Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation *Dept.*

Updated Academic Program Specification Form for the Academic Year 2022-2023

University: Al-Kitab University
College: Technical Engineering
Computer Engineering Technology
Number of Departments in the College: 4
Date of Form Completion: 18 / 12 / 2022

Dean's Name: Ast. Prof.
Dr. Hussain Ibzar Zainal
Date: 18 /12/ 2022
Signature

Dean's Assistant for Scientific Affairs:
Dr. Haider Khalil Easa
Date: 18 /12/ 2022
Haider
Signature

The College Quality Assurance and University Performance Manager:
Date: / / 2022
Signature

Quality Assurance and University Performance Manager
Date: / / 2022
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

Bachelor of Science in Computer Engineering Technology

PROGRAMME SPECIFICATION

Preparing engineers in the specialization of computer technology, with its two branches, computer communication networks and computer electronics. These graduates will be responsible for examining, and recognizing the country's needs for development and progress. These engineers are able to meet the needs of the labor market in both state institutions and private industry sectors.

1. Teaching Institution	Al-Kitab University
2. University Department/Centre	Computer Engineering Technology Department / College of Engineering Technology.
3. Program Title	Computer Engineering Technology
4. Title of Final Award	B. Sc. in Computer Engineering Technology (Computer Network Communication) or B. Sc. in Computer Engineering Technology (Computer Electronics).
5. Modes of Attendance offered	Full Time (Morning and Evening) / Yearly System
6. Accreditation	Non Yet
7. Other external influences	Non
8. Date of production / revision of this specification	17th December 2022

9. Aims of the Programme

1- Preparing engineering to put scientific knowledge and the scientific method of thinking and analysis at the service of the country's goals, enabling it to pursue its higher studies and adapting to the development of technologies in order to keep pace with the expansion of human needs.
2- Developing the new generation of engineers, and preparing them as future scientific leaders in the field of computer technology engineering, and working to strengthen the position of department in particular among the other Iraqi and regional departments of the same discipline.
3- Emphasizing on a strong foundations, especially in field of computer technology engineering, and constantly striving to support them in various fields to make them able to solve problems, and possess the communication skills necessary to provide quality services to the society in various aspects.
4- Providing an appropriate academic environment for study and research to contribute to finding solutions to engineering problems using appropriate techniques, in addition to actively contributing to deepening and documenting the department’s relationship with society through the implementation of advisory work, training and development of teaching and administrative human resources.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

A-1- Graduating people with a high level of understanding and knowledge capable of building, analyzing and developing computer systems while following up on these after graduation.
A-2- The ability to analyze engineering and scientific problems by applying laws in science, mathematics and engineering and to abide by the instructions for any effectiveness in the organizational and administrative framework in the implementation of a project or facing an engineering problem, solving and evaluating it and submitting a proposal or a plan or reformulating it, translating or interpreting it.
A-3- The student should be able to speak and write in an effective scientific and engineering style in Arabic and English.
A-4- Motivating students to actively participate in the renaissance and progress of society through holding seminars, conferences, continuing education, and providing academic consultations in the fields of computer techniques engineering.
A-5- The student should be able to do, scientific and applied research, in computer engineering fields for the purpose of solving industrial problems.

B. Subject-specific skills

B-1 - The ability to apply the techniques and tools of computer engineering in its two branches of networks, and electronics.
B-2 - Analyzing technical problems and providing a suitable solution.
B-3 - Scientific investigation and evaluation.

Teaching and Learning Methods

There are many teaching and learning methods used in the Department of Computer Technology Engineering, Computer Communication Networks Branch and Computer Electronics Branch. The learning is done through practical applications, and theoretical lectures using traditional board teaching, PPT presentation, discussion groups, and seminars, and student is asked to investigate topics and problems through the internet.

Assessment methods

1. Seminars.
2. Academic debate, oral dialogue, and semester and final theoretical and practical written examinations.
3. Writing and submitting reports and taking notes on the technical expertise gained in the field visits.

C. Thinking Skills

C1 - Using brainstorming to bring out the creative ideas of some gifted students.
C2 - Developing research skills on the Internet to broaden the horizon of knowledge.
C3 - Encouraging the development of engineering thinking for students in memorization and guessing and motivating it towards critical thinking and thinking at a stage before remembering.
C4 - Presenting the engineering problem or design and asking to think about all possible solutions or possible developments.

Teaching and Learning Methods

The student’s ability to analyze, apply, and arrange knowledge so that he can make assumptions and interpretation as well as describe solutions.
The ability to tackle simple problems and focus on the application of solving existing actual problems.

Distinguishing that the test increases the student's motivation towards studying and gaining more, knowledge, and is not a mean of punishment for him.

Assessment methods

The department has relied on clear and high-quality assessment methods and tools for student learning in order to maintain the quality of the graduate and the scientific reputation of the branch and department. The quality of the graduate, which constitutes the final product of the

educational process, the most important methods of assessment we use are:
data, diagnosing and solving problems.
It is done through the following:-
Connectivity Test / Open Questions:-
Questions that have a definite answer.
Questions that do not have a definite answer, which is based on motivating the student to:
A - Objective tests to measure knowledge of engineering facts and their assimilation, application of scientific knowledge in new places, and measure recollection, through the following: -
True and False Questions.
Multiple choice questions.
Interview questions (blank questions).
Completion questions.
B- Engineering tests concerning the following matters:
Remember facts and figures.
Understanding of scientific material and engineering principles.
The ability to recall, link and interpret.
Apply knowledge in a simple way in interpreting
Having the ability to freely answer.
Having the ability to organize.
Having the ability to organize ideas.
- Not to cheat and address it.

D. General and Transferable Skills (other skills relevant to employability and personal development)

D-1- Communication and information technology skills and developing strategies for that in the work team.
D-2- Tendency to cooperate and work together.
D-3- Possess language skills (proficiency in speaking, writing, and understanding Arabic and English) in the art of listening and the art of persuasion and dialogue.
D-4- Possess leadership qualities, memory power, intuitive speed, intuition, predictability and induction.

Teaching and Learning Methods

This is done by examining students in a theoretical and oral form, classroom, home and laboratory activities / informing them of prior experiences, presenting a problem or issue in a video or workshop and asking for it to be addressed, improving its performance or developing it and encouraging note-taking and scheduled comparison, for example:
A case study (graduation project) presenting a description that includes scientific facts about an engineering problem and asking students to analyze some information, diagnose the problem and

describe the mathematical solution.
Stimulating the student's incentives to answer and study more.

Assessment Methods: As above

11. Programme Structure

Level/ Year	Course or Module Code	Course or Module Title	Weekly Hours		Credits
			T	P	
First	LAW01102	**Democracy and Human Rights**	**2**	**-**	**4**
	CTE02102	**Mathematics (1)**	**T1+2**	**-**	**4**
	CTE02103	**Engineering Drawing**	**-**	**3**	**3**
	CTE02104	**Workshops**	**-**	**4**	**4**
	CTE02105	**Electrical Engineering Fundamentals**	**T1+2**	**3**	**7**
	CTE02106	**Computer Organization**	**2**	**2**	**6**
	CTE02107	**Computer programming (I) & applications**	**2**	**3**	**7**
	CTE02108	**Digital Electronics**	**1T+2**	**2**	**6**
	ENG05101	**English Language 1**	**1**	**-**	**2**
	EIS05101	**Arabic Language**	**1**	**-**	**2**
Second	CTE02207	**Computer Application**	**1**	**2**	**4**
	CTE02202	**Mathematics (II)**	**1T+2**	**-**	**4**
	CTE02203	**Microprocessor and Computer Architecture**	**2**	**3**	**7**
	CTE02204	**Instrumentation and Measurements**	**2**	**2**	**6**
	CTE02205	**Computer Programming (II)**	**2**	**2**	**6**
	CTE02206	**Communication Fundamentals**	**1T+2**	**2**	**6**
	CTE02208	**Electronics**	**2**	**2**	**6**
	CTE02250	**Training**	**-**	**-**	**-**
	ENG05201	**English Language 2**	**1**	**-**	**2**
Third Computer Commu -nications Networks	CTE02310	Computer Networks Simulators	1	2	4
	CTE02302	Engineering Analysis	2	2	6
	CTE02303	Control Engineering Fundamentals	2	2	6
	CTE02304	Computer Networks Fundamentals	2	2	6
	CTE02305	Real Time Systems Design	2	2	6
	CTE02306	Digital Signal Processing(DSP)	2	2	6
	CTE02307	Digital Communication	2	2	6
	CTE023xx	Elective Course	2	2	6
	CTE02350	Training			

12. Awards and Credits Required units = 174 For B. Sc. degree

	ENG05301	**English Language** 3	**1**	**-**	**2**	
Third Computer Electronics	CTE02301	Electronic Systems Simulators	1	2	4	
	CTE02302	Engineering Analysis	2	2	6	
	CTE02303	Control Engineering Fundamentals	2	2	6	
	CTE02309	Power Electronic	2	2	6	
	CTE02305	Real Time systems Design	2	2	6	
	CTE02306	Digital Signal Processing(DSP)	2	2	6	
	CTE023xx	Elective Course	2	2	6	
	CTE02308	Digital Controllers	2	2	6	
	CTE02350	Training	-	-	-	
	ENG05301	**English Language** 3	**1**	**-**	**2**	
Fourth Computer Comm-unications Networks	CTE02401	Computer Networks Protocols	2	2	6	
	CTE02402	Information Theory and Coding	2	2	6	
	CTE02403	Mobile Communication	2	2	6	
	CTE02404	Security of Computer and Networks	2	2	6	
	CTE02405	Project Management	2	2	6	
	CTE02406	Multimedia Computing	2	2	6	
	CTE024xx	Elective Course	2	2	6	
	CTE02413	Project	-	4	4	
	ENG05401	**English Language** 3	**1**	**-**	**2**	
Fourth Computer Electronics	CTE02409	Smart Systems Modeling	2	2	6	
	CTE02431	Advanced Computer Technology	2	2	6	
	CTE02432	Computer Interface Circuits Design	2	2	6	
	CTE02433	Advanced Digital Electronics	2	2	6	
	CTE02405	Project Management	2	2	6	
	CTE02434	Computer Networks	2	2	6	
	CTE024xx	Elective Course	2	2	6	
	CTE02413	Project	-	4	4	
	ENG05401	**English Language** 3	**1**	**-**	**2**	

13. Personal Development Planning

The focus in the Department of Computer Technology Engineering is on continuous improvement, as the department always seeks to improve the scientific and administrative process and to overcome all difficulties and obstacles that hinder the educational program through the development of human resources for personal development.
The following procedures illustrate the steps implemented or in the process of being implemented in this area:

1. Continuous improvement and development of faculty members through training programs and workshops inside and outside the department, university and country.
2. Increasing extra-curricular activities such as holding scientific conferences and symposia and personal and sports innovations locally, regionally and internationally.
3. Encouraging faculty members to obtain the highest scientific and administrative ranks.
4. Providing sources and modern scientific books for the department's library to keep pace with the rapid progress in engineering sciences.
5. Providing specialized software in computer technology engineering and the necessary computers for this, along with internet lines for all teachers.

14. Admission criteria.

The Department of Computer Technology Engineering is subject to the working mechanism of the Ministry of Higher Education and Scientific Research - Central Admission Department, where graduates of the preparatory school, the scientific branch, are nominated for admission to the department.

15. Key sources of information about the programme

• Curriculum approved by the Ministry of Higher Education and Scientific Research. • Courses in teaching methods. • Courses in civil society organizations. • Internet searches for similar experiences. • Personal experiences.

Curriculum Skills Map

please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed

Year/ Level	Course Code	Course Title	Core / Option	Knowledge And understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
First	CTE20101	Democracy and Human Rights	C	√	√	√	√	√				√	√			√	√	√	
	CTE20102	Mathematics (1)	C	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√
	CTE10103	Engineering Drawing	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	CTE10104	Electrical Engineering Fundamentals	C	√	√	√	√	√	√	√	√	√	√	√		√	√	√	
	CTE10105	Computer programming (I) & applications	C	√	√	√	√	√	√			√	√			√	√	√	√
	CTE10106	Digital Electronics	C	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√
	CTE20107	Computer Organization	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	CTE10108	Workshops	C																
Second	CTE20201	Computer Application	C	√	√	√		√	√	√		√	√	√		√	√	√	√
	CTE20202	Mathematics (II)	C	√	√	√	√	√	√	√	√	√	√	√		√	√	√	

	CTE10203	Microprocessor and Computer Architecture	C	√	√	√	√	√	√	√		√	√	√		√	√	√	√
	CTE10204	Instrumentation and Measurements	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	CTE10205	Computer Programming (II)	C	√	√	√	√	√	√	√	√	√	√			√	√	√	√
	CTE10206	Electronics	C	√	√	√	√	√	√	√		√	√			√	√	√	√
	CTE10207	Communication Fundamentals	C	√	√	√	√	√	√	√		√	√	√		√	√	√	
	CTE40208	Training	C																
Third Computer Communication Networks	CTE20301	Computer Networks Simulators	C	√	√	√	√	√	√	√	√	√	√			√	√	√	√
	CTE20302	Engineering Analysis	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	CTE20303	Control Engineering Fundamentals	C	√	√	√	√	√	√	√	√	√	√			√	√	√	√
	CTE10304	Computer Networks Fundamentals	C	√	√	√	√	√	√			√				√	√	√	
	CTE10305	Real Time Systems Design	C	√	√			√	√	√	√	√	√	√	√	√	√	√	√
	CTE10306	Digital Signal Processing (DSP)	C	√	√	√	√	√	√	√		√	√	√		√	√	√	

	CTE10307	Digital Communication	C	√	√	√		√	√	√		√	√	√		√	√	√	
	CTE10308	Elective Course	O	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	CTE40309	Training	C																
Third Computer Electronics	CTE20310	Electronic Systems Simulators	C	√	√	√	√	√	√	√	√	√	√			√	√	√	√
	CTE20302	Engineering Analysis	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	CTE20303	Control Engineering Fundamentals	C	√	√	√	√	√	√	√	√	√	√			√	√	√	√
	CTE10311	Power Electronic	C	√	√	√	√	√	√	√		√	√	√		√	√	√	
	CTE10305	Real Time systems Design	C	√	√			√	√	√	√	√	√	√	√	√	√	√	√
	CTE10306	Digital Signal Processing (DSP)	C	√	√	√	√	√	√	√		√	√	√		√	√	√	
	CTE10312	Digital Controllers	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	CTE10313	Elective Course (Digital Communication)	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	CTE40309	Training	C																

Fourth Computer Electronics	CTE20409	Smart Systems Modeling	C	√	√	√	√	√	√	√	√	√	√			√	√	√	√
	CTE10410	Advanced Computer Technology	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	CTE10411	Computer Interface Circuits Design	C	√	√	√		√	√	√	√	√	√			√	√	√	√
	CTE10412	Advanced Digital Electronics	C	√	√	√	√	√	√	√	√	√	√	√		√	√	√	√
	CTE10413	Computer Networks	C	√	√	√	√	√	√	√		√				√	√	√	√
	CTE10406	Project Management	C	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√
	CTE10415	Elective Course	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	CTE10408	Project	C																
Fourth Computer Communication Networks	CTE10401	Computer Networks Protocols	C	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√
	CTE10402	Information Theory and Coding	C	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√
	CTE10403	Mobile Communication	C	√	√	√	√	√	√	√		√	√			√	√	√	
	CTE10404	Security of Computer and Networks	C	√	√	√	√	√	√	√	√	√	√			√	√	√	√
	CTE10405	Multimedia Computing	C	√	√	√	√	√	√	√	√	√	√			√	√	√	√

	CTE10406	Project Management	C	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√
	CTE10407	Elective Course	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	CTE10408	Project	C																