

1. Course Name:	
Organic Chemistry	
2. Course Code:	
MTAL1201	
3. Semester / Year:	
Second Semester / 2025–2026	
4. Description Preparation Date:	
18/2/2026	
5. Available Attendance Forms:	
In-person (Face-to-face)	
6. Number of Credit Hours (Total) / Number of Units (Total)	
5 Hours (2 Theoretical, 3 Practical) / 5 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Aqeel Kheit Khayoon Email: akheit2211@gmail.com	
8. Course Objectives	
Course Objectives	• Enable students to identify basic functional groups (alcohols, aldehydes, fatty acids, esters) and understand their physical and chemical properties as primary components of cosmetics. • Define the molecular structure of oils, fats, and waxes, and understand the mechanism of surfactants used in creams, shampoos, and skin cleansers. • Explain the interaction between organic compounds and body tissues (skin and hair) and the importance of pH in maintaining skin balance during cosmetic use. • Equip students with safe chemical handling skills and the ability to perform qualitative tests to detect commercial fraud in cosmetic materials.
9. Teaching and Learning Strategies	
Strategy	Interactive Lecture: Providing theoretical explanation with direct student engagement and linking the material to practical examples from beauty centers. Practical Demonstrations: Conducting chemical experiments to demonstrate material properties (solubility, saponification) for students to replicate.

Self-Learning: Assigning students to research "Ingredients Lists" for commercial cosmetic products to identify their organic groups.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Understand basic organic chemistry principles.	Introduction to organic chemistry	Interactive lecture	Oral questions
2	2	Distinguish hydrocarbon types and properties.	Alkanes, alkenes, alkynes	Theoretical explanation	Quiz
3	2	Identify alcohol types and sterilization roles.	Alcohols, classification & reactions	Practical demo	Lab report
4	2	Understand aldehydes' role in fragrances.	Aldehydes and ketones	Interactive lecture	Class participation
5	2	Study fatty acids in oils.	Carboxylic acids	Self-learning	Homework
6	2	Understand aromatic compounds' biological impact.	Amines & Aromatic compounds	Theoretical explanation	Monthly Exam
7	2	Identify carbohydrates as energy sources.	Intro to biochemistry (carbohydrates)	Interactive lecture	Q & A
8	2	Study proteins as skin building blocks.	Amino acids and proteins	Interactive lecture	Scientific report
9	2	Understand the polymer concept in cosmetics.	Intro to polymer chemistry	Educational video	Fast Quiz
10	2	Classify polymers by origin and type.	Polymers classification	Theoretical explanation	Group discussion
11	2	Understand polymer reactions and formation.	Reactions of polymers	Practical demo	Performance notes
12	2	Study collagen and natural polymers.	Natural polymers and their uses	Self-learning	Activity evaluation

13	2	Understand elasticity in laser-related materials.	Mechanics of elastic solids	Interactive lecture	Monthly Exam
14	2	Analyze material stress tolerance.	Stress-Strain curve	Graphs & applications	Practical analysis

11. 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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Introduction to General, Organic, and Biochemistry - Authors: Bettelheim, Brown, Campbell, and Farrel
Main references (sources)	Morrison & Boyd Organic Chemistry *Chemistry: An Introduction to General, Organic, and Biological Chemistry - Author: Karen C. Timberlake
Recommended books and references (scientific journals, reports...)	Journal of Cosmetic Science
Electronic References, Websites	ScienceDirect & PubMed

13. Course Name:	
Laser physics	
14. Course Code:	
MTAL1204	
15. Semester / Year:	
Second Semester / 2025–2026	
16. Description Preparation Date:	
18/3/2026	
17. Available Attendance Forms:	
In-person (Face-to-face)	
18. Number of Credit Hours (Total) / Number of Units (Total)	
5 Hours (2 Theoretical, 3 Practical) / 5 Units	
19. Course administrator's name (mention all, if more than one name)	
Name: RASHA TALAL GASSEM Email: soonbx86hsy.25hfy@gmail.com	
20. Course Objectives	
Course Objectives	• Understanding the fundamental concepts of lasers • Understanding the nature of light, spontaneous and stimulated emission, and the principle of laser operation. • Studying the physical properties of a laser beam, such as coherence, directionality, and monochromaticity. • Identifying the components of a laser device, such as the active medium, pump source, and optical cavity. • Understanding the laser generation mechanism and studying the conditions for stimulated emission and population inversion. • Identifying different types of lasers, such as solid-state, gas, and semiconductor lasers, and comparing the characteristics of each type. • Analyzing practical applications of lasers in medicine, industry, communications, and scientific measurements.
21. Teaching and Learning Strategies	

Strategy	1. Interactive Lecture-Based Learning: Explaining fundamental concepts of laser physics (such as stimulated emission and population reflection) while engaging students through questions and discussion. 2. Discussion-Based Learning: Encouraging students to ask questions and analyze physical phenomena related to lasers, thus fostering a deeper understanding of the subject matter. 3. Practical (Laboratory) Learning: Conducting practical experiments such as: studying the properties of a laser beam, measuring wavelength, and observing interference and diffraction. This connects theory with practical application. 4. Problem-Based Learning: Presenting real-world problems related to laser applications (such as its use in medicine or communications) and motivating students to find scientific solutions.
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22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	1.	Electromagnetic Radiation, Electromagnetic Radiation in Matter, Electromagnetic Radiation in vacuum	Interactive lecture	Oral questions
2	2	2.	Refraction of Light Beam - Snell Law	Theoretical explanation	Quiz
3	2	2	Properties of Laser Radiation, Monochromaticity, Directionality, Coherence	Practical demo	Lab report
4	2	2.	low divergent angle, brightness	Interactive lecture	Class participation
5	2	2.	Lasing processes, Bohr model of the atom, Photons and the energy diagrams	Self-learning	Homework
6	2	2.	Absorption of electromagnetic Radiation, Spontaneous emission of electromagnetic Radiation,	Theoretical explanation	Monthly Exam
7	2	2.	Decay Rate, Population at Thermodynamic Equilibrium, Population Inversion, Stimulated Emission, Amplification	Interactive lecture	Q & A

8	2	2	Three Level Laser, Four Level Laser	Interactive lecture	Scientific report
9	2	.2	The Laser System, The laser active medium, The excitation mechanism, Collision with atoms, Feedback Mechanism, Output Coupler	Educational video	Fast Quiz
10	2	.2	Operation of a Laser System - Interactive Applets: Laser Gain Fluorescence line shape of the laser, Fluorescence Linewidth	Theoretical explanation	Group discussion
11	2	2	Laser Gain Curve Broadening the Fluorescence line, Laser Gain, Calculating Loop Gain (GL) Without Losses, Calculating Loop Gain (GL) With Losses	Practical demo	Performance note
12	2	2.	Calculating Gain Threshold (GL) _{th} , Saturation Gain in Continuous Wave Laser Pulsed Laser	Self-learning	Activity evaluation
13	2	2	Different Laser Types and their Characteristics, Gas Laser Excitation of a gas laser Groups of Gas Lasers, Controlling the laser radiation properties, Some Common Laser Resonators. Selective coating on the cavity mirrors	Interactive lecture	Monthly Exam
14	2	2		Graphs & applications	Practical analysis

23. 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

24. 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 Form

1. Course Name: Anatomy and Histology					
2. Course Code: MTAL1202					
3. Semester / Year: Second Semester /2025-2026					
4. Description Preparation Date:7-4-2026					
5. Available Attendance Forms: In Person (face to face)					
6. Number of Credit Hours (5) / Number of Units (4)					
7. Course administrator's name (mention all, if more than one name)					
Name: Mc.s. Ghadeer Ridha Mhaibes					
Email: ghadeerr.alsaray@student.uokufa.edu.iq					
8. Course Objectives					
Course Objectives		General Objective: Introducing the student to the body organs and tissues. Specific Objectives: 1. Identifying the parts that constitute each organ. 2. Distinguishing the different tissues that make up each organ. 3. Identifying the specialized functions of each organ and tissue.			
9. Teaching and Learning Strategies					
Strategy		The strategy relies on interactive classroom lectures to link medical concepts with real-world applications. The practical aspect focuses on direct laboratory training using microscopes anatomical models. Performance is assessed through periodic quizzes and practical exams measure diagnostic skills, as well as assigning students to prepare diagrams and scientific reports summarizing body systems.			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
	2	Define anatomical terms body organization	Introduction, Anatomical terms.	Interactive Lecture	Terminology Quiz

	Identify body cavities internal organs	Body cavities and its organs	Visual Presentation	Cavity Mapping Task
	Understand superficial anatomy of the human body	Superficial anatomy human body.	Classroom Discussion	Surface Anatomy Test
	Classify human tissues (Types and Characteristics)	Human body tissues; types and characteristics.	Lab Slide Study	Microscopic ID Test
	Master skin anatomy, functions and color factors	Skin anatomy and functions skin color.	Case-Based Learning	Skin Histology Quiz
	Study skeletal structure (Skull and Neck)	General skeletal structure (Skull, and neck).	3D Model Demo	Skull Bone Identification
	Analyze vertebral column numbers and functions	Vertebral column structure numbers and its function.	Practical Skeleton Study	Vertebral Counting Quiz
	Identify diaphragm abdominal wall muscles	Diaphragm and abdominal wall muscles.	Muscular Chart Analysis	Muscle Location Test
	Understand heart anatomy walls, and valves	Anatomy of heart, wall, valves and its function	Heart Model Dissection	Cardiac Valve Quiz
	Distinguish between arteries, veins, and capillaries	Structure of blood vessel wall arteries, veins capillaries.	Circulatory Diagrams	Blood Vessel Comparison
	Locate lymphatic system lymph glands	Lymphatic system lymph glands.	Systemic Mapping	Lymphatic Distribution Task
	Describe the upper respiratory tract structures	Respiratory system upper respiratory tract.	Respiratory Model Demo	Upper Tract ID Quiz
	Analyze the lower respiratory tract anatomy	Respiratory system- lower respiratory tract.	Lab Demonstration	Respiratory Anatomy Test
	Understand Alveoli, lungs, pleural activity	Alveoli- lungs- pleural activity.	Visual Simulation	Pleural Function Report
	Study upper and lower limb anatomy	Upper and lower limb	Practical Limb Study	Final Practical Exam

11. 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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Clinically Oriented Anatomy by Keith L. Moore.
Main references (sources)	Netter's Atlas of Human Anatomy.
Recommended books and references (scientific journals, reports...)	Color Atlas of Histology by Gartner and Hiatt.
Electronic References, Websites	PubMed (National Library of Medicine).

Course Description Form

Course name	
Skin and Hair Biology	
Course Code .1	
MTAL1203	
Semester / Year .2	
Second Semester / 2024–2025 / First Stage	
Date of preparation of this description .3	
2025	
Available attendance forms .4	
Daily live attendance in the halls and laboratory	
Number of Credit Hours (Total) / Number of Units (Total) .5	
5 hours 2 (theoretical) 2 (practical) 5 units	
Course administrator's name (if more than one name) .6	
Name: asc. Pr Bassel Adel Ismail Email: bassel.adel@alayen.edy.iq	
Course Objectives .7	
Objectives: General Goals 1. Develop a Strong Foundation in Skin and Hair Biology 2. Enhance Patient Care and Professional Competency 3. Ensure Safety and Efficacy in Laser and Cosmetic Procedures 4. Prepare for a Successful Career in Cosmetic and Laser Technology Specific Goals 1. Master Skin and Hair Anatomy and Physiology 2. Identify and Manage Common Skin and Hair Disorders 3. Apply Knowledge of Cosmetic Ingredients and Their Effects 4. Safely Perform Microdermabrasion, Chemical Peels, and Laser Treatments 5. Develop Proficiency in Laser and Light-Based Hair Removal Techniques 6. Implement Safety Standards and Professional Protocols	The course aims to provide students with basic knowledge of skin and hair biology

7. Conduct Effective Patient Consultations and Treatment Planning					
Teaching and Learning Strategies .8					
1-interactive lecture 2-Dialogue and discussion 3-Laboratory experiment 4-Brainstorming 5-E-learning					Strategy
Course structure .9					
Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Weekly, semester and final theoretical tests	Theoretical using computer and laboratory experiments	Layers of the Skin Epidermis, dermis, hypodermis	(11) Definition of Epidermis, dermis, hypodermis	2	1
Weekly, semester and final theoretical tests	Theoretical using computer and laboratory experiments	Skin Cells and Their Functions Keratinocytes, melanocytes, fibroblasts	(11) Definition and function of Keratinocytes, melanocytes, fibroblasts	2	2
Weekly, semester and final theoretical tests	Theoretical using computer and laboratory experiments	Skin Proteins and Molecules Collagen, elastin, hyaluronic acid	(11) Definition Skin Proteins and Molecules Collagen, elastin, hyaluronic acid	2	3
Weekly, semester and final theoretical tests	Theoretical using computer and laboratory experiments	Introduction to Hair Structure Hair follicle, sebaceous gland, hair shaft.	(11) Introduction to Hair Structure Hair follicle, sebaceous gland, hair shaft.	2	4
Weekly, semester and final theoretical tests	Theoretical using computer and laboratory experiments	Components of the Hair Shaft Cuticle, cortex, medulla	(11) Definition the Components of the Hair Shaft Cuticle, cortex, medulla	2	5

theoretical tests					
Weekly, semester and final theoretical tests	Theoretical computer laboratory experiments	u Hair Growth Cycle Anagen, catagen, telogen phases	(1) Hair Growth Cycle Anagen, catagen, telogen phases	2	6
Weekly, semester and final theoretical tests	Theoretical computer laboratory experiments	u Skin Barrier Function Acid mantle, pH, lipid matrix	(1) Skin Barrier Function Acid mantle, pH, lipid matrix	2	7
Weekly, semester and final theoretical tests	Theoretical computer laboratory experiments	u Skin Hydration and Transepidermal Water Loss Hydration, transepidermal water loss	(1) Skin Hydration and Transepidermal Water Loss Hydration, transepidermal water loss	2	8
Weekly, semester and final theoretical tests	Theoretical computer laboratory experiments	u Aging in Skin and Hair Oxidative stress, free radicals, glycation, photoaging	(1) Aging in Skin and Hair Oxidative stress, free radicals, glycation, photoaging	2	9
Weekly, semester and final theoretical tests	Theoretical computer laboratory experiments	u Chronological Aging and Hormonal Effects on Hair Chronological aging, hair thinning, graying	(1) Chronological Aging and Hormonal Effects on Hair Chronological aging, hair thinning, graying	2	10
Weekly, semester and final theoretical tests	Theoretical computer laboratory experiments	u Skin Types Oily, dry, combination, sensitive, normal	(1) Skin Types Oily, dry, combination, sensitive, normal	2	11

Weekly, semester and final theoretical tests	Theoretical computer laboratory experiments	us Common Skin Conditions Acne, rosacea, eczema, psoriasis, dermatitis.	(1 ¹) Common Skin Conditions Acne, rosacea, eczema, psoriasis, dermatitis.	2	12
Weekly, semester and final theoretical tests	Theoretical computer laboratory experiments	us Alopecia, dandruff, seborrheic dermatitis	(1 ¹) Alopecia, dandruff, seborrheic dermatitis	2	13
Weekly, semester and final theoretical tests	Theoretical computer laboratory experiments	us Hair Disorders and Irregularities Folliculitis, hirsutism, trichotillomania	(1 ¹) Hair Disorders and Irregularities Folliculitis, hirsutism, trichotillomania	2	14
Weekly, semester and final theoretical tests	Theoretical computer laboratory experiments	us Nutrition and Skin/Hair Health Antioxidants, vitamins (A, C, E, B-complex), omega-3, biotin, zinc	(1 ¹) Nutrition and Skin/Hair Health Antioxidants, vitamins (A, C, E, B-complex), omega-3, biotin, zinc	2	15

Course Evaluation .10

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

1. Final Exam 60 Marks
2. Monthly Exam 30 Marks
3. Interaction 5 Marks
4. Quizzes 5 Marks

Learning and teaching resources .11

	Required textbooks methodology, if any
1.Nicole Yi Zhen Chiang; Julian Verbov, Dermatology. A handbook for medical students&junior doctors. British Association of Dermatologists. 2020 2.Sirawit Saiwaeo, Sujitra Arwatchananukul, Lapatrada Mungmai, Weeraya Preedalikit, Nattapol Aunsri. Human skin type classification using image processing and deep learning approaches. Heliyon. 2023 3. Leslie Baumann. Understanding and Treating Various Skin Types: The Baumann Skin. 2024.Type Indicator	Main references (sources)

	Recommended supporting books and references (scientific journals, reports)
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25.Course Name: Medical terminology					
26.Course Code: MTAL1205					
27.Semester / Year: 1nd semester / 2025-2026					
28.Description Preparation Date: 9 /4 /2026					
29.Available Attendance Forms: Attendance in the classroom					
30.Number of Credit Hours (Total) / Number of Units (Total): 2hours of theory					
31. Course administrator's name (mention all, if more than one name)					
Name: Noraq tilab Al- abodiy					
Email: talibnoraq@gmail.com					
32.Course Objectives					
Course Objectives:		Knowing many of scientific medical terms in the field of this laser, thus being able to work easily in medical centers and interpret health conditions.			
33.Teaching and Learning Strategies					
Strategy		By the end of the course, the student will be able to: • Easily Work in in medical centers performing laboratory tests. • 2. Participate with confidence in specialized scientific conferences. • 3.Workingin medical laboratories and on equipment related to the this specialty.			
34. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Syllabus of The Theoretical Course					
1	2	Introduction, basic elements of the medical words	Lecture	Attendance in the classro	Daily quiz
2	2	Suffixes and prefixes	Lecture	Attendance in the classro	Daily quiz
3	2	Body structure	Lecture	Attendance in the classro	Daily quiz
4	2	Body planes, Sections and directional terminology	Lecture	Attendance in the classro	Daily
5	2	Respiratory system	Lecture	Attendance in the classro	Daily
6	2	Blood, lymph and immune system	Lecture	Attendance in the classro	Daily quiz

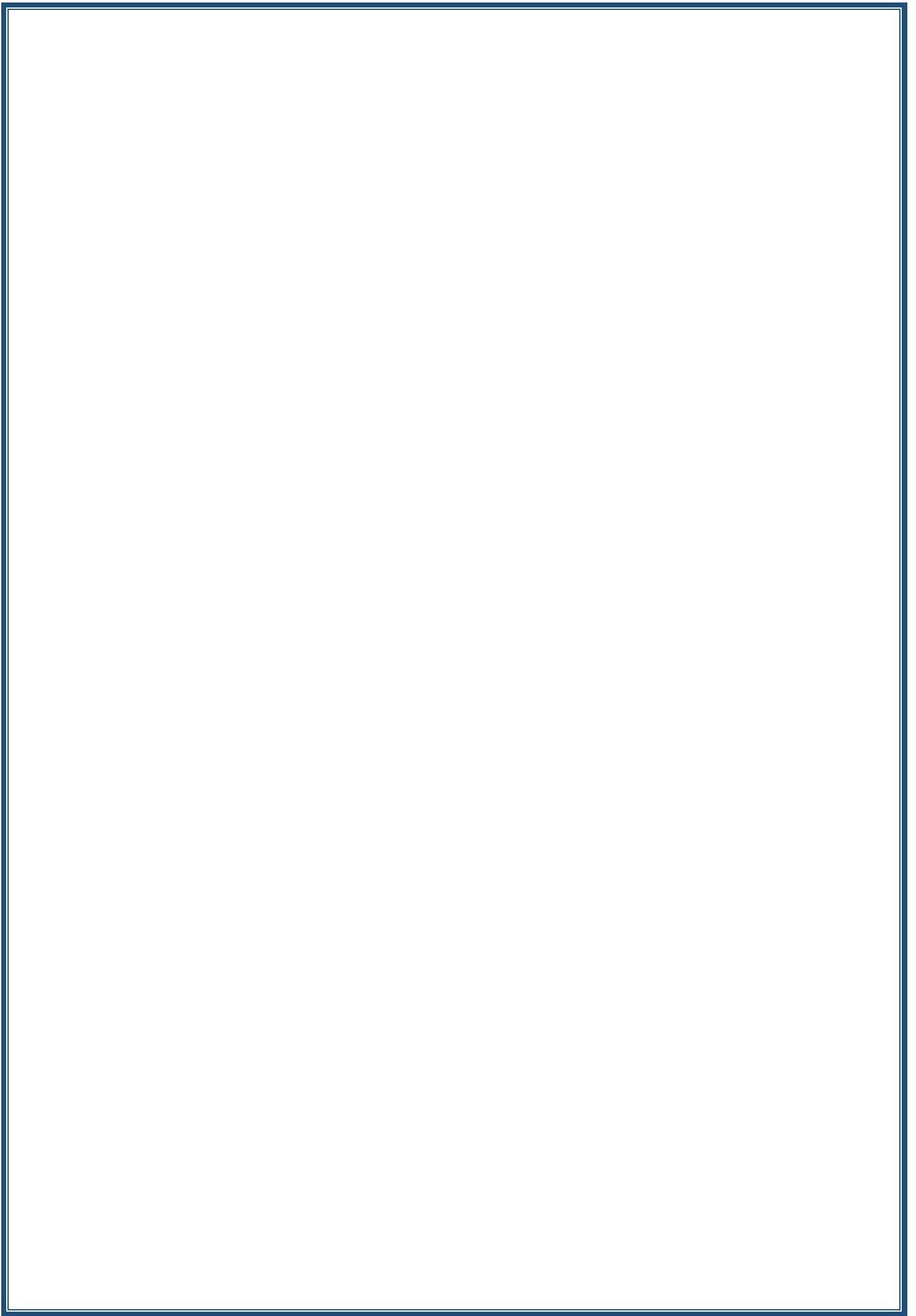
7	2	Cardiovascular system	Lecture	Attendance in the classroom	Daily quiz
8	2	Genitourinary system	Lecture	Attendance in the classroom	Daily quiz
9		Musculoskeletal system	Lecture	Attendance in the classroom	Daily
10		Nervous system	Lecture	Attendance in the classroom	Daily quiz
11		Integumentary system(Skin, Nails, glands)	Lecture	Attendance in the classroom	Daily quiz
12		Special sense	Lecture	Attendance in the classroom	Daily
13		Pediatric medical terminology	Lecture	Attendance in the classroom	Daily

35. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, or med and final exams, etc

36. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. Guide to common Medical terminology provided by the Academic center for excellences, Germanna, 2020 2. Common medical Abbreviations & terminology, KANBAYTI, I& Almainani, J 2018
Main references (sources)	1. Medical Terminology course, by: W.W. Cross, Canada,
Recommended books and references (scientific journals, reports...)	1. The human body, by: Faller, A Schunke, M; Schunke, G, New York, 2004 2. Medical terminology , by; Nijris, O, 2022
Electronic References, Websites	



1. Course Name: Computer applications					
2. Course Code: MTAL1106					
3. Semester / Year: First semester / 2025–2026					
4. Description Preparation Date: 27/2/2026					
5. Available Attendance Forms: My presence in location at the university					
6. Number of Credit Hours (Total) / Number of Units (Total): 45hours (1 theoretical + 2 practical) / 2 units					
7. Course administrator's name (mention all, if more than one name)					
Name: MS.C Wassim Talib Hatem					
Email: wissam.talib@alayer.edu.iq					
8. Course Objectives					
• Identify computer components • Identify system software • Identify external operating system commands					
9. Teaching and Learning Strategies					
Strategy		- Interactive lectures - Practical review - Practical training - Lecture documentation			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Syllabus of The Theoretical Course					
1	(1 hour)	Learn about the basic components of a computer	Learn about computer components	Visual, auditory and practical	total

2	(1 hou	Learn about computer generations	Knowing comput generations	Visual, auditory and practical	total
3	(1 hou	Understanding t concept of operating system	Operating system concept	Visual, auditory and practical	total
4	(1 hou	Understanding System Software	System Software Familiarization	Visual, auditory and practical	total
5	(1 hou	Understanding System Signals	System signal	Visual, auditory and practical	total
6	(1 hou	Understanding t concept of drive	Disk drive	Visual, auditory and practical	total
7	(1 hou	Understanding different operating systems	Operating systems	Visual, auditory and practical	total
8	(1 hou	Getting to know MS-DOS	Getting to know MS-DOS	Visual, auditory and practical	total
9	(1 hou	Learn about the computer's internal operati system comman	Learn about internal operating system commands	Visual, auditory and practical	total
10	(1 hou	Understanding operating system comman (Dir, Del, Time)	Dir , Del , Time	Visual, auditory and practical	total
11	(1 hou	Knowledge of operating system comman (Date, CIs, RD, CD, MD, Echo).	Date , CIs , RD , CD , MD , Echo	Visual, auditory and practical	total
12	(1 hou	Use the commar (Ren, Copy, Vol, Ver, Path).	Ren , copy , vol , ver , path	Visual, auditory and practical	total
13	(1 hou	Learn about external operati system comman	Learn about external operatin system command	Visual, auditory and practical	total
14	(1 hou	Apply command (Edit, Tree, Xcop	Edit , tree , xcopy	Visual, auditory and practical	total

15	(1 hou	Use commands (Format, Chkdsk, Diskcopy).	format , chkdsk , diskcopy	Visual, auditory and practical	total
Syllabus of The Practical Course					
1	(2 hou	Turn on, turn off and restart your computer	Display OS' basic on shutdown computer, log on, restart, sleep, using mouse (pointing, selecting, dragging and execution)	Visual, auditory and practical	total
2	(2 hou	Use the desktop and navigate between applications	Using desktop, moving around the desktop and using the main application icons, using the start button, open, close and uninstall)	Visual, auditory and practical	total
3	(2 hou	Control and Resize program window	Looking at window details (title bar, tools bar, address bar, status bar and windows's content) expand and collapse and close window, moving and resizing window	Visual, auditory and practical	total
4	(2 hou	Working with files and folders using shortcuts	Working with drive folders and files using the listed operation, using common shortcuts (Ctrl +C, +V,)	Visual, auditory and practical	total
5	(2 hou	Identify hardware components using	Identify the hardware and explain the different	Visual, auditory and practical	total

		diagrams.	types of computer using illustrations or what provided by internet		
6	(2 hou	Understanding processor chips, memory types, and units of measurement	Explain microprocessor chip, types of memory (RAM, ROM AND SSD Drive), memory units of measurements, storage devices, how to use keyboard, mouse, printers and other peripherals identifying motherboard and their ports, how to use computer recourse	Visual, auditory and practical	total
7	(2 hou	Getting to know the control panel and changing settings	Identifying the control panel icon, changing desktop icon, wallpaper, display type and size, setup time and date, using language options, using accessibility	Visual, auditory and practical	total
8	(2 hou	Shutting down the computer in different ways and creating user accounts	Power off computer using different options, understanding the mode of operation, create user account, log off, log in, changing account	Visual, auditory and practical	total
9	(2 hou	Understanding application software and software installation	Understanding the application software, type and their usage, how install and uninstall	Visual, auditory and practical	total

			programs and display their differences from delete, update or reinstall the software		
10	(2 hours)	Clear junk files and deal with common system issues	Delete systematically unnecessary files, scan disk, understand the most common troubleshooting of computer or software, copy files or disk, using antiviruses getting help for windows, getting online help	Visual, auditory and practical	total
11	(2 hours)	Understanding processor chips, memory types, and units of measurement	Part2	Visual, auditory and practical	total
12	(2 hours)	Start programs and learn about the main screen details	Starting a program when you add a screenshot of the data	Visual, auditory and practical	total
13	(2 hours)	Writing texts using different formats and correcting errors.	Writing text with wrong words and different formatting type to perform the task of this lesson.	Visual, auditory and practical	total
14	(2 hours)	Format text, spacing, and change backgrounds.	Indent text by hanging the first line or hanging the main paragraph body, line	Visual, auditory and practical	total

			space types, find and replace text		
15	(2 hour)	Insert page numbers, images, and tables.	Insert page number and \or images, clipart, excel sheet,	Visual, auditory and practical	total
Course Evaluation					
60% theoretical and 40% practical (lab)					
Learning and Teaching Resources					
Required textbooks (curricular books, if any)					
Main references (sources)			Fundamentals of Computers		
Recommended books and references (scientific journals, reports...)			Computer Fundamentals: Architecture and Organization		
Electronic References, Websites			https://www.microsoft.com		

1. Course name:	
English language	
2. Course code:	
MTAL1104	
3. Chapter year /	
First	
4. Date of preparation of this description	
2026\2 \20	
5. Available attendance forms ..	
Presence	
6. Number of study hours (total) Total number of units	
30 Stude hours and 2 units	
7. Name of the course administrator (if more than one name is mentioned)	
Name :noraq talib	Email:noraqaltalib@gmail.com
8. Course objective	
- General objective: To identify the tenses and verbs used with each tense and to control the context of the sentence. - Specific objective: To learn general grammar, interrogative words and conversational formulatio	Objective of the study subject
9. Teaching and learning strategies	
Interactive Lecture – 1 Dialogue and discussion – 2 Exercises - 3 Learning by research -4	strategy
10. Course structure	

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	Weeks	Week
Paper exams	Lectures\ interactive	Cardinal numbers/years /prices/ times (in words and figures)	(7ج) Communicating using cardinal numbers	2	1
Paper exams	Lectures\ interactive	Phonetics of alphabet letters, Punctuation	(7ج) Communicate by using correct pronunciation of letters.	2	2
Paper exams	Lectures\ interactive	Countries/Capitals, arrange words (make full sentence)/ arrange letters (make full word).	(7ج) Communicate using the names of capitals and countries and using complete sentences	2	3
Paper exams	Lectures\ interactive	Simple present/1. Verb to be (is/am/are) (affirmative, negative and interrogative).	(7ج) Communicate Use the simple present tense	2	4
Paper exams	Lectures\ interactive Lectures\ interactive	Simple present/2. Verb to do (Do/Does) (affirmative, negative and interrogative).	(7ج) Communicate Use the simple present tense	2	5

Paper exams	Lectures\ interactive	Simple present/3. Verb to have (have/has) (affirmative, negative and interrogative).	(7ع) Communicate Use the simple present tense	2	6
Paper exams	Lectures\ interactive	Simple present/4. Ordinary verbs like (eat, go, play... etc.) (affirmative, negative and interrogative).	(7ع) Communicate Use the simple present tense	2	7
Paper exams	Lectures\ interactive	Tag questions and short answers (yes/no questions).	(7ع) Communicate with questions	2	8
Paper exams	Lectures\ interactive	Review (Simple present).	(7ع) Communicating using the simple present tense	2	10
Paper exams	Lectures\ interactive	Question words (what, where, when, who, why, how, whom, whose, which).	(7ع) Communicate with questions	2	11
Paper exams	Lectures\ interactive	Abbreviation (short form), adjectives (and their opposite).	(7ع) Communicate with questions	2	12
Paper exams	Lectures\ interactive	Plural nouns (regular and irregular).	(7ع) Communicate collectively	2	13

Paper exams	Lectures\ interactive	Pronunciation (-s at the end of a word).	(7ع) Communicate with correct pronunciation	2	14
Paper exams	Lectures\ interactive	Pronouns (all types).	ع)7(Communicate With pronouns	2	15

11. Course evaluation

The grade is distributed out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly and written exams, reports, etc.

Interaction 5 degrees

Monthly exam 25 marks.

Final exam 70 points

12. Learning and teaching resources ..

..	Required textbooks (methodology if any
Headway Beginner Student's Book with Online Practice, Fifth Edition	Required textbooks (methodology if any
Headway Beginner Student's Book with Online Practice, Fourth Edition	Recommended supporting books and references (scientific journals, reports, etc(.
	Electronic references, websites

11. Course Name:	
General Chemistry	
12. Course Code:	
MTAL1101	
13. Semester / Year:	
First Semester / First Stage	
14. Description Preparation Date:	
December 2, 2025	
15. Available Attendance Forms:	
Mandatory Attendance (Theoretical Lectures) / Practical Laboratories	
16. Number of Credit Hours (Total) / Number of Units (Total)	
2 Theoretical hours per week (Total: 30 Hours) / 2 Units	
17. Course administrator's name (mention all, if more than one name)	
Name: Asst. Lect. Aqeel Kahit Khayoon Muhsin Email: Aqeel.KahitKhayoun@alayen.edu.iq	
18. Course Objectives	
Course Objectives	The primary goals of this course are to: ✓ Introduce students to the fundamental principles of General Chemistry and their specific applications within Cosmetic Science. ✓ Enable students to understand atomic and molecular structures and their significance in the formulation of cosmetic products. ✓ Explain the concepts of solutions, acids, bases, and pH levels, emphasizing their role in maintaining skin balance. ✓ Familiarize students with the metabolism of carbohydrates, lipids, and proteins and their relationship to skin and hair health. ✓ Provide a foundation in Cellular Biochemistry, understanding body components such as blood and physiological fluids.
19. Teaching and Learning Strategies	
Strategy	✓ Theoretical Lectures: Detailed explanations using presentations (PowerPoint) and whiteboards. ✓ Interactive Dialogue: Engaging students through targeted Q&A sessions. ✓ Visual Learning: Utilizing illustrative images and videos for complex chemical concepts. ✓ Problem-Based Learning: Practical exercises on solution concentrations and pH calculations.
20. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Explain the scope of biochemistry and its components.	Intro to Biochemistry: Health, disease, and the cell.	Lecture, Discussion	Oral Questions
2	2	Distinguish gas laws and apply SI units.	Physical Chemistry: Gas laws (Boyle, Graham, Dalton).	Lecture, Problem Solving	Homework
3	2	Explain radioactivity and radioisotopes.	Radioactivity: Radioisotopes and their applications.	Lecture, Videos	Oral Questions
4	2	Calculate solution concentrations.	Solutions: Concentration expressions and colloids.	Lecture, Exercises	Quiz
5	2	Explain pH, acid-base balance, and common ion effect.	Acids & Bases: pH concept and chemical equilibrium.	Lecture, Diagrams	Oral Questions
6	2	Define buffer solutions and their biological importance.	Buffer Solutions: Physiological buffers in living systems.	Lecture, Discussion	Monthly Exam I
7	2	List blood components and explain pH regulation.	Blood Chemistry: Blood components and fluid balance.	Lecture, Illustrations	Oral Questions
8	2	Explain water-electrolyte balance and osmotic pressure.	Fluid Balance: Electrolyte control and osmosis.	Lecture, Discussion	Homework
9	2	Classify carbohydrates and identify specific reactions.	Carbohydrate Chemistry: Classification and reactions.	Lecture, Molecular Models	Quiz
10	2	Explain carbohydrate metabolism and blood sugar regulation.	Carbohydrate Metabolism: Glycemia and control factors.	Lecture, Metabolic Maps	Oral Questions
11	2	Identify blood sugar disorders and analyze GTT.	Disorders: Diabetes, Ketoacidosis, and GTT.	Lecture, Case Study	Monthly Exam II
12	2	Classify lipids and identify their derivatives.	Lipid Chemistry: Classification of simple and complex lipids.	Lecture, Visual Aids	Oral Questions
13	2	Explain lipid metabolism and associated disorders.	Lipid Metabolism: Metabolism and Atherosclerosis.	Lecture, Discussion	Homework
14	2	Describe amino acid structure and protein functions.	Protein Chemistry: Peptide bonds and protein functions.	Lecture, Tables	Oral Questions
15	2	Explain the structure and function of DNA and RNA.	Nucleic Acids: DNA synthesis, replication, and RNA structure.	Lecture, Diagrams	Final Exam

21. Course Evaluation

Grading: 25 marks distributed across daily preparation, quizzes, oral exams, monthly written exams, and reports.

22. Learning and Teaching Resources

Required textbooks (curricular books, if any)

"Principles of General Chemistry" by Martin S. Silberberg (or any accredited university chemistry textbook).

Main references (sources)	<i>Fundamentals of Biochemistry"</i>
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Khan Academy (Chemistry) and specialized educational YouTube channels.

1. Course Name: Human Biology
2. Course Code: MTAL1102
3. Semester / Year: 1 st year/ 1 st semester
4. Description Preparation Date: 26-2-2026
5. Available Attendance Forms: In-person (Theory & Practical)
6. Number of Credit Hours (2) / Number of Units (4)
7. Course administrator's name (mention all, if more than one name)
Name: MSc. Ghadeer Ridha
Email: ghadeerr.alsaray@student.uokufa.edu.iq

8. Course Objectives

Course Objectives	• To understand the basic principles of life, cell structure, and the function of human body tissues. • To develop scientific thinking and analytical skills through observation and experimentation. • To gain medical knowledge regarding cell types, tissues, and systems like the immune system. • To understand molecular genetics (DNA/RNA) and the transmission of genetic information.
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9. Teaching and Learning Strategies

Strategy	"Interactive theoretical lectures, learning through laboratory experiments (practical aspect), scientific discussions, and the use of visual aids to illustrate the structure of cells and tissues."
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10. Course Structure

Week	H o u r s	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
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1	2	Distinguish between prokaryotic/eukaryotic and animal/plant cells	Introduction to Bio and Cells	Theoretical lecture + Presentation	Class participation Direct questions
2+3	2	Identify cell components (Nucleus, Mitochondria, Plasma Membrane) and their functions.	Cell Structure	Lecture + Practical application (Microscope)	Short Quiz
4+5	2	Comprehend cellular transport processes (Diffusion, Osmosis, and Active Transport)	Movement in and out of cells	Interactive lecture + Brainstorming	Laboratory Report
6	2	Identify cell cycle stages and the difference between Mitosis and Meiosis.	Cell Division	Lecture + Illustrative drawings	Group Discussion
7+8	2	Understand nucleic acid structure and storage/transmission of genetic information	Nucleic Acids (DNA & RNA)	Interactive Lecture	Experiment Report
9	2	Comprehend the process of transcription and translation to convert genetic information into proteins.	Protein Biosynthesis	Lecture + Illustrative drawings	Homework (Phase drawing)
10+11	2	Identify types of epithelial tissues and their functions in the body.	Epithelial Tissues	Theoretical lecture + Presentation	Short Quiz
12+13	2	Study the characteristics of muscular and nervous tissues and signal transmission	Muscular and Nervous Tissues	Interactive Lecture	Performance and participation evaluation
14	2	Identify the structure of bones and cartilage as supportive connective tissues.	Connective Tissues	Interactive Lecture	Performance and participation evaluation
15	2	Study blood components (R.B.C, W.B.C, and lymph, and their immune roles.	Blood and Lymphatic System	Interactive Lecture	Pop Quiz

11. Course Evaluation

The total grade (100) is distributed based on the tasks assigned to the student as follows:

- Preparation and Daily Exams (Quizzes): 10%
- Laboratory Reports and Participation (Practical): 20%
- Monthly / Midterm Examination: 20%
- Final Examination: 50%
- Total: 100%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Human Biology Textbook (The approved curriculum for the course).
Main references (sources)	Campbell Biology (Global reference for cellular and genetic studies). DiFiore's Atlas of Histology (Reference for tissue and organ structure).
Recommended books and references (scientific journals, reports...)	• Specialized scientific journals in Biological Science and Medical Research. • Current scientific reports on developments in genetic and cell biology.
Electronic References, Websites	• NCBI (National Center for Biotechnology Information). • Khan Academy (Biological Sciences section).

- Academic educational platforms and university libraries.

1. Course Name:					
Medical physics 1					
2. Course Code:					
MTAL1103					
3. Semester / Year:					
Stage 1					
4. Description Preparation Date:					
2026\2\7					
5. Available Attendance Forms:					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2hours / 15 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Rasha talal Email: soonbx86hsy.25hfy@gmail.com					
8. Course Objectives					
Course Objectives					
9. Teaching and Learning Strategies					
Strategy		.			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
One	2		1Introduction t Laser Physics		
Two	2				

three	2		2-Skin Anatomy Related to Laser Applications		
four	2		3-Laser-Tissue Interaction		
five	2		4-Types of Lasers: Ablative and Non-Ablative		
six	2		5-Laser Safety Standards and Protocols		
seven	2		6-Hair Removal with Laser		
eight	2		7-Vascular and Pigmented Lesion Treatment		
nine	2		8-Fractional Laser Technology		
ten	2		9-Intense Pulsed Light (IPL) Technology		
11	2		10-LED Light Therapy: Red, Blue, and Infrared		
12	2		11-Complications and Risk Management		
			12-Client Consultation and Skin Prep		

13	2		13-Ethical and Legal Aspects in Laser Practice		
14	2		14-Review of Combined Modalities (Laser + Other Techniques)		
15			Final exam		

11. 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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

