Wasit University

جامعة واسط

First Cycle – Bachelor's Degree (B.Sc.) - Computer Science

بكالوريوس – علوم الحاسوب

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1. Mission & Vision Statement

Vision Statement

Our vision to The Computer Science of the College of Computer Science and Information Technology at Wasit University is to enhance our reputation as a teaching and research institution on local, regional and global levels, by recognizing the importance of applied education, innovation, excellence, partnerships, and attracting best students and staff worldwide.

Mission Statement

Our mission to The Computer Science of the College of Computer Science and Information Technology at Wasit University is to is to provide the market with students who possess both theoretical and applied knowledge, to train them to be successful, ethical, and effective problem-solvers and life-long learners, and finally, to research to advance the state of the art in computer science and integrate research results into other scientific disciplines.

2. Program Specification

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

The rise of Information and Communication Technology (ICT) has profoundly affected modern society. Increasing applications of computers in almost all areas of human endeavor has led to vibrant industries with concurrent rapid change in technology.

As the computing field advances at a rapid pace, the students must possess a solid foundation that allows and encourages them to maintain relevant skills as the field evolves. Specific languages and technology platforms change over time. Thus students must continue to learn and adapt their skills throughout their careers. To develop this ability, students will be exposed to multiple programming languages, tools, paradigms and technologies as well as the fundamental underlying principles throughout this programme.

The programme offers required courses such as programming languages, data structures, computer architecture and organization, algorithms, database systems, operating systems, and software engineering; as well as specialized courses in artificial intelligence, computer-based communication networks, distributed computing, information security, graphics, human-computer interaction, multimedia, scientific computing, web technology, and other current topics in computer science.

The core philosophy of this programme is to

1. Form strong foundations of Computer Science
2. Nurture programming, analytical & design skills for the real world problems.
3. Introduce emerging trends to the students in gradual way.
4. Groom the students for the challenges of ICT industry

The main aim of this programme is to deliver a modern curriculum that will equip graduates with strong theoretical and practical backgrounds to enable them to excel in the workplace and to be lifelong learners. Not only does it prepare the students for a career in Software industry, it also motivates them towards further studies and research opportunities. Graduating students, can thus take up postgraduate programmes in CS leading to research as well as R&D, can be employable at IT industries, or can adopt a business management career.

In the first year i.e. for semester I & II, basic foundation of important skills required for software development is laid. The syllabus proposes to have five core subjects of Computer science and one core courses of Mathematics. All core subjects are proposed to have theory as well as practical tracks. While the Computer Science courses will form fundamental skills for solving computational problems, the mathematics course will inculcate research-oriented acumen. Ability Enhancement Courses on Soft Skill Development will ensure an overall and holistic development of the students. The syllabus design for further semesters encompasses more advanced and specialized courses of Computer Science.

3. Program Objectives

The objectives of Computer Science are as follows:

1. To develop an understanding and knowledge of the basic theory of Computer Science with good foundation on theory, systems and applications.
2. To fosternecessary skills and analytical abilities for developing computer-based solutions of real-life problems.
3. To provide training in emergent computing technologies which lead to innovative solutions for industry and academia.
4. To develop the necessary study skills and knowledge to pursue further post-graduate study in computer science or other related fields. To develop the professional skillset required for a career in an information technology-oriented business or industry.
5. To enable students to work independently and collaboratively, communicate effectively, and become responsible, competent, confident, insightful, and creative users of computing technology

4. Student Learning Outcomes

At the end of three-year Bachelor of Computer Science, the students will be able:

1. To formulate, to model, to design solutions, procedure and to use software tools to solve real world problems.
2. To design and develop computer programs/computer -based systems in the areas such as networking, web design, security, cloud computing, IoT, data science and other emerging technologies.
3. To familiarize with the modern-day trends in industry and research-based settings and thereby innovate novel solutions to existing problems.
4. To apply concepts, principles, and theories relating to computer science to new situations. To use current techniques, skills, and tools necessary for computing practice
5. To apply standard Software Engineering practices and strategies in real-time software project development
6. To pursue higher studies of specialization and to take up technical employment.
7. To work independently or collaboratively as an effective tame member on a substantial software project.
8. To communicate and present their work effectively and coherently. To display ethical code of conduct in usage of Internet and Cyber systems.
9. To engage in independent and life-long learning in the background of rapid changing IT industry.

5. Academic Staff

prof. Dr. Dhyaa Shahid saber

Assit.Prof.Dr. Ali Fahem Neamah

Assit.prof. Ahmed Hafez Ibrahim

Lec. Mohammad Ibrahim Mahdi

Lec. Hussein Najm Abd Ali

Lec. Muhammed Ghalib Hussain

Assit.lec. Zahraa Yahya Mahdi

Assit.lec. Hind Ali abed

Assit.lec. Ahmed Alaa Mohsen

Assit.lec. Zainab Muhannad Issa

Assit.lec. Hassan Muhammed Taqi

lec. Shrooq Abbas Mirza

Assit.lec. Ammar Razak

Assit.lec. Mustafa Zuhair

Assit.lec. Ahmed Mohamed Dakhil

Dr. Haider Abdel Aoun

Lec. Muhammad Gharkan Sarhan

Assit.lec. Saif Saad Delfi

6. Credits, Grading and GPA

Credits

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

Grading

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

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

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

Calculation of the Cumulative Grade Point Average (CGPA)

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

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

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

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
cs-101	Computer Organization	105	45	6.00	C	
cs-102	Programming 1	105	45	6.00	C	
cs-103	Mathematics	105	45	6.00	B	
cs-104	Computer Architecture	105	45	6.00	C	
uni-101	Academic English Language 1	60	15	3.00	B	
uni-102	Human Rights & Democracy	60	15	3.00	S	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
cs-121	Logic Design	105	45	6.00	B	
cs-122	Programming 2	105	45	6.00	C	cs-102
cs-123	Numerical Analysis	105	45	6.00	C	
cs-124	Data Structure	105	45	6.00	B	
uni-103	Arabic Language	60	15	3.00	S	
uni-104	Work Ethics	60	15	3.00	S	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
cs-201	Object Oriented Programming	105	45	6.00	C	cs-122
cs-202	Algorithm	105	45	6.00	C	
cs-203	System Software (Java Language)	105	45	6.00	E	
cs-204	Databases Fundamentals	105	45	6.00	C	
cs-205	Theory of Computation	60	15	3.00	C	
uni-105	operations researchs	60	15	3.00	S	uni-103

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
cs-221	Operating System	105	45	6.00	C	
cs-222	Computer Graphics	105	45	6.00	B	
cs-223	Visual Programming	105	45	6.00	B	
cs-224	multimedia	105	45	6.00	C	
cs-225	Information Theory	60	15	3.00	E	
uni-106	Academic English Language 2	60	15	3.00	S	uni-101

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
cs-301	Smart Systems	60	15	3.00	B	
cs-302	Compilers	105	45	6.00	C	
cs-303	System Analysis and Design	105	45	6.00	B	
cs-304	Computers Networks	105	45	6.00	C	
cs-305	Data Mining	105	45	6.00	B	cs-204
uni-107	Academic English Language 3	60	15	3.00	S	uni-106

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request

cs-321	Website programming 1	105	45	6.00	C	
cs-322	Encryption	105	45	6.00	C	
cs-323	Artificial Intelligence	105	45	6.00	B	
cs-324	cloud computing	105	45	6.00	E	
cs-325	Distributed Database	105	45	6.00	E	

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
cs-401	Website programming 2	105	45	6.00	C	cs-321
cs-402	machine learning	105	45	6.00	C	
cs-403	computer & Network Security	105	45	6.00	C	cs-322
cs-404	Internet of Things	105	45	6.00	E	
cs-405	Graduate Project 1	105	45	6.00	C	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
cs-421	Mobile APP	105	45	6.00	B	
cs-422	Distributed Sysyems	105	45	6.00	B	
cs-423	software engineering	105	45	6.00	C	cs-303
cs-424	Academic English 4	60	15	3.00	S	
cs-425	Image Processing	105	45	6.00	B	cs-323
cs-426	Graduate Project 2	60	15	3.00	C	cs-405

8. Contact

Program Manager:

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Email:

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Program Coordinator:

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