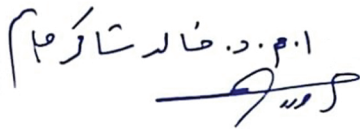


Academic Program Specification Form For The Academic

University: University of Anbar
College: College of Computer Science and Information Technology
Department: Information system

Date of Form Completion : 12/3/2024

Signature: 

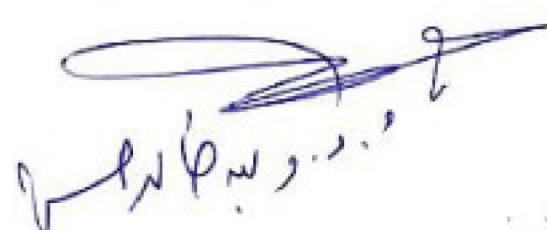
Head of Department: .

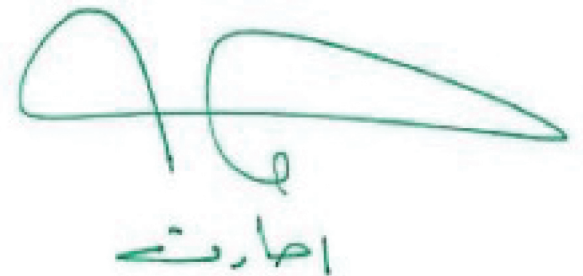
Signature: 

Dean's Assistant For Scientific Affairs:


أ.م.د. حيدر محمد علي
معاون مدير الشؤون العلمية والدراسات العليا

Quality Assurance And University Performance Manager

Signature: 


احمد

Dean Authenticatio

| Level | | 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) | | | | | | | | | |
| UGI | One | 1 | ISSP101 | Structured programming | البرمجة المهيكلية I | English | | 3 | | 3 | | 1 | | 3 | 108 | 92 | 200 | 8.00 | C | | Department | |
| | One | 2 | ISFI 102 | Fundamental of Information Techn | اساسيات تكنولوجيا المعلومات | English | | 2 | | | 3 | | | 3 | 78 | 72 | 150 | 6.00 | C | | Department | |
| | One | 3 | ISLD103 | Logic Design I | تصميم منطقي I | English | | 3 | | | 2 | | 1 | 3 | 93 | 57 | 150 | 6.00 | C | | Department | |
| | One | 4 | CCIT060 | Mathematic | الرياضيات I | English | | 3 | | | | | 2 | 3 | 78 | 72 | 150 | 6.00 | B | | COLLEGE | |
| | One | 5 | UOA005 | Democracy and Human Rights | الديمقراطية وحقوق الانسان | Arabic | | 2 | | | | | | 3 | 33 | 17 | 50 | 2.00 | S | | | |
| | One | 6 | UOA003 | English I | اللغة الانكليزية 1 | English | | 2 | | | | | | 3 | 33 | 17 | 50 | 2.00 | S | | UNIVERSITY | |
| | | | | | | | | Total | 15 | 0 | 8 | 0 | 4 | 0 | 18 | 423 | 327 | 750 | 30.00 | | | |
| UGI | Two | 1 | ISSP201 | Structured programming II | البرمجة المهيكلية II | English | | 3 | | 3 | | 1 | | 3 | 108 | 92 | 200 | 8.00 | C | ISSP101 | Department | |
| | Two | 2 | CCIT061 | Discrete Structures | هياكل منقطعة | English | | 3 | | | | | 2 | 3 | 78 | 72 | 150 | 6.00 | B | | COLLEGE | |
| | Two | 3 | ISLD202 | Logic Design II | تصميم منطقي II | English | | 2 | | 3 | | | 1 | 3 | 93 | 57 | 150 | 6.00 | C | ISLD103 | Department | |
| | Two | 4 | ISMT203 | Communication skills | مهارات التواصل | English | | 2 | | | | | | 3 | 33 | 17 | 50 | 2.00 | C | | Department | |
| | Two | 5 | ISOA204 | Office applications | تطبيقات مكتبية | English | | 2 | | 2 | | | | 3 | 63 | 87 | 150 | 6.00 | C | | | |
| | Two | 6 | UOA001 | Arabic Language 1 | اللغة العربية 1 | Arabic | | 2 | | | | | | 3 | 33 | 17 | 50 | 2.00 | S | | UNIVERSITY | |
| | | | | | | | | Total | 14 | 0 | 8 | 0 | 4 | 0 | 18 | 408 | 342 | 750 | 30.00 | | | |
| UGII | Three | 1 | ISDC207 | Object Oriented Programming I | البرمجة الكيانية I | English | | 3 | 2 | | | | | 5 | 80 | 120 | 200 | 8.00 | C | CSIT108 | | |
| | Three | 2 | CSIT201 | Data Structures and Algorithms | هياكل البيانات وخوارزميات | English | | 2 | 2 | | | | | 5 | 65 | 85 | 150 | 6.00 | C | | | |
| | Three | 3 | ISDE215 | Computational Theory | النظرية الاحتمالية | English | | 2 | | | | | | 4 | 34 | 66 | 100 | 4.00 | C | | | |
| | Three | 4 | ISDC198 | Introduction to Electronic information systems | مقدمة في نظم المعلومات الالكترونية | English | | 2 | | | | | | 4 | 34 | 91 | 125 | 5.00 | E | | | |
| | Three | 4 | ISDC202 | Design and Analysis of Information Systems | تحليل وتصميم نظم المعلومات | English | | 2 | | | | | | 4 | 34 | 91 | 125 | 5.00 | E | | | |
| | Three | 5 | ISCS104 | Data Warehouse | مستودع بيانات | English | | 2 | | | | | | 5 | 35 | 15 | 50 | 2.00 | C | | | |
| Three | 6 | ISDC203 | Advanced Mathematics | الرياضيات المتقدمة | English | | 2 | | | | | 1 | 5 | 55 | 70 | 125 | 5.00 | C | ISDC116 | | | |
| | | | | | | | | Total | 13 | 4 | 0 | 0 | 1 | 0 | 28 | 303 | 447 | 750 | 30.00 | | | |
| UGII | Four | 1 | ISDE211 | Object Oriented Programming II | البرمجة الكيانية II | English | | 3 | | 2 | | | | 5 | 80 | 120 | 200 | 8.00 | C | ISDC207 | | |
| | Four | 2 | ISDC205 | Design and Analysis of Databases | تحليل وتصميم قواعد البيانات | English | | 2 | | 2 | | | | 5 | 65 | 110 | 175 | 7.00 | C | | | |
| | Four | 3 | ISDE190 | Web Technologies | تقنيات مواقع الانترنت | English | | 2 | | | | | | 5 | 65 | 110 | 175 | 7.00 | E | | | |
| | Four | 3 | ISDE219 | Design Internet Pages | تصميم صفحات الانترنت | English | | 2 | | | 2 | | | 5 | 65 | 110 | 175 | 7.00 | E | | | |
| | Four | 4 | CCIT062 | Numerical Analysis | تحليل عددي | English | | 2 | | | 2 | | 1 | 5 | 80 | 70 | 150 | 6.00 | B | | | |
| | Four | 5 | UOA004 | English II | اللغة الانكليزية II | English | | 2 | | | | | | 2 | 32 | 18 | 50 | 2.00 | S | UOA140 | | |
| Four | 6 | UOA006 | The Crimes of Baath Regime in Iraq | جرائم نظام البعث | Arabic | | 1 | | | | | | 2 | 17 | 15 | 32 | 2.00 | S | UOA135 | | | |



Republic of Iraq - Ministry of Higher Education and Scientific Research
University of Anbar
Bachelor's degree in Information Systems (First cycle)
Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25 hr
Program Curriculum (2023 - 2024)



جمهورية العراق - وزارة التعليم العالي والبحث العلمي
جامعة الأنبار



بكالوريوس في نظم المعلومات (الدورة الأولى)
أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوروبية - كل وحدة اوروبية = ٢٥ ساعة
المنهاج الدراسي للعام ٢٠٢٣-٢٠٢٤



| | | | | | | | | | | | |
|-------|----|---|---|---|---|---|----|-----|-----|-----|-------|
| Total | 11 | 0 | 8 | 0 | 1 | 0 | 22 | 322 | 428 | 750 | 30.00 |
|-------|----|---|---|---|---|---|----|-----|-----|-----|-------|

| Level | | 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) | | | | | | | |
| UGIII | Five | 1 | ISDC308 | Visual Programming I | البرمجة المرئية I | English | | 3 | | 2 | | | | 5 | 80 | 95 | 175 | 7.00 | C | |
| | Five | 2 | CCIT063 | Principles Of Computer Network | مبادئ شبكات الحاسوب | English | | 3 | | 2 | 1 | | | 3 | 93 | 57 | 150 | 6.00 | B | |
| | Five | 3 | ISDE389 | Natural Lagnauge Processing | معالجة اللغات الطبيعية | English | | 2 | | 2 | | | | 5 | 65 | 60 | 125 | 5.00 | C | ISDE215 |
| | | | ISDE324 | Compiler | المترجمات | English | | 2 | | 2 | | | | 5 | 65 | 60 | 125 | 5.00 | C | |
| | Five | 4 | ISDC307 | Project Management Systems | نظم ادارة مشاريع | English | | 2 | | | | | | 5 | 35 | 65 | 100 | 4.00 | C | |
| | Five | 5 | ISDE325 | Artificial Intelligent I | الذكاء الاصطناعي I | English | | 2 | | 2 | | | | 5 | 65 | 85 | 150 | 6.00 | C | |
| | Five | 6 | UOA002 | Arabic Language II | لغة العربية II | Arabic | | 2 | | | | | | 2 | 32 | 18 | 50 | 2.00 | S | |
| Total | | | | | | | | 12 | 0 | 8 | 1 | 0 | 0 | 23 | 338 | 362 | 700 | 30.00 | | |
| UGIII | 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) | | | | | | | |
| | Six | 1 | ISDE323 | Visual Programming II | البرمجة المرئية II | English | | 3 | | 2 | | | | 5 | 80 | 95 | 175 | 7.00 | C | ISDC308 |
| | Six | 2 | ISDE325 | Artificial Intelligent II | الذكاء الاصطناعي II | English | | 2 | | 2 | | | | 5 | 65 | 85 | 150 | 6.00 | C | ISDC305 |
| | Six | 3 | ISDC323 | Data Storage Engineering | هندسة خزن البيانات | English | | 2 | | | | | | 5 | 35 | 65 | 100 | 4.00 | E | |
| | | | ISDC309 | Software Engineering | هندسة برمجيات | English | | 2 | | | | | | 5 | 35 | 65 | 100 | 4.00 | E | |
| | Six | 4 | ISDC327 | Data Management Systems | نظم ادارة المعلومات | English | | 2 | | | | | | 5 | 35 | 65 | 100 | 4.00 | C | |
| Six | 5 | ISRM3 | IT Risk Management | ادارة المخاطر تكنولوجيا المعلومات | English | | 2 | | | | | | 5 | 35 | 40 | 75 | 3.00 | C | | |
| Six | 6 | ISDC306 | istributed Database Management sys | نظم ادارة قواعد البيانات الموزعة | English | | 2 | | 2 | | | | 5 | 80 | 70 | 150 | 6.00 | C | ISDC205 | |
| Total | | | | | | | | 13 | 0 | 6 | 0 | 0 | 0 | 30 | 330 | 420 | 750 | 30.00 | | |
| UGIV | Level | 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) | | | | | | | |
| | Seven | 1 | ISDE323 | Information Security | امنية البيانات | English | | 2 | | | | | | 5 | 35 | 90 | 125 | 5.00 | C | |
| | Seven | 2 | ISDE322 | Internet of Things | انترنت الاشياء | English | | 2 | | 2 | | | | 5 | 65 | 85 | 150 | 6.00 | E | |
| | | | ISDE324 | Cloud Computing | الحوسبة السحابية | English | | 2 | | 2 | | | | 5 | 65 | 85 | 150 | 6.00 | E | |
| | Seven | 3 | ISDE325 | Machine learning | تعلم الالة | English | | 2 | | 2 | | | | 5 | 65 | 85 | 150 | 6.00 | C | |
| | Seven | 4 | ISDC375 | Operating Systems I | انظمة تشغيل I | English | | 2 | | 2 | | | | 5 | 65 | 60 | 125 | 5.00 | C | |
| Seven | 5 | ISDC327 | Web Application Programming | برمجة تطبيقات الويب | English | | 2 | | 2 | | | | 5 | 65 | 85 | 150 | 6.00 | C | ISDE219 | |
| Seven | 6 | UOA019 | Research Methodology | منهج بحث | English | | 2 | | | | | | 5 | 35 | 15 | 50 | 2.00 | S | | |
| Total | | | | | | | | 12 | 0 | 8 | 0 | 0 | 0 | 30 | 330 | 420 | 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 | ISDC406 | Cyber-Security Principles | اساسيات الامن السيبراني | English | | 2 | | | | | | 5 | 35 | 90 | 125 | 5.00 | C | ISDE323 |
| | Eight | 2 | ISDC405 | Deep Learning | التعلم العميق | English | | 2 | | 2 | | | | 5 | 65 | 60 | 125 | 5.00 | C | ISDE325 |
| | Eight | 3 | ISDE333 | Information Technology Governanc | حوكمة تكنولوجيا المعلومات | English | | 2 | | | | | | 3 | 33 | 42 | 75 | 3.00 | E | |
| | | | ISDE414 | E- Commerce | التجارة الالكترونية | English | | 2 | | | | | | 3 | 33 | 42 | 75 | 3.00 | E | |
| Eight | 4 | ISDC309 | Data Mining | تنقيب البيانات | English | | 2 | | | | | | 3 | 33 | 42 | 75 | 3.00 | C | | |
| Eight | 5 | ISDC422 | Operating Systems II | انظمة تشغيل II | English | | 2 | | 2 | | | | 5 | 65 | 85 | 150 | 6.00 | C | | |

| | | | | | | | | | | | | | | | | | | | |
|---|--|---|--|--|--|--|----|---|---|---|---|---|----|-----|-----|---|------|--|--|
|  | | Republic of Iraq - Ministry of Higher Education and Scientific Research University of Anbar Bachelor's degree in Information Systems (First cycle) Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25 hr Program Curriculum (2023 - 2024) | | | | جمهورية العراق - وزارة التعليم العالي والبحث العلمي جامعة الأنبار بكالوريوس في نظم المعلومات (الدورة الأولى) أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوروبية - كل وحدة اوروبية = ٢٥ ساعة المنهاج الدراسي للعام ٢٠٢٣-٢٠٢٤ | | | | | | | | | |  | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | Total | 10 | 0 | 8 | 2 | 0 | 0 | 24 | 324 | 426 | 750 | 30.0 | | |

| | | | | | | | | | | | | | | | |
|---|---|--------------------|--|----------|--------------------------------------|---|----|---|-----|------|------|------|---|-------|------------------|
|  | Republic of Iraq - Ministry of Higher Education and Scientific Research University of Anbar Bachelor's degree in Information Systems (First cycle) Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25 hr Program Curriculum (2023 - 2024) | | جمهورية العراق - وزارة التعليم العالي والبحث العلمي جامعة الأنبار بكالوريوس في نظم المعلومات (الدورة الأولى) أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوروبية - كل وحدة اوروبية = ٢٥ ساعة المنهاج الدراسي للعام ٢٠٢٣-٢٠٢٤ | | | | | | | | | |  | | |
| | Total | | 90 | 4 | 46 | 3 | 10 | 0 | 168 | 2778 | 3172 | 5950 | | 240.0 | Must be 240 ECTS |
| Internships to fulfill the requirements of the Bachelor's degree | | | | | | | | | | | | | | | |
| Structured | | | | | | | | | | | | | | | |
| | CL | Class Lecture | Module type | B | Basic learning activities | | | | | | | | | | |
| | Lab | Laboratory | | C | Core learning activity | | | | | | | | | | |
| | Pr | Practical Training | | S | Support or related learning activity | | | | | | | | | | |
| | Tut | Tutorial | | E | Elective learning activity | | | | | | | | | | |
| | Lect | Online lecture | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |



جامعة الانبار



First Cycle – Bachelor's degree of (B.Sc.) – Information System

بكالوريوس نظم المعلومات



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| 3. Program (Objectives) Goals | أهداف البرنامج |
| 4. Program Student learning outcomes | مخرجات تعلم الطالب |
| 5. Academic Staff | الهيئة التدريسية |
| 6. Credits, Grading and GPA | الاعتمادات والدرجات والمعدل التراكمي |
| 7. Modules | المواد الدراسية |
| 8. Contact | اتصال |

1. **Mission & Vision Statement**

Vision Statement

The Information Systems Department was established in 1999 to prepare qualified cadres in the field of building systems and information bases to supply state departments with expert cadres in order to develop the software industry in the country and to keep abreast of the tremendous developments in this field and to deal with modern technologies and information network. The main interest of the department is focused on the software industry in the country and keeping pace with The tremendous developments in this field and dealing with modern technologies and the information network, and the main concern of the department is to study all technical issues, issues of senior management, planning policies and decision-making associated with the employment of computers in the establishment of information systems for major institutions, and the department deals with the theoretical and practical aspects related to the description, analysis, design, implementation and management of systems Information while maximizing the utilization of the information and communication technology infrastructure.

Mission Statement

The Information System Department academic staff pursues a multifaceted charge at University of Anbar. The Program seeks to provide all Information System Department students with fundamental knowledge of Information System, as well as a deeper understanding of a selected focus area within the Computer sciences. The curriculum and advising have been designed to prepare graduates for their professional future, whether they choose to work as Information System specializing in botany or wildlife, or to pursue advanced degrees in the Information Technology. The Information System program also provides the necessary fundamental knowledge of the Computer sciences to support the

Computer Science degree, the Network Technology degree, and the Artificial intelligence degree in Forest Technology. In addition, Information System courses provide a key laboratory science experience for those students seeking to complete the general education requirements

2. Program Specification

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

Information System is a wonderfully wide-ranging subject and is well equipped to deliver. The emphasis of the program is the whole organism to which everything is related, be it the molecules that form proteins or communities of organisms in an ecosystem. The degree is popular - –or some it's' the breadth of the subject that appeals, for others it's a path to specialization. All students have the opportunity to transfer onto our specialist degrees in Information System at the end of the first year.

Level 1 exposes students to the fundamentals of Information System, suitable for progression to all programs within the Information System program group. Program-specific core topics are covered at Level 2 preparing for research-led subject specialist modules at Levels 3 and 4. The University Information System graduate is therefore trained to appreciate how research informs teaching, according to the University and School Mission statements.

At Levels 2, 3 and 4 students are able to study a range of modules which are selected, that reflect the complexity of life forms from Data Structure , information security, Networks , to free to choose more than half of their module credits with the proviso Artificial Intelligence to ensure the breadth of knowledge expected of a graduate with Information System degree. This allows students to develop their own wide-ranging interests in Information System and Data Science. Decisions on what to study are made with input from personal tutors.

The research ethos is developed and fostered from the start via practical's, which are either embedded in lecture modules or taught in dedicated practical modules, research seminars and tutorials. There is a compulsory field course in Level 1, which students must pass in order to progress into Level 2, and optional field courses in Levels 2, 3 and 4. At Level 4 all students carry out an independent research project, which may be a 8 credit library or data analysis project, or a 8 credit field or laboratory based project.

Academic tutorials are held at Levels 1 and 2 with the same tutor, who is also the personal tutor, providing continuity and progressive guidance. Level 1 and 2 tutorials include a number of workshops to teach skills, e.g. library use and presentation skills, followed by assessed exercises, e.g. essays and talks, as opportunities to practice these skills in a subject-specific context.

International years and Industrial placements are also offered and individual needs are discussed with the appropriate tutor and accommodated wherever possible.

3. **Program Objectives**

1. The department aims to prepare qualified cadres in the field of building systems and databases to provide state departments and institutions with expert cadres, in a way that develops the software industry in Iraq, keeping abreast of the tremendous developments in this field, and dealing with modern technologies and the information network. To be able to study the problems and challenges in the field of information systems science and technology.
2. Prepare the student systematically
3. Enable the systems analyst to lead a software team to prepare a computer system that solves the problems of users and beneficiaries.
4. Developing the students' mental abilities through analysis and logical deduction, and enabling them to solve programming problems
5. The necessary development of school curricula to ensure the integration of recent changes in computer science technology and e-learning applications.
6. Encouraging innovative ideas and projects and developing leadership and creative skills in the field of information technology by urging students to participate in computer events and forums.

4. **Student Learning Outcomes**

Information System is the study of the organization and operation of life at business and organizations levels. Graduates obtain information on how to collect, retrieve, process, store and disseminate information for the purpose of facilitating planning , control , analysis ,coordination and decision making in business and other organizations. The Department offers a Bachelor of Science in Information system. Additionally, the Department offers courses to a large number of students from other departments and supports pre-professional programs. The Information System curriculum and experiences are designed to prepare students, in part, for entry into professional Technology programs, graduate studies, technical careers and education

Outcome 1

Identification of Complex Relationships

Graduates will be able to illustrate the structure and function of information systems components and explain how they interact in a living cell.

Outcome 2

Oral and Written Communication

Graduates will be able to formally communicate the results of technology investigations using both oral and written communication skills.

Outcome 3

Laboratory and Field Studies

Graduates will be able to perform laboratory experiments and field studies, by using scientific equipment and computer technology while observing appropriate safety protocols.

Outcome 4

Scientific Knowledge

Graduates will be able to demonstrate a balanced concept of how scientific knowledge develops, including the historical development of foundational theories and laws and the nature of science.

Outcome 5

Data Analyses

Graduates will be able to demonstrate scientific quantitative skills, such as the ability to conduct simple data analyses.

Outcome 6

Critical Thinking

Graduates will be able to use critical-thinking and problem-solving skills to develop a research project and/or paper.

5. Academic Staff

Murtadha Mohammed Hamed Ramathan | Ph.D. in Exploration and Data Warehouse | Professor
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Mobile no.:

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Mobile no.:

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Mobile no.:

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Mobile no.:

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Mobile no.:

Muntaser Abdulwahed Salman Abdulaziz | Ph.D. in Networks | Lecturer

Email: co.montasser.salman@uoanbar.edu.iq

Mobile no.:

Mohammed Rabeea Hashim Mohammed | Ph.D. in Robotics and Control | Lecturer

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Mobile no.:

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Email: waleed.abdulmaged@uoanbar.edu.iq

Mobile no.:

Sadir Abdulwahed Fadhil Abd | Ph.D. in Intelligent Systems | Lecturer

Email: fadhil-academia@uoanbar.edu.iq

Mobile no.:

Mohanad Abdulsalam younis gedan | Ph.D. in Computer Science | Lecturer

Email: mohanad.abdul@uoanbar.edu.iq

Mobile no.:

Farah Maath Jasem Alani | MSc in Computer Science | Assistant Lecturer

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6. Credits, Grading and GPA

Credits

University of Anbar 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:

$$\text{CGPA} = [(1^{\text{st}} \text{ module score} \times \text{ECTS}) + (2^{\text{nd}} \text{ module score} \times \text{ECTS}) + \dots] / 240$$

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|---------|---------------------------------------|------|-------|-------|------|-------------|
| CSIT107 | Structured programming | 80 | 120 | 8.00 | B | |
| CSIT110 | Fundamental of Information Technology | 65 | 85 | 6.00 | B | |
| CSIT109 | Logic Design I | 95 | 55 | 6.00 | B | |
| ISDC115 | Mathematic I | 50 | 100 | 6.00 | C | |
| UOA140 | English (1) | 35 | 65 | 4.00 | B | |
| | | 325 | 425 | 30.00 | | |

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|---------|---------------------------|------|-------|-------|------|-------------|
| CSIT108 | Structured programming II | 80 | 120 | 8.00 | B | CSIT107 |
| CSIT112 | Discrete Structures | 50 | 100 | 6.00 | B | |
| CSIT111 | Logic Design II | 65 | 85 | 6.00 | B | CSIT109 |
| ISDC116 | Mathematic II | 50 | 100 | 6.00 | C | ISDC115 |
| UOA137 | Arabic Language | 35 | 65 | 4.00 | B | |
| | | 280 | 470 | 30.00 | | |

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|---------|---|------|-------|-------|------|-------------|
| ISDC207 | Object Oriented Programming I | 80 | 120 | 8.00 | B | CSIT108 |
| CSIT201 | Data Structures and Algorithms | 65 | 85 | 6.00 | B | |
| ISDE215 | Computational Theory | 35 | 65 | 4.00 | B | |
| ISDC198 | Introduction to Electronic information system | 35 | 90 | 5.00 | E | |
| ISDC202 | Design and Analysis of Information Systems | 35 | 90 | 5.00 | E | |
| UOA135 | Democracy and Human Rights | 25 | 25 | 2.00 | B | |
| ISDC203 | Advanced Mathematics | 55 | 70 | 5.00 | B | ISDC116 |
| | | 295 | 455 | 30.00 | | |

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|---------|----------------------------------|------|-------|-------|------|-------------|
| ISDE211 | Object Oriented Programming II | 80 | 120 | 8.00 | B | ISDC207 |
| ISDC205 | Design and Analysis of Databases | 65 | 85 | 6.00 | B | |
| ISDE190 | Web Technologies | 65 | 85 | 6.00 | E | |
| ISDE219 | Design Internet Pages | 65 | 85 | 6.00 | E | |
| ISDC303 | Numerical Analysis | 65 | 85 | 6.00 | C | |
| UOA240 | English (2) | 35 | 65 | 4.00 | B | |
| UOA140 | AlBaath Party Crimes | 15 | 15 | 2.00 | B | |
| | | 310 | 440 | 30.00 | | |

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|---------|---|------|-------|------|------|-------------|
| ISDC308 | Visual Programming I | 80 | 120 | 8 | B | |
| ISDC305 | Principles Of Computer Network | 65 | 85 | 6 | B | |
| ISDC306 | Distributed Database Management systems | 65 | 85 | 6 | B | ISDC205 |
| ISDE389 | Natural Lagnuage Processing | 65 | 85 | 6 | E | ISDE215 |
| ISDE324 | Compiler | 65 | 85 | 6 | E | |
| ISDC307 | Project Management Systems | 35 | 65 | 4 | B | |
| ISDE325 | Artificial Intelligent I | 310 | 440 | 30 | | |

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|---------|---------------------------|------|-------|------|------|-------------|
| ISDE323 | Visual Programming II | 80 | 120 | 8 | B | ISDC308 |
| ISDE325 | Artificial Intelligent II | 65 | 110 | 7 | B | ISDC305 |
| ISDC323 | Data Storage Engineering | 35 | 90 | 5 | E | |
| ISDC309 | Software Engineering | | | | E | |
| ISDC327 | Data Management Systems | 35 | 90 | 5 | C | |
| ISDC328 | Decision Support Systems | 35 | 90 | 5 | B | |
| | | 250 | 500 | 30 | | |

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|---------|-----------------------------|------|-------|------|------|-------------|
| ISDE323 | Information Security I | 35 | 90 | 5 | B | |
| ISDE322 | Internet of Things | 65 | 85 | 6 | E | |
| ISDE324 | Cloud Computing | | | | E | |
| ISDE325 | Machine learning | 65 | 85 | 6 | B | |
| ISDC375 | Operating Systems I | 35 | 90 | 5 | C | |
| ISDC327 | Web Application Programming | 65 | 85 | 6 | B | ISDE219 |
| CSDE423 | Research Methodology | 35 | 15 | 2 | B | |
| | | 300 | 450 | 30 | | |

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

| Code | Module | SSWL | USSWL | ECTS | Type | Pre-request |
|---------|-----------------------------------|------|-------|------|------|-------------|
| ISDC406 | Cyber-Security Principles | 35 | 100 | 4 | B | ISDE323 |
| ISDC405 | Deep Learning | 65 | 85 | 5 | B | ISDE325 |
| ISDE333 | Information Technology Governance | 35 | 65 | 4 | E | |
| ISDE414 | E- Commerce | | | | E | |
| ISDC309 | Data Warehouse and Data Mining | 35 | 65 | 4 | B | |
| ISDC422 | Operating Systems II | 65 | 85 | 5 | C | |
| ISDC407 | Project | 95 | 105 | 8 | B | |
| | | 330 | 505 | 30 | | |

8. **Contact**

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Anbar University of

جامعة الانبار

First Cycle – Bachelor's Degree (B.Sc.) - Information Systems

بكالوريوس - نظم المعلومات



Table of Contents

1. Overview
2. Undergraduate Modules 2023-2024
3. Contact

Overview .1

This catalogue is about the courses (modules) given by the program of Information Systems to gain the Bachelor of Science degree. The program delivers (42) Modules with (6000) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.

نظرة عامة

يتناول هذا الدليل المواد الدراسية التي يقدمها برنامج نظم المعلومات للحصول على درجة بكالوريوس العلوم. يقدم البرنامج (٤٠) مادة دراسية، على سبيل المثال، مع (٦٠٠٠) إجمالي ساعات حمل الطالب و ٢٤٠ إجمالي وحدات أوروبية. يعتمد تقديم المواد الدراسية على عملية بولونيا.

| | Code | Course/Module Title | ECTS | Semester | Class (hr/w) | Lect/Lab./Prac./Tutor | SSWL (hr/sem) | USWL (hr/w) |
|---|---------|------------------------|------|----------|--------------|-----------------------|---------------|-------------|
| Module 1 | CSIT107 | Structured programming | 8.00 | One | 3 | 2 | 80 | 120 |
| Description | | | | | | | | |
| The "Structured Programming" course focuses on teaching students how to design and implement computer programs in a structured and systematic manner. This course aims to provide students with the fundamental concepts of computer programming and develop their skills in writing purposeful and | | | | | | | | |

maintainable code.
 Throughout the course, you will learn the basic principles of computer programming, such as sequencing, iteration, and conditional statements. You will become familiar with program design methodologies and its structure, as well as how to analyze problems and break them down into manageable components. You will practice using appropriate tools and techniques to design and implement robust and efficient programs.
 By successfully completing this course, you will gain the necessary skills to deal with programming complexities and organize code in a systematic and structured way. You will be able to build maintainable and future-proof programs, and improve the efficiency of your computer code.

| | | | | | | | | |
|--|---------|---------------------------------------|------|-----|---|---|----|-----|
| Module 2 | CSIT110 | Fundamental of Information Technology | 6.00 | One | 2 | 2 | 65 | 85 |
| 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 programme specification. | | | | | | | | |
| Module 3 | CSIT109 | Logic Design I | 6.00 | One | 2 | 4 | 95 | 55 |
| 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 programme specification. | | | | | | | | |
| Module 4 | ISDC115 | Mathematic I | 6.00 | One | 2 | 1 | 50 | 100 |
| Description | | | | | | | | |
| Study of derivatives, their methods and applications, and their relationship to real problems. Teaching training students to deal with the rules and laws of derivatives and apply them in the future in a logical and correct manner | | | | | | | | |
| Module 5 | UOA140 | English (1) | 4.00 | One | 2 | 0 | 35 | 65 |
| 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 programme specification. | | | | | | | | |

| | | | | | | | | |
|---|---------|---------------------------|------|-----|---|---|----|-----|
| Module 6 | CSIT108 | Structured programming II | 8.00 | Two | 3 | 2 | 80 | 120 |
| Description | | | | | | | | |
| <p>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 programme specification.</p> | | | | | | | | |
| Module 7 | CSIT112 | Discrete Structures | 6.00 | Two | 2 | 1 | 50 | 100 |
| Description | | | | | | | | |
| <p>Discrete Structures is a fundamental course within the Computer Science curriculum that introduces students to mathematical concepts and structures essential for solving complex computational problems. The course provides a bridge between discrete mathematics and its applications in computer science, laying the groundwork for algorithm design, logic, and various computational paradigms.</p> | | | | | | | | |
| Module 8 | CSIT111 | Logic Design II | 6.00 | Two | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| <p>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 programme specification.</p> | | | | | | | | |
| Module 9 | ISDC116 | Mathematic II | 6.00 | Two | 2 | 1 | 50 | 100 |
| Description | | | | | | | | |
| <p>Mathematics II for Computer Science is a continuation of the mathematical foundation established in Mathematics I, tailored specifically to meet the needs of computer science students. This course explores advanced mathematical concepts and techniques that are fundamental for understanding and solving complex problems in computer science and software engineering.</p> | | | | | | | | |
| Module 10 | UOA137 | Arabic Language | 4.00 | Two | 2 | 0 | 35 | 65 |
| Description | | | | | | | | |
| <p>The Introductory Arabic Language course in the first stage is designed to introduce students to the Arabic language and culture. It serves as a foundation for developing basic communication skills in Arabic, fostering cultural awareness, and preparing students for more advanced language courses or interactions within Arabic-speaking communities. This course is suitable for students who have little to no prior knowledge of the Arabic language.</p> | | | | | | | | |

| | | | | | | | | |
|---|---------|---|------|-------|---|---|--------|-----|
| Module 11 | ISDC207 | Object Oriented Programming I | 8.00 | Three | 3 | 2 | 80 | 120 |
| Description | | | | | | | | |
| <p>The study of structured programming, entity programming and what is known as object-oriented programming, knowledge of injunctions and functions to prepare the student to know how to write a set of commands, knowing what are injunctions, how to build classes and objects, what the class has of properties and functions, how to build several classes and several objects, and how properties are inherited between them.</p> | | | | | | | | |
| Module 12 | CSIT201 | Data Structures and Algorithms | 6.00 | Three | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| <p>The Data Structures and Algorithms course is a cornerstone of the Computer Science curriculum, offering an in-depth exploration of fundamental concepts and techniques essential for solving complex computational problems efficiently. This course equips students with the knowledge and skills required to design, analyze, and implement data structures and algorithms, which are fundamental to computer science and software engineering.</p> | | | | | | | | |
| Module 13 | ISDE215 | Computational Theory | 4.00 | Three | 2 | 0 | 35 | 65 |
| Description | | | | | | | | |
| <p>The Computational Theory course is a fundamental component of the Computer Science curriculum that explores the theoretical underpinnings of computation. This course delves into abstract models of computation, formal languages, and the limits of algorithmic solvability. It provides students with the theoretical foundations necessary to analyze and understand the capabilities and limitations of computers and algorithms.</p> | | | | | | | | |
| Module 14 | ISDC198 | Introduction to Electronic information system | 5.00 | Three | 2 | 0 | hr/sem | 90 |
| Description | | | | | | | | |
| <p>The Introduction to Electronic Information Systems course is designed to provide students with a foundational understanding of electronic information systems and their role in modern computing and information management. This course explores the principles, technologies, and applications of electronic information systems, equipping students with essential knowledge and skills for managing and processing digital information.</p> | | | | | | | | |
| Module 15 | ISDC202 | Design and Analysis of Information Systems | 5.00 | Three | 2 | 0 | 65 | 90 |
| Description | | | | | | | | |
| <p>The Design and Analysis of Information Systems course is a pivotal component of the Computer Science curriculum that focuses on the principles, methodologies, and best practices for designing, developing, and analyzing complex information systems. This course empowers students with the knowledge and skills necessary to create robust, efficient, and scalable information systems that meet real-world business and technology requirements.</p> | | | | | | | | |

| | | | | | | | | |
|---|---------|----------------------------------|------|-------|---|---|----|-----|
| Module 16 | UOA135 | Democracy and Human Rights | 2.00 | Three | 1 | 0 | 25 | 25 |
| Description | | | | | | | | |
| <p>The Democracy and Human Rights course in the first stage is designed to provide students with a fundamental understanding of the concepts, theories, and historical development of democracy and human rights. This introductory course aims to foster critical thinking and awareness of the importance of these principles in contemporary global society.</p> | | | | | | | | |
| Module 17 | ISDC203 | Advanced Mathematics | 5.00 | Three | 2 | 1 | 55 | 70 |
| Description | | | | | | | | |
| <p>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 programme specification.</p> | | | | | | | | |
| Module 18 | ISDE211 | Object Oriented Programming II | 8.00 | Four | 3 | 2 | 80 | 120 |
| Description | | | | | | | | |
| <p>The study of structured programming, entity programming and what is known as object-oriented programming, knowledge of injunctions and functions to prepare the student to know how to write a set of commands, knowing what are injunctions, how to build classes and objects, what the class has of properties and functions, how to build several classes and several objects, and how properties are inherited between them.</p> | | | | | | | | |
| Module 19 | ISDC205 | Design and Analysis of Databases | 6.00 | Four | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| <p>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 programme specification.</p> | | | | | | | | |
| Module 20 | ISDE190 | Web Technologies | 6.00 | Four | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| <p>The Web Technologies course is designed to provide students with a comprehensive understanding of the technologies and principles that underlie the World Wide Web. In an era where the web plays a crucial role in communication, commerce, and information dissemination, this course equips students with the knowledge and skills necessary to design, develop, and manage modern web applications.</p> | | | | | | | | |
| Module 21 | ISDE219 | Design Internet Pages | 6.00 | Four | 2 | 2 | 65 | 85 |

| | | | | | | | | |
|-----------|---|--------------------------------|------|------|---|---|----|-----|
| | Description | | | | | | | |
| | The Design Internet Pages course is designed to provide students with the knowledge and skills needed to create attractive, functional, and user-friendly web pages. In today's digital age, effective web design is crucial for businesses, organizations, and individuals. This course equips students with the tools and techniques required to design visually appealing and responsive web pages that meet modern web standards. | | | | | | | |
| Module 22 | ISDC303 | Numerical Analysis | 6.00 | Four | 2 | 2 | 65 | 85 |
| | Description | | | | | | | |
| | Studying the numerical analysis, methods, applications and its relationship with the real problems. Teach train the students to deal with the numerical process in the future in logic and right style. | | | | | | | |
| Module 23 | UOA240 | English (2) | 4.00 | Four | 2 | 0 | 35 | 65 |
| | 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 programme specification. | | | | | | | |
| Module 24 | UOA140 | AlBaath Party Crimes | 2.00 | 0 | 1 | 0 | 15 | 15 |
| | Description | | | | | | | |
| | NOT YET | | | | | | | |
| Module 24 | ISDC308 | Visual Programming I | 8.00 | Five | 3 | 2 | 80 | 120 |
| | 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 programme specification. | | | | | | | |
| Module 25 | ISDC305 | Principles Of Computer Network | 6.00 | Five | 2 | 2 | 65 | 85 |
| | Description | | | | | | | |

Principles of Computer Communications and Networks Detailed Syllabus for B.Tech third year First semester is covered here. This gives the details about credits, number of hours and other details along with reference books for the course. Course objectives: To understand the concept of computer communication, To learn about the networking concept, layered protocols, To understand various communications concepts, and To get the knowledge of various networking equipment.

| | | | | | | | | |
|--|---------|---|-------|------|----|---|-----|-----|
| Module 26 | ISDC306 | Distributed Database Management systems | 6.00 | Five | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| <p>The Distributed Database Management Systems course is a specialized offering in the field of computer science, focusing on the principles, technologies, and strategies for managing databases across distributed and interconnected environments. In today's interconnected world, where data is generated and consumed across various locations and platforms, this course equips students with the knowledge and skills required to design, deploy, and manage distributed database systems effectively.</p> | | | | | | | | |
| Module 27 | ISDE389 | Natural Language Processing | 6.00 | Five | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| <p>The Natural Language Processing (NLP) course is designed to introduce students to the interdisciplinary field that combines computer science, artificial intelligence, and linguistics. NLP focuses on the interaction between computers and human language, enabling machines to understand, interpret, and generate human language text. This course provides students with a strong foundation in NLP techniques and applications.</p> | | | | | | | | |
| Module 28 | ISDE324 | Compiler | 6.00 | Five | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| <p>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 programme specification.</p> | | | | | | | | |
| Module 29 | ISDC307 | Project Management Systems | 4.00 | Five | 2 | 0 | 35 | 65 |
| Description | | | | | | | | |
| <p>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 programme specification.</p> | | | | | | | | |
| Module 30 | ISDE325 | Artificial Intelligent I | 30.00 | Five | 11 | 8 | 310 | 440 |
| Description | | | | | | | | |
| <p></p> | | | | | | | | |

| | | | | | | | | |
|--|---|---------------------------|------|-----|---|---|----|-----|
| | <p>Artificial Intelligence I is an introductory course that explores the fundamental principles and techniques underlying the field of artificial intelligence (AI). This course provides students with a comprehensive introduction to AI concepts, algorithms, and applications, equipping them with the knowledge and skills needed to understand, design, and implement AI systems.</p> | | | | | | | |
| Module 31 | ISDE323 | Visual Programming II | 8.00 | Six | 3 | 2 | 80 | 120 |
| Description | | | | | | | | |
| <p>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 programme specification.</p> | | | | | | | | |
| Module 32 | ISDE325 | Artificial Intelligent II | 7.00 | Six | 2 | 2 | 65 | 110 |
| Description | | | | | | | | |
| <p>Artificial Intelligence II is an advanced course that builds upon the foundational concepts introduced in Artificial Intelligence I. This course delves deeper into the theory and applications of artificial intelligence, focusing on advanced topics, cutting-edge research, and practical AI development. It provides students with the opportunity to explore and apply more complex AI algorithms and techniques.</p> | | | | | | | | |
| Module 33 | ISDC323 | Data Storage Engineering | 5.00 | Six | 2 | 0 | 35 | 90 |
| Description | | | | | | | | |
| <p>The Data Storage Engineering course is designed to provide students with an in-depth understanding of the principles, technologies, and best practices related to data storage and management in modern computing systems. In today's data-driven world, the effective storage and retrieval of data are critical for businesses and organizations. This course equips students with the knowledge and skills needed to design, implement, and optimize data storage solutions.</p> | | | | | | | | |
| Module 34 | ISDC309 | Software Engineering | 5.00 | Six | 2 | 0 | 35 | 90 |
| Description | | | | | | | | |
| <p>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 programme specification.</p> | | | | | | | | |
| Module 35 | ISDC327 | Data Management Systems | 5.00 | Six | 2 | 0 | 35 | 90 |
| Description | | | | | | | | |
| <p></p> | | | | | | | | |

| | | | | | | | | |
|---|--|--------------------------|------|-------|---|---|----|----|
| | 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 programme specification. | | | | | | | |
| Module 36 | ISDC328 | Decision Support Systems | 5.00 | Six | 2 | 0 | 35 | 90 |
| Description | | | | | | | | |
| A decision support system is an interactive computer application that has complete access to information about your organization. Each student will get "hands-on" experience with the development of a decision support system/expert system. When used, it offers comparative figures between one period and the next. It projects revenue figures based on assumptions related to product sales. A DSS is smart enough to help you understand the expenses involved in and consequences resulting from different decision alternatives | | | | | | | | |
| Module 37 | ISDE323 | Information Security I | 5.00 | Seven | 2 | 0 | 35 | 90 |
| 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 programme specification. | | | | | | | | |
| Module 38 | ISDE322 | Internet of Things | 6.00 | Seven | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| This course is to cover the concepts, structure, and functions of Multimedia Computing To give students a broad grounding in issue surrounding multimedia, including the role of and design of multimedia Systems which incorporate digital audio, graphics and video, underlying concepts and representations of sound, pictures and video, data compression and transmission, integration of media, multimedia authoring, and delivery of multimedia. | | | | | | | | |
| Module 39 | ISDE324 | Cloud Computing | 6.00 | Seven | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| The Cloud Computing course is designed to provide students with a comprehensive understanding of cloud technologies, their architecture, and their applications in modern computing environments. Cloud computing has revolutionized the way businesses and organizations manage and deliver IT services. This course equips students with the knowledge and skills necessary to design, deploy, and manage cloud-based solutions effectively. | | | | | | | | |
| Module 40 | ISDE325 | Machine learning | 6.00 | Seven | 2 | 2 | 65 | 85 |
| 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 programme specification. | | | | | | | |
| Module 41 | ISDC375 | Operating Systems I | 5.00 | Seven | 2 | 0 | 35 | 90 |
| Description | | | | | | | | |
| <p>Operating Systems I is a foundational course in computer science that provides students with a comprehensive introduction to the principles, design, and functioning of operating systems. Operating systems are the core software that manages computer hardware and facilitates application execution. This course equips students with the knowledge and skills needed to understand, design, and implement basic operating system components.</p> | | | | | | | | |
| Module 42 | ISDC327 | Web Application Programming | 6.00 | Seven | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| <p>Programming of Web Applications Detailed Syllabus for B.Tech fourth year First semester is covered here. This gives the details about credits, number of hours and other details along with reference books for the course. The course covers construction and design of dynamic web pages. The emphasis lies on standardised HTML and CSS to create structure and appearance. The course also covers basic JavaScript to create a dynamic behaviour on web sites.</p> <p>Other parts that are covered are availability, responsive design and validation of web pages.</p> | | | | | | | | |
| Module 43 | CSDE423 | Research Methodology | 2.00 | Seven | 2 | 0 | 35 | 15 |
| Description | | | | | | | | |
| <p>The Research Methodology in Computer Science course is designed to provide students with the knowledge and skills necessary to conduct effective and rigorous research in the field of computer science. This course emphasizes the research process, methodologies, techniques, and ethical considerations, enabling students to plan, execute, and report on their research effectively.</p> | | | | | | | | |
| Module 44 | ISDC406 | Cyber-Security Principles | 4.00 | Eight | 2 | 0 | 35 | 100 |
| Description | | | | | | | | |
| <p>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 programme specification.</p> | | | | | | | | |
| Module 45 | ISDC405 | Deep Learning | 5.00 | Eight | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| <p>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 programme specification.</p> | | | | | | | | |

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|--|---------|-----------------------------------|------|-------|---|---|----|-----|
| Module 46 | ISDE333 | Information Technology Governance | 4.00 | Eight | 2 | 0 | 35 | 65 |
| Description | | | | | | | | |
| <p>The Information Technology Governance course is designed to provide students with a comprehensive understanding of the principles, frameworks, and practices related to the governance of information technology within organizations. In today's digital age, effective IT governance is crucial for ensuring that IT resources are aligned with business goals, risks are managed, and compliance requirements are met. This course equips students with the knowledge and skills needed to establish and maintain effective IT governance practices.</p> | | | | | | | | |
| Module 47 | ISDE414 | E- Commerce | 4.00 | Eight | 2 | 0 | 35 | 65 |
| Description | | | | | | | | |
| <p>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 programme specification.</p> | | | | | | | | |
| Module 48 | ISDC309 | Data Warehouse and Data Mining | 4.00 | Eight | 2 | 0 | 35 | 65 |
| Description | | | | | | | | |
| <p>The Data Warehouse and Data Mining course is designed to provide students with a deep understanding of the concepts, technologies, and techniques related to data warehousing and data mining. In today's data-driven world, organizations rely on these disciplines to extract valuable insights from vast amounts of data. This course equips students with the knowledge and skills required to design, implement, and leverage data warehouses and data mining tools effectively.</p> | | | | | | | | |
| Module 49 | ISDC422 | Operating Systems II | 5.00 | Eight | 2 | 2 | 65 | 85 |
| Description | | | | | | | | |
| <p>Operating Systems II is an advanced course that continues to explore the principles, design, and functioning of operating systems, building upon the knowledge acquired in Operating Systems I. This course delves deeper into operating system concepts, advanced topics, and hands-on implementation, providing students with a comprehensive understanding of modern operating systems and their components.</p> | | | | | | | | |
| Module 50 | ISDC407 | Project | 8.00 | Eight | 3 | 3 | 95 | 105 |
| Description | | | | | | | | |
| <p>The Project in Computer Science course is a capstone experience designed to integrate and apply the knowledge and skills acquired throughout the computer science program. It offers students the opportunity to work on a substantial project that addresses real-world challenges or explores advanced topics in computer science. This course serves as a culmination of their academic journey, allowing them</p> | | | | | | | | |

| | | | | | | | |
|--|---|------|---|---|---|----------------|---|
| to demonstrate their expertise in planning, designing, developing, and presenting a significant computing project. | | | | | | | |
| Laboratory | 0 | 0.00 | 0 | C | 0 | Structured SWL | 0 |

Program Manager:

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Mobile no.:+964-7824833623

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| | Ministry of Higher Education and Scientific Research. University of Anbar. Department of Information System. | |
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MODULE DESCRIPTOR FORM

| Module Information | | | |
|------------------------------------|--------------------------|--------------------------------------|-----------------------------|
| Module Title | Structured programming I | Module Type | TYPE C |
| Module Code | ISSP101 | ECTS Credits | 8 |
| Module Level | UGI | Semester of Delivery | One |
| Administering Department | IS | Faculty | CSIT |
| Module Leader | Mahmoud Hilal | e-mail | mah2005hilal@uoanbar.edu.iq |
| Module Leader's Acad. Title | Lecturer | Module Leader's Qualification | PhD |
| Module Tutor | | e-mail | |
| Peer Reviewer Name | / | e-mail | / |
| Review Committee Approval | DD/MM/YY | Version Number | 1.0 |

| Relation With Other Modules | |
|--|---|
| Pre-requisites | / |
| Co-requisites | / |
| Module Aims, Learning Outcomes and Indicative Contents | |
| Module Aims | Learn how to use the Advanced Tools helps programmers write fast, portable programs The main principles of programming and the development of programming languages Learn the principles of Structure programming |
| Module Learning Outcomes | A1- Knowledge and understanding A2. Learn algorithms A3. Learn flowcharts |

| | |
|---|---|
| | A4. Learn structured programming A5. Learn Python programming |
| Indicative Contents | |
| Learning and Teaching Strategies | |
| Strategies | The main strategy that will be adopted in delivering this module are: 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning. |

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|------------------------------------|------|
| Module Delivery | |
| Structured workload (h/w) | 5.4 |
| Unstructured workload (h/w) | 8 |
| Total workload (h/w) | 13.4 |

| | | | | |
|--------------------------|--------------------|-----------------------|-----------------|----------------------------------|
| Module Evaluation | | | | |
| | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
| Quizzes | 3 | 6% (6) | 3,7 and 11 | |
| Assignments | 2 | 6% (6) | 2 and 12 | |
| Projects / Lab. | 1 | 15% (15) | Continuous | |
| Report | 1 | 5% (5) | 13 | |
| Midterm Exam | 2 hr | 18% (18) | 7 | |
| Final Exam | 3 hr | 50% (50) | 16 | |
| Total | | 100% (100 Marks) | | |

| | | |
|--|-------------|----------------------------------|
| Learning and Teaching Resources | | |
| | Text | Available in the Library? |

| | | |
|--------------------------|--|--------|
| Required Texts | "Starting Out with Python plus My Programming Lab with Pearson Text --Access Card Package (3rd Edition) Tony Gaddis ISBN-13: 978-0133862256" | Yes/No |
| Recommended Texts | | Yes/No |
| Websites | | |

| Course Structure | | | | | |
|------------------|-------|-----------------------------|--|--|-------------------|
| Week | Hours | ILOs | Unit/Module or Topic Title | Teaching Method | Assessment Method |
| First | 3 h. | Programming principles | Overview to Programming Language | Explain Menu, Getting Started with python | |
| Second | 3 h. | Algorithms | Algorithms and Flow Charts | Algorithms and Flow Charts | |
| Third | 3 h. | Introduction to Programming | Storing and Manipulating Values Calling Functions Comments Formatting Values Working with Strings Exercises | Storing and Manipulating Values Calling Functions Comments Formatting Values Working with Strings Exercises | Quiz |
| Fourth | 3 h. | Unary Operators | Unary Minus Increment and /decrement Operators. | Program of Unary Minus Increment and /decrement Operators. | |
| Fifth | 3 h. | Operational Operators | Operational Assignment Operators Relational Operators Logical Operators. Bitwise Operator Logical Operators. Bitwise Operator | Program Operational Assignment Operators Relational Operators Program Logical Operators. Bitwise Operator | |
| Sixth | 3 h. | Selection Statements | Boolean Logic If Statements If-Else Statements | Programs in Lectures | Quiz |
| Seventh | 3 h. | Selection Statements | If-Elif Statements If-Elif-Else Statements Nested If Statements | Programs in Lectures | |

| | | | | | |
|------------|------|--------------------------|---|----------------------|---------|
| Ninth | 3 h. | To evaluate the students | Monthly exam | | By exam |
| Ninth | 3 h. | Repetition | While Loops | | By exam |
| Tenth | 3 h. | Repetition | For Loops | Programs in Lectures | |
| Eleventh | 3 h. | Repetition | Nested Loops Exercises | Programs in Lectures | |
| Twelfth | 3 h. | Functions | Functions with Parameters Variables in Functions | Programs in Lectures | |
| Thirteenth | 3 h. | Functions | Return Values | Programs in Lectures | |
| Fourteenth | 3 h. | Functions | Importing Functions into Other Programs Exercises | Programs in Lectures | |
| Fifteenth | 3 h. | To evaluate the students | Monthly exam | | By exam |

APPENDIX:

| UNIVERSITY of Anbar | | | | |
|-------------------------------------|-------------------------|---------------------|---------------------------------------|----------|
| GRADING SCHEME | | | | |
| Group | ECTS Grade | % of Students/Marks | Definition | GPA |
| Success Group (50 - 100) | A - Excellent | Best 10% | Outstanding Performance | 5 |
| | B - Very Good | Next 25% | Above average with some errors | 4 |
| | C - Good | Next 30% | Sound work with notable errors | 3 |
| | D - Satisfactory | Next 25% | Fair but with major shortcomings | 2 |
| | E - Sufficient | Next 10% | Work meets minimum criteria | 1 |
| Fail Group (0 - 49) | FX – Fail | (45-49) | More work required but credit awarded | |
| | F – Fail | (0-44) | Considerable amount of work required | |
| | | | | |

Note:

NB 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.



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System.



MODULE DESCRIPTOR FORM

| Module Information | | | |
|------------------------------------|---------------------------------------|--------------------------------------|------------------------------|
| Module Title | Fundamental of Information Technology | Module Type | TYPE C |
| Module Code | ISFI102 | ECTS Credits | 6 |
| Module Level | UGI | Semester of Delivery | One |
| Administering Department | IS | Faculty | CSIT |
| Module Leader | Mohanad Abdulsalam Younis gedan | e-mail | mohanad.abdul@uoanbar.edu.iq |
| Module Leader's Acad. Title | Lecturer | Module Leader's Qualification | Ph. D |
| Module Tutor | | e-mail | |
| Peer Reviewer Name | / | e-mail | / |
| Review Committee Approval | DD/MM/YY | Version Number | 2.0 |

| Relation With Other Modules | |
|--|---|
| Pre-requisites | / |
| Co-requisites | / |
| Module Aims, Learning Outcomes and Indicative Contents | |
| Module Aims | <ul style="list-style-type: none">- Provide a basic knowledge of computer hardware and software- Introduce the business areas to which computers may be applied.- Provide an introduction to business organization and information systems.- Develop the skills in network & communication, which play an important part in business computing and information processing. |
| Module Learning | A-Knowledge and Understanding |

| | |
|---|---|
| Outcomes | A1. The student should understand the architecture of any IT systems. A2. The student should understand the parts of hardware. A3. The student should understand the system software. A4. The student should understand the architecture of networks, protocols and communications devices. |
| Indicative Contents | |
| Learning and Teaching Strategies | |
| Strategies | The main strategy that will be adopted in delivering this module are: 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning. |

| Module Delivery | |
|------------------------------------|-----|
| Structured workload (h/w) | 3.4 |
| Unstructured workload (h/w) | 5.6 |
| Total workload (h/w) | 10 |

| Module Evaluation | | | | |
|--------------------------|--------------------|-----------------------|-----------------|----------------------------------|
| | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
| Quizzes | 3 | 6% (6) | 3,7 and 11 | |
| Assignments | 2 | 6% (6) | 2 and 12 | |
| Projects / Lab. | 1 | 15% (15) | Continuous | |
| Report | 1 | 5% (5) | 13 | |
| Midterm Exam | 2 hr | 18% (18) | 7 | |
| Final Exam | 3 hr | 50% (50) | 16 | |
| Total | | 100% (100 Marks) | | |

| Learning and Teaching Resources | | |
|---------------------------------|------|---------------------------|
| | Text | Available in the Library? |
| Required Texts | | Yes/No |
| Recommended Texts | | Yes/No |
| Websites | | |

| Delivery Plan (Weekly Syllabus) | |
|---------------------------------|--|
| | Material Covered |
| Week 1 | Introduction of Computers and Programming |
| Week 2 | Brief history of computer |
| Week 3 | Generation of Computers & Computer hierarchy |
| Week 4 | Basic Computer Components |
| Week 5 | Computer function (fetch cycle, interrupt cycle, I/O function) |
| Week 6 | Semiconductor main memory (RAM, ROM, CACHE) |
| Week 7 | Mid-Term Exam |
| Week 8 | Computer Software (application software) |
| Week 9 | External & Internal memory |
| Week 10 | Telecommunications system & Network |
| Week 11 | Topology of a network |
| Week 12 | Layering model |
| Week 13 | Protocols |
| Week 14 | addressing communications |

| | |
|----------------|-------------------------|
| Week 15 | Preparatory Week |
| Week 16 | Final Exam |

APPENDIX:

| UNIVERSITY of Anbar | | | | |
|-------------------------------------|-------------------------|----------------------------|---------------------------------------|------------|
| GRADING SCHEME | | | | |
| Group | ECTS Grade | % of Students/Marks | Definition | GPA |
| Success Group (50 - 100) | A - Excellent | Best 10% | Outstanding Performance | 5 |
| | B - Very Good | Next 25% | Above average with some errors | 4 |
| | C - Good | Next 30% | Sound work with notable errors | 3 |
| | D - Satisfactory | Next 25% | Fair but with major shortcomings | 2 |
| | E - Sufficient | Next 10% | Work meets minimum criteria | 1 |
| Fail Group (0 - 49) | FX – Fail | (45-49) | More work required but credit awarded | |
| | F – Fail | (0-44) | Considerable amount of work required | |
| | | | | |

Note:

NB 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.

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MODULE DESCRIPTOR FORM

| Module Information | | | |
|------------------------------------|---|--------------------------------------|--|
| Module Title | Logic Design I | Module Type | TYPE C |
| Module Code | ISLD103 | ECTS Credits | 6 |
| Module Level | UGI | Semester of Delivery | One |
| Administering Department | IS | Faculty | CSIT |
| Module Leader | Muntaser Abdulwahed Salman Abdulaziz | e-mail | Co.montasser.salman@uoanbar.ed u.iq |
| Module Leader's Acad. Title | Lecturer | Module Leader's Qualification | PhD. |
| Module Tutor | | e-mail | |
| Peer Reviewer Name | / | e-mail | / |
| Review Committee Approval | DD/MM/YY | Version Number | 2.0 |

| Relation With Other Modules | |
|--|---|
| Pre-requisites | / |
| Co-requisites | / |
| Module Aims, Learning Outcomes and Indicative Contents | |
| Module Aims | <ul style="list-style-type: none"> -The student should understand number systems and codes and the conversion between them. -The student should understand the Boolean expression and how to apply it. -The student should recognize among different logic gates and how to use them. -The student should understand how to design a logic circuit. -The student should understand using K-map for simplification. |

| | |
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| Module Learning Outcomes | <p>A-Knowledge and Understanding</p> <p>A1. The student should understand number systems and codes and the conversion between them.</p> <p>A2. The student should understand the Boolean expression and how to apply it.</p> <p>A3. The student should recognize among different logic gates and how to use them.</p> <p>A4. The student should understand how to design a logic circuit.</p> <p>A5. The student should understand using K-map for simplification</p> |
| Indicative Contents | |
| Learning and Teaching Strategies | |
| Strategies | <p>The main strategy that will be adopted in delivering this module are:</p> <ol style="list-style-type: none"> 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning. |

| Module Delivery | |
|------------------------------------|-----|
| Structured workload (h/w) | 6.4 |
| Unstructured workload (h/w) | 3.6 |
| Total workload (h/w) | 10 |

| Module Evaluation | | | | |
|--------------------------|--------------------|-----------------------|-----------------|----------------------------------|
| | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
| Quizzes | 3 | 6% (6) | 3,7 and 11 | |
| Assignments | 2 | 6% (6) | 2 and 12 | |
| Projects / Lab. | 1 | 15% (15) | Continuous | |
| Report | 1 | 5% (5) | 13 | |
| Midterm Exam | 2 hr | 18% (18) | 7 | |
| Final Exam | 3 hr | 50% (50) | 16 | |
| Total | | 100% (100 Marks) | | |

| Learning and Teaching Resources | | |
|---------------------------------|------|---------------------------|
| | Text | Available in the Library? |
| Required Texts | | Yes/No |
| Recommended Texts | | Yes/No |
| Websites | | |

| Delivery Plan (Weekly Syllabus) | |
|---------------------------------|-----------------------------------|
| | Material Covered |
| Week 1 | Introduction to number system |
| Week 2 | Conversion between systems |
| Week 3 | Codes and conversion between them |
| Week 4 | Boolean expression |
| Week 5 | Logic gates |
| Week 6 | Logic gates design |
| Week 7 | Mid-Term Exam |
| Week 8 | NAND gates |
| Week 9 | NOR gates |
| Week 10 | Sum of product form |
| Week 11 | Product Of sum form |
| Week 12 | Product Of sum form |
| Week 13 | K-map |

| | |
|----------------|-------------------------|
| Week 14 | K-map |
| Week 15 | Preparatory Week |
| Week 16 | Final Exam |

APPENDIX:

| UNIVERSITY of Anbar | | | | |
|-------------------------------------|-------------------------|----------------------------|---------------------------------------|------------|
| GRADING SCHEME | | | | |
| Group | ECTS Grade | % of Students/Marks | Definition | GPA |
| Success Group (50 - 100) | A - Excellent | Best 10% | Outstanding Performance | 5 |
| | B - Very Good | Next 25% | Above average with some errors | 4 |
| | C - Good | Next 30% | Sound work with notable errors | 3 |
| | D - Satisfactory | Next 25% | Fair but with major shortcomings | 2 |
| | E - Sufficient | Next 10% | Work meets minimum criteria | 1 |
| Fail Group (0 - 49) | FX – Fail | (45-49) | More work required but credit awarded | |
| | F – Fail | (0-44) | Considerable amount of work required | |
| | | | | |

Note:

NB 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.

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MODULE DESCRIPTOR FORM

| Module Information | | | |
|------------------------------------|-----------------------|--------------------------------------|---------------------------------------|
| Module Title | Mathematic I | Module Type | TYPE B |
| Module Code | CCIT060 | ECTS Credits | 6 |
| Module Level | UGI | Semester of Delivery | One |
| Administering Department | IS | Faculty | CSIT |
| Module Leader | Muhammad Rabie | e-mail | mohammed.rabeea@uoanbar.edu.iq |
| Module Leader's Acad. Title | Lecturer | Module Leader's Qualification | PhD. |
| Module Tutor | | e-mail | |
| Peer Reviewer Name | / | e-mail | / |
| Review Committee Approval | DD/MM/YY | Version Number | 2.0 |

| Relation With Other Modules | |
|--|--|
| Pre-requisites | / |
| Co-requisites | / |
| Module Aims, Learning Outcomes and Indicative Contents | |
| Module Aims | A - Understand the concept of mathematics, its methods and applications. B - Explain the concept of derivatives and integration and their applications. C - Understand the relationship between extracts and integration and the real problems and how to deal with them |
| Module Learning Outcomes | A-Knowledge and Understanding A 1. Acquiring the ability and skill to distinguish the bases of derivatives methods and dealing with them A 2. Acquire the capabilities and skills of applications of derivatives |

| | |
|---|---|
| | A3. Dealing with different methods of finite and indefinite derivatives B. Subject-specific skills B1. Summer Training B2. Fourth year projects B3. Scientific projects |
| Indicative Contents | |
| Learning and Teaching Strategies | |
| Strategies | The main strategy that will be adopted in delivering this module are: 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning. |

| | |
|------------------------------------|-----|
| Module Delivery | |
| Structured workload (h/w) | 3.3 |
| Unstructured workload (h/w) | 6.7 |
| Total workload (h/w) | 10 |

| | | | | |
|--------------------------|--------------------|-----------------------|-----------------|----------------------------------|
| Module Evaluation | | | | |
| | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
| Quizzes | 2 | 6% (6) | 5 and 10 | |
| Assignments | 2 | 6% (6) | 2 and 12 | |
| Projects / Lab. | 1 | 5% (5) | Continuous | |
| Report | 1 | 5% (5) | 13 | |
| Midterm Exam | 2 hr | 18% (18) | 7 | |
| Final Exam | 3 hr | 60% (60) | 16 | |
| Total | | 100% (100 Marks) | | |

| Learning and Teaching Resources | | |
|---------------------------------|------|---------------------------|
| | Text | Available in the Library? |
| Required Texts | | Yes/No |
| Recommended Texts | | Yes/No |
| Websites | | |

| Delivery Plan (Weekly Syllabus) | |
|---------------------------------|--|
| | Material Covered |
| Week 1 | The Definition of the Derivative Interpretation of the Derivative |
| Week 2 | Properties of Derivative , Some laws of derivatives |
| Week 3 | Properties of Derivative , Some laws of derivatives |
| Week 4 | Derivatives of the six trig functions |
| Week 5 | Exponential Functions, Logarithm Functions |
| Week 6 | Inverse Sine, Inverse cosine, Inverse tangent, Alternate Notation |
| Week 7 | Mid-Term Exam |
| Week 8 | Inverse Sine, Inverse cosine, Inverse tangent, Alternate Notation |
| Week 9 | These are the six hyperbolic trig Functions .and They are defined as |
| Week 10 | There are two forms of the chain rule |
| Week 11 | Defined , formula, and used the chain rule |
| Week 12 | first derivative, second derivative, third derivative. |
| Week 13 | the properties of logarithms |

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| Week 14 | Introduction, Critical Points and Minimum and Maximum Values |
| Week 15 | Preparatory Week |
| Week 16 | Final Exam |

APPENDIX:

| UNIVERSITY of Anbar | | | | |
|-------------------------------------|-------------------------|----------------------------|---------------------------------------|------------|
| GRADING SCHEME | | | | |
| Group | ECTS Grade | % of Students/Marks | Definition | GPA |
| Success Group (50 - 100) | A - Excellent | Best 10% | Outstanding Performance | 5 |
| | B - Very Good | Next 25% | Above average with some errors | 4 |
| | C - Good | Next 30% | Sound work with notable errors | 3 |
| | D - Satisfactory | Next 25% | Fair but with major shortcomings | 2 |
| | E - Sufficient | Next 10% | Work meets minimum criteria | 1 |
| Fail Group (0 - 49) | FX – Fail | (45-49) | More work required but credit awarded | |
| | F – Fail | (0-44) | Considerable amount of work required | |
| | | | | |

Note:

NB 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.

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MODULE DESCRIPTOR FORM

| Module Information | | | | |
|------------------------------------|-------------------------------------|--------------------------------------|-------------------------------|--------|
| Module Title | English (1) | | Module Type | TYPE S |
| Module Code | UOA003 | ECTS Credits | 2 | |
| Module Level | UGI | Semester of Delivery | One | |
| Administering Department | IS | Faculty | CSIT | |
| Module Leader | Akeel Abdulraheem Thulnoon Zoead | e-mail | akeelalhadithy@uoanbar.edu.iq | |
| Module Leader's Acad. Title | Assistant Professor | Module Leader's Qualification | PhD. | |
| Module Tutor | | e-mail | | |
| Peer Reviewer Name | / | e-mail | / | |
| Review Committee Approval | DD/MM/YY | Version Number | 2.0 | |

| Relation With Other Modules | |
|--|---|
| Pre-requisites | / |
| Co-requisites | / |
| Module Aims, Learning Outcomes and Indicative Contents | |
| Module Aims | Enhancing English speaking, reading and writing Memorize a big number of vocabularies Helping students to deal with the English language in easier ways |
| Module Learning Outcomes | A1. Reading A2. writing A3. Speaking. A4. Listening B. Subject-specific skills |

| | |
|---|---|
| | B1. Learn scanning and skimming skills in reading B2. Right pronunciation B3. Vocabularies |
| Indicative Contents | |
| Learning and Teaching Strategies | |
| Strategies | The main strategy that will be adopted in delivering this module are: 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning. |

| | |
|------------------------------------|------|
| Module Delivery | |
| Structured workload (h/w) | 2.34 |
| Unstructured workload (h/w) | 4.34 |
| Total workload (h/w) | 6.68 |

| | | | | |
|--------------------------|--------------------|-----------------------|-----------------|----------------------------------|
| Module Evaluation | | | | |
| | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
| Quizzes | 2 | 6% (6) | 5 and 10 | |
| Assignments | 2 | 6% (6) | 2 and 12 | |
| Projects / Lab. | 1 | 5% (5) | Continuous | |
| Report | 1 | 5% (5) | 13 | |
| Midterm Exam | 2 hr | 18% (18) | 7 | |
| Final Exam | 3 hr | 60% (60) | 16 | |
| Total | | 100% (100 Marks) | | |

| | | |
|--|-------------|-------------------------|
| Learning and Teaching Resources | | |
| | Text | Available in the |

| | | |
|--------------------------|--|-----------------|
| | | Library? |
| Required Texts | | Yes/No |
| Recommended Texts | | Yes/No |
| Websites | | |

| Delivery Plan (Weekly Syllabus) | |
|--|--|
| | Material Covered |
| Week 1 | Unit 1: Hello |
| Week 2 | Unit 2: Your world |
| Week 3 | Unit 3: All about you |
| Week 4 | Unit 4: Family and friends |
| Week 5 | Unit 5: The way I live |
| Week 6 | Unit 6: Every Day |
| Week 7 | Mid-Term Exam |
| Week 8 | Unit 7: My favourites |
| Week 9 | Unit 8: Where I live |
| Week 10 | Unit 9: Times past |
| Week 11 | Unit 10: we had a great time! |
| Week 12 | English for Computer Science |
| Week 13 | Listening |
| Week 14 | Revision of most important topics in the subject |
| Week 15 | Preparatory Week |

APPENDIX:

| UNIVERSITY of Anbar | | | | |
|-------------------------------------|-------------------------|---------------------|---------------------------------------|----------|
| GRADING SCHEME | | | | |
| Group | ECTS Grade | % of Students/Marks | Definition | GPA |
| Success Group (50 - 100) | A - Excellent | Best 10% | Outstanding Performance | 5 |
| | B - Very Good | Next 25% | Above average with some errors | 4 |
| | C - Good | Next 30% | Sound work with notable errors | 3 |
| | D - Satisfactory | Next 25% | Fair but with major shortcomings | 2 |
| | E - Sufficient | Next 10% | Work meets minimum criteria | 1 |
| Fail Group (0 – 49) | FX – Fail | (45-49) | More work required but credit awarded | |
| | F – Fail | (0-44) | Considerable amount of work required | |
| | | | | |

Note:

NB 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 | الحريات وحقوق الانسان | | Module Delivery |
| Module Type | S | | <input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar |
| Module Code | UOA005 | | |
| ECTS Credits | 2 | | |
| SWL (hr/sem) | 50 | | |
| Module Level | 1 | Semester of Delivery | |
| Administering Department | IS | College | Type College Code |
| Module Leader | Name | e-mail | E-mail |
| Module Leader's Acad. Title | | 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 | 01/06/2023 | 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 | <p>أ. تعليم الطلبة على أساسيات حقوق الإنسان وقوانينها.</p> <p>ب. التعرف على الحقوق وأهم الإشكاليات والتحديات التي تواجهها</p> <p>ج- تحديد وفهم المفاهيم المتعلقة بالحريات، بما في ذلك الحقوق الفردية والحريات الشخصية.</p> <p>د. تنمية القدرة على التفكير النقدي حول القضايا المتعلقة بالحريات والحقوق الفردية.</p> |
| Module Learning Outcomes مخرجات التعلم للمادة الدراسية | <p>1- أن يعرف الطالب مفهوم الحقوق وقوانينها وتطبيقاتها .</p> <p>2- أن يعرف الطالب كيفية المشاركة في نشر الحقوق وتطبيقها بالعمل الواقعي الحقيقي.</p> <p>3- القدرة على استخدام الحقوق وسيلة من أجل التعايش السلمي بين مكونات المجتمع وجميع المخلوقات .</p> <p>4- القدرة على مشاركة الآخرين في نشر هذه الحقوق .</p> <p>5- القدرة على تحليل وتعريف مفهوم الحرية والتمييز بين أنواع مختلفة من الحريات.</p> <p>6- التفاعل مع قضايا الحريات على الصعيدين الوطني والدولي والتأثير في تشكيل الرأي العام.</p> |
| Indicative Contents المحتويات الإرشادية | <p>الحقوق والحريات الأساسية وغير الأساسية</p> <p>الحقوق والحريات المدنية</p> <p>الحقوق السياسية</p> <p>حقوق الانسان والقانون الدولي الإنساني</p> |

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

| | |
|-------------------|--|
| Strategies | <p>1- المشاركة بالتحضير في قاعة الدرس</p> <p>2- طريقة الأسئلة والأجوبة في قاعة الدرس</p> <p>3- الواجبات</p> <p>4- التقارير</p> |
|-------------------|--|

Student Workload (SWL)

الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا

| | | | |
|--|----|---|---|
| Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل | 33 | Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا | 2 |
| Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل | 17 | Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا | 1 |
| Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل | 50 | | |

| Module Evaluation | | | | | |
|-----------------------|-----------------|-------------|------------------|------------|---------------------------|
| تقييم المادة الدراسية | | | | | |
| | | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
| Formative assessment | Quizzes | 2 | 10% (10) | 5 and 10 | LO #1, #2 and #10, #11 |
| | Assignments | 2 | 10% (10) | 2 and 12 | LO #3, #4 and #6, #7 |
| | Projects / Lab. | 1 | | 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 | 60% (60) | 16 | All |
| Total assessment | | | 100% (100 Marks) | | |

| Delivery Plan (Weekly Syllabus) | |
|---------------------------------|--|
| المنهاج الاسبوعي النظري | |
| | Material Covered |
| Week 1 | تعريف الحقوق |
| Week 2 | أنواع حقوق الانسان |
| Week 3 | الحقوق الأساسية وغير الأساسية |
| Week 4 | - الحقوق المدنية , الحقوق السياسية |
| Week 5 | الحقوق الاقتصادية والاجتماعية والثقافية الحقوق الفردية والحقوق الجماعية |
| Week 6 | طائفة الحقوق الجديدة حقوق الانسان والقانون الدولي الإنساني العلاقة بين حقوق الانسان والقانون الدولي الإنساني |
| Week 7 | امتحان |
| Week 8 | ماهو مفهوم الحريات :مصطلح الحرية والحريات العامة |
| Week 9 | التطور في مفهوم الحريات العامة |
| Week 10 | أشكال الحريات العامة وأنواعه |
| Week 11 | النظام القانوني للحريات العامة |
| Week 12 | تنظيم الحريات العامة من قبل السلطات العامة |

| | |
|---------|---------------------------------|
| Week 13 | ضمانات الحريات العامة |
| Week 14 | الحريات في الفكر السياسي الحديث |
| Week 15 | الامتحان النهائي |

| Learning and Teaching Resources | | |
|---------------------------------|--|---------------------------|
| مصادر التعلم والتدريس | | |
| | Text | Available in the Library? |
| Required Texts | Diamond L. & M. F. Plattner, eds., (2009), Democracy. A Reader, Baltimore, Johns Hopkins University Press. | yes |
| Recommended Texts | مفهوم الحريات العامة وحقوق الانسان ، إطارها التاريخي والفكري والفلسفي، وضماناتها الأساسية- 2010 | |
| Websites | http://ghrorg-learning.blogspot.com | |

| 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.

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| | Ministry of Higher Education and Scientific Research. University of Anbar. Department of Information System. | |
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MODULE DESCRIPTOR FORM

| Module Information | | | | |
|------------------------------------|-------------------------------------|--------------------------------------|-------------------------------|--------|
| Module Title | Structured programming II | | Module Type | TYPE B |
| Module Code | CSIT108 | ECTS Credits | 8 | |
| Module Level | UGI | Semester of Delivery | Two | |
| Administering Department | IS | Faculty | CSIT | |
| Module Leader | Akeel Abdulraheem Thulnoon Zoead | e-mail | akeelalhadithy@uoanbar.edu.iq | |
| Module Leader's Acad. Title | Lecturer | Module Leader's Qualification | PhD | |
| Module Tutor | | e-mail | | |
| Peer Reviewer Name | / | e-mail | / | |
| Review Committee Approval | DD/MM/YY | Version Number | 2.0 | |

| Relation With Other Modules | |
|--|---|
| Pre-requisites | CSIT107 |
| Co-requisites | |
| Module Aims, Learning Outcomes and Indicative Contents | |
| Module Aims | Learn how to use the Advanced Tools helps programmers write fast, portable programs The main principles of programming and the development of programming languages Learn the principles of Structure programming |

| | |
|---|---|
| Module Learning Outcomes | A- Knowledge and Understanding A1. Learn the algorithms A2. Learn the Flowchart A3. Learn C++ Programming |
| Indicative Contents | |
| Learning and Teaching Strategies | |
| Strategies | The main strategy that will be adopted in delivering this module are: 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning. |

| | |
|------------------------------------|-------|
| Module Delivery | |
| Structured workload (h/w) | 5.34 |
| Unstructured workload (h/w) | 8 |
| Total workload (h/w) | 13.34 |

| | | | | |
|--------------------------|--------------------|-----------------------|-----------------|----------------------------------|
| Module Evaluation | | | | |
| | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
| Quizzes | 3 | 6% (6) | 3,7 and 11 | |
| Assignments | 2 | 6% (6) | 2 and 12 | |
| Projects / Lab. | 1 | 15% (15) | Continuous | |
| Report | 1 | 5% (5) | 13 | |
| Midterm Exam | 2 hr | 18% (18) | 7 | |
| Final Exam | 3 hr | 50% (50) | 16 | |
| Total | | 100% (100 Marks) | | |

| |
|--|
| Learning and Teaching Resources |
|--|

| | Text | Available in the Library? |
|-------------------|------|---------------------------|
| Required Texts | | Yes/No |
| Recommended Texts | | Yes/No |
| Websites | | |

| Delivery Plan (Weekly Syllabus) | |
|--|---|
| | Material Covered |
| Week 1 | Passing Parameters. Passing by Value. Passing by Reference. |
| Week 2 | Pointers |
| Week 3 | Arrays. Array of One Dimension: Declaration of Arrays. |
| Week 4 | Elements |
| Week 5 | Initializing Array |
| Week 6 | Accessing Array Elements. |
| Week 7 | Mid-Term Exam |
| Week 8 | Read / Write / Process Array Elements. |
| Week 9 | Array of Two Dimension: Declaration of 2D-Arrays. |
| Week 10 | Read / Write / Process Array Elements. |
| Week 11 | Member Function of String stdlib Library. |
| Week 12 | Structures. The Three Ways for Declare the Structure. |
| Week 13 | Array of Structures. |
| Week 14 | The Files |

| | |
|----------------|-------------------------|
| Week 15 | Preparatory Week |
| Week 16 | Final Exam |

APPENDIX:

| UNIVERSITY of Anbar | | | | |
|-------------------------------------|-------------------------|----------------------------|---------------------------------------|------------|
| GRADING SCHEME | | | | |
| Group | ECTS Grade | % of Students/Marks | Definition | GPA |
| Success Group (50 - 100) | A - Excellent | Best 10% | Outstanding Performance | 5 |
| | B - Very Good | Next 25% | Above average with some errors | 4 |
| | C - Good | Next 30% | Sound work with notable errors | 3 |
| | D - Satisfactory | Next 25% | Fair but with major shortcomings | 2 |
| | E - Sufficient | Next 10% | Work meets minimum criteria | 1 |
| Fail Group (0 - 49) | FX – Fail | (45-49) | More work required but credit awarded | |
| | F – Fail | (0-44) | Considerable amount of work required | |
| | | | | |

Note:

NB 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.

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| | Ministry of Higher Education and Scientific Research. University of Anbar. Department of Information System. | |
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MODULE DESCRIPTOR FORM

| Module Information | | | |
|------------------------------------|------------------------------------|--------------------------------------|------------------------------|
| Module Title | DISCRETE STRUCTURE | Module Type | TYPE B |
| Module Code | CSIT112 | ECTS Credits | 6 |
| Module Level | UGI | Semester of Delivery | First |
| Administering Department | IS | Faculty | CSIT |
| Module Leader | Mohanad Abdulsalam younis gedan | e-mail | mohanad.abdul@uoanbar.edu.iq |
| Module Leader's Acad. Title | Lecturer | Module Leader's Qualification | Ph. D |
| Module Tutor | | e-mail | |
| Peer Reviewer Name | / | e-mail | / |
| Review Committee Approval | DD/MM/YY | Version Number | 2.0 |

| Relation With Other Modules | |
|--|--|
| Pre-requisites | / |
| Co-requisites | / |
| Module Aims, Learning Outcomes and Indicative Contents | |
| Module Aims | 1-To convey the basic concepts of data structures 2-To understand basic concepts about stacking, queues, lists, trees, and graphs 3-It helps the student to know how to deal with data and how to choose the appropriate graphic structure for it 4-Data structure helps the student to understand the nature of the problem at a deeper level and thus better understanding the world for solving programming problems |

| | |
|---|---|
| Module Learning Outcomes | <p>A- Knowledge and Understanding</p> <p>A1- Know the concept of data structures and how to apply them</p> <p>A2- Understand how to use data structures to know the data to be organized in program memory</p> <p>A3- Understand and know the use of data structures in different real applications</p> <p>A4- Understand and know the methods of different data structures</p> <p>B. Subject-specific skills</p> <p>1. Providing the student with the skill of applying various data</p> <p>2- Providing the student with the skill of structuring programs</p> <p>3- Providing the student with the skill of planning any problem and solving it programmatically</p> <p>4- Providing the student with the skill of dealing with any type of data</p> |
| Indicative Contents | |
| Learning and Teaching Strategies | |
| Strategies | <p>The main strategy that will be adopted in delivering this module are:</p> <ol style="list-style-type: none"> 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning. |

| | |
|------------------------------------|-----|
| Module Delivery | |
| Structured workload (h/w) | 3.4 |
| Unstructured workload (h/w) | 6.6 |
| Total workload (h/w) | 10 |

| | | | | |
|--------------------------|--------------------|-----------------------|-----------------|----------------------------------|
| Module Evaluation | | | | |
| | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
| Quizzes | 2 | 6% (6) | 5 and 10 | |
| Assignments | 2 | 6% (6) | 2 and 12 | |
| Projects / Lab. | 1 | 5% (5) | Continuous | |
| Report | 1 | 5% (5) | 13 | |
| Midterm Exam | 2 hr | 18% (18) | 7 | |
| Final Exam | 3 hr | 60% (60) | 16 | |
| Total | | 100% (100 Marks) | | |

| |
|--|
| Learning and Teaching Resources |
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| | Text | Available in the Library? |
|--------------------------|------|---------------------------|
| Required Texts | | Yes/No |
| Recommended Texts | | Yes/No |
| Websites | | |

Delivery Plan (Weekly Syllabus)

| | Material Covered |
|----------------|-----------------------------------|
| Week 1 | Introduction |
| Week 2 | General concept |
| Week 3 | Array Data structure |
| Week 4 | Stack data structure |
| Week 5 | Expression Parsing |
| Week 6 | Solving homework |
| Week 7 | Mid-Term Exam |
| Week 8 | Queue data structure |
| Week 9 | circular Queue data structure |
| Week 10 | Pointer & Structure |
| Week 11 | linked list data structure |
| Week 12 | linked list operations |
| Week 13 | Doubly linked list data structure |
| Week 14 | Doubly linked list operations |

| | |
|----------------|-------------------------|
| Week 15 | Preparatory Week |
| Week 16 | Final Exam |

APPENDIX:

| UNIVERSITY of Anbar | | | | |
|-------------------------------------|-------------------------|----------------------------|---------------------------------------|------------|
| GRADING SCHEME | | | | |
| Group | ECTS Grade | % of Students/Marks | Definition | GPA |
| Success Group (50 - 100) | A - Excellent | Best 10% | Outstanding Performance | 5 |
| | B - Very Good | Next 25% | Above average with some errors | 4 |
| | C - Good | Next 30% | Sound work with notable errors | 3 |
| | D - Satisfactory | Next 25% | Fair but with major shortcomings | 2 |
| | E - Sufficient | Next 10% | Work meets minimum criteria | 1 |
| Fail Group (0 - 49) | FX – Fail | (45-49) | More work required but credit awarded | |
| | F – Fail | (0-44) | Considerable amount of work required | |
| | | | | |

Note:

NB 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.

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| | Ministry of Higher Education and Scientific Research. University of Anbar. Department of Information System. | |
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MODULE DESCRIPTOR FORM

| Module Information | | | |
|------------------------------------|--------------------------------------|--------------------------------------|------------------------------------|
| Module Title | Logic Design II | Module Type | TYPE B |
| Module Code | CSIT111 | ECTS Credits | 6 |
| Module Level | UGI | Semester of Delivery | Two |
| Administering Department | IS | Faculty | CSIT |
| Module Leader | Muntaser AbdulWahed Salman Abdulaziz | e-mail | co.montasser.salman@uoanbar.edu.iq |
| Module Leader's Acad. Title | Lecturer | Module Leader's Qualification | PhD. |
| Module Tutor | | e-mail | |
| Peer Reviewer Name | / | e-mail | / |
| Review Committee Approval | DD/MM/YY | Version Number | 2.0 |

| Relation With Other Modules | |
|--|---|
| Pre-requisites | CSIT109 |
| Co-requisites | |
| Module Aims, Learning Outcomes and Indicative Contents | |
| Module Aims | <ul style="list-style-type: none"> The student should understand encoder, decoder and multiplexers The student should understand synchronous logic circuit The student should understand flip-flops and how to use them The student should understand registers and their types The student should understand counters and their types The student should understand ROM and PLA implementation |
| Module Learning Outcomes | A1. The student should understand encoder, decoder and multiplexers A2. The student should understand flip-flops and how to use them. |

| | |
|---|---|
| | A3. The student should understand registers and their types. A4. The student should understand counters and their types. A5. The student should understand ROM and PLA implementation. |
| Indicative Contents | |
| Learning and Teaching Strategies | |
| Strategies | The main strategy that will be adopted in delivering this module are: 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning. |

| | |
|------------------------------------|-----|
| Module Delivery | |
| Structured workload (h/w) | 4.4 |
| Unstructured workload (h/w) | 5.6 |
| Total workload (h/w) | 10 |

| | | | | |
|--------------------------|--------------------|-----------------------|-----------------|----------------------------------|
| Module Evaluation | | | | |
| | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
| Quizzes | 3 | 6% (6) | 3,7 and 11 | |
| Assignments | 2 | 6% (6) | 2 and 12 | |
| Projects / Lab. | 1 | 15% (15) | Continuous | |
| Report | 1 | 5% (5) | 13 | |
| Midterm Exam | 2 hr | 18% (18) | 7 | |
| Final Exam | 3 hr | 50% (50) | 16 | |
| Total | | 100% (100 Marks) | | |

| |
|--|
| Learning and Teaching Resources |
|--|

| | Text | Available in the Library? |
|-------------------|------|---------------------------|
| Required Texts | | Yes/No |
| Recommended Texts | | Yes/No |
| Websites | | |

| Delivery Plan (Weekly Syllabus) | |
|---------------------------------|--------------------------------|
| | Material Covered |
| Week 1 | Synchronous logic gates |
| Week 2 | Adder and subtractor circuits |
| Week 3 | Comparator circuits |
| Week 4 | Encoders and multiplexers |
| Week 5 | Multiplexers |
| Week 6 | First month exam |
| Week 7 | Mid-Term Exam |
| Week 8 | Flip-flops |
| Week 9 | SR flip flop and j k flip flop |
| Week 10 | T flip flop and D flip flop |
| Week 11 | Second month exam |
| Week 12 | Registers design |
| Week 13 | Counters design |
| Week 14 | ROM PLA State plan |

| | |
|----------------|-------------------------|
| Week 15 | Preparatory Week |
| Week 16 | Final Exam |

APPENDIX:

| UNIVERSITY of Anbar | | | | |
|-------------------------------------|-------------------------|----------------------------|---------------------------------------|------------|
| GRADING SCHEME | | | | |
| Group | ECTS Grade | % of Students/Marks | Definition | GPA |
| Success Group (50 - 100) | A - Excellent | Best 10% | Outstanding Performance | 5 |
| | B - Very Good | Next 25% | Above average with some errors | 4 |
| | C - Good | Next 30% | Sound work with notable errors | 3 |
| | D - Satisfactory | Next 25% | Fair but with major shortcomings | 2 |
| | E - Sufficient | Next 10% | Work meets minimum criteria | 1 |
| Fail Group (0 - 49) | FX – Fail | (45-49) | More work required but credit awarded | |
| | F – Fail | (0-44) | Considerable amount of work required | |
| | | | | |

Note:

NB 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.

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| | Ministry of Higher Education and Scientific Research. University of Anbar. Department of Information System. | |
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MODULE DESCRIPTOR FORM

| Module Information | | | |
|------------------------------------|---------------------------|--------------------------------------|------------------------------------|
| Module Title | Mathematic II | Module Type | TYPE C |
| Module Code | ISDC116 | ECTS Credits | 6 |
| Module Level | UGI | Semester of Delivery | One |
| Administering Department | IS | Faculty | CSIT |
| Module Leader | Mohammed Rabeea Al-Dahhan | e-mail | mohammed.rabeea@uoanbar.edu.i q |
| Module Leader's Acad. Title | Lecturer | Module Leader's Qualification | PhD. |
| Module Tutor | | e-mail | |
| Peer Reviewer Name | / | e-mail | / |
| Review Committee Approval | DD/MM/YY | Version Number | 2.0 |

| Relation With Other Modules | |
|--|--|
| Pre-requisites | ISDC115 |
| Co-requisites | / |
| Module Aims, Learning Outcomes and Indicative Contents | |
| Module Aims | <p>In a computer science department, the specific aims of a Mathematics II module can vary depending on the curriculum and the intended learning outcomes. However, here are some common aims of a Mathematics II module in a computer science department:</p> <p>Advanced Algebra and Calculus: The module aims to provide a deeper understanding of advanced algebraic concepts such as matrices, vectors, and complex numbers. It also covers calculus topics including limits, derivatives, and integrals.</p> |

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| | <p>Discrete Mathematics: Discrete mathematics is essential in computer science as it provides the foundation for many algorithms, data structures, and problem-solving techniques. The module aims to introduce topics like logic, set theory, combinatorics, graph theory, and formal languages.</p> <p>Probability and Statistics: Probability theory and statistics play a crucial role in various aspects of computer science, such as machine learning, data analysis, and algorithm design. The module aims to cover probability concepts, random variables, statistical distributions, hypothesis testing, and basic statistical analysis.</p> |
| <p>Module Learning Outcomes</p> | <p>Understanding Advanced Algebra and Calculus: Students should demonstrate a solid understanding of advanced algebraic concepts, such as matrices, vectors, and complex numbers. They should be able to apply calculus techniques, such as limits, derivatives, and integrals, in the context of computer science problems.</p> <p>Applying Discrete Mathematics: Students should be able to apply discrete mathematics concepts and techniques to solve problems in computer science. This includes understanding and using logic, set theory, combinatorics, graph theory, and formal languages in algorithm design and analysis.</p> <p>Analyzing Probability and Statistics: Students should be able to analyze and interpret probabilistic and statistical data relevant to computer science problems. They should understand concepts such as probability distributions, random variables, hypothesis testing, and basic statistical analysis.</p> <p>Using Numerical Methods: Students should be proficient in using numerical methods to solve computational problems encountered in computer science. This includes employing numerical approximation techniques, solving equations numerically, and performing numerical integration.</p> |
| <p>Indicative Contents</p> | |
| <p>Learning and Teaching Strategies</p> | |
| <p>Strategies</p> | <p>The main strategy that will be adopted in delivering this module are:</p> <ol style="list-style-type: none"> 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning. |

| Module Delivery | |
|-----------------------------|-----|
| Structured workload (h/w) | 3.3 |
| Unstructured workload (h/w) | 6.7 |
| Total workload (h/w) | 10 |

| Module Evaluation | | | | |
|-------------------|-------------|------------------|------------|---------------------------|
| | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
| Quizzes | 2 | 6% (6) | 5 and 10 | |
| Assignments | 2 | 6% (6) | 2 and 12 | |
| Projects / Lab. | 1 | 5% (5) | Continuous | |
| Report | 1 | 5% (5) | 13 | |
| Midterm Exam | 2 hr | 18% (18) | 7 | |
| Final Exam | 3 hr | 60% (60) | 16 | |
| Total | | 100% (100 Marks) | | |

| Learning and Teaching Resources | | |
|---------------------------------|------|---------------------------|
| | Text | Available in the Library? |
| Required Texts | | Yes/No |
| Recommended Texts | | Yes/No |
| Websites | | |

| Delivery Plan (Weekly Syllabus) | |
|---------------------------------|--|
| | Material Covered |
| Week 1 | Topic: Integral Calculus - Techniques of Integration Integration by substitution Integration by parts Trigonometric substitutions |

| | |
|----------------|---|
| Week 2 | Topic: Integral Calculus - Techniques of Integration Integration by substitution Integration by parts Trigonometric substitutions |
| Week 3 | Topic: Integral Calculus - Techniques of Integration Integration by substitution Integration by parts Trigonometric substitutions |
| Week 4 | Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions |
| Week 5 | Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions |
| Week 6 | Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions |
| Week 7 | Mid-Term Exam |
| Week 8 | Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions |
| Week 9 | Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions |
| Week 10 | Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions |

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|----------------|---|
| Week 11 | Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions |
| Week 12 | Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions |
| Week 13 | Topic: Integral Calculus - Advanced Integration Techniques Partial fraction decomposition Integration using trigonometric identities Integration of rational functions |
| Week 14 | Topic: Review and Practice Comprehensive review of topics covered Problem-solving exercises and practice problems Preparation for the final assessment |
| Week 15 | Preparatory Week |
| Week 16 | Final Exam |

APPENDIX:

| UNIVERSITY of Anbar | | | | |
|-------------------------------------|-------------------------|---------------------|---------------------------------------|----------|
| GRADING SCHEME | | | | |
| Group | ECTS Grade | % of Students/Marks | Definition | GPA |
| Success Group (50 - 100) | A - Excellent | Best 10% | Outstanding Performance | 5 |
| | B - Very Good | Next 25% | Above average with some errors | 4 |
| | C - Good | Next 30% | Sound work with notable errors | 3 |
| | D - Satisfactory | Next 25% | Fair but with major shortcomings | 2 |
| | E - Sufficient | Next 10% | Work meets minimum criteria | 1 |
| Fail Group (0 - 49) | FX – Fail | (45-49) | More work required but credit awarded | |
| | F – Fail | (0-44) | Considerable amount of work required | |
| | | | | |
| Note: | | | | |

NB 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.

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| | Ministry of Higher Education and Scientific Research. University of Anbar. Department of Information System. | |
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MODULE DESCRIPTOR FORM

| Module Information | | | |
|------------------------------------|----------------------------|--------------------------------------|----------------------------|
| Module Title | Arabic Language | Module Type | TYPE B |
| Module Code | UOA137 | ECTS Credits | 4 |
| Module Level | UGI | Semester of Delivery | Two |
| Administering Department | IS | Faculty | CSIT |
| Module Leader | Saad Ibrahim Ahmed Hussein | e-mail | Saad.ibrahim@uonbar.edu.iq |
| Module Leader's Acad. Title | Assistant Professor | Module Leader's Qualification | Ph. D |
| Module Tutor | | e-mail | |
| Peer Reviewer Name | / | e-mail | / |
| Review Committee Approval | DD/MM/YY | Version Number | 2.0 |

| Relation With Other Modules | |
|--|---|
| Pre-requisites | / |
| Co-requisites | |
| Module Aims, Learning Outcomes and Indicative Contents | |
| Module Aims | تعليم الطلبة على أساسيات اللغة العربية وقواعدها تعليم الطلبة على كيفية الأعراب |
| Module Learning Outcomes | أن يتعرف الطالب على قواعد اللغة العربية أن يعرف الطالب كيفية بناء الجمل واستخراجها للعنوان المطلوب |
| Indicative Contents | |

| Learning and Teaching Strategies | |
|---|---|
| Strategies | <p>The main strategy that will be adopted in delivering this module are:</p> <ol style="list-style-type: none"> 1. Power point presentation (Data show). 2. Explanation on the white board using different color markers. 3. Discussions with the student during teaching. 4. Interaction with students through daily problems practice through lecture. 5. Solve different problems with more exercises. 6. Submit assignment that develop student learning. |

| Module Delivery | |
|------------------------------------|-----|
| Structured workload (h/w) | 2.3 |
| Unstructured workload (h/w) | 4.3 |
| Total workload (h/w) | 6.6 |

| Module Evaluation | | | | |
|--------------------------|--------------------|-----------------------|-----------------|----------------------------------|
| | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
| Quizzes | 2 | 6% (6) | 5 and 10 | |
| Assignments | 2 | 6% (6) | 2 and 12 | |
| Projects / Lab. | 1 | 5% (5) | Continuous | |
| Report | 1 | 5% (5) | 13 | |
| Midterm Exam | 2 hr | 18% (18) | 7 | |
| Final Exam | 3 hr | 60% (60) | 16 | |
| Total | | 100% (100 Marks) | | |

| Learning and Teaching Resources | | |
|--|-------------|----------------------------------|
| | Text | Available in the Library? |
| Required Texts | | Yes/No |
| Recommended Texts | | Yes/No |
| Websites | | |

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Delivery Plan (Weekly Syllabus)

| | Material Covered |
|---------|--|
| Week 1 | العدد تنكيره وتأنيثه |
| Week 2 | الأعداد المفردة والمركبة |
| Week 3 | ألفاظ العقود و الأعداد (مئة ، ألف ، مليون) |
| Week 4 | تعريف العدد وتنكيره |
| Week 5 | ما يصاغ من العدد على وزن فاعل |
| Week 6 | كتابة الهمزة المتوسطة والمتطرفة |
| Week 7 | Mid-Term Exam |
| Week 8 | كتابة الألف اللينة |
| Week 9 | كتابة التاء المربوطة والمبسوطة |
| Week 10 | كتابة الضاد والظاء |
| Week 11 | اللامات وأنواعها |
| Week 12 | الهاءات وأنواعها |
| Week 13 | النونات وأنواعها |
| Week 14 | استعمالات (ما ، من) والفرق بين (أما ، إما) |
| Week 15 | Preparatory Week |
| Week 16 | Final Exam |

APPENDIX:

| |
|---------------------|
| UNIVERSITY of Anbar |
| GRADING SCHEME |

| Group | ECTS Grade | % of Students/Marks | Definition | GPA |
|-------------------------------------|-------------------------|----------------------------|---------------------------------------|------------|
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| | B - Very Good | Next 25% | Above average with some errors | 4 |
| | C - Good | Next 30% | Sound work with notable errors | 3 |
| | D - Satisfactory | Next 25% | Fair but with major shortcomings | 2 |
| | E - Sufficient | Next 10% | Work meets minimum criteria | 1 |
| Fail Group (0 - 49) | FX – Fail | (45-49) | More work required but credit awarded | |
| | F – Fail | (0-44) | Considerable amount of work required | |
| | | | | |

Note:

NB 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.



University of Anbar Diploma Supplement

Anbar, Ramadi, Iraq

Phone No.:

e-mail: Contact@uoanbar.edu.iq

URL: <https://www.uoanbar.edu.iq/>



This Diploma Supplement follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international 'transparency' and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgements, equivalence statements or suggestions about recognition. Information in all sections should be provided. Where information is not provided, an explanation should give the reason why.

1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

- 1.1 First Name:
- 1.2 Second Name:
- 1.3 Third Name:
- 1.4 Date of Birth:
- 1.5 Place of Birth:
- 1.6 Student Identification Number:
- 1.7 National ID number:

2. INFORMATION IDENTIFYING THE QUALIFICATION

- 2.1 Name of the Qualification:
- 2.2 Main Field of the Study of the Qualification:
- 2.3 Name and Status of the Awarding Institution:
- 2.4 Language of Instruction/ Examination:

3. INFORMATION ON THE LEVEL OF QUALIFICATION

- 3.1 Level of Qualification
First Cycle (Bachelor's Degree)
- 3.2 Official Length of the Programme
4 years – 8 Semesters
- 3.3 Access Requirements
High School Diploma – Placement through the National Central Admission Requirements

4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Study System:

Bologna process

4.2 Mode of Study

First Cycle (Bachelor's Degree)

4.3 Program Requirements

A Student is required to have a minimum CGPA of 50% and no falling grades

4.4 Minimum Credits for Semester, Year and Graduation (ECTS)

30 ECTS/Semester | 60 ECTS/Year | 240 ECTS/Programme | 1 ECTS = 25 hrs

4.5 Student Learning Outcomes

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

4.6 Programme Details and the Individual Grade/Marks Obtained

| Module Code | Module Name | Type | Mark Grade | ECTS | |
|-----------------------------------|--|---------|------------|------------|----|
| Semester 1 | | | | | |
| CSDC110 | Computer Technology | Core | | 6 | |
| CSDC111 | Programming in C++ I | Core | | 8 | |
| CSDC112 | Logic Design I | Core | | 6 | |
| CCIT060 | Mathematics | Basic | | 6 | |
| UOA003 | English Language I | Support | | 2 | |
| UOA005 | Democracy and Human Rights | Support | | 2 | |
| Grade Point Average (GPA) = (-) | | | | Total ECTS | 30 |
| Semester 2 | | | | | |
| CSDC120 | Microprocessors | Core | | 6 | |
| CCIT061 | Discrete Structures | Basic | | 6 | |
| CSDC121 | Programming in C++ II | Core | | 8 | |
| CSDC122 | Logic Design II | Core | | 6 | |
| UOA001 | Arabic Language I | Support | | 2 | |
| CSDC123 | Communication Skills | Core | | 2 | |
| Grade point Average (GPA) = (-) | | | | Total ECTS | 30 |
| Semester 3 | | | | | |
| CSDC210 | Database | Core | | 7 | |
| CSDC211 | Object Oriented Programming | Core | | 8 | |
| CSDC212 | Data Structures | Core | | 7 | |
| CSDC213 | Advanced Mathematics | Core | | 4 | |
| UOA006 | The crimes of the defunct Ba'ath party | Support | | 2 | |
| UOA002 | Arabic Language II | Support | | 2 | |
| Grade Point Average (GPA) = (-) | | | | Total ECTS | 30 |
| Semester 4 | | | | | |
| CSDC220 | Computational Theory | Core | | 5 | |
| CSDC221 | python | Core | | 7 | |
| CSDC222 | Algorithms | Core | | 6 | |
| CCIT062 | Numerical Analysis | Basic | | 4 | |
| CCIT063 | Computer Networks | Support | | 6 | |
| UOA004 | English Language 2 | Support | | 2 | |
| GPA = (-) | | | | Total ECTS | 30 |
| Semester 5 | | | | | |
| CSDC310 | Visual Programming | Core | | 6 | |
| CSDC311 | Computer Graphics | Core | | 6 | |
| CSDC312 | Computer Architecture | Core | | 6 | |
| CSDC321 | Wireless Networks | Core | | 6 | |
| CSDC323 | Mobile Applications Programming | Core | | 6 | |
| Grade Point average (GPA) = (-) | | | | Total ECTS | 30 |

Semester 6

| | | | |
|---------|----------------------|----------|---|
| CSDC320 | Multimedia | Core | 7 |
| CSDE223 | Internet of Things | Elective | 6 |
| CSDC322 | Compilers | Core | 7 |
| CSDC313 | Software Engineering | Core | 6 |
| UOA019 | Research methodology | Basic | 4 |

Grade Point Average (GPA) = (-) Total ECTS 30

Semester 7

| | | | |
|---------|--------------------------|----------|---|
| CSDC410 | Operating Systems I | Core | 6 |
| CSDC411 | Computer Security 1 | Core | 6 |
| CSDC412 | Artificial Intelligence | Core | 6 |
| CSDC413 | Digital Image Processing | Core | 6 |
| CSDE414 | Game Programming | Elective | 6 |

Grade Point Average (GPA) = (-) Total ECTS 30

Semester 8

| | | | | | |
|---------|----------------------|-------|----|---|---|
| CSDC420 | Operating Systems II | Core | 95 | A | 5 |
| CSDC421 | Computer Security II | Core | 87 | B | 5 |
| CSDC422 | Machine Learning | Core | 76 | C | 6 |
| CSDC423 | Web Development | Core | 65 | D | 6 |
| UOA020 | Project | Basic | 65 | D | 8 |

Grade Point Average (GPA) = (-) Total ECTS 30

Cumulative Grade Point Average (CGPA) = Programme total ECTS 240

4.7 Grading Scheme and Grade Distribution Guidance

| Group | Grade | Marks | Definitions |
|-----------------------------|------------------|----------|--------------------------------------|
| Success Group (50 - 100) | A - Excellent | 90 - 100 | Outstanding Performance |
| | B - Very Good | 80 - 89 | Above average with some errors |
| | C - Good | 70 - 79 | Sound work with notable errors |
| | D - Satisfactory | 60 - 69 | Fair but with major shortcomings |
| | E - Sufficient | 50 - 59 | Work meets minimum criteria |
| Fail Group (0 - 49) | F - Fail | 00 - 49 | Considerable amount of work required |

Marks with 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.

4.8 Overall Classification of the Qualification
Cumulative Grade Point Average (CGPA) =
Final Grade of Degree relative RANK: 4 of 23

5. INFORMATION ON THE FUNCTION OF THE QUALIFICATION

5.1 Access to Further Study
May apply to second cycle programs

5.2 Professional Status Conferred
The degree enables the graduate to exercise the profession

6. ADDITIONAL INFORMATION

6.1 Additional Information
**University of Anbar, College of Computer Science and Information Technology,
Department of Computer Science**

6.2 Further Information Sources
University Website <https://uoanbar.edu.iq/>
Registration Office e-mail xxxxx@uoanbar.edu.iq

7. CERTIFICATION OF THE SUPPLEMENT

7.1 Date **01.10. 2027**

7.2 Name **Full Name**

7.3 Capacity **University General Registrar**

7.4 Signature

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7.5 Official Stamp and Seal

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Structure and Degree System

The basic structure of the Iraqi National Education System consists of stages of noncompulsory pre-school education; Compulsory primary (elementary and middle school) and secondary (high school) education; and higher education. Primary education begins at the age of 6 years (72 months), lasts nine years and comprises six years of elementary and three years of middle school education. Secondary education is three years and divided into two categories as “General High School Education” and “Vocational and Technical High School Education”. The entry into these categories is through composite scores obtained from centralized exam of secondary schools.

Higher Education System is managed by the Ministry of Higher Education and Scientific Research which is responsible for the planning, coordination, governance and supervision of higher education within the provisions set forth in the Constitution of the Republic of Iraq and Higher Education Law. Both state and private universities are founded by law and subjected to the higher education law and to the regulations enacted in accordance with it.

Higher Education in Iraq comprises all post-secondary higher education programs, consisting of short, first, second and third cycle degrees in terms of the terminology of the Bologna Process. Except for the Architectural Engineering, Pharmacy, Dentistry and Veterinary programs, which are five years (300 ECTS), and Medicine Programme which is six years (360 ECTS), the duration of the first cycle (Bachelor degree) is a full-time four years (240 ECTS) study. The duration of the short cycle (Technical Diploma) is a full-time two years (120 ECTS) study.

Graduate level of Study consists of second cycle (master) and third cycle (doctorate) degree programs. The second cycle is a master with thesis with duration of two years (120 ECTS). Third cycle (doctorate) degree programs are completed having earned a minimum of 180 ECTS credits., which consists of completion of courses, passing a proficiency examination and doctoral thesis.

