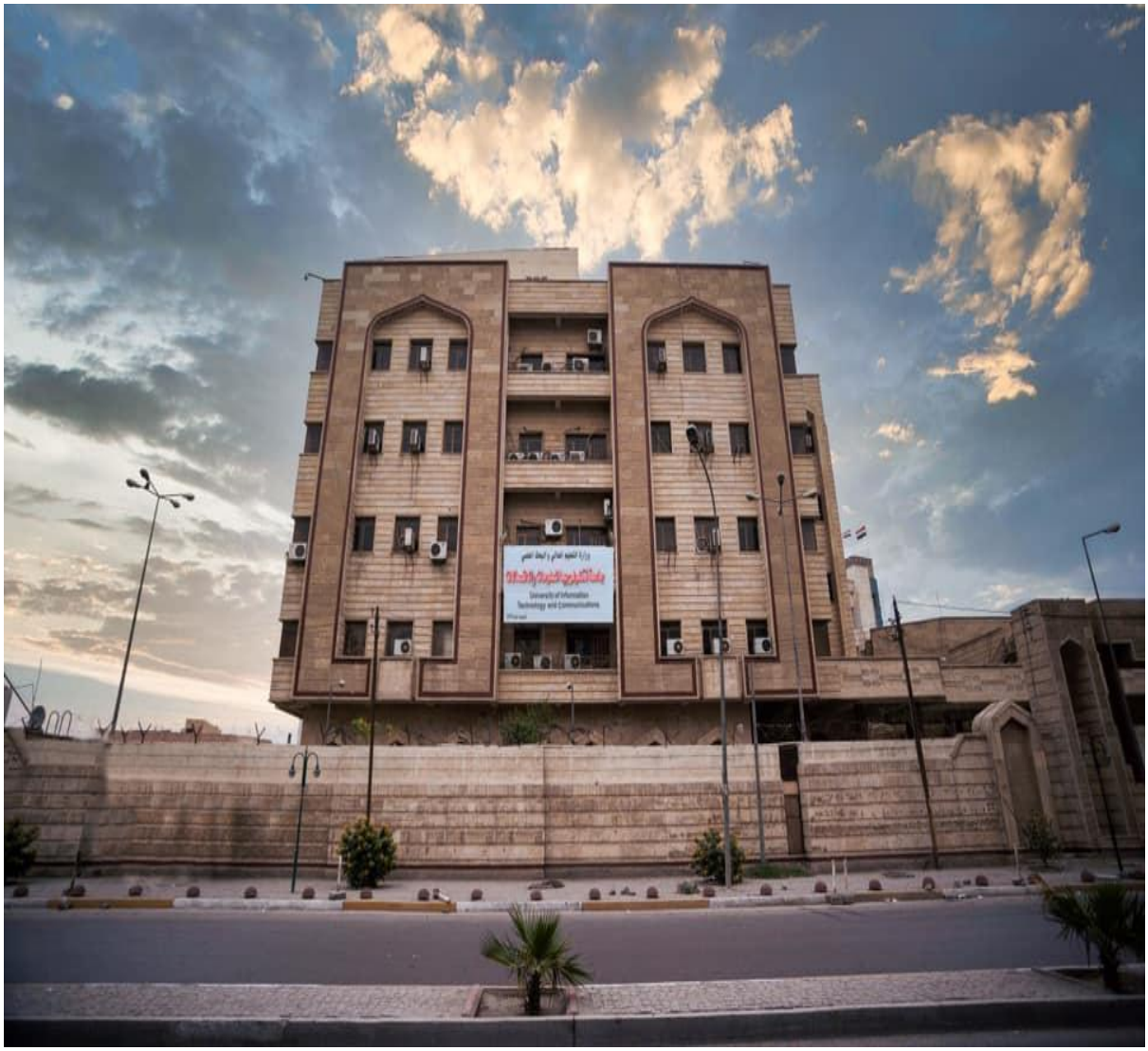
University of Information Technology and Communications

جامعة تكنولوجيا المعلومات والاتصالات

كلية معلوماتية الأعمال

قسم إدارة انظمة المعلوماتية

Bachelor of Science in Informatics Systems Management



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1. Mission & Vision Statement

Vision Statement

The department looks forward to gaining a distinguished place among the corresponding scientific departments at the local, regional and international levels, and providing the region with an excellent and high-efficiency staff.

Mission Statement

The department's mission relies on enriching the information infrastructure of information systems by employing the best-graduated people to find appropriate solutions to society's problems and meet current and future marketing needs.

2. Program Specification

Programme code:	BSc-ISM	**ECTS**	240
Duration:	4 levels, 8 Semesters	**Method of Attendance:**	Full-Time

Information System Management is a comprehensive and dynamic field that equips students with the knowledge and skills necessary to effectively manage information systems and technology within organizations. The program is structured into four stages, providing students with a well-rounded education and allowing them to tailor their studies to their specific interests and career goals.

In the first stage of the program, students are introduced to the fundamental concepts and principles of Information System Management. They learn about the various components of information systems, such as databases, networks, and software applications, and how these systems support organizational processes and decision-making.

Moving into the second stage, students delve deeper into specialized areas such as data analysis, software development, database management, and information security. This stage enables students to develop advanced skills and knowledge in specific domains of Information System Management. Additionally, students have the opportunity to choose elective courses that align with their individual interests and career aspirations.

The third stage focuses on advanced, specialized courses in the field of Information System Management. Students explore advanced topics such as enterprise resource planning, IT project management, business intelligence, and emerging technologies. These courses provide students with

the necessary expertise to tackle complex challenges and make strategic decisions related to information systems in various organizational contexts.

Finally, in the fourth stage of the program, students have the opportunity to apply their knowledge and skills through a capstone project or internship. This hands-on experience allows students to work on real-world projects, solve practical problems, and gain valuable industry exposure. They can also select elective courses that align with their career interests or pursue further specialization in specific areas of Information System Management.

Throughout the program, students receive guidance and support from academic advisors who assist them in selecting appropriate courses and mapping out their academic and career pathways. The program fosters a research-oriented mindset, promoting critical thinking, problem-solving, and innovation in the field of Information System Management.

By the end of the program, graduates of the Information System Management department are well-prepared to embark on successful careers in various industries, including technology consulting firms, IT departments, and business enterprises. They possess a comprehensive understanding of information systems, strong technical skills, and the ability to effectively manage and leverage technology to drive organizational success.

3. **Program Objectives**

The main objectives of the department are to provide programs in information technology to graduate competencies capable of:-

1- To provide students with the latest efficient academic programs of management informaticssystems

2- To prepare graduates for various managerial and leading careers in field of informatics systems byexcellent guidance and effective practical contribution..

3- To prepare graduates who have abilities of self-learning and as teamwork to serve the society.

4- To Introduce the graduates into ethics of profession which in turn helps graduate for facing thegeneral challenges and realistic professional life.

5- To provide the labor market with high skilled graduates capable of establishing and managing theinformatics systems.

6- To provide students with the latest efficient academic programs of management informatics systems.

4.program student learning outcomes

1- Knowledge and Understanding

a1. An ability to apply knowledge of computing and mathematics appropriate to the program's student outcomes and to the discipline (a).
a2. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution (b).
a3. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs (c).
a4. An ability to analyze the local and global impact of computing on individuals, organizations, and society (g).
a5. Recognition of the need for and an ability to engage in continuing professional development (h)

a6. Ability to integrate IT-based solutions in user environment (l).

a7. An understanding of best practices and standards and their application (m).

a8. An ability to apply total quality management for it system and to develop the software (o).

a9. An ability to analyze quantitative models for business in a long-term plan (strategy) in dynamic business (p).

2- Subject-specific skills

b1. An ability to use current techniques, skills, and tools necessary for computing practice (i).
b2. An understanding of processes that support the delivery and management of information systems within a specific application environment (j).
b3. An ability to apply design and development principles in the construction of software systems of varying complexity (k).

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6. Credits, Grading and GPA

Credits

Information Technology and Communications University is following the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 hrs student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب - قيد المعالجة	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
Number Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Calculation of the Cumulative Grade Point Average (CGPA)

1. The CGPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

   CGPA of a 4-year B.Sc. degree:

   CGPA = [(1st ^{m}odule score x ECTS) + (2nd ^{m}odule score x ECTS) + ……] / 240

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
IBT101	Programming Fundamentals I	78	122	8	B	
IBT105	Discrete Mathematics	48	102	6	B	
IBT103	Principles of Accounting	٦٣	87	6	S	
HUR113	Democracy and Human Rights	32	18	2	S	
BIC123	Computational Paradigms	48	102	6	B	
ENG111	English I	32	18	2	S	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
BIC122	Probability and Statistic	63	87	6	C	IBT105
BIC111	Human Resources Management	48	102	6	S	
IBT104	Programming Fundamentals II	78	122	8	C	IBT101
ISM113	Foundations of Information Systems	78	72	6	B	
ARB115	Arabic I	32	18	2	S	
ENG212	English II	32	18	2	S	ENG111

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
IBT204	Web Pages Design	63	٨٧	٦	C	IBT101
IBT202	Object Oriented Programming I	٩3	٨٢	٧	C	IBT104
BIC213	Marketing Management	3٣	٦٧	٤	S	
IBT205	Computer Networks	63	٨٧	٦	B	
CBR101	جرائم حزب البعث البائد	32	18	2	S	
BIC212	Data Structures	63	62	5	C	IBT104

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENG213	English III	32	١8	٢	S	ENG212
BIC222	Algorithms and Complexity	50	50	4	C	BIC212
ISM224	Management Information Systems	50	50	4	C	ISM113
IBT206	Object oriented Programming II	٩3	٨٢	٧	C	IBT202
IBT208	Web Applications Development	63	٨٧	٦	C	IBT204
IBT200	Database Fundamentals	63	62	5	C	BIC212
ARB227	Arabic II	25	25	2	S	ARB115

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
IBT304	Information Security	63	87	6	C	IBT105
IBT302	Mobile Applications Development	63	87	6	C	IBT208
ISE328	E-Commerce	62	٦٣	٥	C	IBT208
IBT300	Database Management Systems	63	87	6	C	IBT200
BIC310	Software Engineering I	63	٦٢	٥	C	IBT206
SEI221	Social and ethical issues	33	17	2	S	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
BIC320	Software Engineering II	63	62	5	C	BIC310
ISM322	Machine Learning	78	47	5	C	IBT206
ISM326	Cyber security for Business	78	47	5	C	IBT304
ISM324	Operations Management	47	78	5	S	ISM224
3xx	Elective III	62	63	5	E	IBT208
3xx	Elective Iv	47	78	5	E	IBT205

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
IBT404	Cloud Computing	63	87	6	C	IBT205
ISM412	Decision Support Systems	63	87	6	C	ISM322
ISM4xx	Elective v	62	63	5	E	
ISM416	IS Project Management	63	62	5	C	BIC320
ISM411	Project I	92	108	8	C	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request

ISM414	Managing Enterprise Systems	48	52	4	C	ISM324
IBT402	Total Quality Management	48	52	4	C	ISM324
ISM4xx	Elective vi	62	38	4	E	
IBT406	Business Intelligence	63	62	5	C	ISM412
ISM4xx	Elective vii	62	63	5	E	
ISM420	Project II	92	108	8	C	ISM411

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University of Information Technology and Communications

جامعة تكنولوجيا المعلومات والاتصالات

First Cycle – Bachelor of Science in Informatics Systems Management

Table of Contents

1. Overview

This catalogue is about the courses (modules) given by the program of Informatics Systems Management to gain the Bachelor of Science degree. The program delivers (46) Modules with (6000) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.
نظره عامه

يتناول هذا الدليل المواد الدراسية التي يقدمها برنامج ادارة انظمة المعلوماتية للحصول على درجة بكالوريوس العلوم. يقدم البرنامج (46) مادة دراسية، على سبيل المثال، مع (٦٠٠٠) إجمالي ساعات حمل الطالب و ٢٤٠ إجمالي وحدات أوروبية. يعتمد تقديم المواد الدراسية على عملية بولونيا.

2. Undergraduate Courses 2023-2024

Module 1

Code	Course/Module Title	ECTS	Semester
IBT101	Programming Fundamentals I	8	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	3	78	122
Description			
The course fully covers the basics of programming in the “Python” programming language and presents the fundamental notions and techniques used in object-oriented programming. It starts with universal basics, not relying on object concepts, and gradually extends to advanced issues observed in the objective approach. تغطي المقرر الدراسي بشكل كامل أساسيات البرمجة في لغة البرمجة "بايثون" وتقدم المفاهيم الأساسية والتقنيات المستخدمة في البرمجة الشيئية. يبدأ بأساسيات عالمية ، ولا يعتمد على مفاهيم الكائن ، ويمتد تدريجياً إلى القضايا المتقدمة التي لوحظت في النهج الموضوعي.			

Module 2

Code	Course/Module Title	ECTS	Semester
IBT105	Discrete Mathematics	6	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	1	48	102
Description			
The primary objective of this course is to demonstrate critical thinking, analytical reasoning, and problem-solving skills. It applies appropriate mathematical and statistical concepts and operations to interpret data and to solve problems and identify a problem and analyze it in terms of its significant parts and the information needed to solve it. It formulates and evaluates possible solutions to problems and selects and defends the chosen solutions. Furthermore, construct graphs and charts, interpret them, and draw appropriate conclusions الهدف الأساسي من هذه المقرر الدراسي هو إظهار التفكير النقدي والتفكير التحليلي ومهارات حل المشكلات. يطبق المفاهيم والعمليات الرياضية والإحصائية المناسبة لتفسير البيانات وحل المشكلات وتحديد المشكلة وتحليلها من حيث أجزائها المهمة والمعلومات اللازمة لحلها. يقوم بصياغة وتقييم الحلول الممكنة للمشاكل واختيار الحلول المختارة والدفاع عنها. علاوة على ذلك ، قم ببناء الرسوم البيانية والمخططات ، وتفسيرها ، واستخلاص النتائج المناسبة			

Module 3

Code	Course/Module Title	ECTS	Semester
IBT103	Principles of Accounting	6	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	87
Description			
This course deals with increasing student knowledge and understanding of the theory of accounting and accounting practices. The impact that computers are having in the business world requires that students have more knowledge and skills in dealing with computerized accounting systems and accounting software يتناول هذا المقرر الدراسي زيادة معرفة الطلاب وفهمهم لنظرية ممارسات المحاسبة والمحاسبة. يتطلب التأثير الذي تحدثه أجهزة الكمبيوتر في عالم الأعمال أن يكون لدى الطلاب المزيد من المعرفة والمهارات في التعامل مع أنظمة المحاسبة المحوسبة وبرامج المحاسبة			

Module 4

Code	Course/Module Title	ECTS	Semester
HUR113	Democracy and Human Rights	2	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	18

Description

The goal of promoting a culture of human rights is to create a world governed by a culture of human rights and to empower students to practice these rights in their daily lives. It aims to enable university students to embody the values of freedom and internationally recognized human rights principles. Students understand their rights and responsibilities and take appropriate actions to protect them.

The purpose of studying democracy is to coordinate the aspirations and demands of the people as a whole and to make decisions that align with the long-term interests of the people. It also aims to establish the foundations of the democratic system, to understand the supreme values and principles of democracy, including justice, equality, freedom, the rule of law, intellectual and political tolerance, and respect for human dignity.

Furthermore, it deepens the sense of citizenship by rejecting all forms of discrimination among the people and promoting the principle of equality and justice for all. It also reinforces the principle of loyalty to the nation and weakens other loyalties.

أن الهدف من نشر ثقافة حقوق الإنسان لغرض أيجاد عالم تسوده ثقافة حقوق الانسان وتمكين الطالب على ممارستها في حياتهم اليومية وتمكين الطالب الجامعي من التمثل بقيم الحرية ومبادئ حقوق الإنسان المعترف بها دوليا. حيث يفهم الطلاب حقوقهم ومسؤولياتهم ويتخذون الإجراءات المناسبة لحمايتها, ان الهدف من دراسة الديمقراطية هو لغرض التنسيق مابين طموحات ومطالب الشعب ككل وصنع قرارات تتوافق مع مطالب الشعب الطويلة الاجل, وتحقيق أسس البناء للنظام الديمقراطي, ولغرض معرفة القيم والمبادئ العليا في الديمقراطية التي تشمل العدالة والمساواة والحرية وسيادة القانون وتسامح الفكري والسياسي واحترام الكرامة الانسانية وتعميق الشعور بالمواطنة من خلال نبذ كل أشكال التمييز بين أبناء الشعب الواحد وإحلال مبدأ المساواة والعدالة للجميع, وترسيخ مبدأ الولاء للوطن وإضعاف الولاءات الأخرى.

Module 5

Code	Course/Module Title	ECTS	Semester
BIC123	Computational Paradigms	6	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	1	48	102
Description			
The primary objective of this course is to demonstrate critical thinking, analytical reasoning, and problem solving skills. It applies appropriate mathematical and statistical concepts and operations to interpret data and to solve problems and identify a problem and analyze it in terms of its significant parts and the information needed to solve it. It formulates and evaluates possible solutions to problems and select and defend the chosen solutions. Furthermore, construct graphs and charts, interpret them, and draw appropriate conclusions construct graphs and charts, interpret them, and draw appropriate conclusions الهدف الأساسي من هذا المقرر الدراسي هو إظهار التفكير النقدي والتفكير التحليلي ومهارات حل المشكلات. يطبق المفاهيم والعمليات الرياضية والإحصائية المناسبة لتفسير البيانات وحل المشكلات وتحديد المشكلة وتحليلها من حيث أجزائها المهمة والمعلومات اللازمة لحلها. يقوم بصياغة وتقييم الحلول الممكنة للمشاكل واختيار الحلول المختارة والدفاع عنها. علاوة على ذلك ، قم ببناء الرسوم البيانية والمخططات ، وتفسيرها ، واستخلاص الاستنتاجات المناسبة ، وبناء الرسوم البيانية والمخططات ، وتفسيرها ، واستخلاص النتائج المناسبة			

Module 6

Code	Course/Module Title	ECTS	Semester
ENG111	English I	2	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	18
Description			
Acquiring a reading and writing knowledge of the English language in general and in computer science اكتساب معرفة قراءة وكتابة باللغة الإنجليزية بشكل عام وفي علوم الكمبيوتر			

Module 7

Code	Course/Module Title	ECTS	Semester
BIC122	Probability and Statistic	6	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	87
Description			
This course deals with increasing student knowledge and understanding of the theory of accounting and accounting practices. The impact that computers are having in the business world requires that students have more knowledge and skills in dealing with computerized accounting systems and accounting software يتناول هذا المقرر الدراسي زيادة معرفة الطلاب وفهمهم لنظرية ممارسات المحاسبة والمحاسبة. يتطلب التأثير الذي تحدثه أجهزة الكمبيوتر في عالم الأعمال أن يكون لدى الطلاب المزيد من المعرفة والمهارات في التعامل مع أنظمة المحاسبة المحوسبة وبرامج المحاسبة		

Module 8

Code	Course/Module Title	ECTS	Semester
BIC111	Human Resource Management	6	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	48	102
Description			
This course deals with increasing student knowledge and understanding of the theory of Human Resources . The impact that computers are having in the business world requires that students have more knowledge and skills in dealing with computerized Human management يتناول هذا المقرر الدراسي زيادة معرفة الطلاب وفهمهم لنظرية الموارد البشرية. يتطلب التأثير الذي تحدثه أجهزة الكمبيوتر في عالم الأعمال أن يكون لدى الطلاب المزيد من المعرفة والمهارات في التعامل مع الإدارة البشرية المحوسبة		

Module 9

Code	Course/Module Title	ECTS	Semester
IBT104	Programming Fundamentals II	8	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	3	78	122
Description			
This course introduces the principles of Python programming language for students without prior programming experience. The course also discusses the differences among Python Collections. Functions, Files, Modules and Handling Exceptions will be discussed تقدم هذه المقرر الدراسي التدريبية مبادئ لغة برمجة Python للطلاب الذين ليس لديهم خبرة سابقة في البرمجة. تناقش المقرر الدراسي أيضًا الاختلافات بين مجموعات Python. ستتم مناقشة الوظائف والملفات والوحدات النمطية والتعامل مع الاستثناءات			

Module 10

Code	Course/Module Title	ECTS	Semester
ISM113	Foundations of Information Systems	6	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	3	78	72
Description			
This course is designed to introduce students to contemporary information systems and demonstrate how these systems are used throughout global organizations. The focus of this course will be on the key components of information systems people, software, hardware, data, and communication technologies, and how these components can be integrated and managed to create competitive advantage. Through the knowledge of how IS provides a competitive advantage students will gain an understanding of how information is used in organizations and how IT enables improvement in quality, speed, and agility. تم تصميم هذه المقرر الدراسي لتعريف الطلاب بأنظمة المعلومات المعاصرة وإظهار كيفية استخدام هذه الأنظمة في جميع أنحاء المنظمات العالمية. سيكون التركيز في هذه المقرر الدراسي على المكونات الرئيسية لنظم المعلومات ، الناس ، البرمجيات ، الأجهزة ، البيانات ، وتقنيات الاتصال ، وكيف يمكن دمج هذه المكونات وإدارتها لخلق ميزة تنافسية. من خلال معرفة الكيفية التي يوفر بها نظم المعلومات ميزة تنافسية ، سيكتسب الطلاب فهمًا لكيفية استخدام المعلومات في المؤسسات وكيف تمكن تكنولوجيا المعلومات من تحسين الجودة والسرعة وخفة الحركة.			

Module 11

Code	Course/Module Title	ECTS	Semester
ARB115	Arabic I	2	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	18
Description			
This course description provides a concise summary of the main characteristics of the course and the expected learning outcomes for the student, demonstrating whether they have made the most of the available learning opportunities. It must be linked to the program description. يوفر وصف المقرر هذا إيجازاً مقتضياً لأهم خصائص المقرر ومخرجات التعلم المتوقعة من الطالب تحقيقها مبرهناً عما إذا كان قد حقق الاستفادة القصوى من فرص التعلم المتاحة. ولابد من الربط بينها وبين وصف البرنامج.			

Module 12

Code	Course/Module Title	ECTS	Semester
ENG212	English II	2	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	18
Description			
Acquiring a reading and writing knowledge of the English language in general and in computer science اكتساب معرفة قراءة وكتابة باللغة الإنجليزية بشكل عام وفي علوم الكمبيوتر			

Module 13

Code	Course/Module Title	ECTS	Semester
IBT204	Web Pages Design	6	3
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	87
Description			
By the end of this course, you will be comfortable creating, coding and posting basic HTML, CSS files, and the JavaScript to the Internet. Equipped with a historical understanding of the web's evolution and key industry-standard design guidelines to ensure strong online presentation, you will have a foundational knowledge of website creation and apply it to the planning, design and development of your own web page over the course of the semester. Critical thinking will be encouraged through your class interactions, projects, and online postings بنهاية هذه المقرر الدراسي التدريبية ، ستكون مرتاحًا لإنشاء وترميز ونشر ملفات HTML الأساسية وملفات CSS وجافا سكريبت على الإنترنت. نظرًا لتزويدك بفهم تاريخي لتطور الويب وإرشادات التصميم الرئيسية المتوافقة مع معايير الصناعة لضمان عرض تقديمي قوي عبر الإنترنت ، سيكون لديك معرفة أساسية بإنشاء موقع الويب وتطبيقه على تخطيط وتصميم وتطوير صفحة الويب الخاصة بك على مدار فترة الفصل الدراسي. سيتم تشجيع التفكير النقدي من خلال تفاعلات الفصل والمشاريع والمنشورات عبر الإنترنت			

Module 14

Code	Course/Module Title	ECTS	Semester
IBT202	Object Oriented Programming I	7	3
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	3	93	82
Description			
The course covers basic concepts of imperative and object-oriented programming, as realized in python. We will discuss the basic language constructs and some simple guidelines for program design. A number of classes in the python standard library are used in different assignments يغطي المقرر المفاهيم الأساسية للبرمجة الحتمية والموجهة للكائنات ، كما تتحقق في بيثون. سنناقش تراكيب اللغة الأساسية وبعض الإرشادات البسيطة لتصميم البرنامج. يتم استخدام عدد من الفصول في مكتبة Python القياسية في مهام مختلفة			

Module 15

Code	Course/Module Title	ECTS	Semester
BIC213	Marketing Management	4	3
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	33	67
Description			
This course will cover the meaning of marketing. Topics include an introduction; Developing marketing strategies and plans; Understanding the Marketing research; Analyzing consumer markets; Setting the product strategy; Designing and managing service ستغطي هذه المقرر الدراسي معنى التسويق. تشمل الموضوعات مقدمة ؛ تطوير استراتيجيات وخطط التسويق. فهم البحث التسويقي. تحليل الأسواق الاستهلاكية. تحديد استراتيجية المنتج ؛ تصميم وإدارة الخدمة			

Module 16

Code	Course/Module Title	ECTS	Semester
IBT205	Computer Networks	6	3
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	87
Description			
The objective of this course is to prepare the students for a networking career with how networks operate. This course introduces architectures, models, protocols, and networking elements. The student even gets the chance to build simple local area networks (LANs) himself. Also has a working knowledge of IP addressing schemes, and foundational network security, and be able to perform basic configurations for routers and switches. الهدف من هذه المقرر الدراسي هو إعداد الطلاب لمهنة الشبكات مع كيفية عمل الشبكات. يقدم هذا المساق البنى والنماذج والبروتوكولات وعناصر الشبكات. يحصل الطالب حتى على فرصة لبناء شبكات محلية بسيطة (LAN) بنفسه. لديه أيضًا معرفة عملية بأنظمة عنونة IP ، وأمان الشبكة الأساسي ، ويكون قادرًا على إجراء التكوينات الأساسية لأجهزة التوجيه والمحولات			

Module 17

Code	Course/Module Title	ECTS	Semester
CBR101	جرائم حزب البعث البائد	2	3
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	18
Description			
This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the program specification يوفر توصيف المقرر الدراسي التدريبية هذا ملخصًا موجزًا للسمات الرئيسية للدورة ونتائج التعلم التي قد يُتوقع من الطالب النموذجي تحقيقها وإثبات ما إذا كان قد استفاد بالكامل من فرص التعلم التي يتم توفيرها. يجب أن يتم الرجوع إليها مع مواصفات البرنامج			

Module 18

Code	Course/Module Title	ECTS	Semester
BIC212	Data Structures	5	3
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	62
Description			
This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the program specification يوفر توصيف المقرر الدراسي التدريبية هذا ملخصًا موجزًا للسمات الرئيسية للمقرر ونتائج التعلم التي قد يُتوقع من الطالب النموذجي تحقيقها وإثبات ما إذا كان قد استفاد بالكامل من فرص التعلم التي يتم توفيرها. يجب أن يتم الرجوع إليها مع مواصفات البرنامج			

Module 19

Code	Course/Module Title	ECTS	Semester
ENG213	English III	2	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	32	18
Description			
Acquiring a reading and writing knowledge of the English language in general and in computer science اكتساب معرفة قراءة وكتابة باللغة الإنجليزية بشكل عام وفي علوم الكمبيوتر			

Module 20

Code	Course/Module Title	ECTS	Semester
BIC222	Algorithms and Complexity	4	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	50	50
Description			
Algorithms and Complexity is an advanced course that explores the design, analysis, and optimization of algorithms. This course delves into the fundamental techniques used in algorithm development, such as greedy algorithms, divide-and-conquer, dynamic programming, and graph algorithms. Additionally, it covers the complexity theory, including the classification of computational problems based on their inherent difficulty. Students will learn to evaluate algorithm efficiency using big O notation and analyze worst-case, average-case, and best-case scenarios. Through theoretical and practical exercises, students will gain a deep understanding of algorithmic problem-solving, algorithmic paradigms, and the trade-offs between time and space complexity. Prerequisite: Introduction to Computer Science or equivalent. الخوارزميات والتعقيد هي دورة متقدمة تستكشف تصميم الخوارزميات وتحليلها وتحسينها. يتعمق هذا المقرر في التقنيات الأساسية المستخدمة في تطوير الخوارزميات ، مثل الخوارزميات الجشعة ، وفرق تسد ، والبرمجة الديناميكية ، وخوارزميات الرسم البياني. بالإضافة إلى ذلك ، فإنه يغطي نظرية التعقيد ، بما في ذلك تصنيف المشاكل الحسابية على أساس الصعوبة الكامنة فيها. سيتعلم الطلاب كيفية تقييم كفاءة الخوارزمية باستخدام تدوين O الكبير وتحليل سيناريوهات أسوأ الحالات ومتوسطها وأفضلها. من خلال التمارين النظرية والعملية ، سيكتسب الطلاب فهمًا عميقًا لحل المشكلات الخوارزمي ، والنماذج الحسابية ، والمفاضلات بين تعقيد الزمان والمكان. المتطلب السابق: مقدمة في علوم الكمبيوتر أو ما يعادلها.			

Module 21

Code	Course/Module Title	ECTS	Semester
ISM224	Management Information Systems	4	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	50	50
Description			
Over the duration of 15 weeks, This course is designed to provide a broad overview of the issues technology and general managers face when managing information systems, This course takes management instead of a technical approach to the material presented. As such, it should be of interest to students of general management interested in information technology issues and to students of information technology interested in management issues. Using a case study approach, topics will include: Information Technology and Strategy Information Technology and Organization Managing Information Technology Assets على مدار 15 أسبوعًا ، تم تصميم هذه المقرر الدراسي لتقديم نظرة عامة واسعة على المشكلات التي تواجه التكنولوجيا والمدراء العامون عند إدارة أنظمة المعلومات ، وتتخذ هذه المقرر الدراسي الإدارة بدلاً من النهج الفني للمواد المقدمة. على هذا النحو ، يجب أن يكون محل اهتمام طلاب الإدارة العامة المهتمين بقضايا تكنولوجيا المعلومات وطلاب تكنولوجيا المعلومات المهتمين بقضايا الإدارة. باستخدام منهج دراسة الحالة ، ستتضمن الموضوعات: تقنية المعلومات والاستراتيجية. تكنولوجيا المعلومات وإدارة أصول تكنولوجيا المعلومات			

Module 22

Code	Course/Module Title	ECTS	Semester
IBT206	Object Oriented Programming II	7	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	3	93	82
Description			
The course covers basic concepts of imperative and object-oriented programming, as realized in python. We will discuss the basic language constructs and some simple guidelines for program design. A number of classes in the python standard library are used in different assignments يغطي المقرر المفاهيم الأساسية للبرمجة الحتمية والموجهة للكائنات ، كما تتحقق في بيثون. سنناقش تراكيب اللغة الأساسية وبعض الإرشادات البسيطة لتصميم البرنامج. يتم استخدام عدد من الفصول في مكتبة Python القياسية في مهام مختلفة			

Module 23

Code	Course/Module Title	ECTS	Semester
IBT208	Web Applications Development	6	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	87
Description			
This course will present students with the knowledge and understanding of the range of techniques used in current web application development and the ability to select appropriate tools for a given context. Also, this course provides the foundations necessary to present a full-stack web developer. ستزود هذه المقرر الدراسي الطلاب بالمعرفة والفهم لمجموعة من التقنيات المستخدمة في تطوير تطبيقات الويب الحالية والقدرة على اختيار الأدوات المناسبة لسياق معين. توفر هذه المقرر الدراسي أيضًا الأسس اللازمة لتقديم مطور ويب متكامل.			

Module 24

Code	Course/Module Title	ECTS	Semester
IBT200	Database Fundamentals	5	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	62
Description			
Understand the fundamentals of relational, object-oriented, and distributed database systems including data models, database architectures, and database manipulations Understand the theories and techniques in developing database applications and be able to demonstrate the ability to build databases using enterprise DBMS products such as Oracle or SQL Server. Be familiar with managing database systems Understand new developments and trends in databases فهم أساسيات أنظمة قواعد البيانات العلائقية والموجهة للكائنات والموزعة بما في ذلك نماذج البيانات وبنيات قواعد البيانات ومعالجات قواعد البيانات فهم النظريات والتقنيات في تطوير تطبيقات قواعد البيانات والقدرة على إثبات القدرة على بناء قواعد البيانات باستخدام منتجات DBMS للمؤسسات مثل Oracle أو SQL Server. كن على دراية بإدارة أنظمة قواعد البيانات فهم التطورات والاتجاهات الجديدة في قواعد البيانات			

Module 25

Code	Course/Module Title	ECTS	Semester
ARB227	Arabic II	2	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	25	25
Description			
This course description provides a brief summary of the key characteristics of the course and the expected learning outcomes for the student, demonstrating whether they have maximized the learning opportunities available. It must be linked to the program description. يوفر وصف المقرر هذا إيجازاً مقتضياً لأهم خصائص المقرر ومخرجات التعلم المتوقعة من الطالب تحقيقها مبرهناً عما إذا كان قد حقق الاستفادة القصوى من فرص التعلم المتاحة. ولابد من الربط بينها وبين وصف البرنامج.			

Module 26

Code	Course/Module Title	ECTS	Semester
IBT304	Information Security	6	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	87
Description			
This course provides an overview of information security principles, practices, methods, and tools in both management aspect and technical aspect. Students will learn about the threats against an organization's digital assets, as well as the tools and methods to mitigate those threats. Topics include cryptography, authentication, access control systems, and database security. يقدم هذا المساق لمحة عامة عن مبادئ وممارسات وطرق وأدوات أمن المعلومات في كل من الجانب الإداري والجانب الفني. سيتعرف الطلاب على التهديدات ضد الأصول الرقمية للمؤسسة ، بالإضافة إلى الأدوات والأساليب للتخفيف من تلك التهديدات. تشمل الموضوعات التشفير والمصادقة وأنظمة التحكم في الوصول وأمن قاعدة البيانات.			

Module 27

Code	Course/Module Title	ECTS	Semester
IBT302	Mobile Applications Development	6	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	87
Description			
This course introduces students to programming technologies, design and development related to mobile applications. Topics include accessing device capabilities, industry standards, operating systems, and programming for mobile applications using an OS Software Development Kit (SDK). Upon completion, students should be able to create applications for mobile devices يعرّف هذا المساق الطلاب على تقنيات البرمجة والتصميم والتطوير المتعلقة بتطبيقات الهاتف المحمول. تشمل الموضوعات الوصول إلى إمكانات الجهاز ومعايير الصناعة وأنظمة التشغيل والبرمجة لتطبيقات الأجهزة المحمولة باستخدام OS Software Development Kit (SDK). عند الانتهاء ، يجب أن يكون الطلاب قادرين على إنشاء تطبيقات للأجهزة المحمولة			

Module 28

Code	Course/Module Title	ECTS	Semester
ISE328	E-Commerce	5	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	62	63
Description			
This course introduces the principles and procedures related to the design, use, and launch of e-commerce ventures. It overviews e-commerce and its effects on business and society, introduces e-commerce business models, and portrays the technological infrastructure of e-commerce, applications, and tools used to conduct business on the World Wide Web. It reviews security and quality assurance, website design strategies, payment systems, and various issues—Internet marketing, legal, regulatory, technological, social, and ethical—related to electronic business and systems development. يقدم هذا المقرر المبادئ والإجراءات المتعلقة بتصميم واستخدام وإطلاق مشاريع التجارة الإلكترونية. وهو يلقي نظرة عامة على التجارة الإلكترونية وتأثيراتها على الأعمال التجارية والمجتمع، ويقدم نماذج أعمال التجارة الإلكترونية، ويصور البنية التحتية التكنولوجية للتجارة الإلكترونية والتطبيقات والأدوات المستخدمة لممارسة الأعمال التجارية على شبكة الويب العالمية. ويراجع الأمن وضمان الجودة، واستراتيجيات تصميم مواقع الويب، وانظمة الدفع، ومختلف القضايا - التسويق عبر الإنترنت، والقضايا القانونية والتنظيمية والتكنولوجية والاجتماعية والأخلاقية - المتعلقة بالأعمال التجارية الإلكترونية وتطوير الأنظمة.			

Module 29

Code	Course/Module Title	ECTS	Semester

IBT300	Database Management Systems	6	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	87
Description			

Understand the fundamentals of relational, object-oriented, and distributed database systems including: data models, database architectures, and database manipulations

Understand the theories and techniques in developing database applications and be able to demonstrate the ability to build databases using enterprise DBMS products such as Oracle or SQL Server.

Be familiar with managing database systems
Understand new developments and trends in databases

فهم أساسيات أنظمة قواعد البيانات العلائقية والموجهة للكائنات والموزعة بما في ذلك: نماذج البيانات وبنيات قواعد البيانات ومعالجات قواعد البيانات
فهم النظريات والتقنيات في تطوير تطبيقات قواعد البيانات والقدرة على إثبات القدرة على بناء قواعد البيانات باستخدام منتجات DBMS للمؤسسات مثل Oracle أو SQL Server.
كن على دراية بإدارة أنظمة قواعد البيانات
فهم التطورات والاتجاهات الجديدة في قواعد البيانات

Module 30

Code	Course/Module Title	ECTS	Semester
BIC310	Software Engineering I	5	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	62
Description			

Software engineering is a discipline that allows us to apply engineering and computer science concepts in the development and maintenance of reliable, usable, and dependable software. There are several areas to focus on within software engineering, such as design, development, testing, maintenance, and management. Software development outside of the classroom is a very complex process, mostly because real-world software is much larger and more complex

هندسة البرمجيات هي تخصص يسمح لنا بتطبيق مفاهيم الهندسة وعلوم الكمبيوتر في تطوير وصيانة برامج موثوقة وقابلة للاستخدام ويمكن الاعتماد عليها. هناك العديد من المجالات التي يجب التركيز عليها في هندسة البرمجيات ، مثل التصميم والتطوير والاختبار والصيانة والإدارة. يعد تطوير البرامج خارج الفصل الدراسي عملية معقدة للغاية ، ويرجع ذلك في الغالب إلى أن برامج العالم الحقيقي أكبر بكثير وأكثر تعقيدًا

Module 31

Code	Course/Module Title	ECTS	Semester
SEI221	Social and Ethical Issues	2	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	33	17
Description			
The goal is to demonstrate knowledge of current models of information and computer ethics and apply ethical theories to interpret individual and group behavior when using information technology tools. It also involves evaluating the ethical choices made by individuals in various roles, especially in diverse social and cultural contexts. Additionally, it requires constructing written arguments that highlight the ongoing evolution of ethical norms related to modern technologies. This involves critical thinking about how technological advancements impact ethical principles such as privacy, justice, and equality. يتمثل الهدف في إظهار المعرفة بالنماذج الحالية لأخلاقيات المعلومات وعلوم الكمبيوتر، وتطبيق النظريات الأخلاقية لتفسير السلوك الفردي والجماعي عند استخدام أدوات تكنولوجيا المعلومات. كما يتطلب تقييم الخيارات الأخلاقية التي يتخذها الأفراد في أدوارهم المختلفة، خاصة في السياقات الاجتماعية والثقافية المتنوعة. علاوة على ذلك، يجب بناء حجج مكتوبة تسلط الضوء على التطورات المستمرة في الأعراف الأخلاقية المتعلقة بالتكنولوجيا الحديثة. يتطلب هذا التفكير النقدي حول كيفية تأثير التقدم التكنولوجي على المبادئ الأخلاقية مثل الخصوصية، العدالة، والمساواة.			

Module 32

Code	Course/Module Title	ECTS	Semester
BIC320	Software Engineering II	5	6
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	62
Description			
Software engineering is a discipline that allows us to apply engineering and computer science concepts in the development and maintenance of reliable, usable, and dependable software. There are several areas to focus on within software engineering, such as design, development, testing, maintenance, and management. Software development outside of the classroom is a very complex process, mostly because real-world software is much larger and more complex. هندسة البرمجيات هي تخصص يسمح لنا بتطبيق مفاهيم الهندسة وعلوم الكمبيوتر في تطوير وصيانة برامج موثوقة وقابلة للاستخدام ويمكن الاعتماد عليها. هناك العديد من المجالات التي يجب التركيز عليها في هندسة البرمجيات ، مثل التصميم والتطوير والاختبار والصيانة والإدارة. يعد تطوير البرامج خارج الفصل الدراسي عملية معقدة للغاية ، ويرجع ذلك في الغالب إلى أن برامج العالم الحقيقي أكبر بكثير وأكثر تعقيدًا.			

Module 33

Code	Course/Module Title	ECTS	Semester
ISM322	Machine Learning	5	6
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	3	78	47
Description			

A Machine Learning course delves into the theory and practical implementation of algorithms that empower computers to learn and make predictions based on data. The curriculum covers essential topics such as supervised and unsupervised learning, model evaluation, feature selection, and model optimization. Students acquire hands-on experience in developing machine learning models, exploring various algorithms, and applying them to solve real-world challenges. The course equips individuals with the skills to analyze data, extract meaningful insights, and build robust machine-learning models for applications in diverse fields such as finance, healthcare, e-commerce, and more.

تتعمق دورة التعلم الآلي في النظرية والتطبيق العملي للخوارزميات التي تمكن أجهزة الكمبيوتر من التعلم والتنبؤ بناءً على البيانات. يغطي المنهج موضوعات أساسية مثل التعلم الخاضع للإشراف وغير الخاضع للإشراف ، وتقييم النموذج ، واختيار الميزات ، وتحسين النموذج. يكتسب الطلاب خبرة عملية في تطوير نماذج التعلم الآلي ، واستكشاف الخوارزميات المختلفة ، وتطبيقها لحل تحديات العالم الحقيقي. تزود المقرر الدراسي الأفراد بالمهارات اللازمة لتحليل البيانات ، واستخراج رؤى ذات مغزى ، وبناء نماذج قوية للتعلم الآلي للتطبيقات في مجالات متنوعة مثل التمويل والرعاية الصحية والتجارة الإلكترونية والمزيد.

Module 34

Code	Course/Module Title	ECTS	Semester
ISM326	Cyber Security for Business	5	6
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	3	78	47
Description			

This course will provide a basic introduction to of all aspects of cyber-security including malware and its types, types of cybercrime, cyber security techniques, digital forensics, business, policy and procedures, communications security, security management, legal issues, political issues, and technical issues

سيوفر هذه المقرر الدراسي مقدمة أساسية لجميع جوانب الأمن السيبراني بما في ذلك البرامج الضارة وأنواعها ، وأنواع الجرائم الإلكترونية ، وتقنيات الأمن السيبراني ، والطب الشرعي الرقمي ، والأعمال التجارية ، والسياسات والإجراءات ، وأمن الاتصالات ، وإدارة الأمن ، والقضايا القانونية ، والقضايا السياسية ، والقضايا الفنية

Module 35

Code	Course/Module Title	ECTS	Semester
ISM324	Operations Management	5	6
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	47	78
Description			
An Operations Management course focuses on principles and practices for efficient resource utilization and delivering goods/services. It covers topics such as process design, supply chain management, quality control, and project management. Students gain skills to optimize operations and pursue careers in various industries. يركز المقرر الدراسي إدارة العمليات على المبادئ والممارسات للاستخدام الفعال للموارد وتقديم السلع / الخدمات. ويغطي موضوعات مثل تصميم العمليات وإدارة سلسلة التوريد ومراقبة الجودة وإدارة المشاريع. يكتسب الطلاب مهارات لتحسين العمليات ومتابعة الوظائف في مختلف الصناعات.			

Module 36

Code	Course/Module Title	ECTS	Semester
IBT404	Cloud Computing	6	7
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	87
Description			
As organizations grow and merge their information infrastructures expand and demand both larger scale solutions to some of those problems as well as different approaches to various processes. This course will examine the issues surrounding several of these areas in lecture and representative solutions in the lab. The topics will include selections from: cloud computing history, cloud computing benefits, cloud computing types, cloud computing services, cloud computing authentication and security, enterprise administration, cloud computing services, cloud computing in the market, cloud computing applications مع نمو المنظمات ودمجها ، تتوسع البنية التحتية للمعلومات الخاصة بها وتتطلب حلولًا واسعة النطاق لبعض هذه المشكلات بالإضافة إلى مناهج مختلفة للعمليات المختلفة. يدرس هذا المساق القضايا المحيطة بالعديد من هذه المجالات في المحاضرات والحلول التمثيلية في المختبر. ستشمل الموضوعات اختيارات من: تاريخ الحوسبة السحابية ، وفوائد الحوسبة السحابية ، و أنواع الحوسبة السحابية ، وخدمات الحوسبة السحابية ، ومصادقة وأمن الحوسبة السحابية ، وإدارة المؤسسات ، وخدمات الحوسبة السحابية ، والحوسبة السحابية في السوق ، وتطبيقات الحوسبة السحابية			

Module 37

Code	Course/Module Title	ECTS	Semester
ISM412	Decision Support Systems	6	7
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	87
Description			
The purpose of this course is to provide the students with conceptual understanding of Decision Support Systems (DSS), decision-making process, and modeling in Management Support Systems (MSS). It also includes the key technical and managerial issues in the effective design, development, use, and evaluation of intelligent decision support systems in business organizations. الغرض من هذه المقرر الدراسي هو تزويد الطلاب بالفهم النظري لأنظمة دعم القرار (DSS) ، وعملية صنع القرار ، والنمذجة في أنظمة دعم الإدارة (MSS). ويشمل أيضًا القضايا التقنية والإدارية الرئيسية في التصميم الفعال والتطوير والاستخدام والتقييم لأنظمة دعم القرار الذكية في منظمات الأعمال.			

Module 38

Code	Course/Module Title	ECTS	Semester
ISM416	IS Project Management	5	7
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	62
Description			
This course introduces and develops concepts central to the management of software projects (decomposing projects into stages) that entail appreciation of both key, generic project management concepts and techniques, and techniques and approaches specific to software projects يقدم هذا المساق ويطور المفاهيم الأساسية لإدارة مشاريع البرمجيات (تفكيك المشاريع إلى مراحل) التي تتطلب تقدير مفاهيم وتقنيات إدارة المشاريع العامة والعامة ، والتقنيات والأساليب الخاصة بمشاريع البرمجيات.			

Module 39

Code	Course/Module Title	ECTS	Semester
ISM411	Project I	8	7
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	4	92	108
Description			
This course description provides a necessary summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he has made the most of the learning opportunities available. It must be linked to the program description. يوفر وصف المقرر هذا ايجازاً مقتضياً لأهم خصائص المقرر ومخرجات التعلم المتوقعة من الطالب تحقيقها مبرهناً عما إذا كان قد حقق الاستفادة القصوى من فرص التعلم المتاحة . ولابد من الربط بينها وبين وصف البرنامج			

Module 40

Code	Course/Module Title	ECTS	Semester
ISM414	Managing Enterprise Systems	4	8
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	1	48	52
Description			
A broad knowledge of the theories, concepts, and principles of business-related fields and disciplines including leadership, economics, marking, accounting, supply chain and logistics, trade agreements, HR, management, and marketing. A deeper knowledge of the issues associated with conducting business across national borders, different cultures, different legal and regulatory environments, and different time zones in the modern business environment. معرفة واسعة بالنظريات والمفاهيم ومبادئ المجالات والتخصصات المتعلقة بالأعمال بما في ذلك القيادة والاقتصاد والعلامات والمحاسبة وسلسلة التوريد والخدمات اللوجستية والاتفاقيات التجارية والموارد البشرية والإدارة والتسويق. معرفة أعمق بالقضايا المرتبطة بممارسة الأعمال التجارية عبر الحدود الوطنية والثقافات المختلفة والبيئات القانونية والتنظيمية المختلفة ومناطق زمنية مختلفة في بيئة الأعمال الحديثة.			

Module 41

Code	Course/Module Title	ECTS	Semester
IBT402	Total Quality Management	4	8
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	1	48	52

Description

Companies require young graduates with specific specialist skills that allow new hires to immediately tackle assigned tasks and solve problems by working individually or in teams, they are increasingly attentive to soft skills such as flexibility, problem solving and creativity. The course is designed to transfer and train students in terms of quality both from the point of view of management and from the point of view of the certification process, through which companies "exhibit" their distinctive abilities and their ability to interpret needs. of society. But it is also structured to encourage the development of flexibility in dealing with problems by engaging everyone in a creative effort. Another goal of the course is to develop the ability to analyze problems and support teamwork. The teaching is interactive, developed according to the modern binary approach: learning practices / learning activities and final discussion The course is structured according to various macro themes to transfer concepts, methodologies, techniques, to increase basic and transversal knowledge with respect to the topic of Quality and the evolution of Quality Management

تتطلب الشركات خريجين شباب يتمتعون بمهارات متخصصة محددة تسمح للموظفين الجدد بمعالجة المهام المعينة على الفور وحل المشكلات من خلال العمل بشكل فردي أو في فرق ، فهم يهتمون بشكل متزايد بالمهارات اللينة مثل المرونة وحل المشكلات والإبداع. تم تصميم المقرر الدراسي لنقل الطلاب وتدريبهم من حيث الجودة من وجهة نظر الإدارة ومن وجهة نظر عملية التصديق ، والتي من خلالها "تُظهر" الشركات قدراتها المميزة وقدرتها على تفسير الاحتياجات. للمجتمع. ولكنه منظم أيضًا لتشجيع تطوير المرونة في التعامل مع المشكلات من خلال إشراك الجميع في جهد إبداعي. الهدف الآخر للدورة هو تطوير القدرة على تحليل المشاكل ودعم العمل الجماعي. التدريس تفاعلي ، تم تطويره وفقًا للنهج الثنائي الحديث: ممارسات التعلم / أنشطة التعلم والمناقشة النهائية. الجودة وتطور إدارة الجودة

Module 42

Code	Course/Module Title	ECTS	Semester
IBT406	Business Intelligence	5	8
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	2	63	62
Description			
This course provides an overview of decision support and business intelligence systems with in-depth coverage of trendy topics such as:Text mining, big data analytics, visual data analytics, knowledge management, as well as traditional data warehouse architecture, planning and implementation. Articulate modern BI practices, including knowledge integration, sourcing and managing BI solutions. تقدم هذه المقرر الدراسي لمحة عامة عن دعم القرار و أنظمة ذكاء الأعمال مع تغطية متعمقة للموضوعات العصرية مثل: التنقيب عن النصوص ، و تحليلات البيانات الضخمة ، وتحليلات البيانات المرئية ، وإدارة المعرفة ، فضلاً عن هندسة مستودع البيانات التقليدية ، والتخطيط والتنفيذ. توضيح ممارسات ذكاء الأعمال الحديثة ، بما في ذلك تكامل المعرفة ، وتحديد المصادر وإدارة حلول ذكاء الأعمال.			

Module 43

Code	Course/Module Title	ECTS	Semester
ISM420	Project II	8	8
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	4	92	108
Description			
This course description provides a necessary summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he has made the most of the learning opportunities available. It must be linked to the program description يوفر وصف المقرر هذا ايجازاً مقتضياً لأهم خصائص المقرر ومخرجات التعلم المتوقعة من الطالب تحقيقها مبرهناً عما إذا كان قد حقق الاستفادة القصوى من فرص التعلم المتاحة . ولابد من الربط بينها وبين وصف البرنامج			

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Republic of Iraq - Ministry of Higher Education and Scientific Research
University of Information Technology and Cummunications
Bachelor of Science in Informatics Systems Management
Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25 hr
Program Curriculum (2023 - 2024)

جمهورية العراق - وزارة التعليم العالي والبحث العلمي
جامعة تكنولوجيا المعلومات والاتصالات
بكالوريوس في علوم ادارة انظمة المعلوماتية
أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوربية - كل وحدة اوربية = ٢٥ ساعة
المنهاج الدراسي للعام ٢٠٢٣-٢٠٢٤

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)	hr/sem	hr/sem	hr/sem	hr/sem			
UGI	One	1	IBT101	Programming Fundamentals I	أساسيات برمجة I	English	2		3				3	78	122	200	8.00	B	
		2	IBT105	Discrete Mathematics	الرياضيات المتقطعة	English	2				1		3	48	102	150	6.00	B	
		3	IBT103	Principles of Accounting	مبادئ المحاسبه	English	2		2				3	63	87	150	6.00	S	
		4	HUR113	Democracy and Human Rights	الديمقراطية وحقوق الانسان	Arabic	2						2	32	18	50	2.00	S	
		5	BIC123	Computational Paradigms	مفاهيم حاسوبيه	English	2				1		3	48	102	150	6.00	B	
		6	ENG111	English I	اللغة الانكليزية I	English	2						2	32	18	50	2.00	S	
						Total	12	0	5	0	2	0	16	301	449	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)	hr/sem	hr/sem	hr/sem	hr/sem			
	Two	1	BIC122	Probability and Statistc	الاحتماليه والاحصاء	English	2		2				3	63	87	150	6.00	C	IBT105
		2	BIC111	Human Resource Management	ادارة الموارد البشريه	English	3						3	48	102	150	6.00	S	
		3	IBT104	Programming Fundamentals II	أساسيات برمجة II	English	2		3				3	78	122	200	8.00	C	IBT101
		4	ISM113	Foundations of Information Systems	اساسيات نظم المعلومات	English	2		3				3	78	72	150	6.00	B	
		5	ARB115	Arabic I	اللغة العربية I	Arabic	2						2	32	18	50	2.00	S	
		6	ENG212	English II	اللغة الانكليزية II	English	2						2	32	18	50	2.00	S	ENG111
						Total	13	0	8	0	0	0	16	331	419	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)	hr/sem	hr/sem	hr/sem	hr/sem			
UGII	Three	1	IBT204	Web Pages Design	تصميم صفحات المواقع	English	2		2				3	63	87	150	6.00	C	IBT101
		2	IBT202	Object Oriented Programming I	البرمجه الشيئية I	English	3		3				3	93	82	175	7.00	C	IBT104
		3	BIC213	Marketing Management	ادارة التسويق	English	2						3	33	67	100	4.00	S	
		4	IBT205	Computer Networks	شبكات الحاسوب	English	2		2				3	63	87	150	6.00	B	
		5	CBR101	Crimes of the Former Baath Regime	جرائم حزب البعث البائد	Arabic	2						2	32	18	50	2.00	S	
		6	BIC212	Data Structures	هياكل البيانات	English	2		2				3	63	62	125	5.00	C	IBT104
						Total	13	0	9	0	0	0	17	347	403	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)	hr/sem	hr/sem	hr/sem	hr/sem			
	Four	1	ENG213	English III	اللغة الانكليزية III	English	2						2	32	18	50	2.00	B	ENG212
		2	BIC222	Algorithms and Complexity	الخوارزميات وتعقيداتها	English	2		2				3	50	50	100	4.00	C	BIC212
		3	ISM224	Management Information Systems	ادارة نظم المعلومات	English	2		2				3	50	50	100	4.00	C	ISM113
		4	IBT206	Object Oriented Programming II	البرمجه الشيئية II	English	3		3				3	93	82	175	7.00	C	IBT202
		5	IBT208	Web Applications Development	تطوير تطبيقات المواقع	English	2		2				3	63	87	150	6.00	C	IBT204
		6	IBT200	Database Fundamentals	اسس قواعد البيانات	English	2		2				3	63	62	125	5.00	C	BIC212
		7	ARB227	Arabic II	اللغة العربية II	Arabic	2						2	25	25	50	2.00	S	ARB115
						Total	15	0	11	0	0	0	19	376	374	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)	hr/sem	hr/sem	hr/sem	hr/sem			
UGIII	Five	1	IBT304	information Security	امنية المعلومات	English	2		2				3	63	87	150	6.00	C	IBT105
		2	IBT302	Mobile Applications Development	تطوير تطبيقات الهواتف المحموله	English	2		2				3	63	87	150	6.00	C	IBT208
		3	ISE328	E-Commerce	التجاره الالكترونيه	English	2		2				2	62	63	125	5.00	C	IBT208
		4	IBT300	Database Management Systems	نظم ادارة قواعد البيانات	English	2		2				3	63	87	150	6.00	C	IBT200
		5	BIC310	Software Engineering I	هندسة البرامجيات I	English	2		2				3	63	62	125	5.00	C	IBT206
		6	SEI221	Social and Ethical Issues	القضايا الاجتماعيه والاخلاقيه	English	2						3	33	17	50	2.00	S	
						Total	12	0	10	0	0	0	17	347	403	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)	hr/sem	hr/sem	hr/sem	hr/sem			
	Six	1	BIC320	Software Engineering II	هندسة البرامجيات II	English	2		2				3	63	62	125	5.00	C	BIC310
		2	ISM322	Machine Learning	التعلم الالي	English	2		2	1			3	78	47	125	5.00	C	IBT206
		3	ISM326	Cyber Security for Business	الامن السيبراني للاعمال	English	2		2		1		3	78	47	125	5.00	C	IBT304
		4	ISM324	Operations Management	ادارة العمليات	English	3						2	47	78	125	5.00	S	ISM224
		5	3XX	Elective III	اختياري	English	2		2				2	62	63	125	5.00	E	IBT208
		6	3XX	Elective Iv	اختياري	English	3						2	47	78	125	5.00	E	IBT205
						Total	14	0	8	1	1	0	15	375	375	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)	hr/sem	hr/sem	hr/sem	hr/sem			
	Seven	1	IBT404	Cloud Computing	الحوسبه السحابيه	English	2		2				3	63	87	150	6.00	C	IBT205
		2	ISM412	Decision Support Systems	نظم دعم القرار	English	2		2				3	63	87	150	6.00	C	ISM322
		3	ISM4xx	Elective v	اختياري	English	2		2				2	62	63	125	5.00	E	

	Seven	4	ISM416	IS Project Management	ادارة مشروع نظم المعلومات	English	2		2				3	63	62	125	5.00	C	BIC320	
		5	ISM411	Project I	مشروع I	English	2		4				2	92	108	200	8.00	C		
						Total	10	0	12	0	0	0	13	343	407	750	30.0			

UGIV	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							
	Eight	1	ISM414	Managing Enterprise Systems	ادارة انظمة المؤسسه	English	2				1		3	48	52	100	4.00	C	ISM324
		2	IBT402	Total Quality Management	ادارة الجوده الشامله	English	2				1		3	48	52	100	4.00	C	ISM324
		3	ISM4xx	Elective vi	اختياري	English	2		2				2	62	38	100	4.00	E	
		4	IBT406	Business Inteligence	ذكاء الاعمال	English	2		2				3	63	62	125	5.00	C	ISM412
		5	ISM4xx	Elective vii	اختياري	English	2		2				2	62	63	125	5.00	E	
		6	ISM420	Project II	مشروع II	English	2		4				2	92	108	200	8.00	C	ISM411
						Total	10	0	6	0	2	0	13	283	267	750	30.0		
						Total	99	0	69	1	5	0	126	2703	3097	6000	240.0	Must be 240 ECTS	

Note: The student should complete 4 weeks of Summer Internships to fullfil the requirements of the Bachelor's degree

Structured SWL (hr/w) type		Module type		SWL:	Student Workload
CL	Class Lecture	B	Basic learning activities	SSWL:	Structured SWL
Lab	Laboratory	C	Core learning activity	USSWL:	Unstructured SWL
Pr	Practical Training	S	Suport or related learning activity		
Tut	Tutorial	E	Elective learning activity		
Lect	Online lecture				
Semn	Seminar				

Note: Columns O, Q and R are progrmaed, protected and should not be edited

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Programming Fundamentals I**			**Module Delivery**	
Module Type	**Basic**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**IBT101**				
ECTS Credits	**8**				
SWL (hr/sem)	**200**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	ISM		**College**	BIC	
Module Leader	Name		**e-mail**	E-mail	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	18/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To familiarize the student with the universal concepts of computer programming. 2. To present the syntax and semantics of the “Python” language as well as basic data types offered by the language. 3. To discuss the principles of the object-oriented model and its implementation in the “Python” language. 4. To demonstrate the means useful in resolving typical implementation problems with the help of standard “Python” language libraries.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution 2. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs 3. Recognition of the need for and an ability to engage in continuing professional development 4. An ability to use current techniques, skills, and tools necessary for computing practice 5. An ability to apply E-process for organization 6. An ability to function effectively on teams to accomplish a common goal 7. Ability to adopt lifelong learning 8. Ability to solve problems 9. Ability to communicate effectively with colleagues in work environment
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students’ participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	122	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**200**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	1	10% (10)		
	Assignments	1	10% (10)		
	Lab	3	10% (10)	Continuous	All
	Report	1	10% (10)		
Summative assessment	**Midterm Exam**	2hr	10% (10)		
	Final Exam	3hr	50% (50)		
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**General Introduction** -An Overview of Computers , Programming Languages and Compiler & Interpreter
Week 2	Algorithms and Flowchart explore problem-solving techniques
Week 3	**Algorithms and Flowchart** ● Loop: Examples about using Loop in algorithm
Week 4	**Python Programming Language** ● History of Python ● Development Tools of Python ● Get Started with Python ● Python Syntax ● Python Indentation
Week 5	**Basic of Python**

	● Keywords and Identifier ● Statements & Comments ● Python Variables ● Python Data types ● Python Type Conversion ● Python I/O
Week 6	**Python operators(I)** ● Python Casting ● Python Arithmetic operators ● Python Comparison operators ● Python Assignment operators
Week 7	**Python operators (II)** ● Python Logical operators ● Python Bitwise operators ● Python Special operators ● Syntax Errors ● Runtime Errors ● Logic Errors
Week 8	**Python Numbers and Math Module** ● Python Numbers ● Type Conversion and Mathematics ● Math Module
Week 9	**First Test (Theoretical and Practical**(
Week 10	**Control Structure I** ● Python Conditions and If/ Else statements ● Examples ● Nested Conditionals
Week 11	**Control Structure II** ● Compound Boolean expressions ● Multi-way Decision Statements ● Conditional Expressions ● Errors in Conditional statements
Week 12	**Iterations I** ● The while Statement ● The For Statement
Week 13	**Iterations II** ● Nested Loops ● Abnormal Loop Termination ● The break Statement ● The continue Statement ● The infinite Loop Iteration examples
Week 14	**Iterations III**
Week 15	**Second Test (Theoretical and Practical)**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	**General Introduction**
Week 2	Algorithms and Flowchart
Week 3	**Python Programming Language**
Week 4	**Python operators I**
Week 5	exam1
Week 6	**Python Numbers and Math Module**
Week 7	exam 2

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1. Learning to Program in Python 2017 by P. M. Heathcote 2. Halterman, R. L. (2011). LEARNINGTO PROGRAM WITH PYTHON.	
Recommended Texts	Python Programming Fundamentals 2nd ed. 2014	
Websites	https://www.python.org/ https://www.python.org/doc/ https://www.tutorialspoint.com/python/ www.w3schools.com/python/	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Web Pages Design**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**IBT204**				
ECTS Credits	6				
SWL (hr/sem)	150				
Module Level	2		**Semester of Delivery**	3	
Administering Department	ISM		**College**	BIC	
Module Leader	Name		**e-mail**	E-mail	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	18/02/2024		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	IBT101	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. HTML: Learn the structure and elements used to create web page content. 2. CSS: Understand how to style and format web page elements using CSS. 3. Responsive Design: Learn how to design web pages that adapt to different screen sizes. 4. Typography: Explore the basics of choosing and formatting fonts for web page content. 5. Layout and Composition: Learn how to organize and arrange web page elements in a visually pleasing manner.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs 2. An ability to analyze the local and global impact of computing on individuals, organizations, and society 3. An ability to effectively integrate IT-based solutions into the user environment 4. An ability to apply total quality management for its system and to develop the software 5. An ability to use current techniques, skills, and tools necessary for computing practice 6. An ability to apply design and development principles in the construction of software systems of varying complexity 7. An ability to function effectively on teams to accomplish a common goal 8. An ability to assist in the creation of an effective project plan 9. Ability to adopt lifelong learning 10. Ability to communicate information with other specializations. 11. Ability to solve problems 12. Ability to communicate effectively with colleagues in the work environment

Indicative Contents المحتويات الإرشادية	1. Introduction to Internet, the World Wide Web (WWW), Uniform Resource Locators (URL), Multi-Purpose Internet Mail Extensions (MIME), Hypertext Transport Protocol (HTTP) , and HTTP vs HTTPS: [4 hrs] 2. Introduction to Web Programming, Introduction to HTML: [4 hrs] 3. Coding Standards, Lists, Tables, and Insert Image: [4 hrs] 4. Coding standards, HTML Forms (Part I): [4 hrs] 5. Coding standards, HTML Forms, and frames (Part II): [4 hrs] 6. Overview Cascading Style Sheets (CSS) (Part I): [4 hrs] 7. Cascading Style Sheets (CSS) (Part II): [6 hrs] 8. CSS box model: [4 hrs] 9. Introduction to Java Script: [4 hrs] 10. Introduction to Java Script (Loops and Additional Controls): [6 hrs] 11. Introduction to Java Script (Function and popup boxes): [6 hrs] 12. Document Object Model (DOM): [4 hrs] 13. final exam preparation: [4 hrs]

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL)
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	1	10% (10)		
	Assignments	1	10% (10)		
	Lab	1	10% (10)	Continuous	All
	Report	1	10% (10)		
Summative assessment	**Midterm Exam**	2hr	10% (10)		
	Final Exam	3hr	50% (50)		
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to Internet and the World Wide Web (WWW)
Week 2	An ability to Learn the Introduction to Web Programming
Week 3	An ability to understand the Coding Standards, Lists, Tables, and Insert Image
Week 4	An ability to understand the coding standards, HTML Forms (Part I)
Week 5	An ability to understand the coding standards, HTML Forms, and frames (Part II)
Week 6	Mid-term Exam - Selection of Intellectual Question in Achievement tests
Week 7	An ability to understand the Cascading Style Sheets (CSS) (Part I)

Week 8	An ability to understand the Cascading Style Sheets (CSS) (Part II)
Week 9	The ability to use and understand the CSS box model
Week 10	An ability to understand the Java Script
Week 11	The ability to use and understand the Loops and Additional Controls
Week 12	The ability to use and understand the Function and popup boxes
Week 13	The ability to understand Document Object Model (DOM)
Week 14	Second Mid-term Exam
Week 15	**Project**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to HTML and Basic Web Page Structure
Week 2	Working with Lists, Tables, and Inserting Images
Week 3	HTML Forms (Part I)
Week 4	HTML Forms and Frames (Part II)
Week 5	Introduction to CSS (Part I)
Week 6	CSS (Part II) and the CSS Box Model
Week 7	Introduction to JavaScript and DOM Manipulation

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	"HTML and CSS: Design and Build Websites" by Jon Duckett	
Recommended Texts	"Web Design with HTML, CSS, JavaScript and jQuery Set" by Jon Duckett	
Websites	(https://tutsplus.com/): Tuts+ offers web design and development tutorials, articles, and courses. It covers a wide range of topics, including HTML, CSS, responsive design, and UI/UX	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Software Engineering II**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**BIC320**				
ECTS Credits	5				
SWL (hr/sem)	**125**				
Module Level		3	**Semester of Delivery**		6
Administering Department		ISM	**College**	BIC	
Module Leader	Name		**e-mail**	E-mail	
Module Leader's Acad. Title		Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		18/02/2024	**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	BIC310	**Semester**	5
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. TO PRESENT SOFTWARE ENGINEERING AS A BODY OF KNOWLEDGE. 2. TO LEARN THE SOFTWARE ENGINEERING CONCEPTS AND PRINCIPLES 3. TO LEARN THE SOFTWARE DEVELOPMENT LIFE CYCLE 4. TO LEARN MAJOR METHODOLOGIES FOLLOWED BY SOFTWARE MODELING
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The students learn What software engineering is and what are its components? 2. The students learn What are the current trends in Process and project metrics in Software Eng? 3. The students learn to apply Quality assurance techniques platforms? 4. An ability to be aware about over all Software Eng. 5. Advanced knowledge in software engineering. • A knowledge of and an ability to apply: ● Quality assurance techniques o Requirements management techniques o Software project planning ● Quality engineering techniques 6. An ability to achieve the common goal of the this course 7. An ability to help the student how to manipulate with the software in many fields 8. Ability to collect many concepts of this subject to be useful for students 9. Ability to develop the topics by the way even in course to get the latest lectures in software eng
Indicative Contents المحتويات الإرشادية	-S**oftware Development and Source Code Control (13 hours)** Understanding software development methodologies and processes Introduction to source code control systems (SCCS) and version control Version control techniques and best practices Collaborative development using version control tools **-Software Testing and Validation (13 hours)** Fundamentals of software testing

	Testing techniques: black-box testing, white-box testing, and gray-box testing Test planning, test case design, and test execution Test automation and tools -Validating software results and ensuring correctness **Software Evolution and Maintenance (13 hours)** Introduction to software evolution processes Legacy systems and their challenges Techniques for software maintenance and enhancement Reverse engineering and reengineering of software systems **-Software Deployment and Quality Assurance (13 hours)** Software deployment strategies and considerations Deployment automation and continuous integration Introduction to software quality assurance Quality control techniques and metrics Software reviews, inspections, and audits

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Learning strategies in software engineering include hands-on projects, collaborative learning, continuous practice, utilizing online resources, and actively engaging in coding exercises. Teaching strategies involve a combination of lectures, demonstrations, project-based learning, real-world examples, and guest lectures/industry collaboration. These approaches aim to promote practical application, problem-solving skills, teamwork, and exposure to industry practices. The use of online resources and interactive platforms provides flexibility and access to a

	wide range of software engineering topics. Adapting these strategies to specific contexts enhances the learning experience for students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	1	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	1	10% (10)	6 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Review about the Software Engineering I
Week 2	Software development: Source Code Control (1)
Week 3	Software development: Source Code Control (2)
Week 4	Software development: Programming Tips and Tricks
Week 5	Validate Results
Week 6	Mid exam

Week 7	Software Testing (1)
Week 8	Software Testing (2)
Week 9	Software evolution (Part 1): Evolution processes and legacy Systems
Week 10	Software evolution (Part 2): Software maintenance
Week 11	Software deployment
Week 12	Software quality assurance (1)
Week 13	Software quality assurance (2)
Week 14	Service-Oriented Software Engineering
Week 15	Mid exam (2)

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Overview of UML as a Modeling Tool
Week 2	Software Construction Tools and Testing Tools
Week 3	Mid exam 1
Week 4	Software evolution and Maintenance Tools
Week 5	Put all together
Week 6	Project discussion
Week 7	Mid exam 2

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	• **Software Engineering 10th Edition, Ian Sommerville, Pearson, 2015** • **The Essentials of Modern Software Engineering: Free the Practices from the Method Prisons, ACM Books, 2019** • **Software Engineering with UML 1st edition, Bhuvan Unhelkar Auerbach Publications; CRC PRESS, 2018**	
Recommended Texts	"Software Engineering: A Practitioner's Approach" by Roger S. Pressman	
Websites	https://www.sei.cmu.edu/	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Cloud Computing**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**IBT404**				
ECTS Credits	6				
SWL (hr/sem)	150				
Module Level		4	**Semester of Delivery**		7
Administering Department		ISM	**College**		BIC
Module Leader	Name		**e-mail**		E-mail
Module Leader's Acad. Title		Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**		E-mail
Peer Reviewer Name		Name	**e-mail**		E-mail
Scientific Committee Approval Date		18/02/2024	**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	IBT205	**Semester**	3
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. Study the principals of cloud computing. 2. Cloud computing terminologies. 3. Cloud computing architectures. 4. Cloud computing services. 5. Applications of Cloud computing in the markets. 6. Cloud computing security and authentication.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. An ability to analyze a problem, and identify and define the computing requirements appropriate to its 2. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs 3. An ability to analyze the local and global impact of computing on individuals, organizations, and society 4. Recognition of the need for and an ability to engage in continuing professional development. 5. An ability to effectively integrate IT-based solutions into the user environment. 6. An ability to apply total quality management for it system and to develop the software. 7. An ability to use current techniques, skills, and tools necessary for computing practice. 8. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. 9. An ability to apply design and development principles in the construction of software systems of varying complexity. 10. An ability to function effectively on teams to accomplish a common goal. 11. An understanding of professional, ethical, legal, security and social issues and responsibilities. 12. An ability to communicate effectively with a range of audiences. 13. An ability to assist in the creation of an effective project plan. 14. Making Decisions .

	15. Network Management Skill .
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	1	10% (10)		
	Assignments	1	10% (10)		
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)		
Summative assessment	**Midterm Exam**	2hr	10% (10)		
	Final Exam	2hr	50% (50)		
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	• History of Centralized and Distributed Computing • Defining Cloud Computing • Cloud Types
Week 2	Cloud Computing principles • Components • services • Characteristics of Cloud Computing
Week 3	Assessing the Value Proposition • Measuring the Cloud's Value
Week 4	Understanding Cloud Architecture • Exploring the Cloud Computing Stack • Connecting to the Cloud
Week 5	Understanding Services and Applications by Type • Defining Infrastructure as a Service (IaaS) • Defining Platform as a Service (PaaS) • Defining Software as a Service (SaaS)

	● Defining Identity as a Service (IDaaS) ● Defining Compliance as a Service (CaaS)
Week 6	Understanding Abstraction and Virtualization ● Using Virtualization Technologies ● Load Balancing and Virtualization ● Understanding Hypervisors ● Understanding Machine Imaging ● Porting Applications
Week 7	**First Test**
Week 8	Capacity Planning ● Capacity Planning ● Defining Baseline and Metrics ● Network Capacity
Week 9	Exploring Platform as a Service ● Defining Services ● Using PaaS Application Frameworks
Week 10	Using Google Web Services ● Exploring Google Applications ● Exploring the Google Toolkit
Week 11	● Cloud Reliability ● Cloud fault-tolerance
Week 12	Understanding Cloud Security ● Securing the Cloud ● Securing Data ● Establishing Identity and Presence

Week 13	Cloud Economics
Week 14	Understanding Service Oriented Architecture ● Introducing Service Oriented Architecture ● Defining SOA Communications ● Managing and Monitoring SOA ● Relating SOA and Cloud Computing
Week 15	**Second Test**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1- Handbook of Cloud Computing", BorkoFurht and Armando Escalante, 2016 2- "Cloud Computing Bible", Barrie Sosinsky, 2014	
Recommended Texts	Cloud Computing, A Practical Approach, Anthony T. Velte Toby J. Velte, Ph.D, Robert Elsenpeter ISBN: 978-0-07-162695-8 MHID: 0-07-162695-6, McGraw Hill, 2010	
Websites		

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