

**Ministry of Higher Education and Scientific Research  
Scientific Supervision and Scientific Evaluation Apparatus  
Directorate of Quality Assurance and Academic Accreditation  
Accreditation Department**



# **Academic Program and Course Description of Aesthetic and Laser Technical Department**

2025

## **Introduction:**

The Aesthetic and Laser Technical Department represents a recent and innovative addition to the Al-Furat Al-Awsat Technical University/Najaf Technical Institute, effectively merging medical and aesthetic disciplines. The department aims to prepare highly qualified and skilled technical personnel proficient in utilizing state-of-the-art aesthetic and laser technologies, to address the growing demands of the public and private sectors. The department welcomed its inaugural student cohort in the academic year 2024-2025, in direct response to the increasing demand for this specialization in the labour market.

The department delivers a comprehensive and integrated curriculum that combines theoretical knowledge with practical application. This includes the study of fundamental medical sciences such as anatomy, histology, and pathology, alongside intensive practical training in the diverse applications of laser technologies.

Furthermore, the program emphasizes equipping students with advanced skills in utilizing laser technologies for various aesthetic procedures, including hair removal, skin rejuvenation, and the treatment of pigmentation irregularities and scars. It also ensures that students are familiarized with the latest developments and knowledge in the field of non-surgical aesthetic procedures, such as various types of cosmetic injections. The department strives to produce distinguished graduates capable of providing comprehensive and integrated aesthetic healthcare while adhering to the highest standards of safety and professional quality.

Through this integrated program, the department contributes to enhancing the level of aesthetic care services within the community, offering safe and effective therapeutic solutions, and consequently, meeting the growing needs in the field of non-surgical aesthetics.

## Concepts and terminology:

**Academic Program Description:** The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

**Course Description:** Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

**Program Vision:** An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

**Program Mission:** Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

**Program Objectives:** They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

**Curriculum Structure:** All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

**Learning Outcomes:** A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

**Teaching and learning strategies:** They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

## Academic Program Description

University Name: Al-furat Al-Awasat University

Faculty/Institute: Najaf Technical Institute

Scientific Department: Aesthetic and Laser Department

Academic or Professional Program Name: Diploma in Aesthetic and Laser Techniques

Final Certificate Name: Aesthetic and Laser Technician

Academic System: Four Semester

Description Preparation Date: 27.05.2025

File Completion Date:



Signature:

Head of Department Name:

Asst. Prof. Mohammed Najeh Nemah

Date: 27.05.2025



Signature:

Scientific Associate Name:

Asst. Prof. Salah Mehdi Salih

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Asst. Prof. Abul-Wahab-Razzaq Shwaliya

Date: 26.2025

Signature:

Approval of the Dean

Prof. Haider Aziz Al-Abdeli

## 1. Program Vision

The Aesthetic and Laser Technical Department aspires to be a leading center in the preparation and qualification of professional personnel in non-surgical aesthetic techniques and laser treatments, in accordance with the latest global standards. This vision aims to meet the demands of the labour market and promote a culture of beauty and sustainable health.

## 2. Program Mission

Excellence in providing distinguished education and training that keeps pace with the latest developments in the field of non-surgical cosmetic medicine and laser treatment, and enhancing partnership with business owners.

## 3. Program Objectives

1. Train students in the utilization of state-of-the-art laser devices for aesthetic surgery and skincare, emphasizing the applications of modern technology.
2. Elevate the students' scientific understanding and ensure awareness of rapid advancements in the field of non-surgical aesthetic procedures.
3. Provide advanced training programs and specialized courses designed to enhance the scientific and professional knowledge of both teaching staff and students.
4. Promote knowledge of pharmaceutical cosmetic products and their application methods in skincare for all skin types, while empowering students with skills in hair health care and techniques for enhancing skin appearance.
5. Graduate highly skilled and competent technical specialists with expertise in laser aesthetic techniques and their application in treating dermatological conditions and performing non-surgical aesthetic procedures.

## 4. Program Accreditation

Does the program have program accreditation? And from which agency?  
Program accreditation has not been pursued because there are no graduates in the department

## 5. Other external influences

Is there a sponsor for the program?  
No

## 6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	7	14	10.9%	-

<b>Institute Requirements</b>	<b>7</b>	<b>27</b>	<b>19.7%</b>	<b>-</b>
<b>Department Requirements</b>	<b>14</b>	<b>94</b>	<b>68.6%</b>	<b>-</b>
<b>Summer Training</b>	<b>1</b>	<b>2</b>	<b>1.5%</b>	<b>-</b>
<b>Other</b>				

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

<b>7. 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>
First year/First semester	-	Anatomy and Histology	2	4
First year/First semester	-	Medical Biology	2	4
First year/First semester	-	Laser Principles	2	6
First year/First semester	-	Electrical Principles	2	4
First year/First semester	-	Computer Applications	1	1
First year/First semester	-	English	2	0
First year/First semester	-	Human Rights	2	0

<b>8. Expected learning outcomes of the program</b>	
<b>Knowledge</b>	
Learning Outcomes 1	Learning Outcomes Statement 1
<b>Skills</b>	
Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
<b>Ethics</b>	
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

<b>9. Teaching and Learning Strategies</b>
1. Classroom teaching through theoretical and scientific lectures 2. Interactive lessons: Using interactive methods such as group discussions, cooperative activities, and practical exercises to encourage active student participation 3. Preparation of reports and scientific research

## 10. Evaluation methods

Oral examinations (Viva voce), Written examinations, Midterm exams (Periodic exams), Daily/Continuous assessment (Formative assessment) and Final exams (End-of-term exams)

## 11. Faculty

### Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)	Number of the teaching staff	
	General	Special		Staff	Lecturer
	3	10		9	4

## Professional Development

### Mentoring new faculty members

Organizing seminars, workshops, and training sessions to introduce new staff to the vision, mission, and objectives of the department, institution, and college, as well as to professional ethics and conduct.

### Professional development of faculty members

Faculty members in the department are guided regarding conducting reputable research, publishing in credible journals, participating in scientific conferences, and organizing ongoing workshops and seminars covering both general and specialized fields relevant to the department's academic staff.

## 12. Acceptance Criterion

Students admitted through the central admission channel for the biological sciences branch and who meet the minimum admission threshold.

## 13. The most important sources of information about the program

Visit the university or institute website to review the Laser and Cosmetic Techniques program, where you can obtain detailed information about the courses, admission requirements, costs, duration, important dates, practical training, and academic staff

## 14. Program Development Plan

1. Analyze the Program's Current Situation
  - Review current curricula and identify strengths and weaknesses.
2. Update and Develop Curricula
  - Introduce new courses such as advanced laser techniques, non-surgical cosmetic treatments, and cosmetic clinic management.
3. Develop Faculty Skills
  - Organize workshops and training courses on the latest cosmetic and laser techniques.
  - Encourage participation in local and international conferences.
4. Strengthen Partnerships with the Labor Market
  - Sign training agreements with cosmetic and laser centers and clinics.
5. Develop Infrastructure and Laboratories
  - Upgrade laser devices and cosmetic tools in laboratories.
6. Evaluate and Develop Student Performance
  - • Use various assessment methods (practical tests, applied projects, presentations).

### Program Skills Outline

				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A 1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First year/First semester		Anatomy and Histology	Basic	✓	✓	✓	✓	✓		✓		✓		✓	✓
		Medical Biology	Basic	✓	✓	✓		✓	✓	✓		✓		✓	✓
First year/First semester		Laser Principles	Basic	✓	✓		✓	✓	✓	✓				✓	✓
		Electrical Principles	Basic		✓		✓	✓	✓	✓				✓	
First year/First semester		Computer Applications	Basic	✓			✓	✓	✓	✓	✓		✓	✓	
		English	Basic	✓							✓		✓		✓
First year/First semester		Human Rights	Basic	✓	✓	✓	✓	✓		✓		✓		✓	✓
		Physiology	Basic	✓	✓	✓	✓	✓		✓		✓		✓	✓
First year/Second semester		Dermatology	Basic	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓

First year/Second semester		Dermatology	Basic	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓
First year/Second semester		Laser Physics Applications	Basic	✓	✓	✓		✓	✓	✓		✓			✓
First year/Second semester		General Chemistry	Basic	✓	✓		✓	✓	✓	✓	✓		✓	✓	
First year/Second semester		Medical Terminology	Basic	✓	✓	✓		✓	✓			✓		✓	✓
First year/Second semester		Professional Safety	Basic	✓					✓			✓			✓
First year/Second semester		Arabic Language	Basic	✓				✓				✓	✓		✓

- Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

## Course Description of Anatomy and Histology

<b>1. Course Name:</b>					
Anatomy and Histology					
<b>2. Course Code:</b>					
-					
<b>3. Semester / Year:</b>					
First semester/first Year					
<b>4. Description Preparation Date:</b>					
27.05.2025					
<b>5. Available Attendance Forms:</b>					
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>					
6/6					
<b>7. Course administrator's name (mention all, if more than one name)</b>					
Name: Dr.Rabab Ali Shnawa Email: rababali.inj@atu.edu.iq					
<b>8. Course Objectives</b>					
<b>Course Objectives</b>				This course aims to Introducing the student to the body parts and tissues, and familiarizing them with the specialized functions of the organs and tissues.	
<b>9. Teaching and Learning Strategies</b>					
<b>Strategy</b>		<ul style="list-style-type: none"> <li>- <b>interactive Learning</b></li> <li>-<b>Using demonstrations and 3D models to illustrate the structure of tissues and body organs.</b></li> <li>-<b>Practical demonstrations in the laboratory, such as dissecting tissue samples using microscopes.</b></li> </ul>			
<b>10. Course Structure</b>					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
<b>1</b>	6	knowledge and understanding	Introduction, Anatomical terms.	Theoretic& practical	Written test
<b>2</b>	6	knowledge and understanding	Body cavities and its organs.	Theoretic& practical	Written Test
<b>3</b>	6	knowledge and understanding	Superficial anatomy of human body.	Theoretical & practical	Written test
<b>4</b>	6	knowledge and understanding	Human body tissues; types and characteristic	Theoretical & practical	Written test
<b>5</b>	6	knowledge and understanding	Skin anatomy and its functions skin color	Theoretical & practical	Written test
<b>6</b>	6	knowledge and understanding	General skeletal stricture (Skull, and neck).	Theoretical & practical	Written test
<b>7</b>	6	knowledge and understanding	Vertebral column stricture, numbers and its function.	Theoretical & practical	Written test

<b>8</b>	6	knowledge and understanding		Theoretical & practical	Written test
<b>9</b>	6	knowledge and understanding	Anatomy of heart, wall, valve and its function	Theoretical & practical	Written test
<b>10</b>	6	knowledge and understanding	Structure of blood vessels wall arteries, veins and capillaries	Theoretical & practical	Written test
<b>11</b>	6	knowledge and understanding	Lymphatic system – lymph glands.	Theoretical & practical	Written test
<b>12</b>	6	knowledge and understanding	Respiratory system – upper respiratory tract.	Theoretical & practical	Written test
<b>13</b>	6	knowledge and understanding	Respiratory system- lower respiratory tract.	Theoretical & practical	Written test
<b>14</b>	6	knowledge and understanding	Alveoli- lungs- pleural activity	Theoretical & practical	Written test
<b>15</b>	6	knowledge and understanding	Upper and lower limb	Theoretical & practical	Written test

### 11.Course Evaluation

	Absences	Teacher evaluation Practical	Teacher evaluation Theoretical	Mid examination Practical	Mid examination Theoretical
	5	5	5	10	15

### 12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Anatomy & Physiology: The Unity of Form and Function Histology: A Text and Atlas
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Human anatomy atlas 2025 completing 3D human body

## Course Description of Medical Biology

<b>13.Course Name:</b>					
Medical Biology					
<b>14.Course Code:</b>					
-					
<b>15.Semester / Year:</b>					
first semester/first Year					
<b>16.Description Preparation Date:</b>					
6.5.2025					
<b>17.Available Attendance Forms:</b>					
<b>18.Number of Credit Hours (Total) / Number of Units (Total)</b>					
6/6					
<b>19.Course administrator's name (mention all, if more than one name)</b>					
Name: Aseel Ibrahim Musaiem Email: aseelibrahim.inj@atu.edu.iq					
<b>20.Course Objectives</b>					
<b>Course Objectives</b>		This course aims Understand the fundamental functions and mechanisms of human body systems. Apply physiological principles to explain how the body maintains internal balance and respond stimuli.			
<b>21.Teaching and Learning Strategies</b>					
<b>Strategy</b>		Utilize interactive lectures, multimedia tools, and demonstrations. Encourage active learning through group discussions, case-based learning, and practical laboratory sessions..			
<b>22. Course Structure</b>					
<b>Week</b>	<b>Hour s</b>	<b>Required Learning Outcomes</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluatio n method</b>
<b>1</b>	6	knowledge and understanding	Introduction to biology, the cells, prokaryotic and eukaryotic cells, animal and plant cell	Theoretic& practical	Written test
<b>2,3</b>	6	knowledge and understanding	The Structure of cells, types, shape and size Golgi apparatus Vacuoles, Lysosomes	Theoretic& practical	Written Test
<b>4,5</b>	6	knowledge and understanding	Movement in and out of cells: diffusion , osmosis, active transport.	Theoretical & practical	Written test
<b>6</b>	6	knowledge and understanding	Cell division: Amitosis, Mitosis and Meiosis	Theoretical & practical	Written test
<b>7</b>	6	knowledge and understanding	Classification of microorganisms (bacteria, viruses)	Theoretical & practical	Written test
<b>8</b>		knowledge and understanding	Classification of microorganisms(fungi, parasites )	Theoretical & practical	Written test

<b>9</b>	6	knowledge and understanding	Structure and function of microbes	Theoretical & practical	Written test
<b>10</b>	6	knowledge and understanding	DNA and RNA: Structure and function ,	Theoretical & practical	Written test
<b>11</b>	6	knowledge and understanding	DNA Replication and transcription	Theoretical & practical	Written test
<b>12</b>	6	knowledge and understanding	Protein biosynthesis	Theoretical & practical	Written test
<b>13</b>	6	knowledge and understanding	Immunology Immune system components: innate and adaptive immunity Antigens, antibodies, and immune response	Theoretical & practical	Written test
<b>14</b>	6	knowledge and understanding	Immunological disorders (autoimmunity, immunodeficiency) Vaccination and immunotherapy Immunological techniques, flow cytometry	Theoretical & practical	Written test
<b>15</b>	6	knowledge and understanding	Biochemistry Biomolecules: carbohydrates, proteins, lipids, nucleic acids	Theoretical & practical	Written test

### 23. Course Evaluation

	Absences	Teacher evaluation Practical	Teacher evaluation Theoretical	Mid examination Practical	Mid examination Theoretical
	5	5	5	10	15

### 24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Medical Cell Biology Book • Third Edition • 2007
Recommended books and references (scientific journals, reports...)	Basics of Medical Molecular Biology
Electronic References, Websites	Biology & Medicine

## Course Description of Laser Principles

25.Course Name:					
Laser Principles					
26.Course Code:					
-					
27.Semester / Year:					
First semester/first Year					
28.Description Preparation Date:					
15/03/2025					
29.Available Attendance Forms:					
30.Number of Credit Hours (Total) / Number of Units (Total)					
8/8					
31.Course administrator's name (mention all, if more than one name)					
Name: Dr. Jumana Kareem Buraihi Al-Musawi Email: Jumana.kareem.inj@atu.edu.iq					
32.Course Objectives					
<b>Course Objectives</b>		This course aims to provide students with a comprehensive understanding of the nature of lasers, their technologies, and various applications, enabling them to use this knowledge effectively and safely in diverse fields such as medicine, industry, and cosmetology.			
33.Teaching and Learning Strategies					
<b>Strategy</b>	<ul style="list-style-type: none"> <li><b>Interactive Learning:</b> Utilizing participatory activities with students.</li> <li><b>Practical Application:</b> Applying professional terms and expressions during lectures and conducting hands-on experiments in the laboratory.</li> <li><b>Technology-Based Learning:</b> Using audiovisual materials, interactive applications, and educational videos to enhance comprehension and understanding.</li> <li><b>Self-Directed Learning:</b> Encouraging students to explore the characteristics and applications of lasers.</li> <li><b>Use of Laser Device Demonstrations:</b> Explaining device structures and operational mechanisms in accordance with course content.</li> <li><b>Laboratory Demonstrations:</b> Conducting practical demonstrations in the lab.</li> </ul>				
34. Course Structure					
<b>Week</b>	<b>Hours</b>	<b>Required Learning Outcomes</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation method</b>

1	8	knowledge and understanding	The electromagnetic spectrum , units	Theoretic& practical	Written test
2	8	knowledge and understanding	Laser process	Theoretic& practical	Written Test
3	8	knowledge and understanding	Absorption of electromagnetic Radiation	Theoretic& practical	Written test
4	8	knowledge and understanding	Population inversion.	Theoretic& practical	Written test
5	8	knowledge and understanding	Einstein Coefficients. Lasing Processes , Three- and Four-Level Lasers.	Theoretic& practical	Written test
7+6	8	knowledge and understanding	The Optical Resonator, Basic components of a Laser system.	Theoretic& practical	Written test
9+8	8	knowledge and understanding	Light and Blackbody Emission , Energy Levels, Radiative and Nonradioactive Transitions in Molecules.	Theoretic& practical	Written test
12+11+10	8	knowledge and understanding	Properties of Laser Radiation. Laser Gain. Linewidth. Thresholds for Lasing. Calculating Threshold Gain. Selective Pumping. CW Lasing Action. Thermal Population Effects.	Theoretic& practical	Written test
14+13	8	knowledge and understanding	Solid-State, Dye, and Semiconductor Lasers.	Theoretic& practical	Written test
15	8	knowledge and understanding	Gas, Chemical, Free Electron, and X-Ray Lasers	Theoretic& practical	Written test

### 35.Course Evaluation

Absences	Teacher evaluation Practical	Teacher evaluation Theoretical	Mid examination Practical	Mid examination Theoretical
5	5	5	10	15

### 36.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	<ul style="list-style-type: none"> <li>• Laser Fundamentals – by William T. Silfvast.</li> <li>• Principles of Lasers – by Orazio Svelto.</li> <li>• Optics – by Eugene Hecht.</li> <li>• Introduction to Quantum Mechanics – by Da Griffiths</li> </ul>

Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	<ul style="list-style-type: none"><li>• Coursera</li><li>• edX</li><li>• YouTube- NPTEL</li><li>• MIT OpenCourseWare</li></ul>

## Course Description of Electrical Principles

37.Course Name:	
Electrical Principles	
38.Course Code:	
-	
39.Semester / Year:	
First semester/first Year	
40.Description Preparation Date:	
15.03.2024	
41.Available Attendance Forms:	
Attendance	
42.Number of Credit Hours (Total) / Number of Units (Total)	
6/6	
43.Course administrator's name (mention all, if more than one name)	
Name: MSc. Atheer Hasan Atiyah Email: <a href="mailto:Atheer.atiyah@atu.edu.iq">Atheer.atiyah@atu.edu.iq</a>	
44.Course Objectives	
<b>Course Objectives</b>	This course aims to provide students with basic electrical concepts principles, enabling them to understand how to analyze electrical systems effectively and safely.
45.Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"> <li>1. Interactive Lecture <ul style="list-style-type: none"> <li>• Integrate theoretical explanation using presentations with stimulating questions and brainstorming.</li> <li>• Use visual aids such as illustrative electrical circuits and videos.</li> </ul> </li> <li>2. Project-Based Learning <ul style="list-style-type: none"> <li>• Assign students to design simple projects, such as a lighting circuit or an electrical conversion circuit.</li> </ul> </li> <li>3. Hands-on Lab Sessions <ul style="list-style-type: none"> <li>• Provide a laboratory environment to apply concepts such as Ohm's Law, electrical power, and series and parallel connections.</li> <li>• Link practical results to theoretical concepts to deepen understanding.</li> </ul> </li> <li>4. Demonstrations <ul style="list-style-type: none"> <li>• Conduct experiments in front of (or with students) to illustrate electrical phenomena such as electromagnetic induction or the effect of voltage.</li> </ul> </li> <li>5. Collaborative Learning</li> </ol>

- Form small groups to discuss concepts or conduct experiments, and present their results to the class.
6. Self-Directed Learning
- Encourage students to use electrical simulators
  - Train students to document experimental steps, drawings, calculations, and personal notes.

#### 46. Course Structure

Week	Hou rs	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	6	knowledge, understanding and Practical Skills	Introduction - Difference between Circuit Theory and Field Theory	Theoretical and practical	Written tests Practical tests Laboratory reports
2	6	knowledge, understanding and Practical Skills	Basics of Network Elements	Theoretical and practical	Written Test Practical tests Laboratory reports
3	6	knowledge, understanding and Practical Skills	Resistance and Resistivity, Ohm's Law and Inductance, Capacitance	Theoretical and practical	Written test Practical tests Laboratory reports
4	6	knowledge, understanding and Practical Skills	Review of Kirchoff's Laws, Circuit Analysis - Nodal and Mesh	Theoretical and practical	Written test Practical tests Laboratory reports
5	6	knowledge, understanding and Practical Skills	Linearity and Superposition, Source Transformations, Thévenin and Norton Equivalents	Theoretical And practical	Written test Practical tests Laboratory reports
6	6	knowledge, understanding and Practical Skills	Review of Inductor and Capacitor as Circuit Elements, Source-free RL and RC Circuits, Transient Response	Theoretical And practical	Written test Practical tests Laboratory reports
7	6	knowledge, understanding and Practical Skills	Mid-term Exam + Unit- Step Forcing, Forced Response, the RLC Circuit	Theoretical and practical	Written test Practical tests Laboratory reports
8	6	knowledge, understanding and Practical Skills	Sinusoidal Forcing, Complex Forcing, Phasors, and Complex Impedance, Sinusoidal Steady State Response	Theoretical and practical	Written test Practical tests Laboratory reports
9	6	knowledge, understanding	Nodal and Mesh Revisited, Average	Theoretical and	Written test Practical tests

		and Practical Skills	Power, RMS, Introduction to Polyphase Circuits	practical	Laboratory reports
10	6	knowledge, understanding and Practical Skills	Mutual Inductance, Linear and Ideal Transformers, Circuits with Mutual Inductance	Theoretical and practical	Written tests Practical tests Laboratory reports
11	6	knowledge, understanding and Practical Skills	Frequency Response of Series/Parallel Resonances, High-Q Circuits	Theoretical and practical	Written tests Practical tests Laboratory reports
12	6	knowledge, understanding and Practical Skills	Complex Frequency, s-Plane, Poles and Zeros, Response Function, Bode Plots	Theoretical and practical	Written tests Practical tests Laboratory reports
13-15	18	knowledge, understanding and Practical Skills	Two Port Networks, Admittance, Impedance, Hybrid, and Transmittance Parameters	Theoretical and practical	Written tests Practical tests Laboratory reports

#### 47.Course Evaluation

	Absences	Teacher evaluation Practical	Teacher evaluation Theoretical	Mid examination Practical	Mid examination Theoretical
	5	5	5	10	15

#### 48.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Boylested R.L. , “Electronic Devices and Circuit Theory”, 11th Ed., Prentice – Hall Int Pub
Recommended books and references (scientific journals, reports...)	Donald A.N. , “Electronic Circuit Analysis and Design” , Mc Graw – Hill
Electronic References, Websites	

## Course Description of Computer Applications

<b>49.Course Name:</b>					
Computer Applications					
<b>50.Course Code:</b>					
-					
<b>51.Semester / Year:</b>					
First semester/first Year					
<b>52.Description Preparation Date:</b>					
15.03.2024					
<b>53.Available Attendance Forms:</b>					
<b>54.Number of Credit Hours (Total) / Number of Units (Total)</b>					
2/2					
<b>55.Course administrator's name (mention all, if more than one name)</b>					
Name: Asst. Prof. Dr. Mohammed Najeh Nemah Email: mohammed.nemah@atu.edu.iq					
<b>56.Course Objectives</b>					
<b>Course Objectives</b>		The course aims to equip students with the necessary skills to prepare professional documents and reports, analyze data, and make informed decisions using effective computer tools, preparing them for the job market.			
<b>57.Teaching and Learning Strategies</b>					
<b>Strategy</b>		<ul style="list-style-type: none"> <li>- Mastering content production skills: Students will learn how to create professional documents, attractive presentations, and organized spreadsheets, enabling effective communication and clear, persuasive information delivery.</li> <li>- Data analysis and decision-making: Students will be able to collect, organize, and analyze data using Excel, draw conclusions, and use them to make informed decisions in various fields.</li> <li>- Increasing productivity in the work environment: These skills will help automate repetitive tasks, improve work efficiency, and save time and effort, making students more productive in the workplace.</li> </ul>			
<b>58. Course Structure</b>					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge and understanding	Introduction to Word Program - Program interface and main parts - Creating and saving a new document - Writing and formatting text (fonts, colors, sizes, paragraphs)	Theory& Practical	Practical tests
2	2	knowledge and understanding	Page Formatting - Adjusting page margins - Changing page orientation - Adding header and footer - Using ready-made templates	Theory& Practical	Written and practical tests

3	2	knowledge and understanding	Inserting Images and Tables - Inserting and formatting images - Creating tables and adding data - Table formatting (borders, colors, merging)	Theory & Practical	Oral and practical tests
4	2	knowledge and understanding	Charts and Lists - Creating charts - Creating bulleted and numbered lists - Creating hyperlinks	Theory & Practical	Practical and oral tests
5	2	knowledge and understanding	Review and Tracking - Track changes and reviews - Adding comments - Document protection	Theory & Practical	Written and oral tests
6	2	knowledge and understanding	Advanced Features - Creating an index - Using macros (simple introduction) - Mail merge	Theory & Practical	Oral tests
7	2	knowledge and understanding	Introduction to Excel Program - Program interface and main parts - Creating and saving a new spreadsheet - Data entry and formatting	Theory & Practical	Practical and oral tests
8	2	knowledge and understanding	Functions and Calculations - Using basic functions (SUM, AVERAGE, COUNT, etc.)	Theory & Practical	Practical and oral tests
9	2	knowledge and understanding	Functions and Calculations - Performing simple and complex calculations - Cell and range references	Theory & Practical	Practical and oral tests
10	2	knowledge and understanding	Charts - Creating different types of charts (line, bar, pie, etc.) - Customizing charts	Theory & Practical	Written and oral tests
11	2	Knowledge and Understanding	Charts - Data analysis using charts	Theory & Practical	Written and oral tests
12	2	Knowledge and Understanding	Pivot Tables - Creating pivot tables - Analyzing complex data with pivot tables - Filtering and grouping data	Theory & Practical	Practical and oral tests
13	2	Knowledge and Understanding	Data Management - Sorting and filtering	Theory & Practical	Written and oral tests

			- Data validation - Data protection		
14	2	Knowledge and Understanding	Applied Projects - Integrating Word and Excel in one project (e.g., creating a sales report with tables and charts)	Theory & Practical	Practical and oral tests
15	2	Knowledge and Understanding	Applied Projects - Creating custom forms	Theory & Practical	Written and oral tests

### 59.Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

### 60.Learning and Teaching Resources

Required textbooks (curricular books, if any)

Main references (sources)

Recommended books and references (scientific journals, reports...)

Electronic References, Websites

## Course Description of English language

<b>61.Course Name:</b>					
English					
<b>62.Course Code:</b>					
-					
<b>63.Semester / Year:</b>					
First semester/first Year					
<b>64.Description Preparation Date:</b>					
27.05.2025					
<b>65.Available Attendance Forms:</b>					
<b>66.Number of Credit Hours (Total) / Number of Units (Total)</b>					
2/2					
<b>67.Course administrator's name (mention all, if more than one name)</b>					
Name: Msc. Hayder Jawad Abed Email: hayderabed.inj@atu.edu.iq					
<b>68.Course Objectives</b>					
<b>Course Objectives</b>			This course aims to provide students with essential English language skills, focusing on fundamental grammar structures and practical communication		
<b>69.Teaching and Learning Strategies</b>					
<b>Strategy</b>		<input type="checkbox"/> <b>Interactive Lectures</b> – Engaging explanations and discussions to introduce and reinforce key grammatical concepts. <input type="checkbox"/> <b>Practical Exercises</b> – Structured activities such as fill-in-the-blanks, sentence restructuring, and error correction to enhance understanding.			
<b>70. Course Structure</b>					
<b>Week</b>	<b>Hours</b>	<b>Required Learning Outcomes</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation method</b>
1-2	2	Knowledge, understanding and Memorization	Cardinal numbers/years/prices/times (in words and figures). Phonetic of alphabet letters, Punctuation. Countries/Capitals, arrange words (makes full sentence)/ arrange letters (make full)	Theoretical	Written test
3-4	2	Knowledge, understanding and Memorization	Question words (what, where, when, who, why, how, whom, whose, which). Abbreviation (short form), adjectives (and their opposite).	Theoretical	Written Test
5-6	2	Knowledge, understanding and Memorization	Simple present, Simple past, Present continuous.	Theoretical	Written test
7	2	Knowledge, understanding and Memorization	Possession (all types). Pronunciation (-s at the end	Theoretical	Written test

			of a word). Pronouns (all types).		
8-9	2	Knowledge, understanding and Memorization	Medical terminology Language of medicine Medical terms	Theoretical	Written test
10	2	Knowledge, understanding and Memorization	Spelling of medical terms Pronunciation of medical terms	Theoretical	Written test
11-12	2	Knowledge, understanding and Memorization	Suffixes, Prefixes, root	Theoretical	Written test
13	2	Knowledge, understanding and Memorization	Body structure Planes of the body	Theoretical	Written test
14	2	Knowledge, understanding and Memorization	Orientation and directional terms Body positions	Theoretical	Written test
15	2	Knowledge, understanding and Memorization	Body cavities	Theoretical	Written test

### 71.Course Evaluation

	Absences	Teacher evaluation Practical	Teacher evaluation Theoretical	Mid examination Practical	Mid examination Theoretical
	5	-	5	-	20

### 72.Learning and Teaching Resources

Required textbooks (curricular books, if any)	English Language in a Simplified Way (Tahir Al-Bayati)
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Voice of America (VOA) Learn English

## Course Description of Human Rights and Democracy

<b>73. Course Name:</b>					
Human rights and democracy					
<b>74. Course Code:</b>					
-					
<b>75. Semester / Year:</b>					
First semester/first Year					
<b>76. Description Preparation Date:</b>					
15.4.2025					
<b>77. Available Attendance Forms:</b>					
<b>78. Number of Credit Hours (Total) / Number of Units (Total)</b>					
2/2					
<b>79. Course administrator's name (mention all, if more than one name)</b>					
Name: D. Mohammed Abul Redha Nasser <a href="mailto:mohammed.nasser@atu.edu.iq">mohammed.nasser@atu.edu.iq</a>					
<b>80. Course Objectives</b>					
<b>Course Objectives</b>				It aims to introduce the student to human rights, their historical development, international charters and agreements stipulate them, as well as divine laws including Islamic law and domestic constitutions.	
<b>81. Teaching and Learning Strategies</b>					
<b>Strategy</b>		<ul style="list-style-type: none"> <li>• <b>Interactive Lectures</b> – Using interactive and active methods, and focusing on linking theoretical concepts to real life..</li> <li>• <b>Practical Exercises</b> – Encourage critical thinking and problem solving.</li> <li>• <b>Technology-based learning:</b> Using audio-visual materials, interactive applications, and educational videos to improve understanding and comprehension.</li> <li>• <b>Self-learning:</b> Encouraging students to apply some situations that contribute to strengthening the values of tolerance, moderation, mutual respect, the use of moderate dialogues, and interaction with educational content outside the classroom.</li> </ul>			
<b>82. Course Structure</b>					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	2	knowledge and understanding	Human rights in ancient civilizations, with a focus on Mesopotamia. Human rights in divine laws.	Theoretical	Written test

			With a focus on Islamic law. Human rights in various schools of thought, political theories, and doctrines.		
3-4	2	knowledge and understanding	Declarations of Human Rights, Revolutions, and Constitutions (English documents, the American, French, and Russian Revolutions). International recognition of human rights since World War I (League of Nations, United Nations).	Theoretical	Written Test
5-6	2	knowledge and understanding	Regional recognition of human rights, European Convention on Human Rights of 1950, American Convention on Human Rights of 1969, African Charter on Human Rights of 1981, Arab Charter on Human Rights of 1994.	Theoretical	Written test
7	2	knowledge and understanding	Human rights in Iraqi constitutions between theory and reality.	Theoretical	Written test
8-9	2	knowledge and understanding	Human rights in the Universal Declaration of Human Rights, international and regional covenants, and national constitutions, forms of human rights and the interrelationship between them	Theoretical	Written test
10	2	knowledge and understanding	Modern human rights, the right to development, to the environment, to solidarity, the interrelationship between human rights.	Theoretical	Written test
11-12	2	knowledge and understanding	Guarantees of respect for and protection of human rights and freedoms at the national level.	Theoretical	Written test
13	2	knowledge and understanding	The concept and images of democracy	Theoretical	Written test
14	2	knowledge and understanding	The components and guarantees of democracy	Theoretical	Written test

15	2	knowledge and understanding	Mechanisms for implementing democracy and its challenges	Theoretical	Written test
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### 83. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

### 84. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Human Rights (Dr. Hamid Hanou Human Rights, Children, and Democracy (Dr. Maher Saleh Al and others)
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	<a href="https://www.unicef.org/ar/">https://www.unicef.org/ar/</a>

## Course Description of Physiology

<b>85.Course Name:</b>					
Physiology					
<b>86.Course Code:</b>					
-					
<b>87.Semester / Year:</b>					
Second semester/first Year					
<b>88.Description Preparation Date:</b>					
27.05.2025					
<b>89.Available Attendance Forms:</b>					
<b>90.Number of Credit Hours (Total) / Number of Units (Total)</b>					
6/6					
<b>91.Course administrator's name (mention all, if more than one name)</b>					
Name: Dr.Rabab Ali Shnawa		Atheer Hasan Atiyah			
Email: <a href="mailto:rababali.inj@atu.edu.iq">rababali.inj@atu.edu.iq</a>		<a href="mailto:Atheer.atiyah@atu.edu.iq">Atheer.atiyah@atu.edu.iq</a>			
<b>92.Course Objectives</b>					
<b>Course Objectives</b>		This course aims Understand the fundamental functions and mechanisms of human body systems. Apply physiological principles to explain how the body maintains internal balance and responds to stimuli.			
<b>93.Teaching and Learning Strategies</b>					
<b>Strategy</b>		Utilize interactive lectures, multimedia tools, and demonstrations to explain key physiological concepts. Encourage active learning through group discussions, case-based learning, and practical laboratory sessions.			
<b>94. Course Structure</b>					
<b>Week</b>	<b>Hours</b>	<b>Required Learning Outcomes</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation method</b>
<b>1</b>	6	knowledge and understanding	Introduction to physiology Cell Theory Cell Structure Cell Wall Cytoplasmic membrane	Theoretic & practical	Written test
<b>2</b>	6	knowledge and understanding	Cell Organelles (Structure and function) Nucleus Endoplasmic Reticulum Ribosomes Mitochondria Golgi apparatus Vacuoles, Lysosomes	Theoretic & practical	Written Test
<b>3</b>	6	knowledge and understanding	Nervous system Central Nervous System Peripheral Nervous System Autonomic Nervous System	Theoretical & practical	Written test
<b>4</b>	6	knowledge and	Muscular System Types of Muscles Structure and Function	Theoretical & practical	Written test

		understandin g	Mechanism of Contracti- on Muscle		
<b>5</b>	<b>6</b>	knowledge and understandin g	Vascular System Circulatory System (Heart, Vessels, Blood)	Theoretical & practical	Written test
<b>6</b>			Vascular System Lymphatic System		
<b>7</b>	<b>6</b>	knowledge and understandin g	General skeletal stricture	Theoretical & practical	Written test
<b>8</b>	<b>6</b>	knowledge and understandin g	Digestive System parts of Gastrointestinal tract Function each Part. Accessory Organs (Pancreas, Liver, Bladder).	Theoretical & practical	Written test
<b>9</b>	<b>6</b>	knowledge and understandin g	Urinary System Parts of Urinary System. Function each part.	Theoretical & practical	Written test
<b>10</b>	<b>6</b>	knowledge and understandin g	Nephron Urine Formation Maintenance of acid base balance	Theoretical & practical	Written test
<b>11</b>	<b>6</b>	knowledge and understandin g	Endocrine System Glands(Classification, Function)	Theoretical & practical	Written test
<b>12</b>	<b>6</b>	knowledge and understandin g	Endocrine System Hormones (Types, Function)	Theoretical & practical	Written test
<b>13</b>	<b>6</b>	knowledge and understandin g	Immunity System Cell and Organ Antigens Antibodies	Theoretical & practical	Written test
<b>14</b>	<b>6</b>	knowledge and understandin g	Type of immune system Active and Passive Immune System Humeral and Cellular Immunity	Theoretical & practical	Written test
<b>15</b>	<b>6</b>	knowledge and understandin g	Reproductive System	Theoretical & practical	Written test

### 95.Course Evaluation

	Absences	Teacher evaluation Practical	Teacher evaluation Theoretical	Mid examination Practical	Mid examination Theoretical
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	5	5	5	10	15
<b>96.Learning and Teaching Resources</b>					
Required textbooks (curricular books, if any)					
Main references (sources)	Guyton, A.C., & Hall, J.E. (2021). Guyton and Hall Textbook of Medical Physiology (14th ed.). Elsevier.				
Recommended books and references (scientific journals, reports...)	Costanzo, L.S. (2021). Physiology (7th ed.). Elsevier				
Electronic References, Websites	Human anatomy atlas 2025 completing 3D human body				

## Course Description of Dermatology

<b>97.Course Name:</b>					
Dermatology					
<b>98.Course Code:</b>					
-					
<b>99.Semester / Year:</b>					
First semester/first Year					
<b>100. Description Preparation Date:</b>					
15.03.2024					
<b>101. Available Attendance Forms:</b>					
<ul style="list-style-type: none"> <li>- Manual Attendance Sheet</li> <li>- Online Attendance Log (for virtual classes) google classroom</li> </ul>					
<b>102. Number of Credit Hours (Total) / Number of Units (Total)</b>					
6/6					
<b>103. Course administrator's name (mention all, if more than one name)</b>					
Name: Assistant Prof.Dr. Hayder Abed Ali Alshawi Email: inj.hdr2@atu.edu.iq					
<b>104. Course Objectives</b>					
<b>Course Objectives</b>		<ol style="list-style-type: none"> <li>1. Study skin layers and the basic structure of the skin, and their role in maintaining general health and providing cosmetic treatments.</li> <li>2. Diagnose common skin diseases and understand the scientific basis of cosmetic treatments.</li> <li>3. Understand the scientific principles behind each cosmetic procedure (such as laser hair removal or skin tightening) to apply them in a scientific and professional manner.</li> <li>4. Assess cases requiring medical intervention, identify potential complications, and manage them immediately to ensure patient safety and treatment success.</li> </ol>			
<b>105. Teaching and Learning Strategies</b>					
<b>Strategy</b>		<ol style="list-style-type: none"> <li>1- Integrated Lectures &amp; Case-Based Learning (CBL):</li> <li>2- Hands-On Workshops &amp; Simulation Labs:</li> <li>3- Small Group Discussions &amp; Problem-Based Learning (PBL):</li> <li>4- Clinical Observation &amp; Supervised Practice:</li> <li>5- E-Learning Modules &amp; Virtual Resources:</li> <li>6- Expert Demonstrations &amp; Masterclasses:</li> <li>7- Self-Directed Learning &amp; Portfolio Development:</li> </ol>			
<b>106.Course Structure</b>					
<b>Week</b>	<b>Hours</b>	<b>Required Learning Outcomes</b>	<b>Unit or subject name</b>	<b>Learning method</b>	<b>Evaluation method</b>
1-2	2	knowledge and understanding	Definition of Dermatology: Functions of the Skin: Protection, sensation, thermoregulation,	Theoretical	Written Test

			and synthesis of vitamin D. Skin Anatomy: Epidermis, dermis, hypodermis, and accessory structures (hair, nails, glands).		
3-4	2	knowledge and understanding	Skin Anatomy: Epidermis, dermis, hypodermis, and accessory structures (hair, nails, glands). History Taking: (allergies, family history, environmental factors). Physical Examination: Diagnostic Tools: Biopsy, patch testing, microbiological cultures, Wood's lamp	Theoretical	Written Test
5-6	2	knowledge and understanding	Eczema (Dermatitis): Psoriasis: Types, causes, and treatment. Acne Vulgaris: Rosacea: Symptoms, triggers, and management Fungal Infections Bacterial Infections: Viral Skin Conditions: ) Types, causes, Skin Allergies and Hypersensitivity, Angioedema: Causes and emergency management. Drug Reactions:	Theoretical	Written test
7	2	knowledge and understanding	Pigmentary Disorders Vitisigo: Melasma: Albinism:	Theoretical	Written test
8-9	2	knowledge and understanding	Skin Cancer Non-melanoma Skin Cancer (NMSC): Melanoma: Actinic Keratosis: Preventive Strategies: Hair and Nail Disorders Alopecia: Types (alopecia areata, androgenic alopecia), causes, treatment. Onychomycosis: Fungal infections of nails. lichen planus. Nail Dystrophies:	Theoretical	Written test

10	2	knowledge and understanding	Pediatric Dermatology Common Pediatric Skin Disorders:	Theoretical	Written test
11-12	2	knowledge and understanding	Cosmetic Dermatology Skin Aging: Effects of aging on skin, cosmetic treatments (Botox, fillers, laser treatments). Acne Scars: Hyperpigmentation: Dermatological Emergencies	Theoretical	Written test
13	2	knowledge and understanding	Dermatological Treatments Topical Treatments Systemic Treatments: Immunosuppressant & antibiotics, biologics. Light Therapy (Phototherapy) Surgical Procedures:	Theoretical	Written test
14	2	knowledge and understanding	Recent Advances in Dermatology Biologics in Dermatology:	Theoretical	Written test
15	2	knowledge and understanding	Teledermatology: Laser and Energy-Based Devices: Advances in laser treatments	Theoretical	Written test

### 107. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

### 108. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Rook's Textbook of Dermatology Ninth Edition Edited by Christopher E. M. Griffiths Md, FRCP, FMedSci
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

## Course Description of Laser Physics Applications

109. Course Name:	
Laser Physics Applications	
110. Course Code:	
-	
111. Semester / Year:	
Second semester/first Year	
112. Description Preparation Date:	
27/05/2025	
113. Available Attendance Forms:	
114. Number of Credit Hours (Total) / Number of Units (Total)	
8/8	
115. Course administrator's name (mention all, if more than one name)	
Name: Dr. Jumana Kareem Buraihi Al-Musawi Email: Jumana.kareem.inj@atu.edu.iq	
116. Course Objectives	
Course Objectives	"Providing the student with an in-depth understanding of the fundamentals of laser physics and how laser beams interact with biological tissues, thereby enabling them to comprehend the mechanisms of laser devices used in cosmetic procedures and to prepare medical personnel capable of accurately and effectively applying laser technologies in various cosmetic treatments.
117. Teaching and Learning Strategies	
Strategy	<ul style="list-style-type: none"> <li>• <b>Interactive Learning:</b> Using participatory activities with students.</li> <li>• <b>Practical Training:</b> Applying professional terms and expressions during lectures and conducting practical experiments in the laboratory.</li> <li>• <b>Technology-Based Learning:</b> Utilizing audiovisual materials, interactive applications, and educational videos to enhance comprehension and understanding.</li> <li>• <b>Self-Directed Learning:</b> Encouraging students to explore laser physics and its applications.</li> <li>• <b>Use of Demonstrations:</b> Presenting laser devices in line with the course content to illustrate their components and working mechanisms.</li> <li>• <b>Practical Demonstrations in the Laboratory.</b></li> </ul>

118. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	8	knowledge and understanding	Introduction to Laser	Theoretic& practical	Written test
2	8	knowledge and understanding	Laser Properties	Theoretic& practical	Written Test
3	8	knowledge and understanding	Principle of Laser Operation	Theoretic& practical	Written test
4	8	knowledge and understanding	Fundamentals of Electromagnetic Radiation	Theoretic& practical	Written test
5	8	knowledge and understanding	Laser Components	Theoretic& practical	Written test
6	8	knowledge and understanding	Types of Laser Resonators	Theoretic& practical	Written test
7	8	knowledge and understanding	Atomic Physics	Theoretic& practical	Written test
8	8	knowledge and understanding	Principle of Optical Amplification	Theoretic& practical	Written test
11+10+9	8	knowledge and understanding	Types of Lasers and Their Applications	Theoretic& practical	Written test
13+12	8	knowledge and understanding	Hair Removal Laser	Theoretic& practical	Written test
15+14	8	knowledge and understanding	Laser Applications in Non-Surgical Aesthetic Procedures	Theoretic& practical	Written test

### 119. Course Evaluation

Absences	Teacher evaluation Practical	Teacher evaluation Theoretical	Mid examination Practical	Mid examination Theoretical
5	5	5	10	15

### 120. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	<ul style="list-style-type: none"> <li>• Laser Fundamentals – by William T. Silfvast.</li> <li>• Principles of Lasers – by Orazio Svelto.</li> <li>• Lasers – Anthony E. Siegman.</li> </ul>

	<ul style="list-style-type: none"> <li>• Introduction to Laser Technology – <i>C. Breck H</i> <i>James J. Ewing, Jeff Hecht.</i></li> <li>• Laser Physics – Peter W. Milonni and Joseph Eberly.</li> <li>• Optics – Eugene Hecht.</li> </ul>
Recommended books and references (scientific journals, reports...)	<ul style="list-style-type: none"> <li>• Applied Physics B</li> <li>• Optics Express</li> <li>• IEEE Journal of Quantum Electronics</li> <li>• Journal of Applied Physics.</li> </ul>
Electronic References, Websites	<ul style="list-style-type: none"> <li>• MIT OpenCourseWare – Laser Fundamentals</li> <li>• Coursera / edX: Laser Physics and Applications</li> </ul>

## Course Description of General Chemistry

121. Course Name:	
General Chemistry	
122. Course Code:	
-	
123. Semester / Year:	
Second semester/first Year	
124. Description Preparation Date:	
02.06.2025	
125. Available Attendance Forms:	
Attendance	
126. Number of Credit Hours (Total) / Number of Units (Total)	
6/6	
127. Course administrator's name (mention all, if more than one name)	
Name: Msc. Hayder Jawad Abed Email: HayderAbed.inj@atu.edu.iq	
128. Course Objectives	
<b>Course Objectives</b>	By the end of the academic year, the student should be able to perform various techniques for qualitative and quantitative analyses of components in blood and other body fluids in humans, both in health and disease
129. Teaching and Learning Strategies	
<b>Strategy</b>	<ol style="list-style-type: none"> <li>1. Problem-Based Learning (PBL): Present clinical case scenarios requiring students to design and execute appropriate analytical techniques, fostering critical thinking and application skills.</li> <li>2. Workshops and Demonstrations: Focused sessions on specific analytical methods and instrumentation used in blood and fluid analysis, including step-by-step demonstrations.</li> <li>3. Group Discussions and Seminars: Facilitate discussions on interpreting analytical results, understanding physiological and pathological variations in blood components.</li> <li>4. Blended Learning: Combine online modules covering theoretical aspects of qualitative and quantitative analysis with in-person practical sessions.</li> <li>5. Enquiry-Based Learning: Encourage students to formulate research questions related to blood and body fluid analysis, collect and analyze data, and present findings.</li> <li>6. Use of Mixed Methods Teaching: Integrate qualitative and quantitative research methods to provide a comprehensive understanding of analysis techniques and their clinical relevance.</li> </ol>
130. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	6	knowledge and understanding	Scope of biochemistry in health and disease, cell and cell constituents	Theoretic & practical	Written test
2	6	knowledge and understanding	Some aspects of physical chemistry, Gas laws, Boyle's law, Graham's Law of diffusion, Dalton's Law of partial pressure, General gas equation, the international system of units	Theoretic & practical	Written Test
3	6	knowledge and understanding	Radio activity and radioactive isotopes	Theoretical & practical	Written test
4	6	knowledge and understanding	Solutions and methods of expressing concentrations .colloidal solution	Theoretical & practical	Written test
5	6	knowledge and understanding	The PH concept, Acid-base balance, chemical equilibrium, common ion effect	Theoretical & practical	Written test
6	6	knowledge and understanding	Buffer and buffer systems of physiological importance .in living systems	Theoretical & practical	Written test
7	6	knowledge and understanding	Blood, blood constituents, body fluids, regulation of blood Ph and body fluids.	Theoretical & practical	Written test
8	6	knowledge and understanding	Water and electrolyte balance osmotic pressure of body fluids, control of total electrolytes and body fluids	Theoretical & practical	Written test
9	6	knowledge and understanding	Carbohydrates classification reactions, main carbohydrates in human body.	Theoretical & practical	Written test
10	6	knowledge and understanding	Metabolism of carbohydrates, blood glucose factors controlling glucose level in blood	Theoretical & practical	Written test

<b>11</b>	6	knowledge and understanding	Glucose abnormalities, diabetes mellitus, ketosis, glycosuria, glucose tolerance curve.	Theoretical & practical	Written test
<b>12</b>	6	knowledge and understanding	Lipids, classification, derived lipids, compound, lipids.	Theoretical & practical	Written test
<b>13</b>	6	knowledge and understanding	Lipid metabolism, lipid abnormalities	Theoretical & practical	Written test
<b>14</b>	6	knowledge and understanding	Proteins, classification, functions, peptide bonds, amino acids, chemical reactions.	Theoretical & practical	Written test
<b>15</b>	6	knowledge and understanding	Nucleic acids and their Expression, DNA Replication, Nutation, RNA Topology	Theoretical & practical	Written test

### 131. Course Evaluation

	Absences	Teacher evaluation Practical	Teacher evaluation Theoretical	Mid examination Practical	Mid examination Theoretical
	5	5	5	10	15

### 132. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lippincott's text book
Main references (sources)	Lippincott's text book
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Libretext.com ``Biochemistry``

## Course Description of Medical Terminology

133. Course Name:					
Medical Terminology					
134. Course Code:					
-					
135. Semester / Year:					
First semester/first Year					
136. Description Preparation Date:					
15.03.2024					
137. Available Attendance Forms:					
138. Number of Credit Hours (Total) / Number of Units (Total)					
2/2					
139. Course administrator's name (mention all, if more than one name)					
Name: Asst. Prof. Dr. Hussein Awad Kurdi Email: husseinawad@atu.edu.iq					
140. Course Objectives					
<b>Course Objectives</b>			This course aims to provide students with basic language skills related to medical terminology that will enable them to communicate effectively in the medical field, especially cosmetic and laser techniques.		
141. Teaching and Learning Strategies					
<b>Strategy</b>		<ul style="list-style-type: none"> <li>Interactive learning: Using collaborative activities such as conversations and group work to enhance medical terminology practice skills.</li> <li>Practical practice: Applying medical terminology and professional expressions in real-life contexts through simulations and practical exercises.</li> <li>Technology-based learning: Using audio-visual materials, interactive apps, and educational videos to improve understanding and comprehension.</li> <li>Self-paced learning: Encouraging students to practice medical terminology by reading and listening to professional dialogues.</li> </ul>			
142. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	2	Student knowledge of the subject matter and understanding of scientific, mental, and professional skills.	Structural analysis: basic rules of medical word building	Theoretical	Written tests Oral tests
3-4	2	Student knowledge of the subject matter and understanding of scientific, mental,	Major suffixes : suffixes denoting a state or condition	Theoretical	Written tests Oral tests

		and professional skills.			
5-6	2	Student knowledge of the subject matter and understanding of scientific, mental, and professional skills.	Major suffixes : suffixes denoting medical actions	Theoretical	Written tests Oral tests
7-8	2	Student knowledge of the subject matter and understanding of scientific, mental, and professional skills.	Prefixes : Prefixes of numbers & measures	Theoretical	Written tests Oral tests
9-10	2	Student knowledge of the subject matter and understanding of scientific, mental, and professional skills.	Prefixes : Prefixes of color	Theoretical	Written tests Oral tests
11-12	2	Student knowledge of the subject matter and understanding of scientific, mental, and professional skills.	Prefixes : Prefixes of direction & position	Theoretical	Written tests Oral tests
13	2	Student knowledge of the subject matter and understanding of scientific, mental, and professional skills.	Body composition, anatomical levels of the body	Theoretical	Written tests Oral tests
14	2	Student knowledge of the subject matter and understanding of scientific, mental, and professional skills.	Directional and directional terms, body positions	Theoretical	Written tests Oral tests
15	2	Student knowledge of the subject matter and understanding of scientific, mental, and professional skills.	Body cavities	Theoretical	Written tests Oral tests

#### 143. Course Evaluation

Absences	Teacher evaluation Practical	Teacher evaluation Theoretical	Mid examination Practical	Mid examination Theoretical
5		5		20

#### 144. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Fundamental of nursing
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Main references (sources)	Medical Terminology for Health Professionals 6th edition -Mosby's Medical Dictionary. Elsevier, Mosby/Saunders •
Recommended books and references (scientific journals, reports...)	Medical Terminology for Health Professionals 6th edition Mosby's Medical Dictionary . Elsevier, Mosby/Saunders. •
Electronic References, Websites	<a href="http://www.studentconsult.com/">http://www.studentconsult.com/</a> <a href="https://quizlet.com/759301/medical-terminology-350-flash-cards/">https://quizlet.com/759301/medical-terminology-350-flash-cards/</a>

## Course Description of Professional Safety

145. Course Name:					
<b>Professional Safety</b>					
146. Course Code:					
-					
147. Semester / Year:					
Second semester/first Year					
148. Description Preparation Date:					
6.5.2025					
149. Available Attendance Forms:					
150. Number of Credit Hours (Total) / Number of Units (Total)					
2/2					
151. Course administrator's name (mention all, if more than one name)					
Name: Aseel Ibrahim Musailem					
Email: aseelibrahim.inj@atu.edu.iq					
152. Course Objectives					
<b>Course Objectives</b>	Raising awareness of the health and environmental risks associated with work in cosmetic and laser fields, and implementing appropriate preventative and safety measures to protect students and clients. Additionally, the course seeks to ensure compliance with local and international laws and regulations related to occupational safety.				
153. Teaching and Learning Strategies					
<b>Strategy</b>	<p>Interactive learning</p> <ul style="list-style-type: none"> <li>• Use demonstrations...</li> </ul> <ol style="list-style-type: none"> <li>1. Hazard identification: Enable students to recognize potential hazards in the work environment, such as chemicals and electrical devices.</li> <li>2. Implement safety procedures: Teach students how to use personal protective equipment and follow safety protocols to reduce accidents and injuries.</li> <li>3. Providing first aid: Equipping students with the knowledge and skills necessary to handle emergencies and common injuries in beauty salons.</li> </ol>				
154. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge and understanding	Introduction to Occupational Safety - Definition of occupational safety and its importance. - Review of laws and regulations related to safety in the beauty profession.	Theoretic	Written test
2	2	knowledge and understanding	Hazards in the Workplace	Theoretic	Written Test

			<ul style="list-style-type: none"> <li>- Types of hazards present in beauty centers.</li> <li>- How to identify potential hazards.</li> </ul>		
<b>3</b>	2	knowledge and understanding	<p>Accident Prevention</p> <ul style="list-style-type: none"> <li>- Basic prevention measures</li> <li>- The importance of personal protective equipment (PPE)</li> </ul>	Theoretical	Written test
<b>4</b>	2	knowledge and understanding	<p>Handling Chemicals</p> <ul style="list-style-type: none"> <li>- Types of chemicals commonly used in cosmetics.</li> <li>- How to handle chemicals safely.</li> </ul>	Theoretical	Written test
<b>5</b>	2	knowledge and understanding	<p>First Aid</p> <ul style="list-style-type: none"> <li>- Basics of First Aid</li> <li>- How to Deal with Common Accidents in Beauty Salons.</li> </ul>	Theoretical	Written test
<b>6</b>	2	knowledge and understanding	<p>Electrical Safety</p> <ul style="list-style-type: none"> <li>- Electrical hazards in beauty salons.</li> <li>- Safety measures to avoid electrical hazards.</li> </ul>	Theoretical	Written test
<b>7</b>	2	knowledge and understanding	<p>Sterilization and Hygiene</p> <ul style="list-style-type: none"> <li>- The importance of sterilization and hygiene.</li> <li>- Effective sterilization methods and good practices.</li> </ul>	Theoretical	Written test
<b>8</b>	2	knowledge and understanding	<p>Laser Safety</p> <ul style="list-style-type: none"> <li>- Types of laser devices used.</li> <li>- Safety procedures when using a laser.</li> </ul>	Theoretical	Written test
<b>9</b>	2	knowledge and understanding	<p>Public Health</p> <ul style="list-style-type: none"> <li>- The impact of working in the beauty industry on public health.</li> <li>- The importance of caring for mental and physical health.</li> </ul>	Theoretical	Written test
<b>10</b>	2	knowledge and understanding	<p>Psychological Hazards at Work</p> <ul style="list-style-type: none"> <li>- Identifying Psychological Stress</li> <li>- Strategies for Dealing with Stress</li> </ul>	Theoretical	Written test

<b>11</b>	2	knowledge and understanding	Dealing with Customers - How to Deal with Customers Safely - The Importance of Effective Communication to Reduce Risk	Theoretical	Written test
<b>12</b>	2	knowledge and understanding	Training and Development - The importance of ongoing training in enhancing safety. - How to organize safety workshops.	Theoretical	Written test
<b>13</b>	2	knowledge and understanding	Occupational safety legislation - Review local and international laws. - How to comply with legislation.	Theoretical	Written test
<b>14</b>	2	knowledge and understanding	Good Safety Practices - Review of Global Best Practices - Implementing Good Practices in Beauty Centers	Theoretical	Written test
<b>15</b>	2	knowledge and understanding	Safety in the Use of Modern Devices - Risks of Using Modern Cosmetic Devices - Associated Safety Procedures	Theoretical	Written test

#### 155. Course Evaluation

	Absences	Teacher evaluation Practical	Teacher evaluation Theoretical	Mid examination Practical	Mid examination Theoretical
	5		5		20

#### 156. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	<a href="https://www.ilo.org/topics-and-sectors/safety-and-health-w">https://www.ilo.org/topics-and-sectors/safety-and-health-w</a>
Recommended supporting books and references (scientific journals, reports, etc.)	"The Essential Guide to Accident Investigation and Loss Control."
Electronic references, websites	Occupational Safety and Health Administration (OSHA) website: International Labour Organization (ILO) website:

## Course description of Arabic

157.	Course Name	Arabic			
158.	Course Code				
159.	Semester/ year	Second Semester/2025			
160.	Date this description was prepared	25.05.2025			
161.	1. Available forms of attendance: blended in-person education	Attendance			
162.	Number of study hours (total)/number of units (total)	30hours			
163.	administrator (if more than one name is mentioned) Name of the course	Name: Waleed Abd Alkarim Muhammad : E : mail: <a href="mailto:waleed.al-kareem.inj@atu.edu.iq">waleed.al-kareem.inj@atu.edu.iq</a>			
164.	objectives Course	<p>Objectives of the study subject</p> <p>1- Empowering students with Arabic language skills and issues at all levels: phonetic, morphological, grammatical, semantic, and stylistic.</p> <p>2- Developing listening, reading and expression skills.</p> <p>3- Developing positive attitudes and values among students towards their Arabic language related to religion and Arab heritage.</p>			
165.	Teaching and learning strategies	<p><b>The strategy</b></p> <p>1- Theoretical lectures.</p> <p>2- Cooperative education strategy and group system.</p> <p>3- Pen and paper strategy.</p> <p>4- Brainstorming strategy and stimulating creative thinking.</p>			
166. Course structure					
the week	hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	2	Knowledge and understanding	Introduction to linguistic errors - the long and long ta'a	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct answer from multiple options
2	2	Knowledge and understanding	Rules for writing the extended and shortened alifs and the solar and lunar letters	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct answer from multiple options
3	2	Knowledge and understanding	Dhaad and Dhaa	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct answer from multiple options

4	2	Knowledge and understanding	Writing the hamza	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct .answer from multiple options
5	2	Knowledge and understanding	punctuation marks	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct .answer from multiple options
6	2	Knowledge and understanding	The noun, the verb and the difference between them	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct .answer from multiple options
7	2	Knowledge and understanding	Effects	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as that require a yes or no tests answer or choosing the correct .answer from multiple options
8	2	Knowledge and understanding	the number	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct .answer from multiple options
9	2	Knowledge and understanding	Applications of common linguistic errors	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct .answer from multiple options
10	2	Knowledge and understanding	Noun, Tanween, and the meanings of prepositions	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct .answer from multiple options
11	2	Knowledge and understanding	Formal aspects of administrative discourse	Active learning: includes active and interactive participation in the learning process	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no

				through practicing scientific activities and applications	answer or choosing the correct .answer from multiple options
12	2	Knowledge and understanding	The language of administrative discourse	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as no tests that require a yes or answer or choosing the correct .answer from multiple options
13	2	Knowledge and understanding	Examples of administrative correspondence	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct .answer from multiple options
14	2	Knowledge and understanding	Linguistic errors	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct .answer from multiple options
15	2	Knowledge and understanding	Examples of administrative books	Active learning: includes active and interactive participation in the learning process through practicing scientific activities and applications	Objective assessment: includes the use of tests with predetermined answers, such as tests that require a yes or no answer or choosing the correct .answer from multiple options

#### 167. Course evaluation

	Absences	Teacher evaluation Practical	Teacher evaluation Theoretical	Mid examination Practical	Mid examination Theoretical
	5		5		20

#### 168. Learning and teaching resources

(Required textbooks methodology, if any	1- Explanation of Ibn Aqeel on Alfiyyah Ibn Malik 2- Philology and Arabic secrets, Abu Mansour Al-Thaalabi 3 The Arabic language, its meaning and structure, is "Tamam Hassan".
d	
Recommended supporting books and references (...scientific journals, reports)	
Electronic references, Internet sites	