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

Academic Program Specification Form for the Academic Year 2020-2021

University: University of Technology
College : Computer Sciences Department – Artificial Intelligence
Number Of Departments in The College : 6
Date of Form Completion: 9-6-2021

Programme Mager's Name :
Dr. Mustafa Jasem Hadi
Date: June 2021
Signature

Quality Assurance and Evaluation Correction director: Nada Najeel Kamal
Date: June 2021
Signatu

Dean's Name: Dr. Aliaa Karim Abdul Hassan
Date: June 2021
Signatı

Deans Assistant for Scientific Affairs: Nuha Jamil Ibrahim
Date: June 2021
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	University of technology
2. University Department/Centre	Department of computer sciences
3. Programme Title	Artificial intelligence branch
4. Title of Final Award	B.SC. in computer sciences
5. Modes of Attendance offered	courses
6. Accreditation	ABET
7. Other external influences	no
8. Date of production/revision of this specification	9-6-2021
9. Aims of the Programme	

The academic program aims to prepare cadres specialized in the field of applications and smart technologies by winning Special skills in the preparation, design and construction of smart systems behavior and the development of performance of an emulated character Of human behavior in solving complex problems or problems that lack or lack appropriate or optimal solutions. The graduate of this branch works in the field of understanding, designing and developing programs and smart systems, and has expertise in Methods of representation of knowledge and ways to infer the facts through which to access the integrated automation of systems
Down to the ultimate in solving problems of multiple type or complex solutions.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

1. The academic program is designed to gain and understand the skills of how to take advantage of the facts and evidence in order to properly implement the system and to give results and appropriate solutions by understanding and developing the rules of knowledge and how to operate machines inference or conclusion leading to multiple solutions containing high solutions to the best.

B. Subject-specific skills

B.1- Smart algorithms search

B.2- Use appropriate methods of representation to identify the problem in question

B.3- Use an appropriate control strategy to implement the system

Teaching and Learning Methods

1. Theoretical lessons in multiple technologies specializing in intelligent

systems and applications

2. Practical experiments to implement computer programs in a suitable software environment
3. Continuing workshops illustrating global development in building systems that serve multiple areas of life

Assessment methods

1. Daily, final and final theoretical examinations
2. Laboratory examinations throughout the school year
3. Continuous daily assessment Individual and collective skills and creativity of students

C. Thinking Skills

C1 - How to benefit from the way people think in solving problems and representation in a suitable manner in the computer

C2 - Utilize the skills and functions performed by different devices in the human body and simulated in computer programs to solve certain problems

C3- Focus on the development of individual skills in creativity and innovation

Teaching and Learning Methods

1. theoretical lectures
2. Practical lectures (laboratory(
3. Specialized workshops

Assessment methods

1. Continuous assessment and follow-up

2. Focus on the individual and collective skills and creativity of students
3. Evaluation of the completion of household work and additional tasks (optional) given during lectures

D- General and transferable skills (or) other skills related to employability and personal development

1- Knowing how a computer works

Learning Methods

Lab and theoretical lectures and discusions

Assessment methods

Daily Quizzes and Exams

Reporst

13. Personal Development Planning

Training courses - Workshops - Research and street - Specialized seminars - Conferences - Graduate studies
See the most important Arab and foreign sources
Study case studies and generalize the results
Solve self-test questions in sources and references
Simulation of complex systems

14. Admission criteria.

1. Central Admission
2. Salem is a permanent disability that hinders work in the field of computer

15. Key sources of information about the programme
1. Labor market requirements 2. Keeping pace with scientific development

Artificial intelligence Curriculum

منهج المرحلة الاولى- الكورس الأول

No. of Units	Tutorial	No. of Lab. hour	No. Of Theory hour	رمز المادة Code Subject	Subject	اسم المادة	ت
4	1	2	3	CSCL1101	Structured Programming I	البرمجة المهيكلة1	1
2	1	-	2	CSCL1103	Mathematics I	الرياضيات1	2
2	1	-	2	CSCL1105	I Discrete Structures	الهياكل المتقطعة1	3
2	1	-	2	CSCL1107	Computer Organization	تركيب الحاسوب	4
2	1	-	2	CSCL1109	Introduction to Statistics	مدخل الى الاحصاء	5
2	1	-	2	CSAI1101	Introduction to A.I	مقدمة الى الذكاء الاصطناعي	6
1	-	-	2	CSCL1111	English Language 1	اللغة الانكليزية 1	7
2	-	2	-	UT100	Work shop	المعامل	8
17	6	4	15		Total		

منهج المرحلة الاولى- الكورس الثاني

No. of Units	Tutorial	No. of Lab. hour	No. Of Theory hour	رمز المادة Code Subject	Subject	اسم المادة	ت

4	1	2	3	CSCL1202	Structured II Programming	البرمجة المهيكلة2	1
2	1	-	2	CSCL1204	Mathematics II	الرياضيات 2	2
2	1	-	2	CSCL1206	Discrete Structures II	الهياكل المتقطعة 2	3
3	1	2	2	CSCL1208	Logic Design	التصميم المنطقي	4
2	1	-	2	CSCL1210	Probabilistic Theory	نظرية الاحتمالات	5
3	1	2	2	CSAI1202	Prolog Language	لغة برولوك	6
2	1	-	2	CSAI1203	Knowledge Representation	تمثيل المعرفة	7
18	7	6	15		Total		

منهج المرحلة الثانية- الكورس الاول

No. of Units	Tutorial	No. of Lab. hour	No. Of Theory hour	رمز المادة Code Subject	Subject	اسم المادة	ت
3	1	2	2	CSCL2112	Object Oriented Programming I	برمجة شيئية 1	1
3	1	2	2	CSCL2114	Data Structures	هياكل بيانات	2
3	1	2	2	CSCL2116	Mathematics III	رياضيات 3	3
3	1	2	2	CSCL2118	Database Foundation	اساسيات قواعد البيانات	4
3	1	2	2	CSAI2104	NLP and Python Language	معالجة لغات طبيعية ولغة بايثون	5
3	1	2	2	CSAI1202	Prolog Language	لغة برولوك	6
18	6	12	12		Total		

منهج المرحلة الثانية- الكورس الثاني

No. of Units	Tutorial	No. of Lab. hour	No. Of Theory hour	رمز المادة Code Subject	Subject	اسم المادة	ت
3	1	2	2	CSCL2213	Object oriented programming II	برمجة شيئية 2	1

3	1	2	2	CSCL2215	Sorting and Searching Algorithms	خوارزميات البحث والترتيب	2
3	1	2	2	CSCL2217	Numerical Analysis	تحليل عددي	3
3	1	2	2	CSCL2219	Database Design	تصميم قواعد بيانات	4
2	1	-	2	CSAI2205	Fuzzy Logic	منطق مضبب	5
3	1	2	2	CSAI2206	Searching Strategies	استراتيجيات البحث	6
1	-	-	2	CSCL2221	Democracy	ديمقراطية	7
1	-	-	2	CSCL2122	English Language II	لغة انكليزية 2	8
19	6	10	16		Total		

منهج المرحلة الثالثة- الكورس الاول

No. of Units	Tutorial	No. of Lab. hour	No. Of Theory hour	رمز المادة Code Subject	Subject	اسم المادة	ت
3	1	2	2	CSCL3123	Microprocessor	معالجة مايكروية	1
2	1	-	2	CSCL3125	Computation Theory	نظرية احتسابية	2
2	-	-	2	CSCL3127	Operations Research	بحوث عمليات	3
3	1	2	2	CSAI3107	Computer Graphics 2D	رسوم الحاسوب ثنائية الابعاد	4
3	1	2	2	CSAI3108	Natural Language Processing	معالجة اللغة الطبيعية	5
3	-	2	2	CSAI3109	Algorithm and its Complexities	الخوارزميات وتعقيدها	6
3	1	2	2	CSA1I3212	Heuristic Search Methods	طرق البحث الموجهه	7
1	-	-	2	CSCL3133	English Language 3	لغة انكليزية3	8
20	5	10	16		Total		

منهج المرحلة الثالثة- الكورس الثاني

No. of	Tutorial	No. of	No. Of	رمز المادة	Subject	اسم المادة	ت

Units		Lab. hour	Theory hour	Code Subject			
3	1	2	2	CSCL3224	Computer Architecture	معمارية الحاسوب	1
3	1	2	2	CSCL3226	Compiler Design	تصميم مترجمات	2
2	-	-	2	CSCL3228	Optimization	الامثلية	3
3	1	2	2	CSAI3211	Visualization	المرئية الافتراضية	4
3	-	2	2	CSAI3110	Expert System	الانظمة الخبيرة	5
3	-	2	2	CSAI3213	Speech Recognition	تمييز الاصوات	6
3	-	2	2	CSAI3214	Machine Learning	تعلم الماكنة	7
20	3	12	14		Total		

منهج المرحلة الرابعة- الكورس الاول

No. of Units	Tutorial	No. of Lab. hour	No. Of Theory hour	رمز المادة Code Subject	Subject	اسم المادة	ت
3	1	2	2	CSCL4134	Static Web Programming	برمجة المواقع الثابتة	1
3	1	2	2	CSCL4136	Operating system 1	نظم تشغيل1	2
2	1	2	2	CSCL4138	Data Security1	امنية بيانات1	3
3	1	2	2	CSCI4115	Computer Network	شبكات الحاسوب	4
3	-	2	2	CSAI4116	Planning & Robotics	التخطيط والانسان الالي	5
2	-	-	2	CSAI4117	Data Warehouse	مخازن البيانات	6
3	-	2	2	CSCL4444	Project	المشروع	7
20	4	12	14		Total		

منهج المرحلة الرابعة- الكورس الثاني

No. of Units	Tutorial	No. of Lab. hour	No. Of Theory hour	رمز المادة Code Subject	Subject	اسم المادة	ت
3	1	2	2	CSCL4235	Dynamic Web Programming	برمجة مواقع متغيرة	1

3	1	2	2	CSCL4237	Operating system 2	نظم تشغيل2	2
3	1	2	2	CSCL4239	Data Security 2	امنية بيانات2	3
3	1	2	2	CSAI4218	Machine Vision	الرؤيا بالماكنة	4
3	-	2	2	CSA4219	Advanced Intelligent Search	تقنيات البحث الذكية	5
2	-	-	2	CSAI4220	Data Mining	تنقيب البيانات	6
3	-	2	2	CSCL444	Project	المشروع	7
1	-	-	2	CSCL4142	English Language 4	اللغة الانكليزية4	8
21	4	12	16		Total		

Curriculum Skills Map

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

				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Option (O)	General and Transferable Skills (or) Other skills relevant to employability and personal development			Thinking Skills					Subject-specific skills				Knowledge and understanding			
							D1	C4	C3	C2	C1		B3	B2	B1				A1
First Year/ First Course	**CSCL1101**	**Structured Programming I**	**c**				√	√	√	√	√		√	√	√				√
	CSCL1103	**Mathematics I**	**c**						√	√	√		√	√	√				√
	CSCL1105	**Discrete Structures I**	**c**				√		√	√	√			√	√				√
	CSCL1107	**Computer Organization**	**c**				√				√			√	√				√
	CSCL1109	**Introduction to Statistics**	**c**				√			√	√		√	√	√				√
	CSAI1101	**Introduction to A.I**	**c**				√								√				√
	CSCL1111	**English Language 1**	**c**				√			√	√		√	√	√				√
		Workshop	**c**							√	√		√	√	√				√
First Year/ Second Course	**CSCL1202**	**Structured Programming II**	**c**				√	√	√	√	√		√	√	√				√
	CSCL1204	**Mathematics II**	**c**						√	√	√		√	√	√				√
	CSCL1206	**Discrete Structures II**	**c**						√	√	√		√	√	√				√
	CSCL1208	**Logic Design**	**c**				√		√	√	√			√	√				√
	CSCL1210	**Probabilistic Theory**	**c**				√			√	√		√	√	√				√
	CSAI1202	**Prolog Language**	**c**				√			√	√		√	√	√				√
	CSAI1203	**Knowledge Representation**	**c**				√			√	√		√	√	√				√

Second Year/ First Course	**CSCL2112**	**Object Oriented Programming I**	**C**				√	√	√	√	√		√	√	√				√
	CSCL2114	**Data Structures**	**C**				√	√	√	√	√		√	√	√				√
	CSCL2116	**Mathematics III**	**C**						√	√	√		√	√	√				√
	CSCL2118	**Database Foundation**	**C**				√			√	√		√	√	√				√
	CSAI2104	**NLP and Python Language**	**C**				√				√				√				√
	CSAI1202	**Prolog Language**	**C**				√	√							√				√
Second Year/ Second Course	**CSCL2213**	**Object oriented programming II**	**C**				√		√	√	√		√	√	√				√
	CSCL2215	**Sorting and Searching Algorithms**	**C**				√		√	√	√		√	√	√				√
	CSCL2217	**Numerical Analysis**	**C**				√				√				√				√
	CSCL2219	**Database Design**	**C**				√	√	√	√	√		√	√	√				√
	CSAI2205	**Fuzzy Logic**	**C**				√			√	√		√	√	√				√
	CSAI2206	**Searching Strategies**	**C**				√			√	√		√	√	√				√
	CSCL2221	**Democracy**	**C**																
	CSCL2122	**English Language II**	**C**	√			√			√	√		√	√	√				√

Third Year/ First Course	**CSCL3123**	**Microprocessor**	**C**				√		√	√	√		√	√	√				√
	CSCL3125	**Computation Theory**	**C**				√	√	√	√	√		√	√	√				√
	CSCL3127	**Operations Research**	**C**				√	√	√	√	√		√	√	√				√
	CSMM3108	**Computer Graphics 2D**	**C**				√			√	√		√	√	√				√
	CSAI3108	**Natural Language Processing**	**C**				√		√	√	√		√	√	√				√
	CSAI3109	**Algorithm and its Complexities**	**C**				√	√	√	√	√		√	√	√				√
	CSAI3212	**Metaheuristic Search**	**C**				√		√	√	√		√	√	√				√
							√	√							√				√
Third Year/ Second Course	**CSCL3224**	**Computer Architecture**	**C**				√		√	√	√		√	√	√				√
	CSCL3226	**Compiler Design**	**C**				√			√	√		√	√	√				√
	CSCL3228	**Optimization**	**C**				√		√	√	√				√				√
	CSAI3211	**Visualization**	**C**				√		√	√	√				√				√
	CSAI3110	**Expert System**	**C**				√	√	√	√	√		√	√	√				√
	CSAI3213	**Speech Recognition**	**C**				√		√	√	√		√	√	√				√
	CSAI3214	**Machine Learning**	**C**				√	√	√	√	√		√	√	√				√
	CSCL3224	**Computer Architecture**	**C**				√		√	√	√		√	√	√				√
Fourth year/ First Course	**CSCL4134**	**Static Web Programming**	**C**				√		√	√	√		√	√	√				√
	CSCL4136	**Operating system 1**	**C**				√	√	√	√	√		√	√	√				√
	CSCL4138	**Data Security1**	**C**				√	√	√	√	√		√	√	√				√
	CSCI4115	**Computer Network**	**C**				√			√	√		√	√	√				√
	CSAI4116	**Planning & Robotics**	**C**				√		√	√	√				√				√
	CSAI4117	**Data Warehouse**	**C**				√	√	√	√	√		√	√	√				√

	CSCL4444	**Project**	**C**				√		√	√	√		√	√	√				√
Fourth year/ Second Course	**CSCL4235**	**Dynamic Web Programming**	**C**				√		√	√	√		√	√	√				√
	CSCL4237	**Operating system 2**	**C**				√	√	√	√	√		√	√	√				√
	CSCL4239	**Data Security 2**	**C**				√		√	√	√		√	√	√				√
	CSAI4218	**Machine Vision**	**C**				√	√	√	√	√		√	√	√				√
	CSA4219	**Advanced Intelligent Search**	**C**				√		√	√	√				√				√
	CSAI4220	**Data Mining**	**C**				√	√	√	√	√		√	√	√				√
	CSCL444	**Project**	**C**				√		√	√	√		√	√	√				√
	CSCL4142	**English Language 4**	**C**																√