H



Level7



Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College Of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | Information Technology |
| Course : | Simulation 1 |
| Course Coordinator : | Hassen HAMOUDA |
| Programme Coordinator : | Adel ALSHAMRY |
| Course Specification Approved Date : | 11-05-1436 |



A. Course Identification and General Information

| | | | |
|--|-------------------------------------|------------------|----------|
| 1 - Course title : | Simulation 1 | Course Code: | OPER 241 |
| 2. Credit hours : | 3 (3+0+0) | | |
| 3 - Program(s) in which the course is offered: | | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | | | |
| 6 - Level/year at which this course is offered : | Fourth Year/ Level 7 | | |
| 7 - Pre-requisites for this course (if any) : | Computer Programming 2 | | |
| 8 - Co-requisites for this course (if any) : | | | |
| 9 - Location if not on main campus : | | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 90 % |
| B - Blended (traditional and online) | <input checked="" type="checkbox"/> | What percentage? | 5 % |
| D - e-learning | <input checked="" type="checkbox"/> | What percentage? | 5 % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | ..... |  |  |

B Objectives

What is the main purpose for this course?

This course provides fundamental and practical concepts of computer simulation and modelling techniques and its role in engineering management problem solving. It covers such topics as models, model building and applications of simulation in many fields.

At the end of this course, a student will be able to:

- Understand fundamental concepts of computer simulation and its role in engineering problem solving.
- Understand model engineering problems.
- Appreciate the advantages of using simulation and modelling for taking decision in engineering problems.
- Understand fundamental concepts of discrete-event simulation
- Lists many software simulation.

Briefly describe any plans for developing and improving the course that are being implemented :





- Periodical review of the course by the instructor and the department courses planning committee.
- Attempting to use computer software and projectors in teaching the course.
- Giving students some materials supplementing the textbook.
- Questionnairng students about the way of teaching the course.

C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|--|--------------|---------------|
| Chapter 1 : Introduction to simulation | 3 | 9 |
| Chapter 2 : History of simulation | 2 | 6 |
| Chapter 3 : Basic simulation modeling | 3 | 9 |
| Chapter 4 : Discrete-event simulation | 3 | 9 |
| Chapter 5 : Software Simulation | 3 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|---------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 45 | ..... | ..... | ..... | ..... | 45 |
| Credit | 3 | ..... | ..... | ..... | ..... | 3 |





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

.....

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|--|--|--|--|
| 1.0 Knowledge | | | |
| 1.1 | <ul style="list-style-type: none"> Able to define the basic concepts in modeling and simulation. | <ul style="list-style-type: none"> Lectures. Supplemental notes to clarify some important topics. Homework assignments. Advising students to use computer softwares applicable to the course content. Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> Med-terms and final exams Evaluation of teacher assistant In class discussions |
| 1.2 | <ul style="list-style-type: none"> Understand and cite advantages and disadvantages of simulation. | | |
| | <ul style="list-style-type: none"> Understand and define basic concepts in discrete-event simulation. | | |
| 1.3 | <ul style="list-style-type: none"> List and understand many softwares simulation. | | |
| 2.0 Cognitive Skills | | | |
| 2.1 | <ul style="list-style-type: none"> The student is expected to be able to: Understand modelling and simulation Technology. | <ul style="list-style-type: none"> Lectures. Supplemental materials to the textbook. Related computer softwares and websites. | <ul style="list-style-type: none"> In class discussions with students. Med terms and final exams. In class and homework assignments with teacher assistant. |
| 2.2 | <ul style="list-style-type: none"> Understand the simulation technology issues and explain the need to simulation. | | |
| 2.3 | <ul style="list-style-type: none"> Understand discrete-event simulation. | | |
| 2.5 | <ul style="list-style-type: none"> Define the basic concepts in output analysis of a simulation model. | | |
| 2.5 | <ul style="list-style-type: none"> Define basic concepts in random number generation. | | |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> Individual assignments. Solving problems individually during class | <ul style="list-style-type: none"> Evaluating students' individual works by homeworks and |
| 3.2 | <ul style="list-style-type: none"> The ability to communicate and to discuss related topics of the course with instructor | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|---|
| | inside and outside class. | hours, and then discussing solutions. <ul style="list-style-type: none"> • Questions directed to all students during class hours, and then discussing answers. | exams. <ul style="list-style-type: none"> • Observing encouragement of students to give answers and to discussion inside class hours. |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | <ul style="list-style-type: none"> • Realize research topics per group. | <ul style="list-style-type: none"> • Lecturing by the course instructor and the teacher assistant. • Handouts of supplemental materials in addition to the textbook. • Homeworks and in class assignment. | <ul style="list-style-type: none"> • Direct questions to student during class hours. • Med terms and final exams. |
| 4.2 | <ul style="list-style-type: none"> • Acquaintance of using internet to get information related to the course. | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|----------|---------------------------|----------|--------------------------------|
| 1 | Homeworks and assignments | Weekly | 10% |
| 2 | Med term exam I | 7 | 20% |
| 3 | Med term exam II | 12 | 20% |
| 4 | Final exam | 15 | 50% |





| | | | |
|----------|-------|-------|-------|
| 6 | | | |
|----------|-------|-------|-------|

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

1. List Required Textbooks :

1. Simulation, Sheldon M.Ross, 5th Edition, Hardcover,2012 .

2. List Essential References Materials :

1. The Guide to Computer Simulations and Games, **K. Becker, J.R. Parker**, Paperback, 2011.

3. List Recommended Textbooks and Reference Material :

4. List Electronic Materials :

- Websites on the internet that are relevant to the topics of the course

Examples:

- <http://www.ors.od.nih.gov/OD/OQM/cms/Pages/default.aspx>
- http://en.wikipedia.org/wiki/Computer_simulation

5. Other learning material :

F. Facilities Required

1. Accommodation

- Lecture room with at least 35 seats.

2. Computing resources

- Computer lab room containing at least 35 systems for lab hours.
- Projector.

3. Other resources

- Central Printer.
- Scanner.

G Course Evaluation and Improvement Processes





1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students- faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

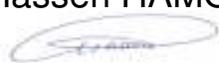
5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students' evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved

Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Hassen HAMOUDA
Signature : 
Date : 11/ 05 / 1436 H

Department Head

Name : Adel ALSHAMRY
Signature :
Date : .../ ... / H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | Al Ghat Humanitarian Studies and Science College |
| Academic Department : | Information Technology. |
| Programme : | Bsc In IT. |
| Course : | Computer Graphics ARED 412 |
| Course Coordinator : | Dr.Magdi Mohammed Hamoda |
| Programme Coordinator : | Adel Alshamry. |
| Course Specification Approved Date : | |



A. Course Identification and General Information

| | | | |
|--|---|------------------|----------|
| 1 - Course title : | Computer Graphics | Course Code: | ARED 412 |
| 2. Credit hours : | 2(1+2+0) | | |
| 3 - Program(s) in which the course is offered: | | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | | | |
| 6 - Level/year at which this course is offered : | 7 | | |
| 7 - Pre-requisites for this course (if any) : | <ul style="list-style-type: none"> | | |
| 8 - Co-requisites for this course (if any) : | <ul style="list-style-type: none"> | | |
| 9 - Location if not on main campus : | AlGhat | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 90% |
| B - Blended (traditional and online) | <input checked="" type="checkbox"/> | What percentage? | 5% |
| D - e-learning | <input checked="" type="checkbox"/> | What percentage? | 5% |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | <p>.....</p> | | |

B Objectives

| |
|---|
| <p>What is the main purpose for this course?</p> <p>The aim of this course is to allow students to acquire knowledge of understanding Computer Graphics Systems, specifically: The fundamental display algorithms for raster graphics systems ,The mathematical nature of 2-D and 3-D environments and the properties of surfaces and their simulation</p> |
| <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> • Dividing course to theory, lab, and tutorial and using advance drawing software. • Periodical review of the course by the instructor and the department courses planning committee. • Attempting to use computer software's and projectors in teaching the course. • Giving students some materials supplementing the textbook. • Questionnaire students about the way of teaching the course |





C. Course Description

1. Topics to be covered

| List of Topics | No. of Weeks | Contact Hours |
|-----------------------------------|--------------|---------------|
| Introduction to Computer Graphics | 2 | 6 |
| Graphics system | 2 | 6 |
| 2D Graphics Algorithm | 2 | 6 |
| 3D Object Modeling | 2 | 6 |
| Introduction to OPENGL | 1 | 3 |
| OpenGL Programming Guide | 1 | 3 |
| 3D Transformations | 2 | 6 |
| Rendering | 1 | 3 |
| Tutorial on OpenGL | 1 | 3 |
| Review | 1 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 15 | 0 | 30 | 0 | 0 | 45 |
| Credit | 1 | 0 | 0 | .2 | 0 | 3 |

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





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|---|
| 1.0 | Knowledge | | |
| 1.1 | Understand the foundations of computer graphics: hardware systems, math basis, light and color. | <ul style="list-style-type: none"> • Lectures. • Supplemental notes to clarify some important topics. • Homework assignments. • Practical Hours with teacher assistant. • Advising students to use computer software's applicable to the course content. • Office hours to clarify anything related to the course | <ul style="list-style-type: none"> • Med-terms and final exams • Evaluation of teacher assistant in class • discussions |
| 1.2 | Understand OPENGL Libraries | | |
| 1.3 | Using high level language in drawing | | |
| 1.4 | Acknowledge the Applications of the Computer Graphics. | | |
| 1.5 | Understanding the Graphics Environment in Computer. | | |
| 1.6 | Understanding Transmissions and Rendering in Computer Graphics. | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | Discuss issues and applications of Computer Graphics | <ul style="list-style-type: none"> • Lectures. • Practical class and homework assignments with teacher assistant. • Supplemental materials to the textbook. • Related computer software's and websites. | <ul style="list-style-type: none"> • In class discussions with students. • Med terms and final exams. • In class and homework assignments with teacher assistant |
| 2.2 | Identify the functions common to all Computer Graphics | | |
| 2.3 | Define the basic Computer Graphics components and understand to draw shapes and objects | | |
| 2.4 | Develop hands-on experiences with the practical side of Computer Graphics by programming and simulating different aspects. | | |
| 2.5 | Describe the types of 2D and 3D and why its importance in Computer Graphics. | | |
| 2.6 | Discuss how to write program in high level language to produce Computer Graphics. | | |
| 3.0 | Interpersonal Skills & Responsibility | | |
| 3.1 | <ul style="list-style-type: none"> • The ability to drawing geometric in Computer Graphics. | <ul style="list-style-type: none"> • Individual assignments. | <ul style="list-style-type: none"> • Evaluating students' individual works by homework's and exams. |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|---|---|---|
| 3.2 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | <ul style="list-style-type: none"> Solving problems individually during class hours, and then discussing solutions. | Observing encouragement of students to give answers and to discussion inside class hours |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | <ul style="list-style-type: none"> Communicate technical information effectively. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Home work and in class assignment Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Home works and in class assignment | <ul style="list-style-type: none"> Direct questions to student during class hours. Home works and in class assignments. Med terms and final exams <ul style="list-style-type: none"> Direct questions to student during class hours. Home works and in class assignments. Med terms and final exams |
| 4.2 | <ul style="list-style-type: none"> Participation and discussion during the lectures | | |
| 4.3 | <ul style="list-style-type: none"> Perform research and encourage performing team work activity | | |
| 4.4 | <ul style="list-style-type: none"> Preparing reports and improves their communication skills using the internet to search for related topics. | | |
| 4.5 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | | |
| 4.6 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |





5. Schedule of Assessment Tasks for Students during the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|---|----------|--------------------------------|
| 1 | <ul style="list-style-type: none"> Homeworks and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none"> Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none"> Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none"> Practical exam | 15 | 20% |
| 5 | <ul style="list-style-type: none"> Final exam | 15 | 30% |
| 6 | ..... | ..... | ..... |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 7 hr/ week

E. Learning Resources

1. List Required Textbooks :

- D. Hearn, M. P. Baker, "Computer Graphics with OpenGL", 3rd Ed., Prentice Hall, 2003, ISBN 0130153907.

2. List Essential References Materials :

- Computer Graphics with OpenGL, D. Hearn and M. Baker, 4rd ed., Prentice Hall, 2011.
- Real-Time Rendering, Akenine-Moller, Haines, 3rd edition, AK Peters Ltd, 2008.
- Fundamentals of Computer Graphics, Shirley, Ashikhmin, Gleicher, Marschner, Reinhard, Sung, Thompson, and Willemsen, A K Peters, 2005.

3. List Recommended Textbooks and Reference Material :

- E. Angel, "Interactive Computer Graphics: A Top-Down Approach using OpenGL", 4th Ed., Addison Wesley, 2005, ISBN 0321321375.

4. List Electronic Materials :

-





5. Other learning material :

- Computer Graphics: Principles and Practice, Foley, Addison-Wesley, 2012.

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats.

2. Computing resources

- Computer lab room containing at least 25 systems for lab hours.
- Windows OS
- Projector
- Turbo C ++ 3.0

3. Other resources

- Central Printer.
- Scanner

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.





- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the student's evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (.....) Date ... / / H

Course's Coordinator

Name : Magdi Hamoda
Signature :
Date : 25/ 03 / 1437 H

Department Head

Name :
Signature :
Date : .../ ... / H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College of Science and Humanities at Alghat |
| Academic Department : | Computer Science. |
| Programme : | Information Technology |
| Course : | Information Security |
| Course Coordinator : | Faisal Mohammed Nafie. |
| Programme Coordinator : | Adil Alshammari |
| Course Specification Approved Date : | 11/05/1436 |



A. Course Identification and General Information

| | | | |
|--|-------------------------------------|------------------|------------|
| 1 - Course title : | Information Security | Course Code: | 430 CAP |
| 2. Credit hours : | 3(3+0+1) | | |
| 3 - Program(s) in which the course is offered: | | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | | | |
| 6 - Level/year at which this course is offered : | Third Year/Level7 | | |
| 7 - Pre-requisites for this course (if any) : | ..... |  |  |
| 8 - Co-requisites for this course (if any) : | ..... |  |  |
| 9 - Location if not on main campus : | AlGhat | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 90% |
| B - Blended (traditional and online) | <input checked="" type="checkbox"/> | What percentage? | 5 % |
| D - e-learning | <input checked="" type="checkbox"/> | What percentage? | 5 % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | ..... |  |  |

B Objectives

| |
|--|
| <p>What is the main purpose for this course?</p> <p>Security policies, models, and mechanisms for secrecy, integrity, availability and usage. Topics include operating system models and mechanisms for mandatory and discretionary controls, RBAC, data models, concepts and mechanisms for software and database security, basic cryptography (public and private) and its applications, security in computer networks And distributed systems and control and prevention of viruses and other rogue programs. In addition, the basics of physical security, incidence response, disaster recovery, business Continuity and forensics.</p> <p>Briefly describe any plans for developing and improving the course that are being implemented :</p> <ul style="list-style-type: none"> • Periodical review of the course by the instructor and the department courses planning committee. • Attempting to use computer software's and projectors in teaching the course. • Giving students some materials supplementing the textbook. • Questionnaire students about the way of teaching the course. |
|--|





C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|--|--------------|---------------|
| Introduction to Information Security | 3 | 9 |
| Malware and Social Engineering Attacks | 2 | 6 |
| Application and Network Attacks | 2 | 6 |
| Introduction To Cryptography | 2 | 6 |
| Network Defenses | 3 | 9 |
| Access Control Fundamentals | 2 | 6 |
| Review | 1 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|---------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 15 | 0 | 0 | 0 | 0 | 45 |
| Credit | 3 | 0 | 0 | 0 | 0 | 3 |

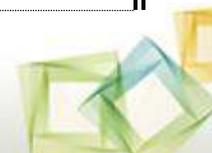
3. Additional private study/learning hours expected for students per week.





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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|--|
| 1.0 | Knowledge | | |
| 1.1 | State the basic concepts in information security, including security policies, security models, and security mechanisms. | <ul style="list-style-type: none"> • Lectures. • Supplemental notes to clarify some important topics. • Homework assignments. • Practical Hours with teacher assistant. • Advising students to use computer softwares applicable to the course content. • Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> • Med-terms and final exams |
| 1.2 | Explain the requirements for trusted operating systems, and describe the independent evaluation, including evaluation criteria and evaluation process. | | <ul style="list-style-type: none"> • Evaluation of teacher assistant in class |
| 1.3 | Describe security requirements for database security. | | <ul style="list-style-type: none"> • discussions |
| 1.4 | Explain concepts related to applied cryptography. | | <ul style="list-style-type: none"> • Med-terms and final exams |
| 1.5 | Understanding the types of attacks | | <ul style="list-style-type: none"> • Evaluation of teacher assistant in class |
| 1.6 | ..... |  | <ul style="list-style-type: none"> • discussions |
| 2.0 | Cognitive Skills | | |
| 2.1 | Describe threats to networks, and explain techniques for ensuring network security | <ul style="list-style-type: none"> • Lectures. • Practical class and homework assignments with teacher assistant. • Supplemental materials to the textbook. • Related computer software's and websites | <ul style="list-style-type: none"> • In class discussions with students. • Med terms and final exams. • In class and homework assignments with teacher assistant. |
| 2.2 | Describe the type of attackers. | | |
| 2.3 | Understanding the defenses methods and how to avoid the attacks | | |
| 3.0 | Interpersonal Skills & Responsibility | | |
| 3.1 | <ul style="list-style-type: none"> • The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> • Individual assignments. • Solving problems individually | <ul style="list-style-type: none"> • Evaluating students' individual works by home works and |
| 3.2 | <ul style="list-style-type: none"> • The ability to communicate and to discuss related topics of the course with instructor | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|---|---|---|
| | inside and outside class. | during class hours, and then discussing solutions. <ul style="list-style-type: none"> • Questions directed to all students during class hours, and then discussing answers. | exams. <ul style="list-style-type: none"> • Observing encouragement of students to give answers and to discussion inside class hours. |
| 4.0 | Communication, Information Technology, Numerical | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|--|----------|--------------------------------|
| 1 | <ul style="list-style-type: none"> • Home works and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none"> • Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none"> • Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none"> • Final exam | 15 | 50% |
| 5 | ..... | ..... | ..... |

D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week





E. Learning Resources

1. List Required Textbooks :

- Security in computing, Charles P. Pfleeger , 3/E, Prentic Hall, 2002.
- Computer security, Dieter Gollmann , John Wiley & Sons

2. List Essential References Materials :

- Network Security Essentials , (2nd Edition) by William Stallings, Prentice Hall; 2002

3. List Recommended Textbooks and Reference Material :

.....
.....

4. List Electronic Materials :

- Charles Pfleeger and Shari Pfleeger : “Security in Computing”, 4th Ed., Prentice Hall, 2007.
- Charlie Kaufman, Radia Perlman and Mike Spencer: "Network Security: Private Communication in a Public World, Prentice Hall, 2002.
- Matt Bishop: “Introduction to Computer Security” , 1st Ed., Addison Wesley, 2005.

5. Other learning material :

-
-
-

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats.

2. Computing resources

- Computer lab room containing at least 25 systems for lab hours.
- Microsoft Office 2007
- Windows 8
- Internet connection
- Projector.

3. Other resources

- Central Printer.
- Scanner.





G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the student's evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved

Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Faisal Mohammed
Signature :
Date : 05/ 12 / 1436 H

Department Head

Name :
Signature :
Date : .../ ... / H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College of Science & Humanities Alghat |
| Academic Department : | Computer Science. |
| Programme : | Mathematics |
| Course : | Elements of Distribution Theory |
| Course Coordinator : | .Dr. Abdelmoneim Ali Mohamed Hamed |
| Programme Coordinator : | |
| Course Specification Approved Date : | |



A. Course Identification and General Information

| | | | |
|--|-------------------------------------|------------------|----------|
| 1 - Course title : | Elements of Distribution Theory | Course Code: | Stat 111 |
| 2. Credit hours : | 3hours | | |
| 3 - Program(s) in which the course is offered: | Bsc in Computer Science | | |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | | | |
| 6 - Level/year at which this course is offered : | 6 | | |
| 7 - Pre-requisites for this course (if any) : | none | | |
| 8 - Co-requisites for this course (if any) : | none | | |
| 9 - Location if not on main campus : | AlGhat- college building | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 100% |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | |
| D - e-learning | <input type="checkbox"/> | What percentage? | |
| E - Correspondence | <input type="checkbox"/> | What percentage? | |
| F - Other | <input type="checkbox"/> | What percentage? | |
| Comments : | | | |

B Objectives

What is the main purpose for this course?

Upon completion of this course, students will:

- Know the basic axioms and set theory upon which probability theory is based including sample spaces and events, mutual exclusivity, conditional probability, independence, and Bayes theorem..
- Understand the concept of random variables and probability mass functions, densities, and distributions.
- Understand the concept of expectation and be able to apply it in decision making
- Understand the mean and variance of a random variable.
- Know various well-known distributions and how they are used in practice.
- Understand joint, marginal, and conditional distributions
- Be able to apply probability theory to solve probability problems.





Briefly describe any plans for developing and improving the course that are being implemented :

- 1- The use of new teaching methods, such as cooperative learning and rely on thinking skills.
- 2- Increase use of references that depend on information technology or the Internet.
- 3- Self-reliance in the study.
- 4- The use and benefit of learning resources library.

C. Course Description

1. Topics to be covered

| List of Topics | No. of Weeks | Contact Hours |
|--|--------------|---------------|
| Random experiment The sample space and Events. | 2 | 6 |
| Definition of probability ,Axioms of probability theory | 1 | 3 |
| Conditional probability and Independence , Bayesian theory | 2 | 6 |
| Random Variable Discrete Random Variable | 1 | 3 |
| Revision and Test 1 | 1 | 3 |
| Continuous random Variable Probability Mass Function | 1 | 3 |
| Probability Density Function Cumulative Distribution Function | 1 | 3 |
| Expectation, Variance and Moment for Discrete random variable. Moment generating function | 1 | 3 |
| Binomial Distribution Poisson Distribution | 1 | 3 |
| Test2 Geometric Distribution | 1 | 3 |
| Hyper- geometric Distribution Negative Binomial Distribution | 1 | 3 |
| Uniform Distribution Exponential Distribution | 1 | 3 |
| Normal Distribution Standard Normal Distribution | 1 | 3 |





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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|-----------|----------|------------|-----------|----------|-------|
| Contact Hours | 15 | 0 | 0 | 0 | 0 | 45 |
| Credit | 45 | 0 | 0 | 0 | 0 | 45 |

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

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|---|--|--|
| 1.0 | Knowledge | | |
| 1.1 | The student recognizes the principles of the theory of distribution. | <ul style="list-style-type: none"> • Lectures. • Supplemental notes to clarify some important topics. • Homework assignments. | <ul style="list-style-type: none"> • Med-terms and final exams • Evaluation of teacher assistant in class • discussions |
| 1.2 | The student recognizes discrete random variable and continuous random variable. | | |
| 1.3 | . The student should be able to use these principles in the solving problems. | | |
| 1.4 | The student recognizes the appropriate distribution and how it is used in applications. | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | The ability to know the concept of discrete and | <ul style="list-style-type: none"> • Activation of | <ul style="list-style-type: none"> • Assessment of |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|---|--|---|---|
| | random variable and The concept of continuous random variable. | modern teaching methods such as cooperative learning and education mini-built and education. <ul style="list-style-type: none"> • Activation of the use of modern technological means (computer, internet, conferences, etc ...) | student skills in the use of interactive technology through research and offers progressive.. <ul style="list-style-type: none"> • Student participation and discussion in the classroom. |
| 2.2 | The development of the student's ability to use these concepts to solve problems. | | |
| 2.3 | The development of the student's ability to apply these concepts to solve applications. | | |
| | | | |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | <ul style="list-style-type: none"> • Develop the student's ability to dialogue and discussion with others. | Lecture administration, reflecting the importance of scientific material in the course. | <ul style="list-style-type: none"> • Participation actors in the classroom and the student's commitment to bear responsibility guide. |
| 3.2 | <ul style="list-style-type: none"> • Development of interpersonal skills and responsibility. | . Students discuss how to solve assignments and duties Keenness on activating the feedback. | Observing encouragement of students to give answers and to discussion inside class hours |
| 3.3 | <ul style="list-style-type: none"> • The ability to work in groups for dialogue, discussion and research. | | |
| 4.0 Communication, Information Technology, Numerical | | | |
| 4.1 | <ul style="list-style-type: none"> • Communicate technical information effectively. | <ul style="list-style-type: none"> • Lecturing by the course instructor and the teacher assistant. • Handouts of supplemental materials in addition to the textbook. • Home work and in class assignment | <ul style="list-style-type: none"> • Direct questions to student during class hours. • Home works and in class assignments. Med terms and final exams <ul style="list-style-type: none"> • Direct questions to student during class hours. • Home works and |
| 4.2 | <ul style="list-style-type: none"> • Participation and discussion during the lectures | | |
| 4.3 | <ul style="list-style-type: none"> • Perform research and encourage performing team work activity | | |
| 4.4 | <ul style="list-style-type: none"> • Preparing reports and improves their communication skills using the internet to search for related topics. | | |
| 4.5 | <ul style="list-style-type: none"> • Acquaintance of using computer software related to the course. | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|--|
| 5.6 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Home works and in class assignment..... | in class assignments. Med terms and final exams |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |

5. Schedule of Assessment Tasks for Students during the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|--|----------|--------------------------------|
| 1 | <ul style="list-style-type: none"> Homework's and assignments | On going | 10% |
| 2 | <ul style="list-style-type: none"> Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none"> Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none"> Final exam | 16 | 50% |
| 5 | <ul style="list-style-type: none"> Total | - | 100% |





D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 2 hr/ week

E. Learning Resources

1. List Required Textbooks :

- Principles of statistics and probability, Dr. Barry, Dr. Hindi and Dr. Abdalbir, KSU, 1997
- Introduction to statistical theory, Dr. Ahmed Awdah

2. List Essential References Materials :

Theory of Probability , Dr. Jalal Alsayad
Probability and Mathematical Statistics, Hogg and Cragg.

4. List Recommended Textbooks and Reference Material :

Statistical reports

Scientific Journals.

4. List Electronic Materials :

- http://www.analyze-math.com/statistics/introduction_statistics.html
- <http://ar.wikipedia.org/wiki/>

5. Other learning material :

- Depend on teacher

F. Facilities Required

1. Accommodation

- Lecture room with at least 32 seats.

2. Computing resources

- Over head Projector

3. Other resources

- Statistical programs such as SPSS

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Mid-term tests
- Final test
- Course evaluation by student





- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

-
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

Evaluation of the final tests
Evaluation exercises performed by students

Use some statistical signs that indicate the extent to which student achievement

Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the student's evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved

Department Official Meeting No (.....) Date ... / / H

Course's Coordinator

Name : Abdelmoneim Ali
Mohamed Hamed
Signature :
Date : 12/ 2 / 1436 H

Department Head

Name :
Signature :
Date : .../ ... / H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College Of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | Information Technology |
| Course : | Selected Topic in Information Technology |
| Course Coordinator : | Dr MAGDI HAMOUDA |
| Programme Coordinator : | Adil Alshammari |
| Course Specification Approved Date : | 11/ 5 / 1436 |



A. Course Identification and General Information

| | | | |
|--|-------------------------------------|------------------|---------|
| 1 - Course title : COMPUTER NETWORK | Course Code: CAP 490 | | |
| 2. Credit hours : 2 (2+2+0) | | | |
| 3 - Program(s) in which the course is offered: | | | |
| 4 – Course Language : English | | | |
| 5 - Name of faculty member responsible for the course: College Of Science and Humanities at Alghat | | | |
| 6 - Level/year at which this course is offered : Level 1 / First Year | | | |
| 7 - Pre-requisites for this course (if any) : • None | | | |
| 8 - Co-requisites for this course (if any) : • None | | | |
| 9 - Location if not on main campus : (.....) | | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 100 % |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | % |
| D - e-learning | <input type="checkbox"/> | What percentage? | % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | | | |

B Objectives

What is the main purpose for this course?

This course intends to introduce special topics of current trends in information technology. Topics covered in this course should be approved by the department council and may be conducted by one or two instructors. Such possible topics include: ERP, Requirement Engineering Tools and Methods, Simulation, Virtual Reality, IT project management, Internet Security, Data Warehousing and Mining, Geographic Information Systems, Telemedicine and Medical Informatics, Workflow Management, Quantitative and Qualitative Methods in Information Systems, Global Information Technology Management, Intelligent Agent Technology and Applications, Human Computer Interaction, Computer-Based Learning and Training, Philosophical Foundations of Information Systems, Absorbing Continuous IT Developments in Organizations, IT Professional and Organizational Needs, Organizational Learning and Collaborative Technologies, Understanding and Managing Information Users Behavior, Policy, Legal and Security Issues in IT, and Virtual Organizations.





- **Briefly describe any plans for developing and improving the course that are being implemented:** Periodical review of the course by the instructor and the department courses planning committee.
- Attempting to use computer softwares and projectors in teaching the course.
- Giving students some materials supplementing the textbook.
- Questionnairng students about the way of teaching the course.

C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|--|--------------|---------------|
| Introduction IT project management | 3 | 3 |
| Describe the project management profession | 3 | 3 |
| Project Management Statistics | 3 | 3 |
| . Motivation for Studying Information Technology (IT) Project Management | 2 | 3 |
| Describe the difference between product scope and project scope. | 2 | |
| Scop definition | 2 | 3 |
| ● Defining IT Failure | 3 | 3 |





| | | |
|--|--|--|
| <ul style="list-style-type: none"> ● Defining Risk and Risk Management ● Risk Management Cycle <ul style="list-style-type: none"> – Risk Identification – Risk Analysis – Risk Handling – Risk Monitoring | | |
| | | |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|-----------|----------|------------|-----------|--------|-------|
| Contact Hours | 45 | ..... | ..... | ..... | ..... | 45 |
| Credit | 3 | ..... | ..... | ..... | ..... | 3 |

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

.....

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|---|--|
| 1.0 | Knowledge | | |
| 1.1 | The student will gain knowledge and understanding of: Architecture of networking (client-server). | <ul style="list-style-type: none"> ● Lectures. ● Supplemental notes to clarify some important topics. ● Homework assignments. ● Practical Hours | <ul style="list-style-type: none"> ● Med-terms and final exams ● Evaluation of teacher assistant in class ● discussions |
| 1.2 | <ul style="list-style-type: none"> ● Ability to know how a web server works and the facilities it utilizes to service client requests | | |
| 1.3 | <ul style="list-style-type: none"> ● Performance evaluation | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|---|--|--|--|
| 1.4 | <ul style="list-style-type: none"> • Instruction set principles | with teacher assistant. <ul style="list-style-type: none"> • Advising students to use computer softwares applicable to the course content. • Office hours to clarify anything related to the course. | |
| 1.5 | ; <ul style="list-style-type: none"> • Pipelining. | | |
| 2.0 Cognitive Skills | | | |
| 2.2 | This course requires the student to demonstrate the following: Analyze the approaches and techniques related to pipelining (hazards, forwarding, and branch prediction). | <ul style="list-style-type: none"> • Lectures. • Practical class and homework assignments with teacher assistant. • Supplemental materials to the textbook. • Related computer softwares and websites. | <ul style="list-style-type: none"> • In class discussions with students. • Med terms and final exams. • In class and homework assignments with teacher assistant. |
| 2.3 | 1. Apply the factors that contribute to computer performance . | | |
| 2.4 | 2. Select the most appropriate performance metric when evaluating a computer . | | |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | The ability to work independently to accomplish assigned tasks | <ul style="list-style-type: none"> • Individual assignments. • Solving problems individually during class hours, and then discussing solutions. • Questions directed to all students during class hours, and then discussing answers. | <ul style="list-style-type: none"> • Evaluating students' individual works by homeworks and exams. • Observing encouragement of students to give answers and to discussion inside class hours. |
| 3.2 | The ability to communicate and to discuss related topics of the course with instructor inside and outside class | | |
| 4.0 Communication, Information Technology, Numerical | | | |
| 4.1 | Communicate technical information • | • Lecturing by the | • Direct |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|---|---|---|
| 4.2 | effectively <ul style="list-style-type: none"> Participation and discussion during the lectures | course instructor and the teacher assistant. <ul style="list-style-type: none"> Handouts of supplemental materials in addition to the textbook. Homeworks and in class assignment. | questions to student during class hours. <ul style="list-style-type: none"> Homeworks and in class assignments. Med terms and final exams. |
| 4.4 | Perform research and encourage performing team work activity | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|---|----------|--------------------------------|
| 1 | <ul style="list-style-type: none"> Homeworks and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none"> Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none"> Med term exam II | 12 | 20% |
| 4 | <ul style="list-style-type: none"> Practical exam | 15 | 20% |
| 5 | <ul style="list-style-type: none"> Final exam | 15 | 30% |





D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

1. List Required Textbooks :

- 1- According to the course-specific

2. List Essential References Materials :

1. List Recommended Textbooks and Reference Material

Any textbook that contains examples of formulating computer network and Artificial Intelligence

2. List Electronic Materials :

Websites on the internet that are relevant to the topics of the course

<http://www.cs.washington.edu/research/jair/home.html>

5. Other learning material :

F. Facilities Required

1. Accommodation

- Lecture room with at least 35 seats.
- \

2. Computing resources

- Computer lab room containing at least 35 systems for lab hours.
- Projector.

3. Other resources





- Central Printer.
- Scanner.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Magdi Mohammed Hamoda
Signature :
Date : 03/ 05 / 1436 H

Department Head

Name : Adil Alshammari
Signature :
Date : 03/ 05 / 1436 H





Level8



Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College Of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme : | Information Technology |
| Course : | Electronic business |
| Course Coordinator : | Hassen HAMOUDA |
| Programme Coordinator : | Adel ALSHAMRY |
| Course Specification Approved Date : | 11-5-1436 |

A. Course Identification and General Information



| | | | |
|--|-------------------------------------|---------------------|---------|
| 1 - Course title : Electronic Business Systems | | Course Code: CAP472 | |
| 2. Credit hours : 3(3+0+0) | | | |
| 3 - Program(s) in which the course is offered: | | | |
| 4 – Course Language : English | | | |
| 5 - Name of faculty member responsible for the course: | | | |
| 6 - Level/year at which this course is offered : Fourth year/ Level8 | | | |
| 7 - Pre-requisites for this course (if any) : None | | | |
| 8 - Co-requisites for this course (if any) : None | | | |
| 9 - Location if not on main campus : | | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 100 % |
| B - Blended (traditional and online) | <input type="checkbox"/> | What percentage? | % |
| D - e-learning | <input type="checkbox"/> | What percentage? | % |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | | | |

B Objectives

| |
|---|
| <p>What is the main purpose for this course?</p> <p>Types of ebusiness systems; Corporate strategic planning for ebusiness adoption; Business design/architecture for ebusiness application; Web-based marketing strategies and models; ebusiness Project Management; Public Policy and Legal Issues of Privacy; Socio-Technical Infrastructure for ebusiness; Risk Management in ebusiness Initiatives; E-Transformation; Measuring Effectiveness of ebusiness Projects; ebusiness and organizational change management; ebusiness and competitiveness; Success and failure in ebusiness implementation; ebusiness in Banking; ebusiness and Online Publishing; ebusiness in Manufacturing; ebusiness and Supply Chain Management; ebusiness and Customer Asset Management; Electronic Payment Systems; Mobile ebusiness systems; Modern and future trends in developing ebusiness systems; Available packages and software tools: technical evaluation. Case study using SAP, Baan, Oracle or other solutions.</p> <p>Briefly describe any plans for developing and improving the course that are being implemented.</p> <ul style="list-style-type: none"> • Periodical review of the course by the instructor and the department courses planning committee. • Attempting to use computer softwares and projectors in teaching the course. • Giving students some materials supplementing the textbook. • Questionnairng students about the way of teaching the course. |
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C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|--|--------------|---------------|
| Chapter 1- Introduction to e-business and e-commerce | 2 | 6 |
| Chapter 2- E-commerce fundamentals | 2 | 6 |
| Chapter 3- E-business Infrastructure | 1 | 3 |
| Chapter 4- E-environment | 1 | 3 |
| Chapter 5- E-business Strategy | 1 | 3 |
| Chapter 6- Supply Chain Management | 2 | 6 |
| Chapter 7- E-procurement | 1 | 3 |
| Chapter 8- E-marketing | 1 | 3 |
| Chapter 9- Customer Relationship Management | 1 | 3 |
| Chapter 10- Change management | 1 | 3 |
| Chapter 11- Analysis and Design | 1 | 3 |
| Chapter 12- Implementation | 1 | 3 |

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

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|---------|----------|------------|-----------|--------|-------|
| Contact Hours | 45 | 0 | 0 | 0 | 0 | 45 |
| Credit | 3 | ..... | ..... | ..... | ..... | 3 |





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

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|--|
| 1.0 | Knowledge | | |
| 1.1 | Explore both the technical and business-related implications of electronically mediated commerce. | <ul style="list-style-type: none"> • Lectures. • Supplemental notes to clarify some important topics. • Homework assignments. • Practical Hours with teacher assistant. • Advising students to use computer software's applicable to the course content. • Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> • Med-terms and final exams • Evaluation of teacher assistant in class • discussions |
| 1.2 | Trace the development of electronic business from its origins in electronic data interchange to its current growing importance | | |
| 1.3 | Explores the potential of electronic business for future development and the development of the 'Information Society' | | |
| 1.4 | Explores the impact of the Information Superhighway on economic and social regeneration through the creation of new forms of organizational structure and working practices. | | |
| 2.0 | Cognitive Skills | | |
| 2.1 | Introduces the student to the strategic, cultural, legal and ethical issues facing business organizations in their daily use of the Internet. | <ul style="list-style-type: none"> • Lectures. • Practical class and homework assignments with teacher assistant. • Supplemental materials to the textbook. • Related computer software's and websites | <ul style="list-style-type: none"> • In class discussions with students. • Med terms and final exams. • In class and homework assignments with teacher assistant. |
| 3.0 | Interpersonal Skills & Responsibility | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|--|
| 3.1 | <ul style="list-style-type: none"> The ability to work independently to accomplish assigned tasks. | <ul style="list-style-type: none"> Individual assignments. Solving problems individually during class hours, and then discussing solutions. | <ul style="list-style-type: none"> Evaluating students' individual works by homework's and exams. Observing encouragement of students to give answers and to discussion inside class hours |
| 3.2 | <ul style="list-style-type: none"> The ability to communicate and to discuss related topics of the course with instructor inside and outside class. | | |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | <ul style="list-style-type: none"> Acquaintance of using computer software related to the course. | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homework's and in class assignments. |
| 4.2 | <ul style="list-style-type: none"> Acquaintance of using internet to get information related to the course. | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |
| 5.2 | ..... | ..... | ..... |

5. Schedule of Assessment Tasks for Students during the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|---|----------------------------|----------|-----------------------------------|
| 1 | Home works and assignments | Weekly | 10% |
| 2 | Med term exam I | 7 | 20% |
| 3 | Med term exam II | 12 | 20% |
| 5 | Final exam | 15 | 50% |





D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

1. List Required Textbooks :

1. K. C. Laudon & C. G. Traver , E- Commerce : Business Technology , society , 2nd Edition , Addison Wesley

2. List Essential References Materials :

1. "E-Business and E-Commerce Management: Strategy, Implementation and Practice", 3th Edition, by Dave Chaffey, Prentice Hall 2011.
2. "E-commerce 2014", 10th Edition by Ken Laudon and Carol Guercio Traver , 2014.

3. List Recommended Textbooks and Reference Material :

1. Any textbook that contains examples.

4. List Electronic Materials :

3. <https://jvn2k07.files.wordpress.com/2014/04/dave-chaffey-e-business-and-e-commerce-management-strategies-4th-ed-qwerty80.pdf>
4. http://en.wikibooks.org/wiki/E-Commerce_and_E-Business/Concepts_and_Definitions
5. <http://www.ebusinessprogrammers.com/default.asp>

5. Other learning material :

F. Facilities Required

1. Accommodation

- Lecture room with at least 25 seats.

2. Computing resources

- Computer lab room containing at least 25 systems for lab hours.
- Windows OS.
- Projector

3. Other resources

- Central Printer.
- Scanner

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student





- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department

Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and soft wares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewer.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the student's evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved

Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Hassen HAMOUDA

Signature : 

Date : 11/ 05 / 1436 H

Department Head

Name : Adel ALSHAMRY

Signature :

Date : .../ ... / H





Course Specifications

| | |
|--------------------------------------|---|
| Institution: | College of Science and Humanities at Alghat |
| Academic Department : | Computer Science |
| Programme: | Information Technology |
| Course : | Selected Topic in Information Technology 2 |
| Course Coordinator : | Faisal Mohammed Nafie |
| Programme Coordinator : | Adil Alshammari |
| Course Specification Approved Date : | 11/ 05 / 1436 |



A. Course Identification and General Information

| | | | |
|--|---|------------------|---------|
| 1 - Course title : | Selected Topic in Information Technology 2 | Course Code: | 492 CAP |
| 2. Credit hours : | 3 (3+0+1) | | |
| 3 - Program(s) in which the course is offered: | ..... |  |  |
| 4 – Course Language : | English | | |
| 5 - Name of faculty member responsible for the course: | College Of Science and Humanities at Alghat | | |
| 6 - Level/year at which this course is offered : | Fourth Year/Level8 | | |
| 7 - Pre-requisites for this course (if any) : | <ul style="list-style-type: none"> • CAP 490 | | |
| 8 - Co-requisites for this course (if any) : | <ul style="list-style-type: none"> • None | | |
| 9 - Location if not on main campus: | (.....) | | |
| 10 - Mode of Instruction (mark all that apply) | | | |
| A - Traditional classroom | <input checked="" type="checkbox"/> | What percentage? | 90 % |
| B - Blended (traditional and online) | <input checked="" type="checkbox"/> | What percentage? | 5 % |
| D - e-learning | <input checked="" type="checkbox"/> | What percentage? | 5% |
| E - Correspondence | <input type="checkbox"/> | What percentage? | % |
| F - Other | <input type="checkbox"/> | What percentage? | % |
| Comments : | ..... |  |  |

B Objectives

What is the main purpose for this course?

This course intends to introduce special topics of current trends in information technology. Topics covered in this course should be approved by the department council and may be conducted by one or two instructors. Such possible topics include: ERP, Requirement Engineering Tools and Methods, Simulation, Virtual Reality, IT project management, Internet Security, Data Warehousing and Mining, Geographic Information Systems, Telemedicine and Medical Informatics, Workflow management, Android Apps, Data retrieval, Social Network, Quantitative and Qualitative Methods in Information Systems, Global Information Technology Management,, Intelligent Agent Technology and Applications, Human Computer Interaction, Computer-Based Learning and Training, Philosophical Foundations of Information Systems, Absorbing Continuous IT Developments in Organizations, IT Professional and Organizational Needs, Organizational Learning and Collaborative Technologies, Understanding and Managing Information Users Behavior, Policy, Legal and Security Issues in IT, and Virtual Organizations.





- **Briefly describe any plans for developing and improving the course that are being implemented:** Periodical review of the course by the instructor and the department courses planning committee.
- Attempting to use computer softwares and projectors in teaching the course.
- Giving students some materials supplementing the textbook.
- Questionnairng students about the way of teaching the course.

C. Course Description

1. Topics to be Covered

| List of Topics | No. of Weeks | Contact Hours |
|---|--------------|---------------|
| Choice of subjects to be discussed with the students Divide the students into groups | 1 | 3 |
| Teach students how to write and how to search and display techniques of presentation and discussion | 2 | 6 |
| Subject 1: Android Apps | 3 | 9 |
| Subject 2: Social network | 3 | 9 |
| Subject 3: Data mining | 3 | 9 |
| Subject 4: Workflow Management Systems | 3 | 9 |

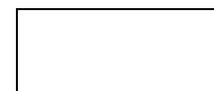
2 Course components (total contact hours and credits per semester):

| | Lecture | Tutorial | Laboratory | Practical | Other: | Total |
|----------------------|-----------|----------|------------|-----------|--------|-------|
| Contact Hours | 15 | ..... | ..... | ..... | ..... | 45 |
| Credit | 3 | ..... | ..... | ..... | ..... | 3 |

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

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

| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|--|---|---|--|
| 1.0 Knowledge | | | |
| 1.1 | The student will gain knowledge and understanding of: Architecture of Android, Components of Android, features of Android. | <ul style="list-style-type: none"> • Lectures. • Supplemental notes to clarify some important topics. • Homework assignments. • Practical Hours with teacher assistant.. • Office hours to clarify anything related to the course. | <ul style="list-style-type: none"> • Med-terms and final exams • Evaluation of teacher assistant in class • Discussions • Projects • presentation |
| 1.2 | Ability to know how Android Applications running. | | |
| 1.3 | | | |
| 1.4 | Know the Concept and technology of data mining ; | | |
| 1.5 | Understanding workflow technology | | |
| 2.0 Cognitive Skills | | | |
| 2.2 | This course requires the student to demonstrate the following: how to write , search and display techniques of presentation and discussions | <ul style="list-style-type: none"> • Lectures. • Practical class and homework assignments with teacher assistant. • Supplemental materials to the textbook. • Related computer software's and websites. | <ul style="list-style-type: none"> • In class discussions with students. • Med terms and final exams. • In class and homework assignments with teacher assistant. |
| 2.3 | 1. How to Apply the Workflow Management Systems | | |
| 2.4 | 2. Select the most appropriate performance metric when evaluating data mining methods . | | |
| 3.0 Interpersonal Skills & Responsibility | | | |
| 3.1 | The ability to work independently to accomplish assigned tasks | <ul style="list-style-type: none"> • Individual assignments. • Solving problems individually during class hours, and then discussing solutions. | <ul style="list-style-type: none"> • Evaluating students' individual works by homeworks and exams. • Observing encouragement |
| 3.2 | The ability to communicate and to discuss related topics of the course with instructor inside and outside class | | |





| | NQF Learning Domains And Course Learning Outcomes | Course Teaching Strategies | Course Assessment Methods |
|------------|--|--|---|
| | | <ul style="list-style-type: none"> Questions directed to all students during class hours, and then discussing answers. | of students to give answers and to discussion inside class hours. |
| 4.0 | Communication, Information Technology, Numerical | | |
| 4.1 | Communicate technical information effectively | <ul style="list-style-type: none"> Lecturing by the course instructor and the teacher assistant. Handouts of supplemental materials in addition to the textbook. Homeworks and in class assignment. | <ul style="list-style-type: none"> Direct questions to student during class hours. Homeworks and in class assignments. Med terms and final exams. |
| 4.2 | Participation and discussion during the lectures | | |
| 4.4 | Perform research and encourage performing team work activity | | |
| 5.0 | Psychomotor | | |
| 5.1 | Not applicable | Not applicable | Not applicable |

5. Schedule of Assessment Tasks for Students During the Semester:

| | Assessment task | Week Due | Proportion of Total Assessment |
|----------|--|---------------|--------------------------------|
| 1 | <ul style="list-style-type: none"> Home works and assignments | Weekly | 10% |
| 2 | <ul style="list-style-type: none"> Med term exam I | 7 | 20% |
| 3 | <ul style="list-style-type: none"> Med term exam II | 12 | 20% |
| 5 | <ul style="list-style-type: none"> Final exam | 15 | 50% |





D. Student Academic Counseling and Support

- Supervision of activities conducted by the teacher assistant.
- Office hours 6 hr/ week

E. Learning Resources

1. List Required Textbooks :

- 1- According to the course-specific

2. List Essential References Materials :

1. List Recommended Textbooks and Reference Material

Any textbook that contains examples of formulating computer network and Artificial Intelligence

2. List Electronic Materials :

Websites on the internet that are relevant to the topics of the course

<http://www.cs.washington.edu/research/jair/home.html>

5. Other learning material :

F. Facilities Required

1. Accommodation

- Lecture room with at least 35 seats.
- \

2. Computing resources

- Computer lab room containing at least 35 systems for lab hours.
- Projector.





3. Other resources

- Central Printer.
- Scanner.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Course evaluation by student
- Students-faculty meetings

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

- Discussions within the group of faculty teaching the course.
- Departmental internal review of the course.
- Outside review of the course.

3 Processes for Improvement of Teaching :

- Providing computer labs containing up-to-date computers and softwares.
- Conducting and attending workshops given by experts on the teaching and learning methodologies.
- Periodical departmental and outside revisions of its methods of teaching.
- Monitoring of teaching activates by senior faculty members.

4. Processes for Verifying Standards of Student Achievement

- Reviewing exam questions and a sample of corrected papers from a departmental committee and outside reviewers.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- The course material and learning outcomes are periodically reviewed internally and externally.
- Comparing course content and teaching methodologies with similar courses offered at other departments.
- Studying the outcomes of the students evaluation of the course and using these outcomes to improve teaching the course.

Course Specification Approved
Department Official Meeting No (20) Date 11 / 05 / 1436 H

Course's Coordinator

Name : Faisal Mohammed

Department Head

Name : Adil Alshammari.





Signature :

Date : 03/ 05 / 1436 H

Signature :

Date : 03/ 05 / 1436 H

