# جامعة الانبار



 $First\ Cycle-Bachelor$ 's degree of (B.Sc.) — Information System بكالوريوس نظم المعلومات



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### 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

- 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

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

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

### Calculation of the Cumulative Grade Point Average (CGPA)

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

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

CGPA = [ (1st module score x ECTS) + (2nd module score x ECTS) + ......] / 240

# 7. Curriculum/Modules

### Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

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

### Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

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

### Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

|         | 1   |      |       |       |      |             |
|---------|---|------|-------|-------|------|-------------|
| Code    | Module  | SSWL | USSWL | ECTS  | Туре | Pre-request |
| ISDC207 | Object Oriented Programming I                 | 80   | 120   | 8.00  | В    | CSIT108     |
| CSIT201 | Data Structures and Algorithms                | 65   | 85    | 6.00  | В    |             |
| ISDE215 | Computational Theory                          | 35   | 65    | 4.00  | В    |             |
| ISDC198 | Introduction to Electronic information system | 35   | 90    | 5.00  | Е    |             |
| ISDC202 | Design and Analysis of Information<br>Systems | 35   | 90    | 5.00  | Ш    |             |
| UOA135  | Democracy and Human Rights                    | 25   | 25    | 2.00  | В    |             |
| ISDC203 | Advanced Mathematics                          | 55   | 70    | 5.00  | В    | ISDC116     |
|         |   | 295  | 455   | 30.00 |      |             |

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

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

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

| Code    | Module                                  | SSWL             | USSWL            | ECTS            | Туре | Pre-request |
|---------|---|------------------|------------------|-----------------|------|-------------|
| ISDC308 | Visual Programming I                    | 80               | 120              | 8               | В    |             |
| ISDC305 | Principles Of Computer Network          | 65               | 85               | 6               | В    |             |
| ISDC306 | Distributed Database Management systems | 65               | 85               | 6               | В    | ISDC205     |
| ISDE389 | Natural Lagnauge Processing             | 65               | 85               | 6               | Е    | ISDE215     |
| ISDE324 | Compiler                                | 65               | 85               | 6               | Е    |             |
| ISDC307 | Project Management Systems              | 35               | 65               | 4               | В    |             |
| ISDE325 | Artificial Intelligent I                | <mark>310</mark> | <mark>440</mark> | <mark>30</mark> |      |             |

### Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

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

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

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

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

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

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