

**University of Information
Technology and
Communications**
جامعة تكنولوجيا المعلومات
والاتصالات



*Seventh Cycle – Bachelor's Degree (B.Sc.)
- Mobile Communications and Computing
Engineering*

بكالوريوس - هندسة اتصالات والحوسبة المتنقلة



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1. Mission & Vision Statement

Vision Statement

Our vision is to be a global leader in mobile communication and computing education and research in Iraq, known for our commitment to excellence, innovation, and social responsibility. We strive to create an environment that fosters intellectual curiosity, creativity, and collaboration, where students can develop their skills and pursue their passions.

Mission Statement

The Mobile Communication and Computing Engineering Department is dedicated to providing a world-class education, conducting groundbreaking research, and fostering innovation in the field of mobile communication and computing. Our mission is to prepare our students to become leaders in industry and academia by providing them with a comprehensive understanding of the latest technologies, tools, and techniques in this rapidly evolving field.

2. Program Specification

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

The Mobile Communication and Computing Engineering Department offers a comprehensive curriculum for students interested in the field of mobile communication and computing engineering. The department is structured to provide students with a strong foundation in both theoretical and practical aspects of the field.

The curriculum is designed to span over eight semesters, with each semester building on the knowledge and skills acquired in the previous semester. In the first semester, students are introduced to the preliminary fundamentals of engineering and science, including engineering drawing, mathematics, electrical circuits, electronics physics and logic circuits.

In the second semester, students delve deeper into above fields and includes as well computer programming, mathematics for computing, human rights and democracy. The third semester focuses on advanced mathematics, electronic circuits, computer programming, electromagnetics, mobile computing and statistics.

The fourth semester is dedicated to digital electronics, communication fundamentals, microprocessors, engineering ethics and related useful mathematical equations for the department fields. In the fifth semester, students study essential topics in mobile communication and computing engineering, including computer networks, linear algebra, web design, digital communications, and antennas and wave of propagation.

The sixth semester is an advanced version of fifth semester with summer internship. This provides students with an opportunity to apply the knowledge and skills acquired in the previous semesters in a real-world setting. Topics include numerical analysis, digital signal processing, computer networks, information theory and coding, space science, wireless communication networks.

In the seventh semester, students study embedded systems, mobile applications, mobile communications, network security, project management, and graduation project which are increasingly becoming important in the field of mobile communication and computing engineering along with graduation project. The final semester is a complementary of seventh semester along with optical fibers, internet of things, mobile applications development and cloud computing. The students are expected to demonstrate their mastery of the field by conducting graduation project for developing innovative solutions to real-world problems.

Overall, the Mobile Communication and Computing Engineering Department in Bologna offers a rigorous and comprehensive curriculum that prepares students for a career in this dynamic and rapidly evolving field. Graduates of this program are well-equipped to take on challenging roles in industries such as telecommunications, software development, and information technology.

3. Program Objectives

1. To provide a rigorous and comprehensive curriculum that covers all aspects of mobile communication and computing, including wireless networks, mobile devices, cloud computing, data analytics, and security.
2. To conduct cutting-edge research that addresses the most pressing challenges facing the field of mobile communication and computing, including issues related to privacy, security, energy efficiency, and sustainability.
3. To foster a culture of innovation by providing resources and support for students to develop their own mobile communication and computing startups, as well as encouraging collaboration with industry partners.
4. To promote diversity and inclusivity by creating a welcoming environment that values and respects all individuals regardless of their background or identity.
5. To prepare our students for global citizenship by exposing them to international perspectives and experiences through study abroad programs, internships, and research collaborations.
6. To engage in outreach activities that promote the importance of mobile communication and computing in society, including educational programs, public lectures, and community service projects.
7. To contribute to the advancement of knowledge in mobile communication and computing through high-quality research publications, patents, and other intellectual property.

Through our commitment to these goals, we aim to make a positive impact on society by advancing the state of the art in mobile communication and computing, preparing our students for successful careers, and promoting social responsibility and sustainability.

4. Student Learning Outcomes

The Mobile Communication and Computing Engineering Department has established specific student learning outcomes to ensure that our students are well-prepared to become leaders in industry and academia. These outcomes are aligned with the department's mission and goals, and they reflect the knowledge, skills, and abilities that students should acquire during their studies. The following are the four student learning outcomes in the Mobile Communication and Computing Engineering department:

1. **Technical Knowledge:** Students will demonstrate a comprehensive understanding of the latest technologies, tools, and techniques in mobile communication and computing. This includes knowledge of wireless networks, mobile devices, cloud computing, data analytics, and security. Students will be able to apply this knowledge to solve real-world problems and develop innovative solutions.

2. **Critical Thinking and Problem-Solving:** Students will be able to analyze complex problems related to mobile communication and computing and develop effective solutions. They will be able to use critical thinking skills to evaluate different approaches and make informed decisions based on evidence.

3. **Communication Skills:** Students will be able to communicate effectively in both written and oral forms. They will be able to present their ideas clearly and concisely, and they will be able to work collaboratively with others to achieve common goals.

4. **Professionalism and Ethical Responsibility:** Students will understand the importance of professionalism and ethical responsibility in the field of mobile communication and computing. They will be able to work effectively in teams, demonstrate leadership skills, and adhere to ethical principles in their work. They will also understand the impact of their work on society and the environment, and they will be committed to promoting social responsibility and sustainability.

Overall, these student learning outcomes reflect the department's commitment to providing a world-class education that prepares students for successful careers in mobile communication and computing while promoting innovation, diversity, inclusivity, and social responsibility.

5. Academic Staff

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6. Credits, Grading and GPA

Credits

University of Information Technology and Communications 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)

- 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

Module Code	Module Name in English	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
		hr/sem	hr/sem	hr/sem			
MAT1	Mathematics I	48	102	150	6.00	C	
DSD1	Digital Systems Design I	78	72	150	6.00	C	
ECT1	Electrical Circuits I	78	72	150	6.00	C	
EDW1	Engineering Drawing	48	27	75	3.00	C	
ENG1	English Language I	33	67	100	4.00	B	
EPH1	Electronics Physics	48	77	125	5.00	C	
		333	417	750	30.00		

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Module Code	Module Name in English	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
		hr/sem	hr/sem	hr/sem			
MAT2	Mathematics II	48	102	150	6.00	C	MAT1
DSD2	Digital Systems Design II	78	72	150	6.00	C	DSD1
ECT2	Electrical Circuits II	78	72	150	6.00	C	ECT1
CPR2	Computer Programming I	78	47	125	5.00	C	
MTC2	Mathematic for Computing	48	52	100	4.00	E	MAT1
HRD2	Human Rights and Democracy	33	42	75	3.00	B	
		363	387	750	30		

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Module Code	Module Name in English	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
		hr/sem	hr/sem	hr/sem			
EMT3	Engineering Mathematics I	48	102	150	6.00	C	MAT2
ELC3	Electronics	78	72	150	6.00	C	ECT1
CPR3	Computer Programming II	78	47	125	5.00	C	CPR2
EMF3	Electromagnetic Fields	33	67	100	4.00	C	MAT2
MCP3	Mobile Computing	63	62	125	5.00	C	CPR2
STP3	Statistics and Probability	48	52	100	4.00	C	MAT1
		348	402	750	30		

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Module Code	Module Name in English	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
		hr/sem	hr/sem	hr/sem			
EMT4	Engineering Mathematics II	48	102	150	6.00	C	EMT3
DEL4	Digital Electronics	78	72	150	6.00	C	ELC3
CMF4	Communication Fundamentals	78	97	175	7.00	C	MAT1+ECT2
MPS4	Microprocessors	63	62	125	5.00	C	DSD2
EET4	Engineering Ethics	33	42	75	3.00	B	
ENG4	English Language II	33	42	75	3.00	B	ENG1
		333	417	750.00	30.00		

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Module Code	Module Name in English	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
		hr/sem	hr/sem	hr/sem			
LAG5	Linear Algebra	48	77	125	5.00	C	MAT2
AWP5	Antennas and Wave Propagation	78	72	150	6.00	C	EMF3
CNT5	Computer Networks I	63	62	125	5.00	C	Level 2
DCM5	Digital Communications	78	72	150	6.00	C	CMF4
SSC5	Space Science I	48	27	75	3.00	E	EPH1
WDG5	Web Design	78	47	125	5.00	E	CPR3
		393	357	750	30.00		

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Module Code	Module Name in English	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
		hr/sem	hr/sem	hr/sem			
NUA6	Numerical Analysis	78	47	125	5.00	C	MAT2
DSP6	Digital Signal Processing	63	62	125	5.00	E	MAT2
CNT6	Computer Networks II	63	87	150	6.00	C	CNT5
ITC6	Information Theory and Coding	63	87	150	6.00	C	CMF4+STP3
SSC6	Space Science II	48	27	75	3.00	E	SSC5
WCN6	Wireless Communication Networks	63	62	125	5.00	C	DCM5
		378	372	750	30.00		

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Module Code	Module Name in English	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
		hr/sem	hr/sem	hr/sem			
EDS7	Embedded Systems	78	47	125	5.00	E	MPS4+ECT1
MAP7	Mobile Applications	78	72	150	6.00	C	CPR2
MCM7	Mobile Communications I	63	87	150	6.00	C	CMF4
NTS7	Network security	63	62	125	5.00	E	CPR2
PMG7	Project Management	63	37	100	4.00	C	Level 3
GPR7	Graduation Project I	63	37	100	4.00	C	Level 3
		408	342	750	30.00		

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Module Code	Module Name in English	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
		hr/sem	hr/sem	hr/sem			
OFC8	Optical Fiber Communications	63	62	125	5.00	E	DCM5+EMF3
IOT8	Internet of Things	63	62	125	5.00	E	CNT5+EDS7
MAD8	Mobile Applications Development	63	62	125	5.00	C	MAP7
MCM8	Mobile Communications II	63	87	150	6.00	C	MCM7
CCP8	Cloud Computing	63	62	125	5.00	C	CPR3
GPR8	Graduation Project II	63	37	100	4.00	C	GPR7
		378	372	750	30.00		

8. **Contact**

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