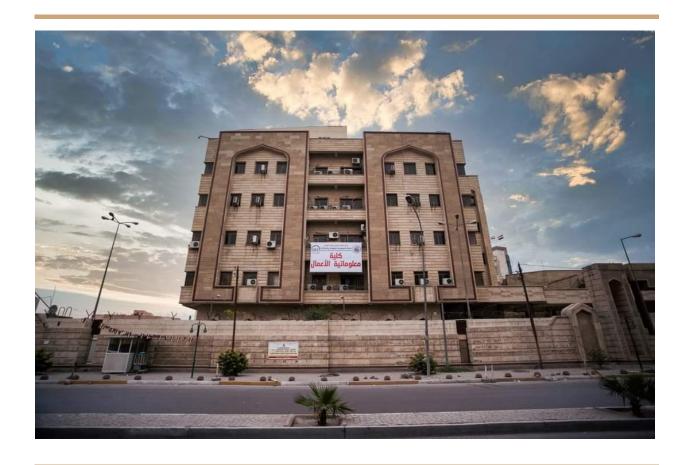**University of Information Technology and Communications**

جامعة تكنولوجيا المعلومات والاتصالات

Seven Cycle – Bachelor's degree (B.Sc.) – Media Technology and Communications Engineering

بكالوريوس علوم - هندسة تكنولوجيا الاعلام والاتصالات

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1. Mission & Vision Statement

Vision Statement

Our vision is to be a leading academic department at the forefront of media technology and communications engineering, inspiring innovation, creativity, and excellence in the ever-evolving field of media and communication. We strive to educate and empower the next generation of media technologists and communication engineers, equipping them with the knowledge, skills, and ethical values necessary to shape the future of media, redefine communication systems, and contribute to the advancement of society. Through cutting-edge research, industry collaborations, and immersive learning experiences, we aim to be recognized globally for our transformative impact, interdisciplinary approach, and commitment to driving technological advancements in media and communication.

Mission Statement

Our mission is to provide a dynamic and comprehensive academic environment that fosters the integration of media technology and communications engineering. We are committed to delivering high-quality education, conducting cutting-edge research, and promoting innovation in media and communication. Through rigorous academic programs, interdisciplinary collaborations, and hands-on experiences, we aim to equip our students with a strong foundation in media technology and communications engineering principles. We strive to cultivate their critical thinking, problem-solving, and creative skills, preparing them to address real-world challenges and contribute to the

advancement of the media and communication industry. Our department is dedicated to promoting ethical practices, diversity, and inclusivity in all aspects of media technology and communications engineering. By engaging with industry partners, professionals, and the community, we seek to be a hub of knowledge exchange, innovation, and technological advancements in media and communication. Our mission is to empower our graduates to become future leaders, entrepreneurs, and change-makers who drive the evolution of media technology and communications engineering.

2. Program Specification

Programme code:	BSc-MTCE	ECTS	240
Duration:	4 years (8 semesters)	Method of Attendance:	Full Time

Program Name: Media Technology and Communications Engineering

Degree Offered: Bachelor of Science (BSc) in Media Technology and Communications Engineering

Program Overview

The Media Technology and Communications Engineering program is designed to provide students with a comprehensive understanding of the principles, theories, and technologies in media technology and communications engineering. The program offers a balanced blend of theoretical knowledge and practical skills, preparing students for careers in various sectors of the media and communications industry. Through a combination of classroom instruction, laboratory work, industry projects, and internships, students gain hands-on experience and develop a strong foundation in media technology, communication systems, multimedia production, and emerging technologies.

Program Structure

The program consists of a well-structured curriculum comprising core courses, elective courses, practical experiences, and a graduation project. The curriculum is designed to ensure a progressive learning experience, building upon foundational concepts and gradually advancing to more specialized and advanced topics.

Practical Experiences

The program emphasizes practical learning experiences to enhance students' skills and industry readiness. Practical experiences may include:

   Laboratory work in media technology and communication systems

   Industry internships for hands-on experience in real-world settings

   Collaborative projects with industry partners

   Participation in media-related events and competitions

Graduation Project

In the final year of the program, students undertake a graduation project that integrates the knowledge and skills acquired throughout their studies. Working in teams, students design and implement a media technology or communication engineering project under the guidance of faculty advisors. The graduation project provides an opportunity for students to apply their technical expertise and creativity to solve real-world problems or explore innovative solutions in the field.

Graduation Requirements

To successfully complete the program and be awarded a Bachelor of Science (BSc) in Media Technology and Communications Engineering, students must fulfill the following requirements: Complete all required core courses and elective courses as specified in the curriculum. Successfully complete the graduation project, demonstrating proficiency in applying media technology and communications engineering principles to a practical project. Fulfill any additional university-wide requirements for graduation.

Career Opportunities

Upon graduation, students of the Media Technology and Communications Engineering program can pursue various career paths, including but not limited to:

Media Technology Engineer

Broadcast Engineer

Multimedia Producer

Communication Systems Analyst

Digital Media Specialist

Audiovisual Technician

Telecommunications Consultant

Media Consultant

Research and Development Engineer in Media Technology

3. Program Objectives

1. Develop a strong theoretical foundation: Provide students with a solid understanding of the fundamental principles and theories in media technology and communications engineering, enabling them to comprehend and analyze complex systems and technologies.
2. Foster technical expertise: Equip students with practical skills and hands-on experience in using state-of-the-art tools, software, and equipment related to media production, communication systems, and emerging technologies.
3. Promote interdisciplinary knowledge: Encourage students to explore the intersections between media technology and communications engineering with other disciplines such as computer science, electrical engineering, design, and business, fostering a multidisciplinary approach to problem-solving.

4. Cultivate creativity and innovation: Nurture students' creative thinking and innovation abilities, encouraging them to develop novel solutions, designs, and applications in the field of media technology and communications engineering.

5. Enhance critical thinking and analytical skills: Foster students' ability to think critically, analyze information, and make informed decisions in the context of media technology and communications engineering, considering technical, social, ethical, and economic aspects.

6. Encourage research and scholarly inquiry: Promote a culture of research and scholarship, inspiring students to explore advanced topics, contribute to the body of knowledge, and address current challenges and emerging trends in media technology and communications engineering.

7. Foster effective communication and teamwork: Develop students' communication skills, both oral and written, and their ability to work collaboratively in diverse teams, reflecting the collaborative nature of the media and communications industry.

8. Instill professional ethics and social responsibility: Emphasize the importance of ethical conduct, social responsibility, and the impact of media technology and communications engineering on society, fostering a commitment to ethical practices, inclusivity, and sustainability.

9. Facilitate industry engagement and practical experiences: Establish partnerships with industry professionals, organizations, and relevant stakeholders to provide students with opportunities for internships, industry projects, and practical experiences, bridging the gap between academia and the professional world.

10. Foster lifelong learning: Instill a passion for continuous learning and professional development, preparing graduates to adapt to the ever-evolving landscape of media technology and communications engineering throughout their careers.

4. Student Learning Outcomes

1. Demonstrate a comprehensive understanding of the principles, theories, and technologies in media technology and communications engineering.

2. Apply technical knowledge and practical skills to design, develop, and implement media technology and communication systems, including multimedia production, broadcasting, and data transmission.

3. Analyze and evaluate media technology and communication systems, identifying strengths, weaknesses, and potential improvements.

4. Utilize industry-standard tools, software, and equipment to create, edit, and manipulate various media formats such as video, audio and graphics

5. Collaborate effectively in multidisciplinary teams, demonstrating strong communication, leadership, and teamwork skills in media technology and communications engineering projects.

6. Conduct research, analyze data, and apply critical thinking to solve complex problems in media technology and communications engineering, considering technical, social, ethical, and economic factors.

7. Demonstrate an understanding of the ethical, legal, and social implications of media technology and communications engineering, and apply ethical frameworks to decision-making processes.

8. Adapt to emerging trends and advancements in media technology and communications engineering, demonstrating a commitment to lifelong learning and professional development.

9. Communicate effectively, both orally and in written form, to convey technical concepts, ideas, and findings to diverse audiences in the field of media technology and communications engineering.
10. Demonstrate awareness of global perspectives, cultural diversity, and societal impact in media technology and communications engineering practices.

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)

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	Type	Pre-request
MAT1	Mathematics I	48	102	6.00	C	
DSD1	Digital Systems Design I	78	72	6.00	C	
ECT1	Electrical Circuits I	78	72	6.00	C	
EDW1	Engineering Drawing	48	27	3.00	C	
ENG1	English Language I	33	67	4.00	B	
EPH1	Electronics Physics	48	77	5.00	C	
		333	417	30.00		

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
MAT2	Mathematics II	48	102	6.00	C	MAT1
DSD2	Digital Systems Design II	78	72	6.00	C	DSD1
ECT2	Electrical Circuits II	78	72	6.00	C	ECT1
CPR2	Computer Programming I	78	47	5.00	C	
AUT2	Audio Technology	63	37	4.00	C	EPH1
HRF2	Human Rights and Demorcurcy	33	42	3.00	B	
		378	372	30		

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
EMT3	Engineering Mathematics I	48	102	6.00	C	MAT2
ELC3	Electronics	78	72	6.00	C	ECT1
CPR3	Computer Programming II	78	47	5.00	C	CPR2
EMF3	Electromagnetic Fields	33	67	4.00	C	MAT2
VDT3	Video Technology	63	62	5.00	C	
STP3	Statistics and Probability	48	52	4.00	C	MAT1
		348	402	30		

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
EMT4	Engineering Mathematics II	48	102	6.00	C	EMT3
DEL4	Digital Electronics	78	72	6.00	C	ELC3
CMF4	Communications Fundamentals	78	97	7.00	C	MAT1+ECT2
MPS4	Microprocessors	63	62	5.00	C	DSD2
MLE4	Media laws and Ethics	33	42	3.00	B	
ENG4	English Language II	33	42	3.00	B	ENG1
		333	417	30		

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
LAG5	Linear Algebra	48	77	5.00	C	MAT2
AWP5	Antenna and Wave Propagation	63	57	4.80	C	EMF3
CNT5	Computer Networks I	63	62	5.00	C	
DCM5	Digital Communications	78	72	6.00	C	CMF4
SSC5	Space Science I	48	27	3.00	E	EPH1
WDG5	Web Design	78	47	5.00	E	CPR3
		378	342	28.80		

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
NUA6	Numerical Analysis	78	47	5.00	C	MAT2
DSP6	Digital Signal Processing	63	62	5.00	E	MAT2
CNT6	Computer Networks II	63	87	6.00	C	CNT5
ITC6	Information Theory and Coding	63	87	6.00	C	CMF4+STP3
SSC6	Space Science II	48	27	3.00	E	SSC5
MGD6	Media Graphics Design	63	62	5.00	C	
		378	372	30.00		

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
EDS7	Embedded Systems	78	47	5.00	E	MPS3+ECT1
SCM7	Satellite Communications I	78	72	6.00	C	DCM5+ITC6
MBS7	Mobile Broadcasting Systems	63	87	6.00	C	DCM5+ITC6
SCP7	Soft Computing	63	62	5.00	E	STP3
CCT7	Computer Control	63	37	4.00	E	LAG5+DSP6
GPR7	Graduation Project I	63	37	4.00	C	LEVEL 3
		408	342	30.0		

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
OFC8	Optical Fiber Communications	63	62	5.00	E	DCM5+EMF3
IOT8	Internet of Things	63	62	5.00	E	CNT5+EDS7
WMC8	Wireless and Mobile Communications	63	62	5.00	C	AWP5+DCM5
SCM8	Satellite Communications II	78	72	6.00	C	SCM7+AWP5
STE8	Studio Technology	63	62	5.00	C	
GPR8	Graduation Project II	63	37	4.00	C	GPR7
		393	357	30.0		

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