



**University Name: Al-Muthanna University**

**Faculty/Institute: Basic of Basic Education**

**Scientific Department: Department of Science**

**Academic or Professional Program Name: Bachelor's degree in Science**

**Final Certificate Name: Bachelor's degree in Education/ General Science**

**Academic System: Semester (courses)**

**Description Preparation Date: March 2024**

**File Completion Date: 2024/3/11**

**Signature:**

**Head of Department Name:**

**Asst.Prof. Dr. Ammar Nadal Shareef**

**Date:28/2/2024**

**Signature:**

**Scientific Associate Name:**

**D. Kawthar Abdul Hassan Abdullah**

**Date:41/4/2024**

**The file is checked by:**

**Department of Quality Assurance and University Performance**

**Director of the Quality Assurance and University Performance Department:**

**M.Sc Ameena Naeem Seewan**

**Date: 4/4/2024**

**Signature:**

**Approval of the Dean**

### **1. Program Vision**

The academic program for the Science Department provides the most important characteristics of the program and the educational outcomes expected of the student to achieve, demonstrating whether he has made the most of the educational opportunities available in the College of Basic Education and the Science Department in particular.

### **2. Program Mission**

Providing an active interactive environment for students that helps in preparing them distinguished academically, behaviorally and professionally, and providing high-level experiences that contribute to the production of modern educational knowledge in this field that serves society and fulfills the needs of the labor market.

### **3. Program Objectives**

A- Prepare students scientifically and educationally to enable them to be committed and distinguished teachers in the field of specialization in the Science.

2- Deepening the bonds of cooperation between the department and the General Directorate of Education by holding seminars and training courses in modern teaching methods for educational bodies within the department's program in continuing education.

3-Focus on preparing research and studies and building tests and standards related to the department's specialization.

4- Pushing towards developing the teaching staff in the department through coordination with Arab and international universities to obtain approvals for the enrollment of faculty members in the department in a number of training courses or research fellowships to develop the professional performance of teachers in the scientific fields of the department's specialization, which will reflect positively on the educational process.

5- Providing state institutions related to specialization with academic cadres in the fields of Science to contribute to studies of many psychological problems and phenomena and find solutions to them.

### **4. Program Accreditation**

Does the program have program accreditation? From which side? No

## 5. Other external influences

Is there a sponsor for the program?

Scientific Supervision and Evaluation Body - Quality Assurance and Academic Accreditation Department - Accreditation Department.

Department of Quality Assurance and University Performance at the Presidency of Al-Muthanna University

Division of Quality Assurance and University Performance at the College of Basic Education.

## 6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	13	26	19%	fundamental
College Requirements	12	10	29%	fundamental
Department Requirements	25	70	52%	fundamental
Summer Training				
Other				

\* This can include notes whether the course is basic or optional.

## 7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
The first/first semester		General biology	3	2
		General chemistry	3	2
		Logic (mathematics)	2	
		Basics of psychology	3	
		Arabic language	2	
		Human rights and democracy	2	
		computer	2	1

<b>1. Program Description</b>				
<b>Year/Level</b>	<b>Course Code</b>	<b>Course Name</b>	<b>Credit Hours</b>	
			<b>theoretical</b>	<b>practical</b>
<b>First/second semester</b>		<b>Fundamentals and principles of basic education</b>	3	
		<b>Islamic education</b>	2	
		<b>General physics</b>	3	2
		<b>Developmental psychology</b>	3	
		<b>Human biology</b>	2	2
		<b>Laboratory security and safety</b>	2	
		<b>English language</b>	2	

<b>Physics Branch</b>				
<b>1. Program Description</b>				
<b>Year/Level</b>	<b>Course Code</b>	<b>Course Name</b>	<b>Credit Hours</b>	
			<b>theoretical</b>	<b>practical</b>
<b>Second/first semester</b>		<b>Arabic language</b>	2	
		<b>English language</b>	2	
		<b>computer</b>	1	2
		<b>Counseling and mental health</b>	3	
		<b>Wave motion and sound</b>	2	2
		<b>Material properties</b>	2	
		<b>Classic mechanics</b>	2	2

1. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
Second/second semester		Baath Party crimes	theoretical	practical
			2	
		Educational statistics	3	
		Educational psychology	2	
		Thermodynamics	2	2
		Electric and magnetic	3	2
		Calculus	2	
		Optical physics	2	2
1. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
Third/first semester		General teaching methods	theoretical	practical
			3	
		Modern physics	3	2
		Quantum mechanics	2	
		Astronomy	2	
		Educational research methodology	3	

## 2. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Third/second semester		Sustainable development	2	
		Measurement and evaluation	2	
		Curricula and textbooks	2	
		Electronics science	2	2
		Solid state physics	3	
		General teaching methods	2	
		Radioactivity	2	2
		Health and environment	2	

## 1. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Fourth/first semester		Laser	2	2
		Electromagnetism	3	
		Plasma physics	2	
		Practical education (observation)		4
		Educational administration and supervision	2	
		Professional ethics	2	
		Arabic literature	2	
		Nuclear physics	2	

1. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
		Graduation research project	2	
		Practical education (application)	12	

(\* ) Graduation research project: A semester subject treated as an annual subject, and only (3) units are counted for calculating the competitive average.

8. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
The first/first semester		General biology	3	2
		General chemistry	3	2
		Logic (mathematics)	2	
		Basics of psychology	3	
		Arabic language	2	
		Human rights and democracy	2	
		computer	2	1

2. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
First/second semester		Fundamentals and principles of basic education	3	
		Islamic education	2	
		General physics	3	2
		Developmental psychology	3	
		Human biology	2	2
		Laboratory security and safety	2	
		English language	2	

Physics Branch				
2. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Second/first semester		Arabic language	2	
		English language	2	
		computer	1	2
		Counseling and mental health	3	
		Wave motion and sound	2	2
		Material properties	2	
		Classic mechanics	2	2



2. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
Second/second semester		Baath Party crimes	theoretical 2	practical
		Educational statistics	3	
		Educational psychology	2	
		Thermodynamics	2	2
		Electric and magnetic	3	2
		Calculus	2	
		Optical physics	2	2
3. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
Third/first semester		General teaching methods	theoretical 3	practical
		Modern physics	3	2
		Quantum mechanics	2	
		Astronomy	2	
		Educational research methodology	3	

#### 4. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Third/second semester		Sustainable development	2	
		Measurement and evaluation	2	
		Curricula and textbooks	2	
		Electronics science	2	2
		Solid state physics	3	
		General teaching methods	2	
		Radioactivity	2	2
		Health and environment	2	

#### 2. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Fourth/first semester		Laser	2	2
		Electromagnetism	3	
		Plasma physics	2	
		Practical education (observation)		4
		Educational	2	

		administration and supervision		
		Professional ethics	2	
		Arabic literature	2	
		Nuclear physics	2	

2. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
		Graduation research project	2	
		Practical education (application)	12	

(\*) Graduation research project: A semester subject treated as an annual subject, and only (3) units are counted for calculating the competitive average.

Chemistry Branch				
3. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Second/first semester		Arabic	2	
		english language	2	-
		computer	1	2
		Guidance and mental health	3	
		Inorganic chemistry	2	2
		Volumetric analytical chemistry	2	2
		physical chemistry	2	2

### 3. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Second/second semester		Educational statistics	1	
		Baath Party crimes	3	
		Educational psychology	2	-
		Gravimetric analytical chemistry	2	2
		organic chemistry	2	2
		Chemistry of represented elements	2	2
		Calculus		

### 5. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Third/first semester		Arabic	2	
		General teaching methods	3	
		Educational research methodology	3	
		Coordination Chemistry	2	2
		organic chemistry	2	2
		Industrial Chemistry	2	2

### 6. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Third/second semester		English	2	
		Measurement and evaluation	2	
		Curricula and textbooks	2	
		Oil and petrochemicals	2	2
		Biochemistry	2	2
		General teaching methods	2	
		Soil chemistry	2	2

### 3. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Fourth/first semester		Instrumental Analysis	2	2
		Clinical biochemistry	2	2
		General teaching methods	2	2
		Food industry	1	1
		Curricula and textbooks Educational	2	
		administration and supervision	2	

### 3. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
		Graduation research project	-	
		Practical education (application)	12	

(\* ) Graduation research project: A semester subject treated as an annual subject, and only (3) units are counted for calculating the competitive average.

(\* ) Graduation research project: A semester subject treated as an annual subject, and only (3) units are counted for calculating the competitive average

## 7. Expected learning outcomes of the program

### Knowledge

#### Learning Outcomes

- Enabling students to acquire and understand specialized educational, psychological, and cultural concepts and terminology.
  - Introducing students to the psychology of play in children.
  - Enabling students to acquire and understand mental health and children's health.
  - Enabling students to acquire and understand the foundations, principles, theories and types of psychological and educational counselling.
  - Enabling students to acquire and understand the basics of the Arabic language
  - Enabling students to acquire and understand the basics of the English language.
  - Enabling students to collect and understand learning theories.
  - Introducing students to the types, levels, and skills of thinking.
  - Enabling students to acquire and understand the basics of measurement and evaluation.
- Enabling students to collect and understand educational statistics

### Skills

Enabling students to acquire skills that help children express and communicate with others through developing listening skills

Speaking and expressing their thoughts.

- Enabling students to acquire skills that help children develop their abilities to make judgments, such as distinguishing between good and evil.
- And the good and the ugly.
- Enabling students to acquire the skills of dialogue, discussion, listening to others and accepting their opinions.
  - Enabling students to acquire scientific research skills.
  - Enabling students to learn the skills of criticism, analysis, and evaluation of the information presented to them.

### Ethics

Raising students to respect human dignity

- Educating students on scientific honesty and topics in presenting and presenting scientific and educational information.
- Enabling students to acquire skills that help children develop their moral and religious attitudes, such as consolidating faith in God in
- Children's hearts and the practice of religious rituals.
- Raising students to respect the highest principles and ethics of the profession.
- Training students to respect the rights of beneficiaries of their profession, culture, religion, nationality and race.
- Developing students' sense of responsibility during study and during work.
- Training students to respect the freedom of expression, thinking, and creativity of others
- Enhancing the spirit of cooperation among students and teamwork.
- Developing students' sense of belonging to and loyalty to the homeland.

## 8. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in implementing the program in general.

1. Familiarity with the field of learning and teaching strategies, scientific research methods and applications.

2. Reviewing scientific research and studies published in scientific research.
3. Comparing the course with the courses of scientific departments in other universities.
4. Learn about the development of modern research techniques and compare them with old methods.

## **9. Evaluation methods**

A– Daily quick tests with various questions for academic subjects.

B– Direct questions.

C– Monthly and final exams.

D– Providing scientific research on various course topics.

Practical application in schools for the fourth stage and scientific education for the viewing subject for the third stage.



<b>10. Faculty</b>						
<b>Faculty Members</b>						
<b>Academic Rank</b>	<b>Specialization</b>		<b>Special Requirements/Skills (if applicable)</b>		<b>Number of the teaching staff</b>	
	<b>General</b>	<b>Special</b>			<b>Staff</b>	<b>Lecturer</b>
<b>Prof. Dr. Ibraheem Kadhom Faroun</b>	<b>methods of teaching</b>	<b>methods of teaching science</b>			<b>Staff</b>	
<b>Prof. Dr. Thaer Sakban Hussein</b>	<b>Psychology</b>	<b>Psychological Counseling</b>			<b>Staff</b>	
<b>Assist. Prof. Dr. Kawthar Abdel-Saheb Kazem</b>	<b>Arts</b>	<b>Fine Arts</b>			<b>Staff</b>	
<b>Assist. Prof. Dr. Huda Rahim Hashem</b>	<b>Biology</b>	<b>Medical Mycology</b>			<b>Staff</b>	
<b>Assist. Prof. Dr. Ammar nadal shareef</b>	<b>Physics</b>	<b>Antennas</b>			<b>Staff</b>	
<b>Prof. Dr. Murtada Mohamed Abdel Kazem</b>	<b>Math</b>	<b>topology</b>			<b>Staff</b>	
<b>Assist. Prof. Dr. Assist. Hassanein Jamhour Jassim</b>	<b>Chemistry</b>	<b>Applied Chemistry</b>			<b>Staff</b>	
<b>Dr. Ahmed Abdel Razzaq</b>	<b>Chemistry</b>	<b>Analytical Chemistry</b>			<b>Staff</b>	

<b>Assist. Prof. Zainab Jassim Khudair</b>	<b>Chemistry</b>	<b>Analytical Chemistry</b>			<b>Staff</b>	
<b>Assist. Prof. Ammar Musa Mandal</b>	<b>Biology</b>	<b>Biotechnolog y</b>			<b>Staff</b>	
<b>Lecturer. Hussein Abdel Karim Hussein</b>	<b>Physics</b>	<b>Plasma Physics</b>			<b>Staff</b>	
<b>Lecturer. Rawaa Sami Sulaybah</b>	<b>Physics</b>	<b>Astronomy Physics</b>			<b>Staff</b>	
<b>Lecturer. Zaid Saud Razzaq</b>	<b>Physics</b>	<b>General Physics</b>			<b>Staff</b>	
<b>assist. Lecturer. Tabarak Salam Abdel Raouf</b>	<b>Biology</b>	<b>Microbiology</b>			<b>Staff</b>	
<b>assist. Lecturer. Wissam Jawad Kazem</b>	<b>Biology</b>	<b>Animal Physiology</b>			<b>Staff</b>	
<b>assist. Lecturer. Amena Naeem Seewan</b>	<b>Chemistry</b>	<b>Organic Chemistry</b>			<b>Staff</b>	
<b>assist. Lecturer. Zena Abdel Hussein Jawad</b>	<b>Agricultura l Sciences</b>	<b>Plant Protection</b>			<b>Staff</b>	
<b>assist. Lecturer. Ali Khalil Abdel Kazem</b>	<b>Agricultura l Sciences</b>	<b>Soil and Water Resources</b>			<b>Staff</b>	

## **Professional Development**

### **Mentoring new faculty members**

### **Professional development of faculty members**

Giving lectures.

- Participation in exams.
- Supervising students

## **11. Acceptance Criterion**

**(GPA system for students accepted from middle school.**

**B– Students’ desire.**

**T– Interviews conducted for students in the department.**

## **12. The most important sources of information about the program**

. The teaching staff and the information it possesses.

B– Scientific libraries.

C– The International Internet Information Network.

D– Workshops.

Specialized research centers in various fields of science.

## **13. Program Development Plan**

Benefit from electronic library services and the international information network.

2. Conducting development courses for students and holding workshops and vocational training.

3. Conducting scientific trips.

### Program Skills Outline

				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
<b>First level</b>		<b>General biology</b>	<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>General chemistry</b>	<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Logic (mathematics)</b>	<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Basics of psychology</b>	<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Arabic language</b>	<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Human rights and democracy</b>	<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>computer</b>	<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
			<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

				Required program Learning outcomes											
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
second level		Arabic language	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		English language	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		computer	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Counseling and mental health	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Wave motion and sound	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Material properties	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Classic mechanics	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Baath Party crimes	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Educational statistics	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Educational psychology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Thermodynamics	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Electric and magnetic	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Calculus	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
		Optical physics	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Third level		General teaching methods	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Modern physics	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Quantum mechanics	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Astronomy	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Educational research methodology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Sustainable development	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Measurement and evaluation	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Curricula and textbooks	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Electronics science	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Solid state physics	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		General teaching methods	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Radioactivity	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Health and environment	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
			Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
			1	A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Fourth level		<b>Laser</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Electromagnetism</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Plasma physics</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Practical education (observation)</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Educational administration and supervision</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Professional ethics</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Arabic literature</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Nuclear physics</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Graduation research project</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	<b>Practical education (application)</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

				A1	A 2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Second level (Chemistry)		<b>Arabic</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>English language</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>computer</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Guidance and mental health</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Inorganic chemistry</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Volumetric analytical chemistry</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>physical chemistry</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Educational statistics</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Baath Party crimes</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Educational psychology</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		<b>Gravimetric analytical chemistry</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	<b>organic chemistry</b>	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	



				Required program Learning outcomes												
		Chemistry of represented elements	Basic Calculus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Third level		Arabic	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		General teaching methods	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Educational research methodology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Coordination Chemistry	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		organic chemistry	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Industrial Chemistry	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		English	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Measurement and evaluation	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
<b>Fourth level</b>			<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
			<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
			<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
			<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
			<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
			<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
			<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
			<b>Basic</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓