Ministry of Higher Education and Scientific Research
Scientific Supervision and Evaluation Authority
Quality Assurance and Academic Accreditation Department

Academic Program Descriptions
University of Hilla
College of Engineering Technologies
Department of Cybersecurity Engineering Technologies

2026-2025

University Name: University of Hilla

College/Institute: College of Engineering Technologies

Department: Cybersecurity Engineering

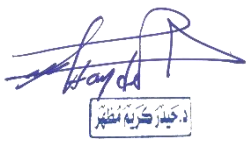
Program Name: Bachelor of Science in Cybersecurity Engineering

Certificate Name: Bachelor of Science in Cybersecurity Engineering

Study System: Bologna Process

Date of Description Preparation: September 1, 2025

Date of File Completion: March 26, 2026



مصادقة السيد العميد **رئيس القسم**

أ . د . هارون عبد الكاظم **م.د حيدر كريم مظهر**

1 .Vision

Our vision is to be pioneers in preparing skilled cybersecurity engineers capable of addressing digital challenges and protecting national infrastructure and data. The University of Hilla aspires to graduate highly skilled professionals with strong ethical standards to enhance digital security in Iraq and contribute to building a secure digital future.

2 .Program Mission

Providing advanced scientific curricula, practical laboratories and applied research in the field of cybersecurity, in line with the needs of the labor market, and openness to government institutions and the private sector, and contributing to enhancing the protection of digital infrastructure and improving the reality of cybersecurity at the regional and international levels.

3 .Program Objectives

1 . Developing a cadre of highly skilled Iraqi cybersecurity engineers capable of addressing local and global digital challenges.

2 . Utilizing the latest technologies and advanced strategies to enhance the digital protection of critical infrastructure and data in Iraq.

3 . Reducing cyber risks by raising security awareness and empowering Iraqi personnel to effectively address cyber threats.

4 . Ensuring the protection of information and digital assets of public and private institutions in Iraq, and supporting efforts to build a comprehensive national digital security system.

5 .Fostering a culture of continuous improvement and ethical responsibility among engineers to ensure their adherence to the highest standards of security and professional ethics.

Program Accreditation

The program has no accreditation

مؤثرات خارجية

رصد التطورات العالمية في مجال الأمن السيبراني وتقنيات حماية المعلومات، ومواءمة المناهج الدراسية مع هذه التطورات المستمرة، والاستفادة من الخبرات والموارد الدولية، إضافةً إلى تلبية متطلبات سوق العمل المتزايدة في مجال أمن الشبكات، حماية البيانات، والذكاء الاصطناعي في الأمن السيبراني.

هيكل البرنامج

هيكل البرنامج	عدد الدورات	الساعات المعتمدة	نسبة مئوية	*ملاحظات
متطلبات المؤسسة				اساسي
متطلبات الكلية				اساسي
متطلبات القسم				اساسي
التدريب الصيفي				
غير ذلك				

Academic Program Objectives:

1. To prepare highly qualified engineers with theoretical knowledge and practical skills in network security, data protection, and encryption, enabling them to integrate into the local and international job market.

2. To align the curriculum with global developments in cybersecurity and modern digital technologies such as artificial intelligence, cloud computing, and the Internet of Things.

3. To enhance scientific and applied research capabilities in cybersecurity to contribute to finding innovative solutions to evolving security challenges.

4. To provide an advanced educational and training environment through specialized laboratories, practical simulations, and real-world applied projects.

5. To build effective partnerships with government institutions, the private sector, and research centers to enhance training and employment opportunities.

6. To raise public awareness of the importance of cybersecurity in protecting individuals, institutions, and digital infrastructure.

7. To encourage continuing education and professional development for graduates to keep pace with the rapid changes in security technologies.

8. To qualify graduates for postgraduate studies in cybersecurity and related disciplines at local and international universities.

Cognitive Objectives:

1. To equip students with fundamental knowledge in computer science, networks, and operating systems as a basis for understanding cybersecurity requirements**.**

2. To introduce students to the theoretical concepts related to encryption, network security, software security, and database security.

3. To enable students to understand cyber threats and attacks, as well as mechanisms for detecting and analyzing them**.**

4. To provide students with knowledge of protection mechanisms and technologies such as intrusion detection systems, firewalls, and multi-factor authentication techniques**.**

5. To enhance students' understanding of international cybersecurity frameworks and standards (such as ISO 27001 and NIST) and their practical applications**.**

6. To develop students' cognitive abilities in assessing security risks and designing mitigation strategies**.**

7. To prepare students to understand modern trends in cybersecurity such as artificial intelligence in security, quantum cryptography, and cloud security.

Program qualification objectives:

1. To train specialized engineers with the knowledge and practical skills to protect networks, systems, and information from cyber threats.

2. To develop a workforce capable of employing the latest technologies and international standards to address risks and challenges in diverse work environments.

3. To graduate engineers who are scientifically and professionally qualified to pursue postgraduate studies and contribute to the development of research and innovation in the field of cybersecurity.

Teaching and learning methods:

Theoretical lectures, practical laboratories, scientific seminars, training courses, and specialized exhibitions in the field of cybersecurity engineering technologies.

Assessment methods:

Daily exams, term exams, daily attendance, laboratory reports, and annual evaluation.

Affective and Value-Based Objectives:

1- To cultivate a commitment to ethical and professional values in handling data and information, thereby reinforcing a culture of integrity and responsibility.

2- To foster a sense of belonging, teamwork, and commitment to serving the community and protecting digital infrastructure at both the national and international levels.

Personal Development Planning:

Scientific visits to hospitals, specialized centers, specialized exhibitions, and training courses offered by private companies

Admission Criteria:

1. Graduates of the sixth preparatory course in the biological and applied sciences branches.

2. Graduates of technical institutes

Republic of Iraq - Ministry of Higher Education and Scientific Research

Middle Technical University

Bachelor's degree in Cybersecurity Technology Engineering (First cycle)

Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25 hr

Program Curriculum (2024 - 2025)

جمهورية العراق - وزارة التعليم العالي والبحث العلمي

الجامعة التقنية الوسطى

بكالوريوس في هندسة تكنولوجيا الامن السيبراني (الدورة الأولى)

أربع سنوات (ثمانية فصول دراسية) - 240 وحدة اوربية - كل وحدة اوربية = 25 ساعة

المنهاج الدراسي للعام (2024-2025)

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL	USSWL	SWL	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)		hr/sem	hr/sem	hr/sem			
	One	1	CSTE1101	Introduction to Information System	مقدمة في نظم المعلومات	English	2	1	2				4	79	71	150	6.00	C	
UGI		2	CSTE1102	Fundamental of Electrical Eng.	أسس الهندسة الكهربائية	English	2		2		1		4	79	71	150	6.00	C	
		3	CSTE1103	Programming Essentials	أساسيات البرمجة	English	2	1	2				4	79	71	150	6.00	C	
		4	CSTE1104	Mathematics I	الرياضيات I	English	3				1		3	63	62	125	5.00	S	
		5	EETC102	Engineering Drawing	الرسم الهندسي	English			4				3	63	62	125	5.00	S	
		6	MTU1006	Democracy & Human Rights	الديمقراطية وحقوق الانسان	Arabic	2						3	33	17	50	2.00	B	
						Total	11	2	10	0	2	0	21	396	354	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL	USSWL	SWL	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)		hr/sem	hr/sem	hr/sem			
	Two	1	CSTE1201	Digital Logic Design	التصميم المنطقي الرقمي	English	2		2		1		4	79	71	150	6.00	C	
		2	CSTE1202	Ethics for the Information Age	أخلاقيات عصر المعلومات	English	2					1	3	48	52	100	4.00	C	
		3	CSTE1203	General Physics	الفيزياء العامة	English	2		2		1		4	79	46	125	5.00	S	
		4	CSTE1204/ CSTE1205	Mathematics II	الرياضيات II	English	3				1		3	63	62	125	5.00	S	
		5	EETC101	Engineering Workshops	الورش الهندسية	Arabic				4			4	64	86	150	6.00	S	
		6	MTU1001	Arabic Language (1)	اللغة العربية (1)	Arabic	2						3	33	17	50	2.00	B	
		7	MTU1002	English Language (1)	اللغة الإنكليزية (1)	English	1	1					3	33	17	50	2.00	B	
						Total	12	1	4	4	3	1	24	399	351	750	30		

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)							
UGII	Three	1	CSTE2101	Engineering Mathematics	الرياضيات الهندسية	English	3				1		3	63	62	125	5.00	S	
		2	CSTE2102	Electronics Fundamentals	أسس الالكترونيك	English	2		2				4	64	61	125	5.00	S	
		3	CSTE2103	Linux Essentials	مبادئ الليونوكس	English	2	1	3				4	94	56	150	6.00	C	
		4	CSTE2104	Computer Organization & Architecture	تركيب ومعمارية الحاسوب	English	2		2		1		4	79	71	150	6.00	C	
		5	CSTE2105	Data Structure & Algorithms	هياكل البيانات والخوارزميات	English	3		2		1		4	94	56	150	6.00	C	
		6	MTU1007	The Crimes of the Baath regime in Iraq	جرائم نظام البعث في العراق	Arabic	2						3	33	17	50	2.00	B	
						Total	14	1	9	0	3	0	22	427	323	750	30		
	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)							
	Four	1	CSTE2201	Numerical Analysis & Statistics	التحليلات العددية والاحصاء	English	2				1		3	48	52	100	4.00	S	
		2	CSTE2202	Object Oriented Programming	البرمجة الشيئية	English	2	1	2				4	79	46	125	5.00	C	
		3	CSTE2203	Microprocessors	المعالجات الدقيقة	English	3		2		1		4	94	56	150	6.00	C	
		4	CSTE2204	Communication Fundamentals	اسس الاتصالات	English	2		2		1		4	79	46	125	5.00	C	
		5	CSTE2205	Introduction to Database -SQL	مقدمة في قواعد البيانات	English	3		2		1		4	94	56	150	6.00	C	
		6	MTU1003	English Language (2)	اللغة الإنكليزية (2)	English	1	1					3	33	17	50	2.00	B	
		7	MTU1009	Arabic Language (2)	اللغة العربية (2)	Arabic	2						3	33	17	50	2.00	B	
						Total	15	2	8	0	4	0	25	460	290	750	30		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL	USSWL	SWL	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)		hr/sem	hr/sem	hr/sem			
UGIII	Five	1	CSTE3101	Computer Network Fundamentals	أساسيات شبكات الحاسوب	English	2	1	2				4	79	46	125	5.00	C	
		2	CSTE3102	Information Security & Cryptography	أمنية المعلومات	English	2		2		1		4	79	46	125	5.00	C	
		3	CSTE3103	Digital Signal Processing	معالجة الإشارة الرقمية	English	2		2		1		4	79	46	125	5.00	C	
		4	CSTE3104	Software Engineering	هندسة البرمجيات	English	2		2			1	4	79	46	125	5.00	C	
		5	CSTE3105	Python Programming	البرمجة بلغة البايثون	English	2	1	2				4	79	46	125	5.00	C	
		6	CSTE31XX	Elective I	مادة اختيارية	English	2	1	2				4	79	46	125	5.00	E	
						Total	12	3	12	0	2	1	24	474	276	750	30		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL	USSWL	SWL	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)		hr/sem	hr/sem	hr/sem			
	Six	1	CSTE3201	Cybersecurity Essentials	أساسيات الامن السيبراني	English	2	1	2				4	79	46	125	5.00	C	
		2	CSTE3202	Artificial Intelligence	الذكاء الاصطناعي	English	2		2		1		4	79	46	125	5.00	C	
		3	CSTE3203	Operating Systems	أنظمة التشغيل	English	2		2		1		4	79	46	125	5.00	C	
		4	CSTE3204	Web Design	تصميم المواقع الالكترونية	English	2		3				4	79	46	125	5.00	C	
		5	CSTE3205	Computer Network Protocols	بروتوكولات شبكات الحاسوب	English	2	1	2				4	79	46	125	5.00	C	
		6	CSTE32XX	Elective II	مادة اختيارية	English	2		2		1		4	79	46	125	5.00	E	
						Total	12	2	13	0	3	0	24	474	276	750	30		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL	USSWL	SWL	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)		hr/sem	hr/sem	hr/sem			
UGIV	Seven	1	CSTE4101	Advanced Cybersecurity	الامن السيبراني المتقدم	English	2	1	2			1	4	94	56	150	6.00	C	
		2	CSTE4102	Network Security	أمن الشبكات	English	2	1	3				4	94	56	150	6.00	C	
		3	CSTE4103	Cloud Computing	الحوسبة السحابية	English	2	1	2				4	79	71	150	6.00	C	
		4	CSTE4104	Cybersecurity Governance	حوكمة الأمن السيبراني	English	2	1				1	4	64	61	125	5.00	C	
		5	CSTE4105	Project Preparation	إعداد المشروع	English	1					1	3	33	17	50	2.00	S	
		6	CSTE41XX	Elective III	مادة اختيارية	English	2		2			1	4	79	46	125	5.00	E	
						Total	11	4	9	0	0	4	23	443	307	750	30		
	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL	USSWL	SWL	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)		hr/sem	hr/sem	hr/sem			
	Eight	1	CSTE4201	Ethical Hacking & Penetration Testing	القرصنة الأخلاقية واختبارت الاختراق	English	2	1	2			1	4	94	56	150	6.00	C	
		2	CSTE4202	IoT Security	أمنية انترنت الأشياء	English	2		2		1	1	4	94	56	150	6.00	C	
		3	CSTE4203	Mobile Security	أمن الهواتف المحمولة	English	2		2			1	4	79	46	125	5.00	C	
		4	MTU1008	Professional Ethics	أخلاقيات المهنة	Arabic	2					1	3	48	27	75	3.00	B	
		5	CSTE4205	Final Project	المشروع النهائي	English			2	2		1	3	78	47	125	5.00	C	
		6	CSTE42XX	Elective IV	مادة اختيارية	English	2		2			1	4	79	46	125	5.00	E	
						Total	10	1	10	2	1	6	22	472	278	750	30		
						Total	97	16	75	6	18	12	185	3545	2455	6000	240.0		Must be 240 ECTS

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL	USSWL	SWL	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)		hr/sem	hr/sem	hr/sem			
UGIII	5		CSTE3106	Digital Forensics	التحليل الجنائي الرقمي	English	2		3				4	79	46	125	5.00	E	
			CSTE3107	Multimedia Security	أمن الوسائط المتعددة	English	2		2		1		4	79	46	125	5.00	E	
	6		CSTE3206	Wireless Networks Security	أمن الشبكات اللاسلكية	English	2		2			1	4	79	46	125	5.00	E	
			CSTE3207	Information Theory and Coding	نظرية المعلومات والترميز	English	2		2		1		4	79	46	125	5.00	E	
UGIV	7		CSTE4106	Biometric Security	الأمن البيومتري	English	2		2			1	4	79	46	125	5.00	E	
			CSTE4107	Web Applications Security	أمن تطبيقات الويب	English	2		2			1	4	79	46	125	5.00	E	
	8		CSTE4206	Machine Learning Systems	أنظمة التعلم الآلي	English	2		2			1	4	79	46	125	5.00	E	
			CSTE4207	Cloud Security	الأمن السحابي	English	2		2		1		4	79	46	125	5.00	E	

Note: The student should complete 4 weeks of Summer Internships to fullfil the requirements of the Bachelor's degree

Structured SWL (hr/w) type	**CL**	Class Lecture		**Module type**		**B**	Basic learning activities		**SWL:**	Student Workload								
	Lab	Laboratory				**C**	Core learning activity		**SSWL:**	Structured SWL								
	Pr	Practical Training				**S**	Suport or related learning activity		**USSWL:**	Unstructured SWL								
	Tut	Tutorial				**E**	Elective learning activity											
	Lect	Online lecture																
	Semn	Seminar		Note: Columns O, Q and R are progrmaed, protected and should not be edited														