

# Computer Science - Higher National Diploma (HND)

## YEAR II SEMESTER II

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## Course: Computer Graphics and Animation

<b>Department / Programme: COMPUTER SCIENCE. (HND)</b>			
<b>Course: COMPUTER GRAPHICS AND ANIMATION</b>	<b>Course Code: 422</b>	<b>Credit Hours:</b>	<b>5 hours/week</b>
<b>Year: HND11 Semester: 11</b>	<b>Pre-requisite:</b>	<b>Theoretical:</b>	<b>2 hours/week</b>
		<b>Practical:</b>	<b>3 hours /week</b>
<b>General Objectives:</b>			
<b>On completion of this course the student should be able to:</b>			
1.0 Know the basic concept of computer graphics.			
2.0 Know the concept of interactive graphics.			
3.0 Know the Mathematics for two-dimensional computer graphics.			
4.0 Understand the concept of raster graphics.			
5.0 Know two-dimensional transformations.			
6.0 Know graphics input/output.			
7.0 Know available graphics facilities.			
8.0 Know graphic packages.			
9.0 Know graphic packages			
10.0 To revise the course.			

Theoretical Content			Practical Content			
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
<b>General Objective 1: Know the basic concept of computer graphics</b>						
1	Ability to understand: <ul style="list-style-type: none"> <li>• The concept of a graphical system</li> <li>• The origin of computer graphics</li> <li>• The meaning of a picture element: block pixel, line</li> <li>• The techniques clipping, geometric transformation and incremental methods.</li> </ul>	To: <ul style="list-style-type: none"> <li>- Explain the concept of graphics.</li> <li>- Explain the origin of computer graphics</li> <li>- Define a picture element: block pixel, and</li> <li>- Explain the techniques of clipping, geometric transformation and incremental methods.</li> </ul>	<ul style="list-style-type: none"> <li>- A PC loaded with a graphic packages such as, Auto cards and coreldraw and connected to an OHP.</li> <li>- Reference manual on graphic packages.</li> </ul>	To be able explore graphic packages and Understand their characteristics	To assist student explore graphic packages	A PC loaded with a graphic packages in a networked laboratory
<b>General Objective 2: Know the concept of interactive graphics</b>						
2	Ability to understand: <ul style="list-style-type: none"> <li>• The concept of interactive graphics</li> </ul>	To: <ul style="list-style-type: none"> <li>- Explain interactive graphics</li> <li>- Explain the two basic types of graphical interactions; pointing and positioning</li> <li>- Explain event handling; polling; interrupts and event queue.</li> <li>- Explain input functions dragging and fixing hit detection and on-line character recognition.</li> </ul>	<ul style="list-style-type: none"> <li>- A PC loaded with a graphic packages such as, Auto cards and coreldraw and connected to an OHP.</li> <li>- Reference manual on graphic packages.</li> </ul>	To be able explore graphic packages and understand their characteristics	To assist student explore graphic packages	A PC loaded with a graphic packages in a networked laboratory
<b>General Objective 3: Understand the Mathematics for two-dimensional computer graphics</b>						
3	Ability to understand: <ul style="list-style-type: none"> <li>• The two-dimensional Cartesians coordinate system.</li> <li>• The polar-coordinate</li> </ul>	To: <ul style="list-style-type: none"> <li>- Explain the two-dimensional Cartesians coordinate system.</li> <li>- Explain the polar-coordinate system</li> <li>- Explain vectors</li> <li>- Explain Matrices</li> </ul>	<ul style="list-style-type: none"> <li>- A PC loaded with a graphic packages such as, Auto cards and coreldraw and connected to an OHP.</li> <li>- Reference manual on graphic packages.</li> </ul>	To be able to write program involving two dimensional cartessian and polar coordinate system	To assist student in writing program involving two dimensional cartessian and polar coordinate system	A PC loaded with a graphic packages in a networked laboratory

Theoretical Content			Practical Content			
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
	system <ul style="list-style-type: none"> <li>• Vectors and matrices</li> <li>• Functions and transformations.</li> </ul>	- Explain Functions and transformations.				
<b>General Objective 4: Understand the concept of raster graphics</b>						
4	Ability to understand: <ul style="list-style-type: none"> <li>• The concept of raster graphic fundamentals</li> <li>• A raster image</li> <li>• Useful operation for manipulating raster.</li> </ul>	To: <ul style="list-style-type: none"> <li>- Explain raster graphic fundamentals</li> <li>- Generate a raster image</li> <li>- Describe useful operation for manipulating raster.</li> <li>- Write rectangle, mask, colour, copy raster, invert mask and invert rectangle and regular polygon.</li> </ul>	- A PC loaded with a graphic packages such as, Auto cards and coreldraw and connected to an OHP. <ul style="list-style-type: none"> <li>- Reference manual on graphic packages.</li> </ul>	To be able to write program to produce raster image	To assist student in writing program to produce raster image	A PC loaded with a graphic packages in a networked laboratory
<b>General Objective 5: Know two-dimensional transformations</b>						
5	Ability to understand: <ul style="list-style-type: none"> <li>• Geometric Coordinate, composite and instance transformation</li> </ul>	To: <ul style="list-style-type: none"> <li>- Explain Geometric Coordinate, composite and instance transformation</li> </ul>	- A PC loaded with a graphic packages such as, Auto cards and coreldraw and connected to an OHP. <ul style="list-style-type: none"> <li>- Reference manual on graphic packages.</li> </ul>	To be able to write simple program involving geometric image.	To assist student in writing simple program involving geometric image.	A PC loaded with a graphic packages in a networked laboratory
<b>General Objective 6: Know graphics input/output.</b>						
6	Ability to understand: <ul style="list-style-type: none"> <li>• Understand graphics input and output devices</li> </ul>	To: <ul style="list-style-type: none"> <li>- Describe graphics input devices, out put devices, mouse tablets, the light pen, etc.</li> <li>- Explain three-dimensional input devices: acoustics and mechanical devices.</li> <li>- Explain graphic out-put devices, plotters visual display units and oscilloscopes</li> </ul>	- A PC loaded with a graphic packages such as, Auto cards and coreldraw and connected to an OHP. <ul style="list-style-type: none"> <li>- Reference manual on graphic packages.</li> </ul>	To be able to write simple program involving geometric image.	To assist student in Writing simple program involving geometric image.	A PC loaded with a graphic packages in a networked laboratory

Theoretical Content			Practical Content			
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
<b>General Objective 7: Know available graphics facilities</b>						
7-8	Ability to understand: <ul style="list-style-type: none"> <li>• Block graphics characters and the codes.</li> <li>• The use of graphics commands.</li> <li>• The graphics facilities available on computer.</li> </ul>	To: <ul style="list-style-type: none"> <li>- Explain block graphics characters and the codes.</li> <li>- Explain the design process of graphics characters suitable for use by a program to give an animation effect.</li> <li>- Explain the use of graphics commands.</li> <li>- Explain the graphics facilities available on computer.</li> </ul>	<ul style="list-style-type: none"> <li>- A PC loaded with a graphic packages such as, Auto cards and coreldraw and connected to an OHP.</li> <li>- Reference manual on graphic packages.</li> </ul>	To be able to write programs to display an isosceles triangle, regular hexagon and a circle	To assist student in writing programs to display an isosceles triangle, regular hexagon and a circle	A PC loaded with a graphic packages in a networked laboratory
<b>General Objective 8: Know graphic packages</b>						
9-10	Ability to understand: <ul style="list-style-type: none"> <li>• Graphic package.</li> </ul>	To: <ul style="list-style-type: none"> <li>- Describe the meaning of graphic package graphic.</li> </ul>	<ul style="list-style-type: none"> <li>- A PC loaded with a graphic packages such as, Auto cards and coreldraw and connected to an OHP.</li> <li>- Reference manual on graphic packages.</li> </ul>	To be able to write programs to display an isosceles triangle, regular hexagon and a circle.	To assist student in writing programs to display an isosceles triangle, regular hexagon and a circle	A PC loaded with a graphic packages in a networked laboratory
<b>General Objective 9: Know two dimensional viewing and clipping</b>						
11-13	Ability to understand: <ul style="list-style-type: none"> <li>• Window-to-window view port mapping</li> <li>• Point, line and polygon clipping</li> </ul>	To: <ul style="list-style-type: none"> <li>- Explain window-to-view port mapping</li> <li>- Explain point clipping</li> <li>- Explain line clipping</li> <li>- Explain polygon clipping</li> <li>- 2D graphics pipeline.</li> </ul>	<ul style="list-style-type: none"> <li>- A PC loaded with a graphic packages such as, Auto cards and coreldraw and connected to an OHP.</li> <li>- Reference manual on graphic packages.</li> </ul>	To be able to write program to produce a 2D graphics pipeline.	To assist student in writing program to produce a 2D graphics pipeline.	A PC loaded with a graphic packages in a networked laboratory

Theoretical Content			Practical Content			
Week	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
<b>General Objective 10: To revise the course</b>						
14-15	<ul style="list-style-type: none"> <li>Revise the course</li> </ul>	To: <ul style="list-style-type: none"> <li>Revises the syllabus.</li> <li>solves more tutorial questions.</li> </ul>	<ul style="list-style-type: none"> <li>A PC loaded with a graphic packages such as, Auto cards and coreldraw and connected to an OHP.</li> <li>Reference manual on graphic packages.</li> </ul>	To be able to write program to produce a 2D graphics pipeline	To assist student in writing program to produce a 2D graphics pipeline.	A PC loaded with a graphic packages in a networked laboratory

**Assessment:** Give details of assignments to be used: Coursework/ Assignments 20 %; Course test %; Practical %; Projects 20 %; Examination 60 %

**Recommended Textbooks & References:**

## Course: Introduction to Artificial Intelligence and Expert System

<b>Department / Programme: COMPUTER SC. (HND)</b>			
<b>Course: Introduction to artificial Intelligence and expert system.</b>	<b>Course Code: COM 423</b>	<b>Credit Hours:</b>	<b>5 hours/week</b>
<b>Year: Semester:</b>	<b>Pre-requisite:</b>	<b>Theoretical:</b>	<b>2 hours/week</b>
		<b>Practical:</b>	<b>3 hours /week</b>
<b>General Objectives:</b>			
<b>On Completion of this course the student should be able to:</b>			
1.0 Understand the concept of artificial intelligence.			
2.0 Understanding problem solving techniques using formal and informal language.			
3.0 Know how to relate problem solving to Artificial intelligence.			
4.0 Know how to relate problem-solving to Artificial intelligence.			
5.0 Revision			

Theoretical Content				Practical Content		
Weeks	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
<b>General Objective 1: Understand the concept of artificial intelligence</b>						
1	Ability to understand: <ul style="list-style-type: none"> <li>• Basic concepts of A.I.</li> <li>• A.I. techniques</li> <li>• Application areas of A.I.</li> </ul>	To: <ul style="list-style-type: none"> <li>- Explain the concept of Artificial intelligence</li> <li>- Discuss the A. I techniques</li> <li>- Areas of A. I. applications</li> <li>- List Prospects and progress of A.I.</li> </ul>	White board, PC connected to OHP, Presentation packages such as power point	To able to acquire information in A I domain using website	To assist student to acquire Information in A I domain using website	PC loaded with A. I packages such as UML, XML and compilers such as LISP, PROLOG in a networked laboratory and connected to internet.
<b>General Objective 2: Understanding problem solving techniques using formal and informal language</b>						
2-5	Ability to understand: <ul style="list-style-type: none"> <li>• Problem solving techniques using formal and informal languages</li> </ul>	To: <ul style="list-style-type: none"> <li>- Explain the various approaches to problems formulation with specific examples.</li> <li>- Show the process of reduction of a broad statement of a problem to sub-problems.</li> <li>- Define problems successively using the mixture of informal and formal statements.</li> <li>- Apply the concept of judicious postponement of decisions in problem refinements.</li> <li>- Explain the substitution process of informal statements with formal ones in the problem requirement and realize the consequent obstruction of the formal programming by this process.</li> </ul>	White board, PC connected to OHP, Presentation packages such as power point	To be able to design expert system using UML, XML for modeling and PROLOG for implementation etc.	To assist student to design expert system using UML, XML for modeling and PROLOG for implementation etc	PC loaded with A. I packages such as UML, XML and compilers such as LISP, PROLOG in a networked laboratory and connected to internet.
<b>General Objective 3: Know how to relate problem-solving to Artificial intelligence</b>						
6-9	Ability to understand: <ul style="list-style-type: none"> <li>• The concept of relating problem-solving to Artificial intelligence.</li> </ul>	To: <ul style="list-style-type: none"> <li>- Explain self-adjusting systems and learning machines as they relates to artificial intelligence.</li> <li>Explain the fundamental concepts of simulations, perception and recognition.</li> </ul>	White board, PC connected to OHP, Presentation packages such as power point	To be able to write pattern recognition program using UML, XML for modeling and PROLOG for implementation etc	To assist student write pattern recognition program using UML, XML for modeling and PROLOG for implementation etc	PC loaded with A. I packages such as UML, XML and compilers such as LISP, PROLOG in a networked laboratory and connected to internet.

Theoretical Content				Practical Content		
Weeks	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
		<ul style="list-style-type: none"> <li>- Describe the basic components and functioning of human brain and the central nervous systems.</li> <li>- Describe problem solving in terms of recognition of pattern, objects, and images.</li> <li>- Express game playing and puzzles as forms of pattern recognition.</li> <li>- Introduce the concept of automatic closed -loop feed back systems.</li> <li>- Apply man-machine interaction and the simulation of the former by machine.</li> <li>- Explain cybernetics, artificial neurons, and robotics.</li> <li>- Explain self-adjusting systems and learning machines</li> </ul>				
<b>General Objective 4: Understand Experts Systems and the Development</b>						
10-13	Ability to understand <ul style="list-style-type: none"> <li>• The concept of expert system</li> <li>• The basic principles of and Role of knowledge acquisition in expert systems.</li> <li>• Programming languages for expert systems.</li> <li>• Current state of expert system development</li> <li>• The concepts of genetic Algorithms</li> </ul>	To: <ul style="list-style-type: none"> <li>- Explain the concept, history and application of expert systems</li> <li>- Discuss the principles and the role of Knowledge acquisition in expert systems.</li> <li>- Explain programming languages for expert system e.g. prolog and LISP and demonstrate with a practical problem.</li> <li>- Discuss applications at expert systems and probably future development.</li> <li>- Discuss neural networks, language processing and Genetic Algorithms.]</li> <li>- Explain the use of a PC based</li> </ul>	White board, PC connected to OHP, Presentation packages such as power point. compilers or PROLOG and LISP	To be able to design expert systems program using UML, XML for modeling and PROLOG for implementation etc	To assist student design expert systems program using UML, XML for modeling and PROLOG for implementation etc	PC loaded with A. I packages such as UML, XML and compilers such as LISP, PROLOG in a networked laboratory and connected to internet.

Theoretical Content				Practical Content		
Weeks	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
		expert systems shell. - Explain the principles of rule based systems, induction, forward and backward chaining - Explain the various forms of knowledge acquisition - Explain artificial neural networks, natural language processing and case base resources.				
<b>General Objectives 5: Course revision</b>						
14-15	Revision	To: Review and revise the topics with the students and test the students.	White board, PC connected to OHP, Presentation packages such as power point	To be able to design expert systems program using UML, XML for modeling and PROLOG for implementation etc	To assist student design expert systems program using UML, XML for modeling and PROLOG for implementation etc	PC loaded with A. I packages such as UML, XML and compilers such as LISP, PROLOG in a networked laboratory and connected to internet.

**Assessment:** Give details of assignments to be used: Coursework/ Assignments %; Course test 20 %; Practical %; Projects 20 %; Examination 60 %

**Recommended Textbooks & References:**

## Course: Professional Practice in IT

<b>Department/ Programme: All Computing Programmes</b>			
<b>Course: Professional Practice in IT</b>	<b>Course Code: COM 424</b>	<b>Credit Hours:</b>	<b>4 hours/week</b>
<b>Year: II Semester: 2</b>	<b>Pre-requisite: None</b>	<b>Theoretical:</b>	<b>1 hours/week</b>
		<b>Practical:</b>	<b>3 hours /week</b>
<b>General Objectives</b>			
<ol style="list-style-type: none"><li>1. Demonstrate an awareness of legal and ethical issues for the IT practitioner</li><li>2. Relate professional issues to their own practice</li><li>3. Understand and apply the principles of group working</li><li>4. Explain the quality management process</li><li>5. Search and select appropriate information</li><li>6. Prepare for the job application process</li><li>7. Make a successful presentation</li></ol>			

Theoretical Content				Practical Content		
Weeks	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
<b>General Objective 1: Search and select appropriate information</b>						
1	<p>To be able to:</p> <p>Compare different types of information</p> <p>Describe different sources of information</p> <p>Explain the need for validating information and list appropriate criteria</p>	<p>Explain the nature of information, for example, data, information, knowledge, understanding</p> <p>Describe different types and sources of information</p> <p>Describe the search process and different techniques</p> <p>Discuss criteria for assessing information based upon both the context of the author and the needs of the user</p>	<p>White board</p> <p>A variety of information sources for demonstrating search techniques</p>	<p>To be able to:</p> <p>Search for, retrieve and validate information appropriately in response to a defined need</p> <p>Discuss information retrieval in relation to "Fitness for purpose"</p>		<p>Internet</p> <p>Examples of information from a variety of sources eg newspaper, commercial website, textbook, academic paper</p>
<b>General Objective 2: Demonstrate an awareness of legal and ethical issues for the it practitioner</b>						
2-4	<p>To be able to:</p> <p>Justify the need for a legal framework and relate it to moral and ethical ones</p> <p>Compare IT-related laws in different countries</p>	<p>Explain morals, ethics and laws</p> <p>Describe the Libyan legal system and highlight laws relating to IT practice</p> <p>Describe IT-related laws in other countries</p>	<p>Whiteboard</p> <p>Examples of IT-related laws from eg other Arabic countries, UK, USA</p>	<p>To be able to:</p> <p>Discuss the implications for IT practitioners of IT-related laws both in their own country and overseas</p> <p>Discuss the implications of ethical and moral standards for IT practitioners</p>		<p>Whiteboard</p> <p>Internet</p> <p>Examples of IT-related laws from eg other Arabic countries, UK, USA</p>

Theoretical Content				Practical Content		
Weeks	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
<b>General Objective 3: Relate professional issues to their own practice</b>						
5-6	To be able to:  Justify the need for professional standards  Explain the role of professional bodies	Explain the concepts of a profession and a professional  Describe professional bodies using an example such as the British Computer Society  Explain a Code of Conduct	Whiteboard  Example of a Professional body eg British Computer Society www.bcs.org.uk	To be able to:  Discuss issues of professionalism and relate these to their own practice		
<b>General Objective 4: Understand and apply the principles of group working</b>						
7-8	To be able to:  Describe the dynamics of a group and the role of different members  Describe the stages of group formation	Describe:  Group roles eg Belbin Group formation		To be able to:  Assess their own contribution to a group and those of others  Discuss the implications of group theories for IT projects		
<b>General Objective 5: Explain the quality management process</b>						
9-11	To be able to:  Justify the need for quality management within the field of IT  Justify the need for standards and defined processes by describing examples of good and bad practice  Justify the need for quality assurance	Explain the meaning of quality in the context of IT products and IT projects eg to specification, on time, within budget  Contrast different types of system eg business information and safety critical systems  Explain the need for a quality program and the three stages of quality management (defined standards and processes, quality assurance, quality improvement)	Whiteboard  Examples of unsuccessful projects eg European Space Agency	To be able to:  Compare a successful project to a successful product  Explain the concept of quality improvement and describe ways of implementing this	Introduce examples of 'successful' and 'unsuccessful' projects  Explain the term "Fitness for Purpose"  Describe a range of approaches to quality improvement eg ISO9001, SEI, quality circles	Whiteboard  Internet  Examples

Theoretical Content				Practical Content		
Weeks	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
<b>General Objective 6: Prepare for the job application process</b>						
12-13	To be able to:  Describe and compare roles within the IT profession  Outline the IT job market	Explain the characteristics (including abilities and career paths) of roles within the IT profession  Describe the IT job market		To be able to:  Create an effective curriculum vitae  Write a covering letter tailored a job vacancy  Prepare for an interview  Perform a career based self-assessment  Discuss their career aspirations	Explain the job application process: advertisement, CV and covering letter, interview and aptitude tests, job offer and acceptance  Explain the structure and content of a good CV  Explain how to tailor a covering letter to a job specification	Example CVs  Sample job advertisements and example covering letters  Sample job advertisements for exercise
<b>General Objective 7: Make a successful presentation</b>						
14-15	To be able to:  Describe the criteria of a good presentation	Demonstrate examples of bad and good presentations  Explain the elements and structure of a good presentation and the role of media in supporting presentations		To be able to:  Prepare and make effective presentations		Whiteboard  Presentation software  Exercise

**Assessment:** Give details of assignments to be used: Coursework/ Assignments 20 %; Course test 10 %; Practical 20 %; Projects %; Examination 50 %

Type of Assessment	Purpose and Nature of Assessment (STA 314)	Weighting (%)
Examination	Final Examination (written) to assess knowledge and understanding	50
Test	At least 2 progress tests for feed back.	20
Practical	At least 7 home works to be assessed by the teacher	30
Total		100

**Recommended Textbooks & References:**

[www.bcs.org.uk](http://www.bcs.org.uk)

[www.acm.org](http://www.acm.org)

## Course: Seminar on Current Topics in Computing

<b>Department/ Programme: HND Computer Science</b>			
<b>Course: SEMINAR ON CURRENT TOPICS IN COMPUTING</b>	<b>Course Code: COM 425</b>	<b>Credit Hours: 30</b>	
<b>Year: 2 Semester: Two</b>	<b>Pre-requisite: COM 225</b>	<b>Theoretical: 2 hours/week</b>	<b>Practical: 0 hours /week</b>
<b>General Objectives:</b>			
<b>On completion of this course the student should be able to:</b>			
Give a seminar on topics in computer science subject area.			

Theoretical Content				Practical Content		
Weeks	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
<b>General Objective 1:</b>						
1	To note:  The purpose and contents of course  To show awareness of current topics in various areas of computing.	To provide: A presentation and guidance to the students on topics for presentation using multimedia and presentation facilities.	Text books Journals LCD multimedia projector PC Seminar/Conference Room. Internet.			
2	Tele conferencing and telecommuting	Arrange the students/sessions for the student's presentations.	Text books Journals LCD multimedia projector PC Seminar/Conference Room  Internet.			
3	Firewalls and Network security	Arrange sessions for student's presentations.				
4	Biometrics	Arrange sessions for student's presentations				
5	Object Oriented Programming	Arrange sessions for student's presentations				
6	Telemetric	Arrange sessions for student's presentations				
7	ECommerce	Arrange sessions for student's presentations				
8	ELearning	Arrange sessions for student's presentations				
9	Neural Network					
10	DNA Computing					
11	Human -Computer- Interaction					
12	Secure computing platforms					
13	Encryption signatures,					
14	Cryptography					
15	Presentation.					

**Assessment:** Give details of assignments to be used: Coursework/ Assignments 70%; Seminar presentation 30%

**Recommended Textbooks & References:**

## Course: Small Business Start-Up

<b>Programme: Common Subject</b>			
<b>Course: SMALL BUSINESS START-UP (Be your own boss)</b>		<b>Course Code: COM 426</b>	<b>Total periods: 3 per week</b>
<b>Year: Two Semester: Two</b>		<b>Theoretical:</b>	<b>2</b>
		<b>Practical:</b>	<b>1</b>
<b>RATIONAL:</b>			
To provide the student with the knowledge to develop a small business to the point of starting-up			
<b>GENERAL OBJECTIVES:</b>			
<ol style="list-style-type: none"><li>1. To identify business opportunities related to the student's knowledge &amp; ability</li><li>2. To be able to translate potential customer needs into projects and develop time &amp; cost estimates</li><li>3. To identify need for keeping, and analysis of, simple records</li><li>4. To keep simple financial records</li><li>5. To produce a Business Plan</li></ol>			

Theoretical Content				Practical Content		
Week	Specific learning outcomes	Teacher activities	Resources	Specific learning outcomes	Teacher activities	Resources
<b>OBJECTIVE 1: To identify business opportunities related to the student's knowledge &amp; ability</b>						
1	<b>Business World</b> Distinguish actual businesses within Bahrain market Identify businesses related to basic skills Describe characteristics of a small businessman	Demonstrate range of businesses Outline related businesses	Participant workbook Examples Videos	List examples of businesses related to basic skill	Form groups and monitor interaction.	Workbook exercises
2.	<b>Getting Started</b> Potential customers and needs  Plant & equipment needed	Explain customer needs Outline basic equipment needs	Participant workbook Examples Videos	Describe potential customers and their needs Identify and list equipment needed Produce Market Survey	Form groups and monitor interaction.  Assess report	Workbook exercises
<b>OBJECTIVE 2: To be able to translate potential customer needs into projects and develop time &amp; cost estimates</b>						
3	<b>Job Planning - Design</b> Detail customer requirement  Translate customer requirement into design	Explain importance of design as match to customer requirement Explain design is demonstration of skill	Participant workbook Examples	Produce a simple design from a customer requirement	Form groups and monitor interaction.	Workbook exercises
4	<b>Job Planning - Time</b> Break job down into activities and estimate time Combine activity times to give overall time.	Explain important of activities, time variance and how to combine overall time sequence	Participant workbook Examples	Detail activities and estimate their time Produce overall time plan	Form groups and monitor interaction.	Workbook exercises
5	<b>Job Planning - Costs</b> Identify types of costs and their behaviour Calculate price for job	Explain types of costs and their behaviour	Participant workbook Examples	Attach costs to materials, time and allow for indirect costs, overheads & profit	Form groups and monitor interaction.	Workbook exercises
<b>OBJECTIVE 3: To identify need for keeping, and analysis of, simple records</b>						
6.	<b>Simple Records</b> Identify reasons for and design of records	Explain importance of records Demonstrate different formats	Participant workbook Examples	Examine simple record for information source, content manipulation and analysis	Form groups and monitor interaction.	Workbook exercises

Theoretical Content				Practical Content		
Week	Specific learning outcomes	Teacher activities	Resources	Specific learning outcomes	Teacher activities	Resources
7	<b>Stock records</b> Identify need for stock Identify dangers in stock keeping	Explain why businesses need stock + possible disadvantages	Participant workbook Examples	Examine stock record for analysis and purchase decisions	Form groups and monitor interaction.	Workbook exercises
<b>OBJECTIVE 4: To keep simple financial records</b>						
8	<b>Simple Accounts</b> Simple cash in & out Simple cash control system Simple cashbook	Demonstrate cash in and out and how to maintain cashbook	Participant workbook Examples	Complete simple cashbook	Form groups and monitor interaction.	Workbook exercises
9	<b>Cashflow</b> Prepare cashflow statement Predict future cash flow	Explain preparation and operation of cashflow sheet	Participant workbook Examples	Examine and complete cashflow sheet	Form groups and monitor interaction.	Workbook exercises
10	<b>Profit &amp; Loss Statement</b> Prepare P&L statement  Analyse P&L statement	Demonstrate use of cash flow sheet to make P&L Highlight points in P&L sheet	Participant workbook Examples	Transfer data from cashflow sheet into P&L statement	Form groups and monitor interaction.	Workbook exercises
11	<b>Balance Sheet</b> Prepare Balance Sheet  Analyse Balance Sheet	Demonstrate use of cash flow sheet to make P&L Highlight points P&L sheet	Participant workbook Examples	Transfer data from cashflow sheet into Balance Sheet	Form groups and monitor interaction.	Workbook exercises
<b>6. OBJECTIVE 4: To produce a Business Plan</b>						
12	<b>Business Plan</b> Appreciate purpose  Identify structure  Outline uses	Explain purpose of Business Plan Demonstrate structure of Business Plan Explain uses of Business Plan.	Participant workbook Example	List structure	Form groups and monitor interaction.	Workbook exercises
13-15	<b>Prepare Business Plan</b>			Prepare Business Plan	Assess	

## ASSESSMENT

Type of assessment	Purpose & Nature of assessment	Weighting
Market Survey report	Group	20%
Costed design exercise	Individual	10%
Quiz on record keeping	Individual	10%
Test on accounting practise	Individual	10%
Business Plan	Group	50%

## Course: Project

<b>Department/ Programme: HND</b>			
<b>Course: Project</b>	<b>Course Code: COM 429</b>	<b>Credit Hours:</b>	<b>90</b>
<b>Year: 2 Semester: 2</b>	<b>Pre-requisite: COM 413</b>	<b>Theoretical:</b>	<b>0 hours/week</b>
		<b>Practical:</b>	<b>6 hours /week</b>
<b>General Objectives</b>			
1. To integrate and apply the learning outcomes from the programme to the later stages of a sustained project.			

Theoretical Content				Practical Content		
Weeks	Specific Learning Outcomes	Teacher's activities	Resources	Specific Learning Outcomes	Teacher's activities	Resources
<b>General Objective 1: Work in a team to integrate and apply the learning outcomes from the programme to the later stages of a sustained project.</b>						
1-14				<p>Able to:</p> <p>Implement a client-based project in a professional manner.</p> <p>Use appropriate techniques to plan the implementation of a sustained project requiring the allocation and management of multiple resources.</p>	<p>Provide a minimum of four hours supervision each week.</p>	<p>Requirements Document for a client-based project. Signed-off by the client.</p> <p>Project management software.</p>
15				<p>Able to:</p> <p>Make a formal presentation of a final product to clients.</p> <p>Obtain client acceptance of the implementation.</p> <p>Justify their decisions, assess the results and learn from reflecting on the process in a written report.</p>	<p>Observe presentation and viva students.</p>	<p>Presentation software and projector.</p>

**Assessment:** Give details of assignments to be used: Project Plan: 20% %; Projects 80 %

**Recommended Textbooks & References:**