College of Computer & Information Sciences

Information Technology Department

King Saud University
College of Computer and Information Sciences
Department of Information Technology

Bachelor of Science in Information Technology Program Guide

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1 Our Program

It has been apparent during the past couple of decades that Information Technology will play an increased role in the lives of people, in business, law, science, arts, and health. Indeed, the need for Information technology is apparent in the 2030 Saudi Vison [1] which focuses on increasing the investments in, and lead, the digital economy. In addition, it recognizes the fact that a sophisticated digital infrastructure is integral to today's advanced industrial activities. There will be continued need within Saudi Arabia for people with software development skills and for people with specialized knowledge in leading edge technologies. Public and private sectors will be drivers of domestic demand for Information Technology graduates.

As businesses, government agencies, and other organizations are continuously shaped by new technologies that minimize the gap between man and machine; this requires professionals with skills in Artificial Intelligence, Data Science, Networks, Robots, Cybersecurity, Internet of Things, and Game Development.

Our program fosters diversification through offering a wider selection of courses that are tuned to the market requirements and provides the necessary specialization by offering a set of new concentrations (tracks). We believe this will render our graduates more relevant to the market.

2 Strength of the IT Program

The program follows closely the guidelines of the Association of Computing Machinery – the governing body that influences computer science education around the world – as defined in its 2017 publication "Curriculum Guidelines for Baccalaureate Degree Programs in Information Technology" [2]. This in turn will enable graduates to achieve the student outcomes mentioned in the ABET CAC accreditation criteria and will ensure that our renewed program meets both the general and the IT specific curriculum criteria.

The image of the program is built around the following key strengths:

- A sound program in information technology with focus on areas beyond programming or immersive software development.
- The potential to conduct projects, internships, and research with faculty having broad professional experience.

Moreover, from a curricular point of view, the program is designed to possess the following strengths:

- A core that focuses on courses that enhance the learning outcomes.
- Practical training to enhance the practical experience of the students.
- Satisfy accreditation requirements on both national and international levels.
- Adaptability to changes in job market needs as the new program provides in-depth knowledge through specific concentrations that provide fixable courses contents which facilitates adapting to the changes in market needs and the new technological advances.

3 Degrees Offered

The program offers multiple concentrations (tracks) thereby allowing students to gain their degree in any of the following:

1. Bachelor of Science in Information Technology – General Information Technology Track (GIT)
2. Bachelor of Science in Information Technology – Game Design and Development Track (GDD)
3. Bachelor of Science in Information Technology – Internet of Things Track (IoT)

4 Duration and Structure of Program

The program is a 4-year program. It requires at least 127 credit hours distributed as follows:

- University Requirements: 8 credit hours.
- College Requirements: 46 credit hours.
- Department Requirements: 73 credit hours.

5 Graduation requirements:

The Information Technology Curriculum is composed of 127 credit hours. Students will graduate after succeeding in all courses with, at the end, a minimum cumulative GPA of 2.75 or above.

6 Language of Instruction

The courses of the program are taught in English.

7 Vision, Mission, and Objectives

During the development of this program, a clear vision was kept in mind. Moreover, the department is committed to fulfilling the mission and objectives stated below, which will lead to the realization of the following vision.

7.1 Vision

Excellence in Information Technology education and research, and **commitment** to effective fulfillment of the IT needs in our society.

7.2 Mission

To provide high quality education in information technology through the combination of theory, practice, and applications to make students competitive in computing workplaces, excellent in applications development, and innovative in research to serve the society.

7.3 Program Educational Objectives

The program educational objectives (PEOs) of the IT program graduates are:

- ✓ **PEO #1:** Serve as accomplished IT Professionals who lead, design, develop, and oversee projects across a wide range of IT disciplines.
- ✓ **PEO #2**: Pursue deep specialized knowledge through higher education and research activities in the field of computing.
- ✓ **PEO #3**: Demonstrate commitment to social responsibilities and moral/ethical values in serving the community as members and as leaders within multidisciplinary teams.
- ✓ **PEO #4: E**ngage in lifelong learning and professional development.

8 Market

One key pillar of the Saudi Vision 2030 [1] is developing the country's digital infrastructure and capabilities. This includes investing in new technologies like Gaming, and the Internet of Things, as well as supporting the development of a thriving startup ecosystem. This aims to create a knowledge/entertainment economy that improves the kingdom's global image and attracts foreign investment and talent.

The Saudi Information and Communications Technology (ICT) market is valued at USD 65.45 billion in 2026 and is growing at a CAGR of 9.13% to reach USD 101.30 billion by 2031. Within that, IT Software is the fastest-growing segment, expanding at a 9.53% CAGR through 2031, supported by the Saudi Data and AI Authority's (SDAIA's) effort to train 20,000 AI specialists and Vision 2030's target of USD 135.2–235.2 billion in GDP uplift from AI. Cloud computing is a major driver too — cloud captured 43.43% of the ICT market in 2025 and is forecast to grow at 14.16% CAGR through 2031, propelled partly by AWS's regional investment [3].

IoT is strategically important as the connective layer for Saudi Arabia's smart-city ambitions. The Saudi IoT market is projected to grow from USD 3.06 billion in 2026 to USD 4.33 billion by 2031, at a 7.2% CAGR, with expanding 5G coverage, high smartphone penetration, and Vision 2030's digital transformation programs accelerating adoption across smart cities, oil and gas, healthcare, logistics, and manufacturing [4].

Gaming and Esports is where Saudi Arabia has been most visible internationally. Saudi Arabia captured 20% of MENA's gaming revenues in 2024, generating $1.2 billion, and the market is projected to reach $1.64 billion by 2028. Gaming consumption is expected to reach $6.8 billion by 2030 at a CAGR of about 22%, up from $959 million in 2020, and the kingdom is home to 23.5 million gaming enthusiasts - about 67% of the population [5].

Saudi Arabia's Public Investment Fund, through Savvy Games Group, is planning to invest around $38 billion into the video games sector, and it has acquired esports companies ESL Gaming and FACEIT along with major stakes in Nintendo, Tencent, Activision Blizzard, and a $4.9 billion acquisition of Scopely. Gaming and esports is one of 13 strategic priority industries under Vision 2030, with the initiative aiming to create 39,000 jobs and contribute $13.3 billion to GDP by the end of the decade [6].

Given this vast development in the fields of General-IT, IoT, and Gaming and their prominent importance in the country's strategic plan, it is clear that preparing future specialists in these fields is essential. Therefore, creating a program with concentrations in these three fields will help students to

close the gaps needed to meet such demands and eventually contribute to reaching the Saudi 2030 Vison.

8.1 Job Prospects for Graduates

The program provides a broad coverage of the Information Technology field as well as concentrations that will enable graduates to fill such positions as:

1. Application Developer
2. Software Engineer
3. Software Quality Assurance\Test Engineer
4. Academic
5. Database Administrator
6. Information Technology Project Specialist
7. Information Technology Specialist.
8. Information Technology Engineer
9. Web Frontend\Backend Developer
10. Cyber Security Analyst
11. Machine Learning Developer
12. Data Modeler\Designer
13. Data Analyst\Scientist
14. Network Engineer
15. Operation Analyst
16. Project Manager
17. Game Developer
18. Game programmer
19. System Analyst

8.2 Adherence to ABET objectives for IT programs

In 2017, the ACM along with IEEE-CS revised the IT2008 to produce IT2017 which emphasis that learning outcomes express the importance of competence (what students can do) over knowledge (what students know. The mission of the IT2017: *"Having just knowledge is not sufficient to be productive in the changing information technology world. IT competencies require skills and dispositions that complement knowledge to achieve professional expectations of a modern workplace."*[2] These guidelines were followed in the development of this program, thereby ensuring ABET standards are met.

8.3 Adherence to NCAAA objectives for IT programs

A National Qualifications Framework (NQF) has been established for accreditation and quality assurance in the Kingdom of Saudi Arabia to ensure the quality of higher education. As stated in the NCAAA guidelines: *"The framework describes the expected increasing levels of knowledge and skill in these areas for each qualification."*[7]. These guidelines were followed in the development of this program, thereby ensuring EEC-HEC accreditation standards are met.

9 Curriculum

The following set of concentration tracks within the Bachelor of Science major in Information Technology is offered:

1. Bachelor of Science in Information Technology – General Information Technology Track (GIT)
2. Bachelor of Science in Information Technology – Game Design and Development Track (GDD)
3. Bachelor of Science in Information Technology – Internet of Things Track (IoT)

It is envisioned that new tracks emerge in the future that may extend or replace the current tracks.

The concentrations are structured in a manner that meets the following general objectives. In the first five semesters, all BS-IT students will experience a streamlined introduction to information technology with an emphasis on conceptual, theoretical, and programming aspects. The intent of this common foundation is to provide a solid basis for all BS-IT majors and the ultimate pursuit of the specialty majors. The mathematical and science requirements are kept consistent with what is expected for information technology majors.

Students have the opportunity to start focusing on a specific concentration of their choice after their 5th semester. During the third and fourth years, the program is structured to emphasize the choice and exploration of a concentration in depth.

Students must pursue practical training (in industry) to join an IT firm in the summer semester, on a full-time basis for at least 8 weeks.

9.1 Common Learning Outcomes

The IT program learning outcomes expected of students are grouped into three domains as follows:

9.1.1 Knowledge

Graduates will be able to:

- Explain fundamental concepts of IT, standards, and IT specialized principles.
- Describe the procedures, processes and best IT practices for IT applications.

9.1.2 Skills:

Graduates will be able to:

- Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Use systemic approaches to select, develop, apply, integrate, and administer secure computing technologies to accomplish user goals (IT).
- Communicate effectively in a variety of professional contexts

9.1.3 Value

Graduates will be able to:

- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

9.2 Courses

As illustrated in Table 1 the program requires the completion of 127 credit hours, which are distributed among 117 credit hours of required courses and 10 credit hours of elective courses.

Table 1: Distribution of credits in the department study plan

Requirements	Type	Credit Hours
University Requirements	Compulsory	4
	Electives	4
College Requirements	Compulsory from the common year	32
	Compulsory from other departments	14
Department Requirements	Core IT	47
	Core Science	2
	Core Math	9
	Track Compulsory Courses	9
	Track Elective Courses	6
	Program Requirements	**127**

9.2.1 Common Courses

All students are required to complete 112 credit hours apart from the track concentration courses. Those credits include university requirements, college requirements, and department requirements. They are shown in Tables 2 -5. Where L:lectrure, T:tutorial, and B:lab.

Table 2: University Requirements

Course Number	Course Name	Credit Hours	(L,B,T)	Pre (Co)
IC 107	Professional Ethics	2	(2,0,0)	
IC 108	Current Issues	2	(2,0,0)	
IC xxx	IC Elective #1	2	(2,0,0)	
IC xxx	IC Elective #2	2	(2,0,0)	
	University Requirements	**8**		

Table 3: IC Electives

Course Number	Course Name	Credit Hours	(L,B,T)	Pre (Co)
IC 100	Studies in the Prophet Biography	2	(2,0,0)	
IC 101	Principles of Islamic Culture	2	(2,0,0)	
IC 102	Family in Islam	2	(2,0,0)	
IC 103	Economic System in Islam	2	(2,0,0)	
IC 104	Islamic Political System	2	(2,0,0)	
IC 105	Human Rights	2	(2,0,0)	
IC 106	Medical Jurisprudence	2	(2,0,0)	
IC 109	Developmental Role of Woman	2	(2,0,0)	

Table 4: College Requirements

Course Number	Course Name	Credit Hours	(L,B,T)	Pre (Co)
Common Year				
ENGS 106	English	6		
STAT 101	An Introduction to Probability & Statistics	3		
CHEM 101	General Chemistry I	4		
ENT 101	Entrepreneurship	1		
ARAB 100	Writing Skills	2		
ENGS 110	English	6		ENGS 106
MATH 101	Differential Calculus	3		
CT 101	IT Skills	3		
EPH 101	Fitness and Health Education	1		
CI 101	University Skills	3		
Other departments				
CSC111	Computer Programming I	4	(3,2,1)	CT 101
CSC113	Computer Programming II	4	(3,2,1)	CSC111
CSC 212	Data Structures	3	(3,0,1)	CSC 113
CSC 227	Operating Systems	3	(3,0,1)	CSC 212
	College Requirements	**46**		

Table 5: Department Requirements

Course Number	Course Name	Credit Hours	(L,B,T)	Pre (Co)
Math 106	Integral Calculus	3	(3,0,2)	Math 101
Math 151	Discrete Mathematics	3	(3,0,2)	Math 101
Math 244	Linear Algebra	3	(3,0,2)	Math 106
	Core Math	**9**		

Course Number	Course Name	Credit Hours	(L,B,T)	Pre (Co)
IT 216	Physics for IT	2	(2,0,2)	
	Core Science	**2**		
IT 210	Information Technology Fundamentals	3	(2,2,0)	113 ENGS
IT 214	User Experience Design	3	(2,2,0)	CSC111
IT 222	Database Principles	3	(2,2,1)	IT210
IT 324	Information Security	3	(3,0,2)	IT 328
IT 330	Web Applications Engineering	4	(3,2,1)	CSC111 , IT222
IT 328	Network Principles	4	(3,2,0)	IT 216
IT 327	Practical Software Engineering	3	(3,0,2)	IT 214, IT330
IT 428	Machine Learning and Data Mining	3	(2,2,0)	IT426, (MATH 244)
IT 426	Artificial Intelligence Systems	3	(3,0,2)	MATH106, 101 STAT (CSC212)
IT481	Introduction to IoT	3	(2,2,0)	IT328
IT336	Introduction to Gameplay Programming	3	(2,2,1)	IT214, CSC113
IT424	Introduction to Project Management	2	(2,0,2)	IT327
IT 427	IT Entrepreneurship & Innovation	3	(3,0,0)	IT327, 101 ENT
IT 492	Practical Training	1		Complete 90 credit hours
IT 496	Project -1	3	(3,0,0)	IT327, Complete 90 credit hours
IT 497	Project -2	3	(3,0,0)	IT 496
	3 core courses for each track	9		
	2 elective courses for each track	6		
	Core IT	**62**		
	Department Requirements	**73**		

9.2.2 IT Tracks

There are 15 credit hours that depend on the student's selection of concentration (track). As illustrated in Table 6, Three of the courses from the concentration track are mandatory concentration cores; the remaining two courses could be any elective from the chosen track. The courses for each concentration and the electives are given in Tables 7, 8, and 9.

Table 6: Distribution of Concentration Courses

Course	Credit Hours	Possible Choices
Concentration Core # 1	3	Required for chosen track
Concentration Core # 2	3	Required for chosen track
Concentration Core # 3	3	Required for chosen track
Concentration Elective	3	Any elective from chosen track
Concentration Elective	3	Any elective from chosen track
	12	

Table 7: GIT Track Courses

(L,B,T) *	Pre-requisites (Co-requisites)	Credit Hours	Course Name	Course Code	
(3,0,2)	CSC 212	3	Principles of Data Science (Core#1)	IT 362	Core Courses
(2,2,0)	IT 324, IT330	3	Application security (Core#2)	IT 371	
(3,0,1)	IT 324	3	Cyber Security Governance (Core#3)	IT 471	
(2,2,0)	IT371	3	Cybercrime and Digital forensics	IT 472	Elective Courses
(2,2,0)	IT 362	3	Big Data Systems	IT 462	
(2,2,0)	IT428	3	Advance Machine Learning Systems	IT 463	
(2,2,0)	IT 428	3	Human Language Technologies	IT 469	
(2,2,0)	IT324	3	Applied Network Security	IT477	
(2,2,0)	IT 428	3	Applied Computer Vision	IT 468	
(2,2,0)	IT362	3	Data Analytics & Visualization	IT 465	
(3,0,1)	IT210	3	Selected Topics in IT	IT 489	

***L: lecture, B: lab, T:Tutorial**

Table 8: IoT Track Courses

(L,B,T)*	Pre-requisites (Co-requisites)	Credit Hours	Course Name	Course Code	
(3,0,1)	IT328	3	Edge and Cloud computing (Core#1)	IT384	Core Courses
(3,0,2)	IT324, IT481	3	IoT Security and privacy (Core#2)	IT382	
(3,0,1)	IT428	3	IoT Big Data Analytics (Core#3)	IT385	
(3,0,2)	IT 328	3	Mobile computing and Satellite systems	IT363	Elective Courses
(3,0,2)	IT384, IT481	3	Digital Twin Systems and Applications	IT488	
(2,2,0)	IT330, IT481	3	IoT Services & Applications	IT483	
(3,0,2)	IT 428	3	Robotics Systems	IT 365	
(3,0,1)	IT481	3	Green Computing & Sustainability	IT 487	
(3,0,1)	IT 481	3	Selected Topics in Networks & IoT	IT 486	

***L: lecture, B: lab, T:Tutorial**

Table 9: GDD Track Courses

(L,B,T)*	Pre-requisites (Co-requisites)	Credit Hours	Course Name	Course Code	
(2,2,1)	IT336	3	Gameplay Systems &Interactive Design (Core#1)	IT 335	Core Courses
(2,2,1)	IT330, IT336	3	Prototyping & Game Data System (Core#2)	IT 333	
(2,2,1)	IT336, IT327	3	Game Architecture & System Design (Core#3)	IT 431	
(2,2,0)	IT335	3	UI/UX for Interactive Systems	IT 433	Elective Courses
(2,2,1)	IT333, IT328	3	Online Game System & Infrastructure	IT 432	
(2,2,0)	IT335, IT426	3	Interactive AI for Game Development	IT 439	
(2,2,0)	IT333	3	Tools Development for Game Production	IT 435	
(2,2,0)	IT335	3	Game Graphics & Visual Effects	IT 436	
(3,0,1)	IT335, MATH244	3	Science Foundations for Game Development	IT 437	
(3,0,1)	IT335, IT431	3	Testing & Optimization	IT 438	

*L: lecture, B: lab, T:Tutorial

9.2.3 Practical Training

Students who have successfully completed 90 credits of the program must take up practical training. The practical training comprises 1 credit hours that are earned after completing 8 weeks of a full-time work experience usually during the summer semester. The training may be paid or unpaid.

Students benefit from this option in the following ways:

- Develop professional skills and gain transferable, relevant work experience.
- Develop maturity, leadership, and clarity regarding their career direction.
- Improve employment prospects at graduation.
- Establish relationships with potential employers.
- May receive a higher starting salary at graduation than graduates who have not had training.

9.2.4 Graduation Project

The BSIT program offers 2 Capstone courses, IT 496 (Project 1) and IT 497 (Project 2). These courses cover the two parts of a graduation project following Agile approach:

- IT 496 (Project 1) is the first of a two-course sequence (IT496 and IT 497) in which the students will develop a complete software system using agile methodologies (an incremental approach). At the end of the course, each team should present a demo of the software system developed (release-1).

- IT 497 (Project 2) is the second of a two-course sequence (IT496 and IT 497). The teams, with the guidance of their supervisor will continue the design and development of new increments for the second release of the software system (Relese-2).

Students are divided into groups of 3 to 5 members. Seminars are given during the semester to support students in their projects. Furthermore, students meet with their supervisor weekly who guides them and assesses their progress. The Department also provides students with a Help-Desk that comprises faculty members with various backgrounds to provide specialized support for students.
Table 10 presents full details of the four year plan described previously in this manual.

9.3 Four Year Plan

Table 10: The 4-year study plan

Level	One			
Course number	**Course Name**	**Credit hours**		**Pre (Co)**
ENGS 106	English I	6		
STAT 101	Introduction to probability and statistics	3		
CHEM 101	General Chemistry (1)	4		
ARAB 100	Writing Skills	2		
101 ENT	Entrepreneurship	1		
		16		
Level	**THREE**			
Course number	**Course Name**	**Credit hours**		**Pre (Co)**
CSC111	Computer Programming 1	4	(3,2,1)	CT 101
IT 216	Physics for IT	2	(2,0,2)	
Math151	Discrete Mathematics	3	(3,0,2)	Math 101
IT 210	Information Technology Fundamentals	3	(2,2,0)	113 ENGS
IC 107	Professional Ethics	2	(2,0,0)	
		14		
Level	**FIVE**			
Course number	**Course Name**	**Credit hours**		**Pre (Co)**
CSC 212	Data Structures	3	(3,0,2)	CSC 113
IT426	Artificial Intelligence Systems	3	(3,0,2)	MATH106, 101 STAT (CSC212)
IT 330	Web Applications Engineering	4	(3,2,1)	CSC111 , IT222
IT481	Introduction to IoT	3	(2,2,0)	IT
IT336	Introduction to Gameplay Programming	3	(2,2,1)	IT214, CSC113
		16		
Level	**SEVEN**			
Course number	**Course Name**	**Credit hours**		**Pre (Co)**
IT424	Introduction to Project Management	2	(2,0,2)	IT327
CSC 227	Operating Systems	3	(3,0,1)	CSC 212
IT496	Graduation Project -1	3	(3,0,0)	IT327, Complete 90 credit hours
IT xxx	Concentration core #2	3		
IT xxx	Concentration core #3	3		
IC xxx	IC Elective #1	2	(2,0,0)	
		16		

Level	Two			
Course number	**Course Name**	**Credit hours**		**Pre (Co)**
ENGS 113	English	6		106 ENGS
MATH 101	**Differential Calculus**	3		
CT 101	**Computer Skills and Artificial Intelligence**	3		
EPH 101	Fitness and Health Education	1		
CI 101	University Skills	3		
		16		
Level	**FOUR**			
Course number	**Course Name**	**Credit hours**		**Pre (Co)**
CSC 113	Computer Programming 2	4	(3,2,1)	CSC111
IT 214	User Experience Design	3	(2,2,0)	CSC111
IT 222	Database Principles	3	(2,2,1)	IT 210
IT 328	Network Principles	4	(3,2,0)	IT216
Math 106	Integral Calculus	3	(3,0,2)	Math 101
		17		
Level	**SIX**			
Course number	**Course Name**	**Credit hours**		**Pre (Co)**
Math244	Linear Algebra	3	(3,0,2)	Math 106
IT 428	Machine Learning and Data Mining	3	(2,2,0)	IT426, (MATH 244)
IT327	Practical Software Engineering	3	(3,0,2)	IT 214, IT330
IT324	Information Security	3	(3,0,2)	IT328
IT xxx	Concentration Core #1	3		
IC 108	Current Issues	2	(2,0,0)	
		17		
Level	**EIGHT**			
Course number	**Course Name**	**Credit hours**		**Pre (Co)**
IT 427	IT Entrepreneurship & Innovation	3	(3,0,0)	IT327, 101 ENT
IT 497	Graduation Project -2	3	(3,0,0)	IT496
IT 492	Practical Training	1		Complete 90 credit hours
IT XXX	Concentration - Elective #1	3		
IT XXX	Concentration - Elective #2	3		
IC xxx	IC Elective #2	2	(2,0,0)	
		15		

10 Admission and Registration

10.1 Admission

- Students applying to the CCIS are centrally admitted by the Deanship of Admission and Registration of the university to the Engineering/Science branch of the Preparatory Year (PY). The minimum requirements for students' admission to the preparatory year are based on the following criteria:
    - The total number of accepted students should not exceed the number specified by the University Council
    - Students are ranked and selected based on their composite average of the following:
        - 30% of General Aptitude Test
        - 30% of Secondary School GPA
        - 40% of Subject Attainment Test
- After completing the PY, students are admitted to the college and distributed to the various departments according to three criteria: their preference, GPA from the PY, and the capacity of each department.
- The requirement for the admission of students to the CCIS is based on a composite score as follows:
    - 40% of General Aptitude Test
    - 10% of Subject Achievement Test
    - 7 × PY GPA
    - Math 101 points

10.2 Registration

- Students are registered automatically through electronic portal following a model plan of study set by the department. This plan includes all prerequisites, maximum and minimum allowable number of credit hours per semester.
- The system allows the student to make changes (add and drop courses) within the preset rules during the first week of classes. Afterwards, only course withdrawals are allowed provided they are done two weeks before the final examination period.

11 Study Regulations and Tests

Rules and regulation for the information technology department follow the list of studies and tests for the undergraduate stage and its executive rules at King Saud University.

11.1 Study Regulations

- The minimum academic load for a student in a semester is twelve academic units and the maximum is twenty academic units in proportion to the student's cumulative GPA academic plan. The Deanship of Admission and Registration Affairs may increase the maximum load of the student per semester provided that it does not exceed twenty-four academic units.

- Students are not allowed to take the final exam if their attendance percentage is less than 50%.
- Students may withdraw from continuing to study a semester provided that they submit a withdrawal request at least two weeks before the start of the final exams. The number of times of withdrawal should not exceed three times throughout the student's stay at the university and it is not permissible to withdraw from three consecutive semesters.
- Students may withdraw from continuing to study one or more courses for which they will be credited a grading (W) without being considered a failure provided that they drop a maximum of two courses per semester and submit the application two weeks before the beginning of the final examination period.
- Students may submit a request to postpone study through the electronic portal before the end of the first week of the semester, provided that the postponement period does not exceed two consecutive semesters or maximum of three non-consecutive semesters.
- If a student interrupts his/her study for one academic semester without applying for postponement, he/she will be dropped from the university records. The student can apply for a re-enrollment through the electronic portal within the four semesters following his/her record drop.
- The student will be dismissed from the university if he/she received three consecutive warnings because his/her cumulative average was lower than the average specified for graduation or if he/she does not complete the graduation requirements within a maximum period of half the period specified for his/her graduation, in addition to program duration.
- Courses studied by a student at another university may be equated provided that the course passed by the student is equivalent to the KSU course.
- A student may be exempted from studying a course or group of courses provided that it does not exceed 25% of the total study units of the study plan, and the student is given an exempt grade (E).

11.2 Tests Regulations

- The semester work and final exam for the course are evaluated according to what is stated in the approved course description.
- The course teacher is committed to announce how grades for semester work will be distributed to students at the beginning of each semester. He/she is obligated to show the students their answer sheets for the semester exam after announcing its results and he/she is also obliged to announce the results of the completed semester work before the end of the period specified for withdrawal.
- The student has the right to object to his/his grade in the semester test within a week of announcing the results.
- The student may submit a request for a makeup exam within a period not exceeding one week from the date of the exam in cases of extreme necessity.

11.3 Final Exam Regulations

- The student shall not attend more than two examinations within the same day.
- The student is not allowed to attend the examination half an hour after the examination session begins. He/she is also not allowed to leave the examination hall before a minimum of half an hour from the initial start of the examination.
- Cheating or violating the rules and regulations of the final examination are violations that entail disciplinary action based upon the disciplinary system issued by the university council.
- The student may appeal the final grade for the course within a period not exceeding ten days from the date of announcing the result, the application must be submitted to the department that teaches the course.

11.4 Grades Calculations

The grades are calculated as shown in the table below.

Table 11: Grades calculation

Points	Grade	Course Grade	Mark
5.00	A+	Excellent Plus	95-100
4.75	A	Excellent	90 less than 95
4.50	B+	Very Good Plus	85 less than 80
4.00	B	Very Good	80 less than 85
3.50	C+	Good Plus	75 less than 80
3.00	C	Good	70 less than 75
2.50	D+	Pass Plus	65 less than 70
2.00	D	Pass	60 less than 65
1.00	F	Fail	Less than 60

12 Guidance and Counselling Services

12.1 Enrolment Advising

The Academic Advising Committee (AAC) is responsible for overseeing the academic advising process in the departments at the beginning of each academic semester. The AAC allocates groups of students to each faculty member, i.e. academic advisor, who is responsible for all aspects of the students academic progress.

12.2 University-level Counselling Services

KSU Student Counselling Center (KSUSCC) supports student counselling at the university level. It aims to provide student counselling services that could not be provided at the college level, and to coordinate with colleges to oversee the implementation of college-level counselling programs.

12.3 Academic and Professional Counseling

Academic advisors, assigned by the Academic Advising Committee (ACC), are responsible for providing educational counselling for students and evaluating the student's plan of study to ensure it will satisfy the college and university requirements while it meets each student's specific needs. AAC also provides several channels to keep in touch with students through social media, i.e. AAC blog and AAC twitter account, to share with students: schedules, advisor list … etc.

12.4 Psychological and Social Counseling

CCIS has an on-site psychologist and an on-site social worker at the female campus who provides psychological counselling for students and track their cases.

13 Rights and Duties

13.1 Student Academic Rights

- Student right to be provided by the adequate educational environment by ensuring all the educational facilities to support this aim.
- Student right to receive education related to the university curriculums that are studied in accordance to the university regulations and rules that control the academic function.
- Student right to get the college and departments study plan, as well as the educational schedules before they begin to study.
- Student right to drop or add any curriculums or even withdraw from a whole semester in accordance with the study and registration rules within the limited period that is announced to the students.
- Student right to abide the faculty members by the lectures timing, and fulfilling both scientific and practical credit hours, not canceling lectures or changing its time, except when it is necessary.
- Student right to ask and participate in an adequate scientific discussion with faculty members, without any supervision or penalty unless the discussion goes too far beyond the general moral and the appropriate manners and etiquette, both during lectures and during the office hours allocated to meet students.
- Student right to have exam questions within the curriculum components and within the discussed matters, the tests should ensure the fair evaluation for the abilities of the students.
- Student right to attend all tests unless there is a valid reason, and the student has to be informed about his/her deprivations from attending exams in enough time.
- Student right to know the typical answers for the semester exams questions and the marks distribution before the final exam.
- Student right to revise his answers to the final exam according to the university regulations and rules that manage the system of revision and its terms.
- Student right to know the results of his/her semester or final exams after evaluating and approving them.

13.2 Student Academic Obligations

- Student obligation to study and undertake all the students' requirements in light of the rules set by the university and timings for the beginning and ending the study, transfer, registration, and withdrawal.
- Student obligation to respect the teaching staff members, employees, workers, from the university employees and others from the contracting companies and not to expose them to any form of harm.
- Student obligation to respect the rules and arrangement related to the lectures and refrain from being absent from lectures except only with an accepted excuse.
- Student obligation to prepare the researches and other requirements for the courses without cheating or sharing with others.
- Student obligation to attend exams, not attempt to cheat, assist to commit cheating with any form, or entering any forbidden materials or appliances to the examination halls.
- Student obligation to obey instructions delivered to them by the responsible personnels or observers in the examination halls.

14 Complaints and Grievances

KSU is keen to protect the rights of the university's students, by enacting legal definitions lists and executive rules for various rights, with a body for reconciliation and grievances represented in the Student Rights Protection Unit. The Student Rights Protection Unit aims to enlighten the students about their academic and non- academic rights that are presented by the university, the manner of practicing these rights and the body that is concerned with it. In addition, it aims to inform the students about the process of raising complaints.

A complaint must be submitted by the student to the sub-committee that he/she belongs to within thirty days after the incident. The sub-committee makes a decision and forward the complaint to the permanent committee. The permanent committee issues a recommendation to preserve the case or present it to the Dean of Student Affairs who presents it to the university president to approve the final decision.

References

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[3] Mordor Intelligence, "Saudi Arabia ICT market size & share analysis—Growth trends and forecasts (2026–2031)," 2026. [Online]. Available: https://www.mordorintelligence.com/industry-reports/saudi-arabia-ict-market. [Accessed: Sep. 8, 2026].

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[7] Education and Training Evaluation Commission (ETEC), *National Qualifications Framework for Higher Education in the Kingdom of Saudi Arabia*, Kingdom of Saudi Arabia, 2020.

Appendix A - Common Foundation Courses

Course Code: CSC 111	رقم المقرر ورمزه: 111 عال
Course Name: Computer Programming 1	اسم المقرر: برمجة حاسبات 1
Credits (lecture +lab +tutorial): 4 (3+2+1)	*Pre-requisites:* CT 101
Level: 3	*Co-requisites:*
Course Description: This course introduces fundamental programming concepts and systematic problem-solving techniques. It emphasizes algorithmic thinking using flowcharts before transitioning to structured programming in Python. Students learn to analyze problems, design solutions, and implement them.	
Text Books: Starting Out with Python, Tony Gaddis, Pearson, latest edition.	
Approved by the College Council in its 5th meeting on 29/04/1447H	
Head of Department	Dean of College

Course Code: CSC 113	رقم المقرر و رمزه: عال **113**
Course Name: Computer Programming 2	اسم المقرر: **2-** برمجة الحاسبات
Credits (lecture +lab +tutorial): 4 (3+2+1)	*Pre-requisites:* CSC 111
Level: 4	*Co-requisites:*

Course Description:
This course continues the coverage of the fundamental concepts of Object-Oriented Programming started in Programming I (CSC 111). It covers more advanced concepts and topics such as relationships between classes, inheritance, polymorphism, abstract classes, error handling, interfaces, generics and data structures.

Text Books:

1. An Introduction To Object-Oriented Programming With JAVA, Latest Edition, C. Thomas WU, McGraw-Hill Higher Education, ISBN 0-07-111680-X

2. Java Programming: From Problem Analysis to Program Design,4th Edition by D.S. Malik.

Approved by the College Council in its 5th meeting on 29/04/1447H

Head of Department Dean of College

Course Code: CSC 212	رقم المقرر و رمزه: عال **212**
Course Name: Data Structures	اسم المقرر: هياكل البيانات
Credits (lecture +lab +tutorial): 3 (3+0+1)	*Pre-requisites:* CSC 113
Level: 5	*Co-requisites:*
Course Description: Fundamental concepts of data structures. Performance measurement of algorithms. Implementation and use of lists, stacks, queues, priority queues, trees, heaps, hash tables and graphs. Recursion. Students will do programming assignments.	
Text Books: 1. Data Structures and Algorithms in Java, 6th edition, by M.T. Goodrich and R. Tamassia. John Wiley and Sons, Inc.ISBN: 1118771338.	
Approved by the College Council in its 5th meeting on 29/04/1447H	
Head of Department	Dean of College

Course Code: CSC 227	رقم المقرر و رمزه: عال **227**
Course Name: Operating Systems	اسم المقرر: نظم التشغيل
Credits (lecture +lab +tutorial): 3 (3+0+1)	*Pre-requisites:* CSC 212
Level: 7	*Co-requisites:*

Course Description:

This is an introductory course in Operating Systems. As such, it is intended to cover many of the concepts related to most of the actual Operating Systems. Although the study of a particular Operating System is out of the scope of this course, nevertheless, we will cover most of the concepts found in any existing Operating System. We will review computer system and operating system structures, processes and threads (concepts of, communication, synchronization and deadlocks), CPU Scheduling, memory management and virtual memory.

Text Books:

1. Operating Systems Concepts, 9th Edition by Abraham Silberschatz et al, John Willey & Sons, latest edition.

Approved by the College Council in its 5th meeting on 29/04/1447H

Head of Department Dean of College

Course Code: IT 210	رقم المقرر و رمزه: 210تم
Course Name: Information Technology Fundamentals	اسم المقرر: المبادئ الأساسية لتقنية المعلومات
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* ENGS 113
Level: 3	*Co-requisites:*
Course Description: This course provides an introduction to the fundamental principles of information technology and its pillars. It introduces students to the discipline of IT and its applications in industry. Topics include: techniques used in problem solving, solution representation, and ethical issues regarding legal, privacy and intellectual property rights concerns and their application to information technology.	
Text Books: 1. Michael J. Quinn; Ethics for the Information Age; Addison-Wesley; latest edition	
Approved by the College Council in its 5th meeting on 29/04/1447H	
Head of Department	Dean of College

Course Code: IT 214	رقم المقرر و رمزه: 214تم
Course Name: User Experience Design	اسم المقرر: تصميم تجربة المستخدم
Credits (lecture +lab +tutorial): 3 (2-2-0)	*Pre-requisites:* CSC111
Level: 4	*Co-requisites:*

Course Description:

This course provides an introduction to the field of Human-Computer Interaction (HCI) and an overview of software architectures used in modern interfaces. The course will describe and apply theoretical concepts for analyzing observed problems in interfaces, models and frameworks from the field. The interaction design process, rules and principles that support the usability will be described and applied theoretically and in practice via interaction prototypes. A variety of user interface evaluation techniques (e.g. GOMS. heuristic evaluation, User-Centered Design and contextual design techniques) in the field of HCI will be covered and applied according to usability and accessibility standards. The course will also cover principles of universal design.

Text Books:

1. Yvonne Rogers, Helen Sharp, Jennifer Preece, Interaction Design: Beyond Human Computer Interaction, Wiley, latest edition.
2. Alan Dix, Janet E Finlay, Gregory D Abowd, Russell Beale, Human Computer Interaction, Pearson, latest edition.

Approved by the College Council in its 5th meeting on 29/04/1447H

Head of Department Dean of College

Course Code: IT 216	***رقم المقرر و رمزه:*** **216تم**
Course Name: Physics for IT	اسم المقرر: الفيزياء لتقنية المعلومات
Credits (lecture +lab +tutorial): 2 (2+0+2)	*Pre-requisites:*
Level: 3	*Co-requisites:*

Course Description:

This course aims at covering the fundamental principles behind computer and network technologies. It is divided into three main sections. The first section focuses on electronics and digital circuits, semiconductors and the use of transistors and Integrated circuits in building digital circuits, digital electronics and the binary system. The second section focuses on electromagnetic waves, the different types of signals, frequency spectrum, signal propagation and amplification, analogue/digital conversion and modulation techniques. The third section covers force, motors and magnetic fields, conversion of mechanical/electrical energy, and motion principles.

Text Books:

1. Alexander, C. K., & Sadiku, M. N. O.. Fundamentals of electric circuits. McGraw Hill. Latest edition.
2. Kumar, A. A. . Fundamentals of digital circuits (latest ed.). PHI Learning

Approved by the College Council in its 5th meeting on 29/04/1447H

Head of Department Dean of College

Course Code: IT 222	رقم المقرر و رمزه: 222 تم
Course Name: Database Principles	اسم المقرر: مبادئ قواعد البيانات
Credits (lecture +lab +tutorial): 3 (2+2+1)	*Pre-requisites:* IT210
Level: 4	*Co-requisites:*
Course Description: Characteristics of the database approach. Database concepts and architecture; Data models, schemas and instances; Program data independence, Database languages and interfaces. Data models for database systems; The E-R DM, Relational DM and Relational Algebra. Relational model constraints; Domain, key, and integrity constraints. SQL-relational DB language; Data definition, queries, update statements, and views in SQL. Database design; functional dependencies, Normal forms. Introduction to OO databases.	
Text Books: 1. T. Connolly and C. Begg; Database Systems: A practical approach to design implementation and management; Latest Edition; Addison Wesley.	
Approved by the College Council in its 5th meeting on 29/04/1447H	
Head of Department	Dean of College

Course Code: IT 330	***رقم المقرر و رمزه:*** **330تم**
Course Name: Web Applications Engineering	اسم المقرر: هندسة تطبيقات الويب
Credits (lecture +lab +tutorial): 4 (3+2+1)	*Pre-requisites:* CSC 111, IT222
Level: 5	*Co-requisites:*
Course Description: This course provides a comprehensive introduction to web programming, covering both front-end and back-end development for building real-world web applications. Students learn web design principles, responsive design, client-side scripting, server-side programming snd asynchronous client–server communication. The course emphasizes hands-on experience and enables students to develop full-stack web applications.	
Text Books: 1. Learning Web Design. Jennifer Robbins, O'Reilly Media; latest edition 2. Fundamentals of Web Development, by Randy Connolly and Ricardo Hoar. Latest edition.	
Approved by the College Council in its 5th meeting on 29/04/1447H	
Head of Department	Dean of College

Course Code: **IT327**	***رقم المقرر و رمزه:*** **327 تم**
Course Name: **Practical Software Engineering**	***اسم المقرر:*** هندسة البرمجيات العملية
Credits (lecture +lab +tutorial): *3(3+0+2)*	*Pre-requisites:* IT214, IT330
Level: *6*	*Co-requisites:*
Course Description: This course covers the fundamentals of software engineering, including software process models, understanding system requirements, effective methods of design using object-oriented design methodology, architectural design, and interface design. The course will also introduce students to different approaches to software development, system integration, and different system testing techniques. The course will combine a strong technical focus with a capstone project providing the opportunity to practice software engineering knowledge, skills, and practices.	
Text Books: Software Engineering: A Practitioner's Approach by Roger Pressman and Bruce Maxim, latest edition.	
Approved by the College Council in its 5th meeting on 29/04/1447H	
Head of Department	Dean of College

Course Code: IT 324	رقم المقرر و رمزه: 324 تم
Course Name: Information Security	اسم المقرر: أمن المعلومات
Credits (lecture +lab +tutorial): 3 (3+0+2)	*Pre-requisites:*
Level: 6	*Co-requisites:* IT 328

Course Description:

This course defines information security. Topics include security services and its mechanisms, such as confidentiality, integrity, availability and non-repudiation, security policies, access control models, authentication methods, types of attacks (including social engineering, man in the middle, DoS…etc), malware, security principles (such as separation of duties, need to know…etc), basic principles of hashing, symmetric & asymmetric cryptography, digital certificates &PKI , Email security through S/MIME & PGP, Web Security, overview of firewalls and Intrusion detection system, Operating System security, physical security, risk assessment, incidence response, disaster recovery, business continuity and a general look into computer forensics.

Text Books:

1. Security + Guide to NETWORK SECURITY Fundamentals, Mark Ciampa, Thomson Course Technology, latest edition.
2. Introduction to CRYPTOGRAPHY and NETWORK SECURITY, Behrouz A.Forouzan, McGraw-Hill International Edition, latest edition.

Approved by the College Council in its 5th meeting on 29/04/1447H

Head of Department Dean of College

Course Code: IT 328	رقم المقرر و رمزه: 328تم
Course Name: Network Principles	اسم المقرر: مبادئ شبكات الحاسب
Credits (lecture +lab +tutorial): 4 (3+2+0)	*Pre-requisites:* IT 216
Level: 4	*Co-requisites:*

Course Description:

This course provides an introduction to computer networks, including the Internet. It covers basic concepts and theory of computer networks and describes network technologies, architectures, protocols and standards in the different layers of the TCP/IP Internet suite of protocols. It introduces the basics of the physical layer and describes the architecture and design of local area networks including Ethernets. Topics include, but are not limited to, routing, addressing, process communication, reliability and network performance. The course provides theoretical background and hands on experience.

Text Books:

1. James Kurose, Keith Ross; Computer Networking: A Top-Down Approach Featuring the Internet; Addison Wesley; latest edition.

Approved by the College Council in its 5th meeting on 29/04/1447H

Head of Department Dean of College

Course Code: IT 336	***رقم المقرر و رمزه:*** **336 تم**
Course Name: Introduction to Gameplay Programming	اسم المقرر: مقدمة في برمجة الألعاب
Credits (lecture +lab +tutorial): 3 (2+2+1)	*Pre-requisites:* IT214, CSC113
Level: 5	*Co-requisites:*
Course Description: This course introduces students to core principles in gameplay programming. Students explore the production pipeline of digital games, including the use of vector and raster graphics, fundamental game physics, and version control concepts. Emphasis is placed on how interactive systems like hitboxes, collision feedback, and bounce effects affect the player experience. Students also learn how to conceptualize ideas through the creation of a Game Design Document (GDD) and reflect on game design from a user-centric perspective.	
Text Books: https://guides.github.com/introduction/git-handbook/ https://learn.unity.com/courses https://www.gamedesignworkshop.com/ https://docs.unity3d.com/6000.0/Documentation/Manual/UnityManual.html	
Approved by the College Council in its 5th meeting on 29/04/1447H	
Head of Department	Dean of College

Course Code: IT 426	رقم المقرر و رمزه: 426تم
Course Name: Artificial Intelligence Systems	اسم المقرر: أنظمة الذكاء الاصطناعي
Credits (lecture +lab +tutorial): 3 (3+0+2)	*Pre-requisites:* Math 106, STAT101
Level: 5	*Co-requisites:* CSC212

Course Description:

This course introduces students to the wide field of Artificial Intelligence (AI) with emphasis on its use to solve real world problems. Students will be trained to get a basic and solid understanding of various fundamental topics of Artificial Intelligence including searching, knowledge representation and reasoning, rule-based systems and machine learning. This course is also an opportunity for students to discover AI based technologies. It should review how AI techniques have been incorporated by companies to enhance traditional business applications. An exposure to Python or another AI language would be beneficial for students. On completion of this module, students should relate what they have learned to what impact AI is making to society.

Text Books:

- S. Russell, P. Norvig, Artificial Intelligence: A Modern Approach, Latest Edition, Prentice –Hall.

Approved by the College Council in its 5th meeting on 29/04/1447H

Head of Department Dean of College

Course Code: **IT428**	***رقم المقرر و رمزه:*** **428 تم**
Course Name: **Machine Learning and Data Mining**	***اسم المقرر:*** تعلم الآلة والتنقيب في البيانات
Credits (lecture +lab +tutorial): *3 (2+2+0)*	*Pre-requisites:* IT 426
Level: *6*	*Co-requisites:* MATH244

Course Description:

This course provides advanced knowledge in data mining and machine learning, which sits at the interface between statistics and computer science. It focuses on developing algorithms to automatically discover patterns and learn models of large datasets. Students will study the complete data mining process, including data preprocessing, predictive modeling, descriptive modeling, and model evaluation. Emphasis is placed on selecting appropriate techniques, analyzing model performance, and addressing challenges such as overfitting and model generalization.

Text Books:

1. Data Mining: Practical Machine Learning Tools and Techniques by Ian H. Witten, Eibe Frank, Mark A. Hall, Christopher J. Pal, Elsevier.
2. Data Mining and Machine Learning: Fundamental Concepts and Algorithms by Mohammed J. Zaki, Wagner Meira Jr. , Cambridge University Press, latest edition

Approved by the College Council in its 5th meeting on 29/04/1447H

Head of Department Dean of College

Course Code: IT 481	رقم المقرر و رمزه: 481تم
Course Name: Introduction to IoT	اسم المقرر: مقدمة في إنترنت الأشياء
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT 328
Level: 5	*Co-requisites:*
Course Description: The course provides an overview of key Internet of Things (IoT) concepts and explores its potential. It introduces IoT architectures, applications, standards and regulations. It describes the typical components of IoT device, and the different IoT design considerations, constrains and challenges. It presents technologies relevant to the design and development of IoT including object identification, localization, sensing & actuation, data and security. It also explores the IoT effect on society and businesses, and describes the trends for the future.	
Text Books: 1. Neera Batra, Sonali Goyal, "IoT Fundamentals with a Practical Approach" , CRC press, latest edition 2. Rolando Herrero, "Fundamentals of IoT Communication Technologies", Springer. Latest edition	
Approved by the College Council in its 5th meeting on 29/04/1447H	
Head of Department	Dean of College

Course Code: IT 424	رقم المقرر و رمزه: 424تم
Course Name: Introduction to Project Management	اسم المقرر: مقدمة في ادارة المشاريع
Credits (lecture +lab +tutorial): 2(2+0+2)	*Pre-requisites:* IT 327
Level: 7	*Co-requisites:*

Course Description:

This course introduces students to the concepts and methodologies of Project Management (PM). Students will learn and apply basic project management concepts including planning, scheduling, work breakdown structures and project control, quality and risk management approaches and strategies, various cost estimation paradigms including estimation by analogy and algorithmic cost estimation techniques.

Text Books:

1. A Guide to the Project Management Body of Knowledge: (Pmbok Guide); Project Management Institute; latest edition.
2. Information Technology Project Management; Kathy Schwalbe ; latest edition ; Cengage Learning.

Approved by the College Council in its 5th meeting on 29/04/1447H

Head of Department Dean of College

Course Code: IT 427	رقم المقرر و رمزه: 427تم
Course Name: IT Entrepreneurship & Innovation	اسم المقرر: ريادة الأعمال والإبداع في تقنية المعلومات
Credits (lecture +lab +tutorial): 3 (3+0+0)	*Pre-requisites:* IT 327, ENT101
Level: 8	*Co-requisites:*

Course Description:

This course will focus on teaching the basics of Innovation & Entrepreneurship in Information Technology, market analysis and customer engagement as well as open innovation. It will also tackle the creation of startups and managing their growth.

Text Books:

1. Yevgeniy Brikman. Hello, Startup: A Programmer's Guide to Building Products, Technologies, and Teams. "O'Reilly Media, Inc.", latest edition

Approved by the College Council in its 5th meeting on 29/04/1447H

Head of Department Dean of College

Course Code: IT 492	رقم المقرر و رمزه: 492تم
Course Name: Practical Training	اسم المقرر: التدريب الميداني
Credits (lecture +lab +tutorial): 1	*Pre-requisites:* completing at least 90 credit hours
Level: 8	*Co-requisites:*

Course Description:

Students join a company or an IT center in a government or private sector on a full-time basis for at least 8 weeks in the last summer prior to their graduation. It may be for a longer time if taken on part-time basis. The aim of the practical training is to gain experience by applying knowledge and skills they acquire in the program in real-life and in team working. The training is evaluated by the training supervisor at the Organization and comprehensive reports are sent to the IT department.

Text Books:
Not applicable

Approved by the College Council in its 5th meeting on 29/04/1447H

Head of Department Dean of College

Course Code: IT 496	رقم المقرر و رمزه: 496 تم
Course Name: Project 1	اسم المقرر: المشروع -1-
Credits (lecture +lab +tutorial): 3 (3+0+0)	*Pre-requisites:* IT327 + completing 90 credit hours
Level: 7	*Co-requisites:*
Course Description: This course is the first of a two-course sequence (IT496 and IT 497) in which the students will develop a complete software system. The second stage will be carried out in IT 497. Students will work in groups of 5 students; each group will have a supervisor to guide them through the system development process using a specific methodology. In this first part, each group must identify a problem domain, define the problem, identify and specify the requirements, document the current system, analyze it, propose alternative systems, and design a solution. At the end of the course, each group must submit a formal report documenting the complete process. The graduation project committee provides support seminars for the students. These seminars are monthly and they take the students step by step in the project phases.	
Text Books: Not applicable.	
Approved by the College Council in its 5th meeting on 29/04/1447H	
Head of Department	Dean of College

Course Code: IT 497	رقم المقرر و رمزه: 497 تم
Course Name: Project 2	اسم المقرر: المشروع -2-
Credits (lecture +lab +tutorial): 3 (3-0-0)	*Pre-requisites:* IT 496
Level: 8	*Co-requisites:*
Course Description: This course is the second of a two-course sequence (IT496 and IT 497). The teams, with the guidance of their supervisor will continue the design and development of new increments for the second release of the software system (Relese-2). Teams should demonstrate the ability to use new tools and programming languages. The graduation project committee provides support seminars for the students during the course. At the end of the course, each team should present a demo of the final software system, discussing important design and development decisions. They should also submit a final report, which documents the complete system design and development, as well as required admin guides and user manuals. Team work, leadership, communication and writing skills are all important ingredients for a successful project.	
Text Books: Not applicable	
Approved by the College Council in its 5th meeting on 29/04/1447H	
Head of Department	Dean of College

Appendix B – General IT(GIT)

Course Code: IT 362	رقم المقرر و رمزه: 362 تم
Course Name: Principles of Data Science	اسم المقرر: أساسيات علم البيانات
Credits (lecture +lab +tutorial): 3 (3+0+2)	*Pre-requisites:* CSC212
Level: 6	*Co-requisites:*
Course Description: This course introduces students to the basics of Data Science, an essential emerging subject in the Information Technology field. It builds the foundation for other data management courses. It introduces the whole data science cycle from data collection, to exploratory data analysis, predictive and descriptive modeling, data interpretation and communication. Students will have exposure to hands-on state of the art tools.	
Text Books: 1. Igual, L., & Seguí, S. (latest edition). Introduction to data science: A Python approach to concepts, techniques and applications. Springer. 2. Ozdemir, S. (latest edition). Principles of data science: Learn the techniques and math you need to start making sense of your data. Packt Publishing.	
Approved by the College Council in its 5th meeting on 29/04/1447H	
Head of Department	Dean of College

Course Code: IT 462	رقم المقرر و رمزه: 462 تم
Course Name: Big Data Systems	اسم المقرر: أنظمة البيانات الضخمة
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT 362
Level: 8	*Co-requisites:*
Course Description: This course introduces key concepts and state-of-the-art big data systems. Main topics to be covered include but not limited to: fundamentals of data storage systems, big data platforms, cluster computing and distributed file systems of intensive data.	
Text Books: 1. M. Kleppmann and C. Riccomini, *Designing Data-Intensive Applications*, Sebastopol, CA, USA: O'Reilly Media, latest edition. 2. J. S. Damji, B. Wenig, T. Das, and D. Lee, *Learning Spark: Lightning-Fast Data Analytics*, Sebastopol, CA, USA: O'Reilly Media, latest edition.	
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Course Code: IT 463	***رقم المقرر و رمزه:*** **463 تم**
Course Name: Advance Machine Learning Systems	***اسم المقرر:*** أنظمة تعلم الآلة المتقدمة
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT428
Level: 8	*Co-requisites:*
Course Description: This course focuses on advanced practical machine learning techniques for real-world applications. It emphasizes the design, implementation, and optimization of learning models using modern machine learning approaches. Students explore supervised and unsupervised learning methods, model training and evaluation strategies, and performance improvement techniques. The course highlights practical considerations such as model generalization, hyperparameter tuning, and experimentation with complex learning architectures. Emphasis is placed on applying machine learning methods to solve real data-driven problems.	
Text Books: Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow" by Aurélien Géron Publisher: O'Reilly Media, latest edition.	
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Course Code: IT 465	رقم المقرر و رمزه: 465تم
Course Name: Data Analytics & Visualization.	اسم المقرر: تحليل البيانات وتمثيلها
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT362
Level: 8	*Co-requisites:*
Course Description: This course introduces the main principles in data analytic and visualization. It provides students with statistical and quantitative analysis, extensive use of data, exploratory and predictive models, business intelligence (BI), and information visualization. During the course, students will practice design, develop, analyze and visualize different types of data using most recent tools based on data type**.**	
Text Books: Python for Data Analysis by Wes McKinney, latest edition.	
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Course Code: IT 489	***رقم المقرر و رمزه:*** 489تم
Course Name: Selected Topics in IT	***اسم المقرر:*** مواضيع مختارة في تقنية المعلومات
Credits (lecture +lab +tutorial): 3 (3+0+1)	*Pre-requisites:* IT210
Level: 8	*Co-requisites:*
Course Description: This course provides insight into current and emerging topics within the field of IT. Students are introduced to state-of-the-art technologies, industry trends, and innovative solutions that address contemporary challenges in information technology.	
Text Books: No textbook required.	
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Course Code: IT 468	رقم المقرر و رمزه: 468تم
Course Name: Applied Computer Vision	اسم المقرر: الرؤية الحاسوبية التطبيقية
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT 428
Level: 8	*Co-requisites:*
Course Description: This course will introduce a number of fundamental concepts in computer vision and expose students to a number of real-world applications. The students will gain hands-on experience by applying cutting-edge computer vision algorithms.	
Text Books: Sandhu, J. K., Kumar, A., Sahu, R., & Ahuja, S. Applied Computer Vision through Artificial Intelligence, Wiley, latest edition	
Approved by the College Council in its 5th meeting on 29/04/1447H	
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Course Code: IT 469	رقم المقرر و رمزه: 469 تم
Course Name: Human Language Technologies	اسم المقرر: تقنيات اللغات البشرية
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT 428
Level: 8	*Co-requisites:*
Course Description: In this course, students will be exposed to methods for processing human language speech/text and the underlying computational properties of natural languages. Students will explore natural language knowledge at different levels including phonetics, morphology, syntax, semantics, pragmatics and discourse levels. The course also introduces students to the evaluation techniques in the field of human language technologies. In addition to building applications to process written and/or spoken language.	
Text Books: Daniel Jurafsky and James H. Martin. *Speech and Language Processing: An Introduction to Natural Language Processing, Computational Linguistics, and Speech Recognition.* Latest edition.	
Approved by the College Council in its 5th meeting on 29/04/1447H	
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Course Code: IT 371	رقم المقرر و رمزه: 371تم
Course Name: Application Security	اسم المقرر: أمن التطبيقات
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT 324, IT330
Level: 7	*Co-requisites:*
Course Description: This course introduces students to the application engineering and design processes and how to integrate and apply cyber security tools and techniques in these processes. Topics include the methodology of secure application design, development and testing; application security best practices, methodologies and techniques; analysis of application-based attacks and defenses; and .Net security frameworks.	
Text Books: 1. Tarandach, I., & Coles, M. J.. Threat Modeling: A Practical Guide for Development Teams. O'Reilly Media, latest edition. 2. William Stallings; Lawrie Brown, Computer Security: Principles and Practice, Pearson, latest edition	
Approved by the College Council in its 5th meeting on 29/04/1447H	
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Course Code: IT 471	رقم المقرر و رمزه: 471تم
Course Name: Cyber Security Governance	اسم المقرر: إدارة الأمن الإلكتروني
Credits (lecture +lab +tutorial): 3 (3+0+1)	*Pre-requisites:* IT 324
Level: 7	*Co-requisites:*
Course Description: This course covers issues concerning management of risks, which both digital information and network assets in an organization are exposed to, and provides information and guidelines that can help with the establishment of a framework to assure that information security strategies are aligned with the objectives of the business and are consistent with legal and regulatory obligations. Topics include existing risk management frameworks, models, processes and tools to equip students with the theory, science and practical knowledge to deal appropriately with risk in an enterprise.	
Text Books: Management of Cybersecurity by Michael E. Whitman, Herbert J. Mattord, latest Edition.	
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Course Code: IT 472	رقم المقرر و رمزه: 472تم
Course Name: Cybercrime and Digital forensics	اسم المقرر: الجريمة الإلكترونية والعلوم الجنائية الرقمية
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT 371
Level: 8	*Co-requisites:*

Course Description:
This course covers fundamentals of digital forensics, cybercrime scene analysis and electronic discovery. Digital forensics uses tools and techniques to collect and preserve evidence of computer crimes. Digital forensics focuses on the reconstruction of events that have led to the system corruption, with the goals of recovering critical data, aiding authorities in tracking those who may have caused the security breach, and learning techniques used by hackers to improve the protection of systems and prevent similar breaches in the future. Topics include file systems and storage analysis, data hiding techniques, network forensics; projects involving using, understanding, and designing digital forensic tools; anti-forensics; legal issues and standards.

Text Books:

1. B. Nelson, A. Philips, C. Steuart; Guide to Computer Forensics and Investigations; Course Technology, latest edition.

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Course Code: IT 477	*رقم المقرر و رمزه:* **477 تم**
Course Name: Applied Network Security	*اسم المقرر:* **أمن الشبكات التطبيقي**
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT324
Level: 8	*Co-requisites:*
Course Description: The course covers theory and practice of network security giving detailed study of symmetric and asymmetric cryptography algorithms, pseudorandom functions and generators, hashing algorithms, message authentication codes, Key management through Diffie-hellman key agreement & Kerberos, entity authentication through CHAP. The course also provides the students with a closer look into security protocols at different network layers such as SSL/TLS, IP Sec, VPNs, network security devices and designing secure networks. Through the use of lectures, hands-on tutorials and labs, the key components of Network Security will be discussed and demonstrated.	
Text Books: Network Security Essentials: Applications and Standards, by William Stallings, Prentice Hall, latest edition.	
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Appendix C - Game Design and Development Track (GDD)

Course Code: IT 333	***رقم المقرر و رمزه:*** 333 تم
Course Name: Prototyping & Game Data System	اسم المقرر: النمذجة الأولية و أنظمة بيانات الألعاب
Credits (lecture +lab +tutorial): 3 (2+2+1)	*Pre-requisites:* IT 330 , IT 336
Level: 7	*Co-requisites:*
Course Description: A studio-style course in which students collaboratively develop a playable game prototype. Topics include structured data formats (e.g., JSON, XML), and relational data storage. The course emphasizes translating technical systems into meaningful player interactions, and encourages iterative development practices that align user feedback with gameplay design.	
Text Books: **https://guides.github.com/introduction/git-handbook/**	
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Course Code: IT 335	***رقم المقرر و رمزه:*** 335 تم
Course Name: Gameplay Systems & Interactive Design	اسم المقرر: أنظمة اللعب والتصميم التفاعلي
Credits (lecture +lab +tutorial): 3 (2+2+1)	*Pre-requisites:* IT 336
Level: 6	*Co-requisites:*
Course Description: This course focuses on the foundational systems that define gameplay experience. Students examine animation, interface design, and 3D modeling principles. Additional topics include how games manage interaction with remote systems, structure of real-time applications, and testing techniques for validating behavior. The course encourages students to think critically about how system design supports immersion, emotion, and user engagement.	
Text Books: https://guides.github.com/introduction/git-handbook/	
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Course Code: IT 431	*رقم المقرر و رمزه:* تم 431
Course Name: Game Architecture & System Design	اسم المقرر: عمارة الألعاب وتصميم الأنظمة
Credits (lecture +lab +tutorial): 3 (2+2+1)	*Pre-requisites:* IT336, 327
Level: 7	*Co-requisites:*

Course Description:
This course explores structural design for scalable, maintainable gameplay systems. Students learn to apply software design principles such as the SOLID framework and component-based architecture to create modular, reusable game features. Emphasis is placed on how architectural decisions affect game performance, collaboration, and iteration in large development teams.

Text Books:
https://guides.github.com/introduction/git-handbook/

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Course Code: IT 433	*رقم المقرر و رمزه:* تم *433*
Course Name: UI/UX for Interactive Systems	اسم المقرر: واجهة وتجربة المستخدم للأنظمة التفاعلية
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT 335
Level: 8	*Co-requisites:*
Course Description: This course focuses on the integration of user interface and user experience design in interactive applications. Students explore interface layout, hierarchy, animation, transitions, and responsiveness. Assignments emphasize how visual feedback and animation contribute to intuitive and engaging user interactions.	
Text Books: https://guides.github.com/introduction/git-handbook/	
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Course Code: IT 432	*رقم المقرر و رمزه:* 432 تم
Course Name: Online Game System & Infrastructure	اسم المقرر: أنظمة و بنية الألعاب عبر الإنترنت
Credits (lecture +lab +tutorial): 3 (2+2+1)	*Pre-requisites:* IT 333, IT 328
Level: 8	*Co-requisites:*
Course Description: Students examine the backend systems that support connected games. Topics include relational and non-relational databases, communication protocols, system scalability through service architecture (monolith vs microservices), and deployment environments. Additional focus is placed on distributed messaging systems and orchestration technologies used in modern backend infrastructures.	
Text Books: https://guides.github.com/introduction/git-handbook/	
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Course Code: IT 439	*رقم المقرر و رمزه:* 439 تم
Course Name: Interactive AI for Game Development	اسم المقرر: الذكاء الاصطناعي التفاعلي لتطوير الألعاب
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT 335, IT 426
Level: 8	*Co-requisites:*
Course Description: This course introduces students to the use of generative artificial intelligence in game development. Topics include content generation for 2D and 3D assets, procedural animation, automated code suggestions, and ethical implications. Students will experiment with creative pipelines where AI augments visual design, storytelling, and system behaviors.	
Text Books: https://guides.github.com/introduction/git-handbook/	
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Course Code: IT 435	*رقم المقرر و رمزه:* 435 تم
Course Name: Tools Development for Game Production	اسم المقرر: تطوير الأدوات لإنتاج الألعاب
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT 333
Level: 8	*Co-requisites:*
Course Description: This course focuses on the development of custom tools and pipelines to support game production. Students create Unity editor scripts, asset import tools, and debugging utilities that streamline workflows for designers and artists. The course emphasizes productivity, usability, and the role of internal tools in collaborative teams.	
Text Books: https://guides.github.com/introduction/git-handbook/	
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Course Code: IT 436	*رقم المقرر و رمزه:* 436 تم
Course Name: Game Graphics & Visual Effects	اسم المقرر: رسوميات الألعاب والمؤثرات البصرية
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT 335
Level: 8	*Co-requisites:*
Course Description: This course explores the visual theory and technical implementation of real-time graphics. Students study rendering pipelines, programmable shading, and techniques for high-performance visual effects. Practical exercises involve implementing visual systems that impact mood, feedback, and style within interactive experiences.	
Text Books: https://guides.github.com/introduction/git-handbook/	
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Course Code: IT 437	*رقم المقرر و رمزه:* 437 تم
Course Name: Science Foundations for Game Development	اسم المقرر: الأسس العلمية لتطوير الألعاب
Credits (lecture +lab +tutorial): 3 (3+0+1)	*Pre-requisites:* IT 335, MATH 244
Level: 8	*Co-requisites:*
Course Description: This course provides a deep dive into the mathematical and physical foundations used in gameplay systems. Topics include vector mathematics, kinematics, collision detection, raycasting, and rigidbody dynamics. Students implement physically believable systems using Unity's physics engine and analyze trade-offs between simulation accuracy versus performance.	
Text Books: https://guides.github.com/introduction/git-handbook/	
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Course Code: IT 438	*رقم المقرر و رمزه:* 438 تم
Course Name: Testing & Optimization	اسم المقرر: الاختبار و التحسين
Credits (lecture +lab +tutorial): 3 (3+0+1)	*Pre-requisites:* IT 335, IT 431
Level: 8	*Co-requisites:*
Course Description: This course introduces students to essential techniques for testing and performance optimization in game development. Topics include memory management, frame rate analysis, CPU/GPU profiling, and the identification of performance bottlenecks. Students use industry-standard tools to detect and resolve logic errors, runtime issues, and system inefficiencies. The course emphasizes practical strategies for maintaining stable, high-performance gameplay across a range of platforms and devices.	
Text Books: https://guides.github.com/introduction/git-handbook/	
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Appendix D - Internet of Things Track (IoT)

Course Code: IT 483	رقم المقرر و رمزه: 483 تم
Course Name: IoT Services & Applications	اسم المقرر: خدمات وتطبيقات إنترنت الأشياء
Credits (lecture +lab +tutorial): 3 (2+2+0)	*Pre-requisites:* IT481, IT330
Level: *8*	*Co-requisites:*
Course Description: This course introduces students to the design, implementation, and deployment of IoT-enabled applications across key sectors such as smart cities, healthcare, logistics, agriculture, energy, and education. It focuses on the design, development, deployment, and operation of scalable smart applications using cloud-native and DevOps practices. Students learn to engineer end-to-end smart systems that integrate IoT data sources, cloud services, microservices architectures, frontend dashboards, and monitoring tools. The course emphasizes hands-on development of smart services using containerization, CI/CD pipelines, and real-time cloud platforms such as Google Cloud.	
Text Books: Cloud-Native DevOps: Building Scalable and Reliable Applications by Mohammed Ilyas Ahmed, latest edition.	
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Course Code: IT 365	*رقم المقرر و رمزه:* 365تم
Course Name: Robotics Systems	اسم المقرر: أنظمة الروبوتات
Credits (lecture +lab +tutorial): 3 (3+0+2)	*Pre-requisites:* IT 428
Level: *8*	*Co-requisites:*

Course Description:

This course introduces students to modern robotic systems, including mobile robots, autonomous drones, and self-driving vehicles, with a strong emphasis on sensing, perception, control, and decision-making. Students will learn how robotic systems interact with their environments through embedded sensors, real-time data processing, and intelligent actuation. The course also explores the integration of AI techniques such as machine learning, computer vision, and path planning to enable autonomy.

Text Books:

1. Peter Corke, "Robotics, Vision and Control", springer, latest edition
2. Francis X. Govers, "AI for Robotics", Packt Publishing, latest ed,

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Course Code: IT 487	***رقم المقرر و رمزه:*** **487 تم**
Course Name: Green Computing and sustainability	اسم المقرر: *الحوسبة الخضراء والاستدامة*
Credits (lecture +lab +tutorial): 3 (3+0+1)	*Pre-requisites:* IT 481
Level: *8*	*Co-requisites:*
Course Description: This course explores the principles and practices of sustainable and energy-efficient computing through the use of IoT and cloud technologies. Students will learn how intelligent systems can monitor, optimize, and reduce energy consumption across different sectors such as buildings, agriculture, transportation, and data centers. Topics include green cloud infrastructure, energy-aware IoT design, carbon footprint measurement, and environmental data analytics.	
Text Books: 1.Green Computing for Sustainable Smart Cities by Neha Sharma et al., springer publisher, latest edition. 2.Green Computing: Tools and Techniques for Saving Energy, Money, and Resources" byBud E. Smith, latest edition.	
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Course Code: IT 384	***رقم المقرر و رمزه:*** **384تم**
Course Name: Edge and Cloud Computing	***اسم المقرر:*** الحوسبة الطرفية و السحابية
Credits (lecture +lab +tutorial): 3 (3+0+1)	*Pre-requisites:* IT328
Level: *6*	*Co-requisites:*
Course Description: This course presents Cloud infrastructure, architecture, and different service models (SaaS, PaaS, and IaaS). A comprehensive study of the Cloud reference model is provided, including storage technologies, virtualization, resource control, service orchestration and the role of containers. The course also introduces Edge Computing concepts and architectures, examining how distributed edge infrastructures complement cloud environments to enable low-latency processing, real-time analytics, and IoT integration.	
Text Books: Douglas Comer, The Cloud Computing Book: The Future of Computing Explained, latest edition	
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Course Code: IT 382	***رقم المقرر و رمزه:*** **382تم**
Course Name: IoT Security and privacy	***اسم المقرر:*** أمن و خصوصية إنترنت الأشياء
Credits (lecture +lab +tutorial): 3 (3+0+2)	*Pre-requisites:* IT324, T481
Level: 7	*Co-requisites:*
Course Description: The course provides an in-depth exploration of the key security and privacy challenges associated with the rapidly expanding Internet of Things (IoT) ecosystem. Students will learn how IoT devices operate, the unique vulnerabilities they face, and the strategies for protecting connected systems from attacks and unauthorized access. Topics include IoT architecture and attack patterns, threat modeling, secure design principles, lightweight cryptography and authentication for constrained devices, network and physical layer security for IoT, data protection, risk assessment, privacy regulations, and real-world case studies of IoT breaches.	
Text Books: IoT Security and Privacy Paradigm, CRC Press / Taylor & Francis Group, latest edition	
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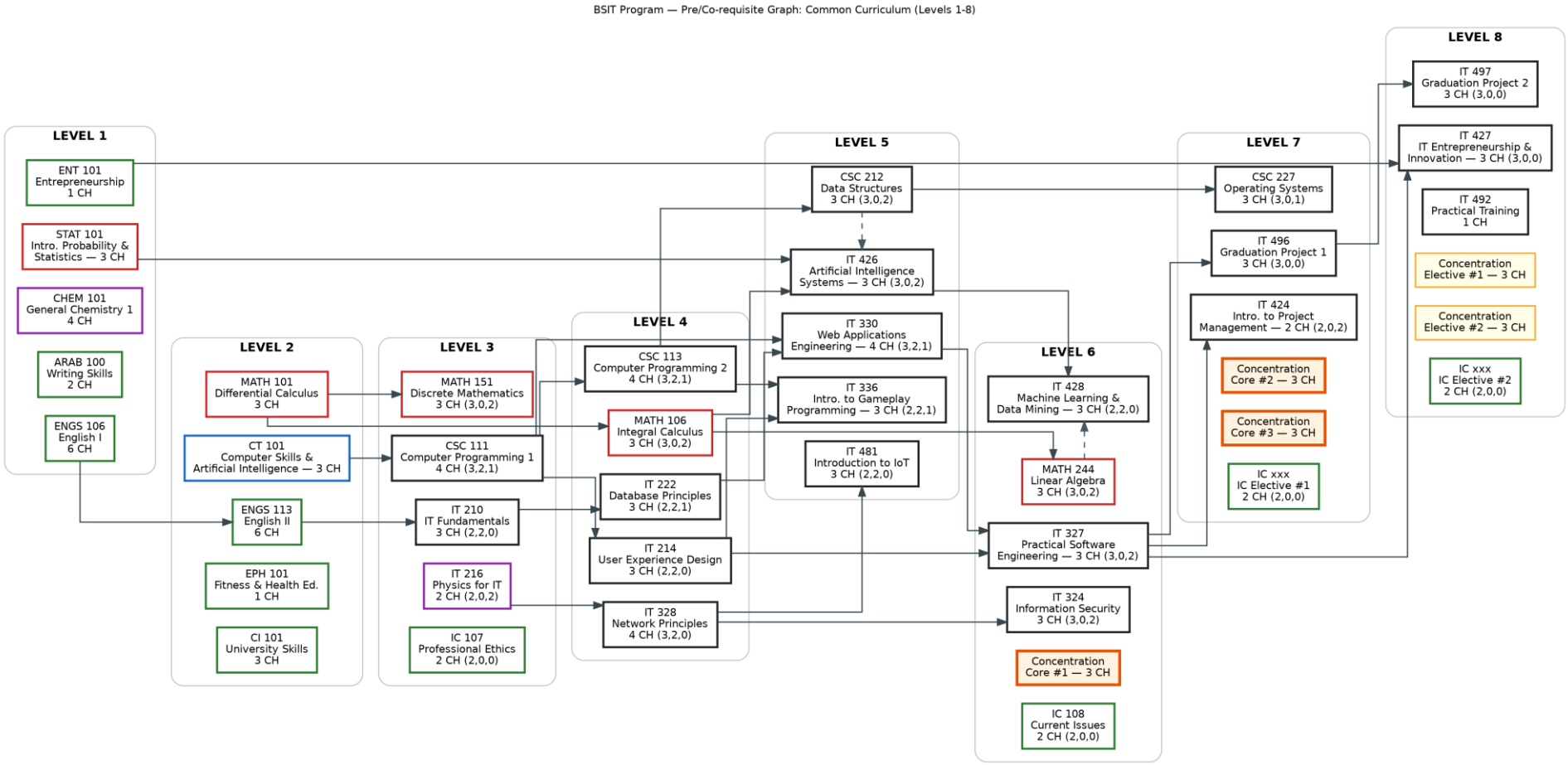
Course Code: IT 385	***رقم المقرر و رمزه:*** **385تم**
Course Name: IoT Big Data Analytics	***اسم المقرر:*** تحليل البيانات الضخمة لإنترنت الأشياء
Credits (lecture +lab +tutorial): 3 (3+0+1)	*Pre-requisites:* IT428
Level: *7*	*Co-requisites:*
Course Description: This course introduces the concepts and techniques used to manage and analyze large-scale data generated by Internet of Things (IoT) systems. It covers the fundamentals of big data architectures, data processing frameworks, and analytics methods for handling high-volume, high-velocity, and heterogeneous IoT data. Students explore data collection, storage, processing, and visualization approaches, as well as real-time and batch analytics techniques.	
Text Books: Data Analytics for Internet of Things Infrastructure by Rohit Sharma, Gwanggil Jeon, Yan Zhang, Springer, latest edition	
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Course Code: IT 363	***رقم المقرر و رمزه:*** **363تم**
Course Name: Mobile Computing and Satellite systems	***اسم المقرر:*** الحوسبة المتنقلة و أنظمة الأقمار الصناعية
Credits (lecture +lab +tutorial): 3 (3+0+2)	*Pre-requisites:* IT328
Level: *8*	*Co-requisites:*
Course Description: This course provides an overview of existing and emerging mobile computing techniques and applications and explains challenges that are unique to the design, implementation, and evaluation of mobile computing. It describes several related technologies like context awareness and localization schemes. It also introduces mobile communication and the GSM system and its evolution encompassing 3G, 4G, 5G. It introduces satellite systems and its main applications. The course will also train students with hand-on experiences in developing mobile applications in a broad range of areas.	
Text Books: Mobile Computing by Kamal, Raj. Oxford University Press, latest edition	
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Course Code: IT 488	***رقم المقرر و رمزه:*** **488تم**
Course Name: Digital Twin Systems and Applications	***اسم المقرر:*** أنظمة و تطبيقات التوأم الرقمي
Credits (lecture +lab +tutorial): 3 (3+0+2)	*Pre-requisites:* IT384- IT481
Level: *8*	*Co-requisites:*
Course Description: This course introduces the principles and practices of Digital Twin Technology within the context of the Internet of Things (IoT). Students will learn how to create virtual models that mirror physical systems in real-time using sensor data, cloud services, and analytical tools. The course covers digital twin architecture, communication protocols, data synchronization, visualization, and predictive analytics. Applications in smart cities, healthcare, logistics, and industry 4.0 are explored. Students will work on a hands-on project to design and deploy a basic digital twin using IoT devices and cloud platforms.	
Text Books: 1. Digital Twin Technology and Applications – Edited by A. Daniel, Srinivasan Sriramulu, N. Partheeban, Santhosh Jayagopalan, latest edition. 2. Handbook of Digital Twins – Edited by Zhihan Lyu, latest edition	
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Course Code: IT 486	رقم المقرر و رمزه: 486تم
Course Name: Selected Topics in Networks &IoT	اسم المقرر: مواضيع مختاره في الشبكات وإنترنت الأشياء
Credits (lecture +lab +tutorial): 3 (3+0+1)	*Pre-requisites:* IT481
Level: 8	*Co-requisites:*
Course Description: This course will cover advance topics in networking and IOT according to the state of the art in the area.	
Text Books: No textbook required	
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Appendix E - Pre/Co-requisite Graph



Legend

- University requirement
- College requirement
- Math
- Sciences
- IT core (common curriculum)
- Concentration Track — Core course
- Concentration Track — Elective course
- → solid arrow = prerequisite
- ⇢ dashed arrow = co-requisite