

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



Description of the Academic Program

2026/2025



Academic Program Description Form

_University Name: Al-Furat Al-Awsat Technical University
_Faculty / Institute: College of Health and Medical Techniques / Kufa
_Scientific Department: Department of Dental Technology
_Academic Of Professional Program Name: Dental Technology
_Final Certificate Name: Bachelor's degree in Dental Technology
_Academic System: Course
_Description Preparation Date: 2026/1/7
_File Completion Date: 2026/1/22

Signature:

Head of Department Name:

Assist.Prof.Dr. Ameer Abood Karim

Date:

Signature:

Scientific Associate Name:

Assist.Prof.Dr. Ahmed Alshawi

Date: 1.3.2026

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Assist. Lecturer. Enas kadim Abd Alamir

Date:

Signature:



Approved of Dean

Prof.Dr. Angham Jasim Mohammed Ali

1. Program Vision

the Dental Technology program specializes in preparing qualified technical personnel capable of performing all laboratory procedures related to dental fabrication and maxillofacial prostheses, in collaboration and coordination with dentists.

2. Program Mission

the mission of the Dental Technology program is to prepare highly qualified dental technicians capable of applying the latest scientific, manual, and digital skills to design and manufacture precise and high-quality dental and maxillofacial prostheses. The program aims to supply the labor market with competent professionals who work ethically and cooperatively with dentists to enhance oral healthcare in the community.

3. Program Objectives

the Dental Technology program aims to prepare technically and scientifically qualified personnel in the design, fabrication, and restoration of various dental prostheses (fixed, removable, and orthodontic appliances), using both traditional and modern digital techniques, to support dentists within the integrated healthcare team and contribute to improving community oral health.

4. Program Accreditation

the program has **not yet obtained accreditation**

5. Other external influences

- Ministry of Higher Education and Scientific Research
- Ministry of Health



6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	50 courses over 4 years (8 semesters)	174	100%	
College Requirements	3 General Courses	6	3.5%	
Department Requirements	23 Specialized courses	128	74.4%	
Summer Training	13 supporting courses	38	22.1%	
Other		-	-	

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
first Year / First Semester	ATU-13-DPT-111-C-M/E	Dental Materials1	2	5
	ATU-13-DPT-112-C-M/E	Dental Devices Technology1	2	5
	ATU-13-DPT-113-C-M/E	Dental Anatomy1	2	5
	ATU-13-DPT-114-C-M/E	Occupational Safety	2	—
	ATU10	Medical terminology	3	—
	ATU13	Human Rights and Democracy	2	—
	ATU12	Computer Principles 1	1	2
first Year / Second Semester	ATU-13-DPT-121-C-M/E	Dental Materials2	2	5
	ATU-13-DPT-122-C-M/E	Dental Devices Technology2	2	5



	ATU-13-DPT-123-C-M/E	Dental Anatomy2	٢	٥
	ATU-13-DPT-124-C-M/E	General Physics	٢	٤
	ATU11	Arabic Language	٢	-

8. Expected learning outcomes of the program

Knowledge

The program aims to provide students with knowledge that enables them to:

1. Gain comprehensive scientific knowledge in dental technology aligned with modern standards.
2. Apply acquired scientific knowledge to the field of dental technology and related sciences to achieve interdisciplinary integration.
3. Prepare highly qualified graduates specialized in dental technology to contribute effectively to building a knowledge-based society and achieving national development goals.
4. Promote practical engagement with governmental and private institutions through the use of modern technologies, workshops, and professional skills required for dental practice.

Skills

Graduates acquire essential laboratory and practical skills, including:

1. Understanding the goals and fundamentals of dental technology.
2. Learning the art and method of laboratory work.



3. Developing the ability to use virtual classrooms effectively. 4. Participating actively in interactive lectures and training	
Ethics	
The program fosters personal and professional values such as: 1. Transferable and employability-related skills. 2. Applying learned knowledge to personal and professional development. 3. Utilizing acquired knowledge in professional contexts. 4. Practicing dental technology based on theoretical understanding and ethical standards.	

9. Teaching and Learning Strategies

Education relies on a blend of theoretical and practical approaches to ensure deep understanding and skill mastery, including:

1. Theoretical and Cognitive Learning

- Interactive lectures promoting discussion and engagement.
- Use of virtual classrooms and e-learning platforms for remote learning and video lectures.

2. Practical and Applied Training

- Laboratory work focusing on hands-on fabrication of fixed and removable prostheses.
- Problem-solving exercises for technical challenges in prosthesis fabrication.
- Training on modern technologies such as CAD/CAM systems and digital scanners.

3. Transferable Skills

- Documentation and communication skills for effective teamwork with dentists.
- Personal and professional development to enhance employability and adaptability.

10. Evaluation methods



- **Midterm Theoretical Exam:** 25%
- **Practical Exam:** 10%
- **Daily Assessments:** 5%
- **Final Exam:** 60%
 - Final Practical: 25%
 - Final Theoretical: 35%

Evaluation methods include:

- Laboratory assessments of prosthesis fabrication steps.
- Evaluation of final project work quality and precision.
- Written and oral examinations to measure comprehension and application.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Dr. Ameer Abood Karim	Medical Laboratory Technology (PhD)	Microbiology			Yes	
Asst. Prof. Dr. Alaa Hashem Abd Ali	Medical Laboratory Technology (PhD)	Microbiology			Yes	
Dr. Anmar Hameed Blouh	Chemistry (PhD)	Biochemistry			Yes	
Asst. Lecturer Zahraa Jaleel Salman	Chemistry (MSc)	Analytical Chemistry			Yes	
Asst. Lecturer Fatima Hamza Mohammed Baqir	Chemistry (MSc)	Analytical Chemistry			Yes	



Asst. Lecturer Zahraa Hamza Abdul Zahra	Chemistry (MSc)	Biochemistry			Yes	
Asst. Lecturer Ahmed Qais Abdul Razzaq	Law (MSc)	Law			Yes	
Dr. Duaa Sajad Abdul Hassan	Dentistry (BSc)	General Dentistry				Yes
Dr. Youssef Mazen Youssef	Dentistry (BSc)	General Dentistry				Yes
Dr. Diaa Hassan Hadi	Dentistry (MSc)	General Dentistry				Yes
Ahmed Saleem Jubair	Dental Technology (BSc)	Dental Technology				Yes
DR. Haider Kazem Shakir	Dentistry (BSc)	General Dentistry				Yes
Dr. Qasim Mohammed Hashim	Life Sciences (PhD)	Anatomy				Yes
Dr. Ahmed Hamed Elias	Computer Science (PhD)	IT			Yes	
Asst. Lecturer Ahmed Younis	Computer Science (MSc)	IT			Yes	
Dr. thulfikar jihad	General physics (PhD)	General physics (PhD)			Yes	
Asst. Lecturer Zainab thaimer	Arabic language (MSc)	Arabic language (MSc)			Yes	
Mahmoud jameel	Dentistry (BSc)	General Dentistry				Yes
Asst. Lecturer Mayada mardan	General physics (MSc)	General physics (MSc)			Yes	



Professional Development

Mentoring new faculty members

1. Orientation for New Faculty

- Understanding the program description and aligning course content with program goals and outcomes.
- Ensuring consistency between course materials and approved course descriptions.

2. Adoption of Modern Teaching Methods

- Integrating theory and practice through balanced instruction.
- Problem-based learning to develop analytical and practical skills.

Professional development of faculty members

- Negotiation and persuasion
- Leadership and motivation
- Independence and responsibility under varying conditions

12. Acceptance Criterion

According to the regulations of the **Ministry of Higher Education and Scientific Research**

13. The most important sources of information about the program

1. Laboratory manuals
2. Faculty lectures
3. Online resources
4. E-library
5. College library

14. Program Development Plan

The program is continuously updated in coordination with the **Committee of Deans of Health and Medical Technical Colleges** and the **Curriculum Development Committee**.



Program Skills Outline															
Year/Level	Course Code	Course Name	Basic or Optional	Required program learning outcomes											
				Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2025–2026 first	ATU-13-DPT-111-C-M/E	Dental Materials1	Basic	/	/	/	/	/	/	/	/	/	/	/	/
	ATU-13-DPT-112-C-M/E	Dental Devices Technology1	Basic	/	/	/	/	/	/	/	/	/	/	/	/
	ATU-13-DPT-113-C-M/E	Dental Anatomy1	Basic	/	/	/	/	/	/	/	/	/	/	/	/
	ATU-13-DPT-114-C-M/E	Occupational Safety	Basic	/	/	/	/	/	/	/	/	/	/	/	/
	ATU10	Medical terminology	Optional		/					/	/	/	/	/	
	ATU13	Human Rights and Democracy	Optional		/					/	/	/	/	/	
	ATU12	Computer Principles 1	Optional		/					/	/	/	/	/	
	ATU-13-DPT-121-C-M/E	Dental Materials2	Basic	/	/	/	/	/	/	/	/	/	/	/	/
	ATU-13-DPT-122-C-M/E	Dental Devices Technology2	Basic	/	/	/	/	/	/	/	/	/	/	/	/



	ATU-13-DPT-123-C-M/E	Dental Anatomy2	Basic	/	/	/	/	/	/	/	/	/	/	/	/
	ATU-13-DPT-124-C-M/E	General Physics	Optional		/					/	/	/	/	/	
	ATU11	Arabic Language	Optional		/					/	/	/	/	/	



Course Description: Dental Anatomy — Year 1

1. Course Name	Dental Anatomy / Year 1
2. Course Code	Semester 1: ATU-13-DPT-113-C-M/E Semester 2: ATU-13-DPT-123-C-M/E
3. Semester	Semester 1: Dental Anatomy — Basic (15 weeks) Semester 2: Dental Anatomy — Advanced (15 weeks)
Academic Year	2025-2026
4. Date of Preparation	2026/1/20
5. Attendance	Mandatory attendance
6. Total Hours / Units	Semester 1: 105 / 4 Semester 2: 105 / 4
7. Course administrator name	Name: Asst. Prof. Dr. Qasim Mohammed Hashim — Email: —
8. Course Objectives	General Objective: To introduce students to the scientific terminology related to teeth and provide information on the anatomical aspects of teeth. Specific Objective: Through the scientific aspect, the student studies drawing and carving of teeth for use in their technical work field.
9. Teaching & Learning Strategies	1. Lectures 2. Use of visual aids in the classroom 3. Interactive lectures

10. Course Structure					
Assessment Method	Teaching Method	Unit/Topic Name	Required Learning Outcomes	Hours	Week
Semester 1 / Dental Anatomy — Basic					
Attendance + Quiz	Theoretical + Practical	Introduction of dental anatomy	Student gets acquainted with the topic	7	1



Attendance + Quiz	Theoretical + Practical	Anatomy of tooth structure	Student understands the topic	7	2
Attendance + Quiz	Theoretical + Practical	The numbering system of the teeth	Student understands the topic	7	3
Attendance + Quiz	Theoretical + Practical	Physiology of teeth (Function) and tooth form	Student understands the topic	7	4
Attendance + Quiz	Theoretical + Practical	Fundamental of the tooth form	Student understands the topic	7	5
Attendance + Quiz	Theoretical + Practical	Proximal contact area: importance and function	Student understands the topic	7	6
Attendance + Quiz	Theoretical + Practical	Physiology of human teeth	Student understands the topic	7	7
Attendance + Quiz	Theoretical + Practical	Anatomical landmarks (anterior teeth)	Student understands the topic	7	8
Attendance + Quiz	Theoretical + Practical	Anatomical landmarks (posterior teeth)	Student understands the topic	7	9
Attendance + Quiz	Theoretical + Practical	Maxillary central Incisor	Student understands the topic	7	10
Attendance + Quiz	Theoretical + Practical	Maxillary lateral Incisor	Student understands the topic	7	11
Attendance + Quiz	Theoretical + Practical	Mandibular central Incisor	Student understands the topic	7	12
Attendance + Quiz	Theoretical + Practical	Mandibular lateral Incisor	Student understands the topic	7	13
Attendance + Quiz	Theoretical + Practical	Maxillary Canine	Student understands the topic		



Attendance + Quiz	Theoretical + Practical	Mandibular Canine	Student understands the topic	7	15
Semester 2 / Dental Anatomy — Advanced					
Attendance + Quiz	Theoretical + Practical	Maxillary 1st premolar teeth: description — buccal, lingual, mesial, distal, and occlusal aspects	Student understands the topic	7	1
Attendance + Quiz	Theoretical + Practical	Maxillary 2nd premolar teeth: description and comparison to the maxillary 1st premolar	Student understands the topic	7	2
Attendance + Quiz	Theoretical + Practical	Mandibular 1st premolar: description, aspects, and anatomical landmarks	Student understands the topic	7	3
Attendance + Quiz	Theoretical + Practical	Mandibular 2nd premolar: description, aspects, and anatomical landmarks	Student understands the topic	7	4
Attendance + Quiz	Theoretical + Practical	Maxillary 1st molar teeth: description of buccal, lingual, mesial, distal, and occlusal aspects	Student understands the topic	7	5
Attendance + Quiz	Theoretical + Practical	Maxillary 1st molar teeth: description and anatomical landmarks of maxillary first molar	Student understands the topic	7	6
Attendance + Quiz	Theoretical + Practical	Maxillary 2nd molar teeth: description of aspects in comparison to the Maxillary 1st molar	Student understands the topic	7	7
Attendance + Quiz	Theoretical + Practical	Maxillary 3rd molar teeth: description of aspects in comparison to the Maxillary 1st and 2nd molar	Student understands the topic	7	8
Attendance + Quiz	Theoretical + Practical	Mandibular 1st molar teeth: description and anatomical landmarks	Student understands the topic	7	9
Attendance + Quiz	Theoretical + Practical	Mandibular 1st molar teeth: description of buccal, lingual, mesial, distal, and occlusal aspects	Student understands the topic	7	10



Attendance + Quiz	Theoretical + Practical	Mandibular 2nd molar: description of aspects in comparison to the Mandibular 1st molar	Student understands the topic	7	11
Attendance + Quiz	Theoretical + Practical	Mandibular 3rd molar: variation and comparison to the Mandibular 2nd molar	Student understands the topic	7	12
Attendance + Quiz	Theoretical + Practical	Occlusion: definition, types, and features	Student understands the topic	7	13
Attendance + Quiz	Theoretical + Practical	Review of the anterior teeth	Student understands the topic	7	14
Attendance + Quiz	Theoretical + Practical	Review of the posterior teeth	Student understands the topic	7	15

11. Course Assessment	Grade distribution out of 100 per semester: 40 marks — Annual effort (daily attendance, daily exams, oral, monthly, written exams, and reports) + 25 marks — Final practical exam + 35 marks — Final theoretical exam
12. Learning & Teaching Resources	Required prescribed textbooks (if any): Dental Anatomy Atlas Main references: - Dental anatomy, physiology, occlusion — Dental laboratory technology (dental anatomy by: John B. Sowter) - Dental morphology by: G.C. Downe Electronic references / Internet websites



Course Description: Dental Materials — Year 1

1. Course Name	Dental Materials / Year 1
2. Course Code	Semester 1: ATU-13-DPT-111-C-M/E Semester 2: ATU-13-DPT-121-C-M/E
3. Semester	Semester 1: Dental Materials — Basic (15 weeks) Semester 2: Dental Materials — Intermediate (15 weeks)
Academic Year	2025-2026
4. Date of Preparation	٢٠٢٦/١/٢٢
5. Attendance	Mandatory attendance
6. Total Hours / Units	Semester 1: 105 / 4 Semester 2: 105 / 4
7. Course administrator name	Name: Dr. Duaa Sajjad Abd Al-Hassan Name: Dr Mahmoud jameel
8. Course Objectives	To introduce students to the materials used in dental technology and how to handle them. To enable students of the Dental Technology Department to study and use all laboratory materials commonly used in the preparation and manufacture of dental and maxillofacial prostheses, and to study their physical, chemical, and biological properties.
9. Teaching & Learning Strategies	1. Lectures 2. Use of visual aids in the classroom 3. Interactive lectures



10. Course Structure					
Assessment Method	Teaching Method	Unit/Topic Name	Required Learning Outcomes	Hours	Week
Semester 1 / Dental Materials — Basic					
Attendance + Quiz	Theoretical + Practical	Basics of materials science	Student gets acquainted with the topic	7	1

Attendance + Quiz	Theoretical + Practical	Requirements and evaluation of dental materials	Student understands the topic	7	2
Attendance + Quiz	Theoretical + Practical	The structure of the solid materials and interatomic bonds	Student understands the topic	7	3
Attendance + Quiz	Theoretical + Practical	The mechanical properties of the solid materials (Part I)	Student understands the topic	7	4
Attendance + Quiz	Theoretical + Practical	The mechanical properties of the solid materials (Part II)	Student understands the topic	7	5
Attendance + Quiz	Theoretical + Practical	The mechanical properties of the solid materials (Rheological properties)	Student understands the topic	7	6
Attendance + Quiz	Theoretical + Practical	The physical properties of the solid materials (adhesion and cohesion)	Student understands the topic	7	7
Attendance + Quiz	Theoretical + Practical	The physical properties of the solid materials (thermal properties)	Student understands the topic	7	8
Attendance + Quiz	Theoretical + Practical	The physical properties of the solid materials (electrical properties)	Student understands the topic	7	9
Attendance + Quiz	Theoretical + Practical	The physical properties of the solid materials (surface physico-chemistry)	Student understands the topic	7	10
Attendance + Quiz	Theoretical + Practical	The physical properties of the solid materials (surface texture)	Student understands the topic	7	11
Attendance + Quiz	Theoretical + Practical	The physical properties of the solid materials (optical properties)	Student understands the topic	7	12
Attendance + Quiz	Theoretical + Practical	The biological properties of the solid materials (Biocompatibility)	Student understands the topic	7	13
Attendance + Quiz	Theoretical + Practical	The biological properties of the solid materials (Biofilm formation and bioadhesion)	Student understands the topic	7	14



Attendance + Quiz	Theoretical + Practical	The chemical properties of the solid materials	Student understands the topic	7	15
Semester 2 / Dental Materials — Intermediate					
Attendance + Quiz	Theoretical + Practical	Polymers in dentistry (Basic structure of polymer)	Student gets acquainted with the topic	7	1
Attendance + Quiz	Theoretical + Practical	Polymers in dentistry (polymerization and crosslinking reactions)	Student understands the topic	7	2
Attendance + Quiz	Theoretical + Practical	Resins, artificial teeth materials	Student understands the topic	7	3
Attendance + Quiz	Theoretical + Practical	Acrylic resin material (denture base materials)	Student understands the topic	7	4
Attendance + Quiz	Theoretical + Practical	Classification and properties of dental acrylic resin materials	Student understands the topic	7	5
Attendance + Quiz	Theoretical + Practical	Denture liner materials	Student understands the topic	7	6
Attendance + Quiz	Theoretical + Practical	Wax (composition and properties)	Student understands the topic	7	7
Attendance + Quiz	Theoretical + Practical	Dental wax (thermal, physical, and chemical properties)	Student understands the topic	7	8
Attendance + Quiz	Theoretical + Practical	Dental wax (types and uses)	Student understands the topic	7	9
Attendance + Quiz	Theoretical + Practical	Gypsum products (chemistry and composition)	Student understands the topic	7	10
Attendance + Quiz	Theoretical + Practical	Gypsum products (types and uses)	Student understands the topic	7	11



Attendance + Quiz	Theoretical + Practical	Gypsum products (setting reaction and properties)	Student understands the topic	7	12
Attendance + Quiz	Theoretical + Practical	Dental abrasives (definition and concept)	Student understands the topic	7	13
Attendance + Quiz	Theoretical + Practical	Dental abrasives types	Student understands the topic	7	14
Attendance + Quiz	Theoretical + Practical	Dental abrasives (procedure and application)	Student understands the topic	7	15

11. Course Assessment	Grade distribution out of 100 per semester: 40 marks — Annual effort (daily attendance, daily exams, oral, monthly, written exams, and reports) + 25 marks — Final practical exam + 35 marks — Final theoretical exam
12. Learning & Teaching Resources	Main references: - Phillips' Science of Dental Materials (2012) - Craig's Restorative Dental Materials (5th edition) - Anderson's Applied Dental Materials



Course Description: Dental Technology Equipment — Year 1

1. Course Name	Dental Technology Equipment / Year 1
2. Course Code	Semester 1: ATU-13-DPT-112-C-M/E Semester 2: ATU-13-DPT-122-C-M/E
3. Semester	Semester 1: Dental Equipment —Basic (15 weeks) Semester 2: Dental Equipment — Advanced (15 weeks)
Academic Year	2025-2026
4. Date of Preparation	2026/1/20
5. Attendance	Mandatory attendance
6. Total Hours / Units	Semester 1: 105 / 4 Semester 2: 105 / 4
7. Course administrator name	Name: Dr. Diaa Hassan Hadi Email:
8. Course Objectives	To introduce students to dental equipment and technologies; to understand their components, operation, and maintenance. To enable students of the Dental Technology Department to use, maintain, and service dental equipment.
9. Teaching & Learning Strategies	1. Lectures 2. Use of visual aids in the classroom 3. Interactive lectures

10. Course Structure					
Assessment Method	Teaching Method	Unit/Topic Name	Required Learning Outcomes	Hours	Week
Semester 1 / Dental Equipment — Basic					
Quiz + Attendance	Theoretical + Practical	Introduction: Dental laboratories, work in the lab, the principle of the ideal lab	Student gets acquainted with the topic	7	1



Quiz + Attendance	Theoretical + Practical	Hand instruments used in the dental laboratories	Student understands the topic	7	2
Quiz + Attendance	Theoretical + Practical	Dental Impression Trays	Student understands the topic	7	3
Quiz + Attendance	Theoretical + Practical	The burner used in Prosthodontic Dentistry	Student understands the topic	7	4
Quiz + Attendance	Theoretical + Practical	Dental Pliers	Student understands the topic	7	5
Quiz + Attendance	Theoretical + Practical	Articulators, Face Bow, and Die-lock tray	Student understands the topic	7	6
Quiz + Attendance	Theoretical + Practical	Dental Surveyors	Student understands the topic	7	7
Quiz + Attendance	Theoretical + Practical	Dental Packing & Duplication tools, and Dental Press	Student understands the topic	7	8
Quiz + Attendance	Theoretical + Practical	Dental Trimmer and Vibrator	Student understands the topic	7	9
Quiz + Attendance	Theoretical + Practical	Wax extraction unit	Student understands the topic	7	10
Quiz + Attendance	Theoretical + Practical	Polymerization devices (Water Bath devices, hydraulic flask, and microwave oven)	Student understands the topic	7	11
Quiz + Attendance	Theoretical + Practical	Curing Light device and Injector flexible machine	Student understands the topic	7	12
Quiz + Attendance	Theoretical + Practical	Dental Brush, Burs, and Disc	Student understands the topic	7	13
Quiz + Attendance	Theoretical + Practical	Laboratory Engines and Headpiece	Student understands the topic	7	14



Quiz + Attendance	Theoretical + Practical	Dental lathe polishing machine	Student understands the topic	7	15
Semester 2 / Dental Equipment — Advanced					
Quiz + Attendance	Theoretical + Practical	Agar-agar melting machine and Flask cooling unit	Student gets acquainted with the topic	7	1
Quiz + Attendance	Theoretical + Practical	Burn-out Furnace and casting ring	Student understands the topic	7	2
Quiz + Attendance	Theoretical + Practical	Conventional Centrifuge casting machine	Student understands the topic	7	3
Quiz + Attendance	Theoretical + Practical	Electric and Induction Centrifuge casting machine	Student understands the topic	7	4
Quiz + Attendance	Theoretical + Practical	Ultrasonic cleaning machine and Mechanical mixer (vacuum)	Student understands the topic	7	5
Quiz + Attendance	Theoretical + Practical	Sand blast machine	Student understands the topic	7	6
Quiz + Attendance	Theoretical + Practical	Dental Ceramic Furnace	Student understands the topic	7	7
Quiz + Attendance	Theoretical + Practical	Soldering and welding	Student understands the topic	7	8
Quiz + Attendance	Theoretical + Practical	Dental Biostar	Student understands the topic	7	9
Quiz + Attendance	Theoretical + Practical	Dental-Arch Trimmer	Student understands the topic	7	10
Quiz + Attendance	Theoretical + Practical	Dental Pindex machine	Student understands the topic	7	11



Quiz + Attendance	Theoretical + Practical	Electronic spatula for wax modelling	Student understands the topic	7	12
Quiz + Attendance	Theoretical + Practical	Induction wax modelling and Dipping wax unit	Student understands the topic	7	13
Quiz + Attendance	Theoretical + Practical	General measurement instruments and Hopper duplicator	Student understands the topic	7	14
Quiz + Attendance	Theoretical + Practical	CAD-CAM production methods	Student understands the topic	7	15

11. Course Assessment	Grade distribution out of 100 per semester: 40 marks — Annual effort (daily attendance, daily exams, oral, monthly, written exams, and reports) + 25 marks — Final practical exam + 35 marks — Final theoretical exam
12. Learning & Teaching Resources	Main references: Dental Devices and Laboratories — Dr. Faiz Fouad Dawood (1985)



Course Description: Computer and artificial intelligent - Year 1

1. Course Name:					
Computer and artificial intelligent					
2. Course Code:					
ATU12					
3. Semester / Year:					
First / 2025-2026					
4. Description Preparation Date:					
2026/1/18					
5. Available Attendance Forms:					
In presence					
6. Number of Credit Hours (Total) / Number of Units (Total)					
3 hours per week / 2 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Ahmed Hamid Elias Email: ahmed.elias@atu.edu.iq					
8. Course Objectives					
Course Objectives		1. Using a computer for basic tasks. 2. Identifying and discussing the hardware components of a computer system. 3. Creating documents and presentations using a word processor. 4. Conducting internet research. 5. Introduction to artificial intelligence.			
9. Teaching and Learning Strategies					
Strategy		1. Board - Normal or Smart. 2. Computers. 3. Presentation software such as PowerPoint.			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	3	Theoretical and practical knowledge	Introduction to Computers: Concepts of hardware, software and their components; the concept of computing, data and information; connecting input/output devices and peripherals to the central processing unit.	• In presence	Quarterly and weekly tests.
Second	3		Computer components: computer parts, hardware parts, input/output units, types of memory.		



Third	3		Computer components (continued): The central processing unit (CPU) Computer components, ports, personal computer, PC (features and types)		
Fourth	3		Operating System and Graphical User Interface Graphical User Interface: Operating System; Basics of Common Operating Systems; User Interface, Using Mouse Techniques		
Fifth	3		Operating System and Graphical User Interface (continued): Using common icons, status bar, using and selecting menus, the concept of folders and directories, opening and closing different windows; creating shortcuts.		
Sixth	3		Word Processing: Word Processing Fundamentals; Basics Features of Word Processors, Opening and Closing Documents, Creating and Manipulating Text; Formatting Text and Paragraphs, Using Templates to Create Documents		
Seventh	3		Text processing (continued): Creating and managing tables, using styles and themes, spell and grammar checking tools, and using headers and footers.		
Eighth	3		The Role of AI in Modern Smartphones: AI-Driven Mobile Technologies, Virtual Assistants (Siri, Google Assistant, Alexa).		
Ninth	3		Spreadsheets: Introduction to Spreadsheets Programs, creating and formatting worksheets. Sorting and		



		filtering data, using formulas and functions		
Tenth	3	Applications and Tools of AI: Overview of AI Applications in Various Industries, Education and Healthcare.		
eleventh	3	Electronic spreadsheets (continued): Using formulas and functions, using pivot tables to analyze data, validating data and checking for errors, data visualization: creating charts and graphs.		
twelfth	3	Introduction to the Internet and Web Browsers: Computer Networking Fundamentals; Local Area Network (LAN), Wide Area Network (WAN); The Concept of the Internet and its Applications; Connecting to the Internet		
Thirteen	3	Introduction to the Internet and Web Browsers: Introduction to the Internet and Web Browsers (continued): The World Wide Web; web browsers, search engines; understanding URLs; domain names; IP addresses.		
fourteen	3	Communication and Email: Email Basics Getting an email account; Sending and receiving emails; Accessing sent emails; Using email; Collaborating on documents		
fifteen	3	Introduction to Cloud Computing and Services: Definition and concept of cloud computing, cloud office suites (Office 365 and Google Workspace), Google Docs, Google		



			Sheets, Google Drive, and Google Meet		
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)			Graham Brown, David Watson, "Cambridge IGCSE Information and Communication Technology", 3rd Edition (2020).		
Main references (sources)			Alan Evans, Kendall Martin, Mary Anne Poatsy, "Technology In Action Complete", 16th Edition (2020).		
Recommended books and references (scientific journals, reports...)			Ahmed Banafa, "Introduction to Artificial Intelligence (AI)", 1st Edition (2024).		
Electronic References, Websites			Microsoft Office 2019 Step by Step 1st Edition by Curtis Frye & Joan Lambert. الخضر علي الخضر بحاث، "أساسيات الحاسوب" 2016. الدكتور عادل عبدالنور، "مدخل إلى عالم الذكاء الاصطناعي" 2005.		



Course Description: Terminology - Year 1

13.Course Name:					
Terminology					
14.Course Code:					
ATU10					
15.Semester / Year:					
First / 2025-2026					
16.Description Preparation Date:					
21/1/2026					
17.Available Attendance Forms:					
In presence					
18.Number of Credit Hours (Total) / Number of Units (Total)					
2 hours per week / 2 units					
19.Course administrator's name (mention all, if more than one name)					
Name: Dr. anmar hameed bloh Email: anmarhameed@yahoo.com					
20.Course Objectives					
Course Objectives		1. Use of medical terminology. 2. Identifying and discussing the components of a medical term and its syllables. 3. Understanding the intended meanings of medical terms. 4. Medical terminology and its impact on writing medical reports that must be recognized internationally. 5. Introduction to medical terminology.			
21. Teaching and Learning Strategies					
Strategy		4. Board - Normal or Smart. 5. Computers. 6. Presentation software such as PowerPoint.			
22. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	2	Theoretical and practical knowledge	Language of medicine, Medical terms, Spelling of medical terms, Pronunciation of medical terms,	• In presence	Quarterly and weekly tests.



Second	2		Focus on reading, Vocabulary development, Focus on grammar, Oral skills		
Third	2		, Focus on writing, Pronunciation exercise, Review exercises, Self-assessment		
Fourth	2		Operating System and Graphical Medical terms, Suffixes, Focus on reading, Vocabulary development, Focus on grammar,		
Fifth	2		Case report, Oral communication skills, Focus on writing,		
Sixth	2		Pronunciation of medical terms, Review exercises, Self-assessment		
Seventh and eighth and nine	6		Prefixes Medical terms, Prefixes, Focus on reading, Vocabulary development, Focus on grammar Oral communication skills, Focus on writing, Pronunciation of medical terms, Review exercises, Self-assessment		
Ten and Eleventh and twelfth	6		Body structure Body structure, Principal body systems, Planes of the body, Orientation and directional terms, Body positions, Body cavities, Focus on reading, Vocabulary development, Focus on grammar, Oral communication skills, Focus on writing, Review exercises, Self assessment		
Thirteen and fourteen	6		Body system		



and fiveteen			Body systems, Focus on reading, Vocabulary development, Focus on grammar, Oral communication skills, Focus on writing, Pronunciation of medical terms, Review exercises, Self-assessment		
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)			Medical Terminology: A Short Course – للمؤلفة Davi-Ellen Chabner		
Recommended books and references (scientific journals, reports...)			Medical Terminology for Health Professions For Ann Ehrlich و Carol L. Schroeder		
Electronic References, Websites					



Course Description: Occupational safety - Year 1

1. Course Name	Occupational Safety / First Year
2. Course Code	ATU-13-DPT-114-C-M/E
3. Semester	First Semester: Occupational Safety – 15 Weeks
4. Academic Year	2025–2026
5. Description Preparation Date	15/1/2026
6. Attendance Mode	Mandatory Attendance
7. Total Study Hours / Units	First Course: 30 Hours / 2 Units
8. Course administrator name	Name: Asst. Prof. Dr. Ameer Aboud Kareem Email: ameer.iraq1982@gmail.com

9. Course Objectives	General Objective: Familiarize students with occupational and laboratory hazards affecting workers' health. Specific Objective: Enable students to prevent occupational hazards in laboratories and workshops.
10. Learning & Teaching Strategies	1. Lectures 2. Use of visual aids in the classroom 3. Interactive lectures

10. Course Structure

Week	Hours	Learning Outcomes	Unit/Topic Name	Teaching Method	Assessment Method
1st	2	Student identifies introductory concepts	Introduction & terms used in occupational safety The staff of the occupational health center	Theoretical	Quiz + Attendance



2nd	2	Student understands the topic	Work hazards in an industrial environment in general work Physical hazards	Theoretical	Quiz + Attendance
3rd	2	Student understands the topic	Noise, and protection from noise Source of noise in general work	Theoretical	Quiz + Attendance
4th	2	Student understands the topic	Prevention from the heat in general work Chemical hazards in general work	Theoretical	Quiz + Attendance
5th	2	Student understands the topic	The most important route of entry of chemical Elimination of chemical substances from the body Type of toxicity Chronic toxicity	Theoretical	Quiz + Attendance
6th	2	Student understands the topic	Occupational cancer Respiratory disease associated with occupational cancer Occupational Asthma / properties, prevention / treatment	Theoretical	Quiz + Attendance
7th	2	Student understands the topic	Introduction to Biosafety and Security Key components of Biorisk Management Components of safety in all laboratories Universal safety precautions	Theoretical	Quiz + Attendance



			Biosafety barriers in laboratories Personal protective equipment (PPE) Facility Design		
8th	2	Student understands the topic	Biosafety level Risk Assessment Strategy Hazard groups, biosafety levels, practices and equipment Standard practices required in biology laboratories Biological Agents Routes of infection Basis for control Measures Hazard group classification system A Biosafety cabinet (BSC)	Theoretical	Quiz + Attendance
9th	2	Student understands the topic	Biorisk and biohazards Control of substances hazardous to health Assessing risk for work with human blood and tissues hazards Control measures for work with human blood and tissue Containment level	Theoretical	Quiz + Attendance
10th	2	Student understands the topic	Biorisk management system Assess the capability of the laboratory staff to control hazards	Theoretical	Quiz + Attendance



			Relation of risk groups to biosafety levels, practices and equipment Mitigation Control Measures Sustainability of the bio-risk management system Strengthening biorisk management		
11th	2	Student understands the topic	Types of biological wastes Categories of biological wastes Decontamination of biological wastes Transportation of biological wastes International Transport Regulations The Basic Triple Packaging System	Theoretical	Quiz + Attendance
12th	2	Student understands the topic	Accident response Spill cleanup procedure Investigation of an accident inside the laboratory Overview of biological safety and security equipment	Theoretical	Quiz + Attendance
13th & 14th	2	Student understands the topic	Introduction to Biosecurity Risks Characterization in biosecurity Vulnerability assessment Components of Laboratory Biosecurity	Theoretical	Quiz + Attendance



14th & 15th	2	Student understands the topic	Biosafety Practical Part – Biosafety rules simulation 3D https://www.labster.com/3d-biosafety-simulation	Theoretical	Quiz + Attendance
15th	2	Student understands the topic	Biosafety training	Theoretical	Quiz + Attendance

11. Course Assessment

Grade distribution out of 100: (30 marks – continuous assessment based on tasks assigned to the student, such as daily preparation, daily quizzes, oral and monthly tests, written exams, and reports + 70 marks – final theoretical exam).

12. Learning & Teaching Resources

Required Textbooks (if any)

Phillips' Science of Dental Materials (2012)
Craig's Restorative Dental Materials (2012)
Anderson's Applied Dental Materials

Main References / Sources



Course Description: Human rights- year one

1. Course Name	Human Rights / First Year
2. Course Code	ATU13
3. Semester	First Semester – 15 Weeks
4. Academic Year	2025–2026
5. Description Preparation Date	15/1/2026
6. Attendance Mode	Mandatory Attendance
7. Total Study Hours / Units	30 Hours / 2 Units
8. Course administrator name	Name: Instructor Ahmed Qais Abd Al-Razzaq Email: amo518qq@gmail.com

9. Course Objectives	<u>Knowledge Objectives:</u> 1. Define human rights 2. Apply human rights principles <u>Specific Program Skills Objectives:</u> 1. Analyze legal texts 2. Express opinions
10. Learning & Teaching Strategies	1. Lectures 2. Use of visual aids in the classroom 3. Interactive lectures

10. Course Structure

Week	Hours	Learning Outcomes	Unit/Topic Name	Teaching Method	Assessment Method
1st	4	Recognize the concept of human rights	Introduction to Human Rights	Lecture	Short quiz



		and its importance			
2nd	4	Understand the historical development of rights	Historical Development of Rights	Discussion	Assignment
3rd	4	Classify types of rights	Distinguishing Between Types of Rights	Interactive Lecture	Test
4th	4	Analyze civil and political rights	Civil and Political Rights	Discussion	Written Assessment
5th	4	Understand economic, social, and cultural rights	Economic, Social and Cultural Rights	Lecture	Assignment
6th	4	Interpret texts of the Universal Declaration	Universal Declaration of Human Rights	Analysis	Test
7th	4	Identify the two international covenants	International Covenants	Student Presentation	Oral Assessment
8th	4	Understand international protection mechanisms	International Protection Mechanisms	Lecture	Test
9th	4	Analyze the role of international organizations	The Role of the United Nations in Protecting Rights	Discussion	Research Assignment
10th	4	Understand human rights in the constitution	Human Rights in the Constitution	Lecture	Test



11th	4	Analyze discrimination cases	Combating Discrimination	Discussion	Practical Assessment
12th	4	Evaluate contemporary issues	Contemporary Issues in Rights	Discussion Circle	Test
13th	4	Analyze civil and political rights	Civil and Political Rights (Review)	Discussion	Written Assessment
14th	4	Prepare a rights-based research paper	Methodology of Research in Rights	Practical Application	Assignment
15th	7	Comprehensive review	General Course Review	Open Discussion	Analytical Assessment

11. Course Assessment	Grade distribution out of 100: (30 marks – continuous assessment based on tasks assigned to the student, such as daily preparation, daily quizzes, oral and monthly tests, written exams, and reports + 70 marks – final theoretical exam).
12. Learning & Teaching Resources	
Required Textbooks	Human Rights and Democracy
Main References / Sources	Universal Declaration of Human Rights (1948)
Supporting References	UN Reports
Electronic References	Official UN Website
Course Development Plan	• Introduce real case studies • Strengthen the applied dimension through discussion



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- Involve a number of students in preparing reports
 - Utilize digital materials and academic platforms



Course Description: General Physics

Course Name	General Physics
Course Code	ATU-13-DPT-124-C-M/E
Semester / Academic Year	First Year
Date this Description was Prepared	20-1-2026
Available Modes of Attendance	In-Person
Total Teaching Hours / Total Credit Units	8 hours
Course Coordinator	Dr. Thulfikar Nazim Jihad — thulfikar.jihad@atu.edu.iq

Course Objectives

Course Objectives

To understand general physics, including:

1. Understanding the fundamental laws of mechanics (motion and forces), heat, electricity, magnetism, waves, and light.
2. Acquiring problem-solving skills in physics using analytical thinking and appropriate mathematics.
3. Connecting physics to daily life and to technological and engineering applications.
4. Conducting experimental measurements, analyzing data, and drawing conclusions in the laboratory.
5. Preparing for advanced courses in physics, engineering, or other scientific disciplines.

Teaching and Learning Strategies

Strategies

- Cooperative learning strategy
- Brainstorming strategy
- Cooperative concept-mapping strategy
- Real-time feedback strategy
- Sequential observation strategy
- Discussion and exchange-of-views strategy
- Information-presentation strategy



- Training and presentation of recent scientific developments

First: Course Structure (Theoretical)					
Week	Hours (Theory)	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1	2	1. Raising motivation for learning of various types: intrinsic motivation, social motivation, and achievement motivation. 2. Encouraging self-directed and independent learning, so students can take responsibility for their studies and assess their academic progress. 3. Creating opportunities to apply the collaborative curriculum-planning approach and to enable cooperation among faculty members in identifying gaps and redundancies. 4. Helping students ensure that decisions related to the curriculum and learning environment are well-grounded. 5. Promoting the philosophy of continuous follow-up and improvement. 6. Helping students reinforce accountability and ensure the quality of academic programs.	Review of general physics, concepts and laws	• Cooperative learning • Brainstorming • Cooperative concept mapping • Real-time feedback • Sequential observation • Discussion and exchange of views • Information presentation • Training and presentation of recent scientific developments	Daily, oral, and written exams; reports; discussions.
2	2	=	Atomic structure	Same as above	Same as above



3	2	=	Ohm's law, series and parallel circuits	Same as above	Same as above
4	2	=	Capacitor, series and parallel capacitors	Same as above	Same as above
5	2	=	Electromotive force (e.m.f)	Same as above	Same as above
6	2	=	Mechanics of elastic solids	Same as above	Same as above
7	2	=	Stress-strain curve	Same as above	Same as above
8	2	=	Heat and latent heat	Same as above	Same as above
9	2	=	Heat and the first law of thermodynamics	Same as above	Same as above
10	2	=	Heat transfer by conduction, convection, and radiation	Same as above	Same as above
11	2	=	Sound	Same as above	Same as above
12	2	=	Work, power, energy	Same as above	Same as above
13	2	=	Velocity, acceleration, Newton's laws	Same as above	Same as above
14	2	=	Gases, pressure, law of pressure	Same as above	Same as above
15	2	=	Force and momentum	Same as above	Same as above



Second: Course Structure (Practical)

Week	Hours (Practical)	Required Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1	4	1. Raising motivation for learning of various types: intrinsic motivation, social motivation, and achievement motivation. 2. Encouraging self-directed and independent learning, so students can take responsibility for their studies and assess their academic progress. 3. Creating opportunities to apply the collaborative curriculum-planning approach and to enable cooperation among faculty members in identifying gaps and redundancies. 4. Helping students ensure that decisions related to the curriculum and learning environment are well-grounded. 5. Promoting the philosophy of continuous follow-up and improvement. 6. Helping students reinforce accountability and ensure the quality of academic programs.	Ohm's law	• Cooperative learning • Brainstorming • Cooperative concept mapping • Real-time feedback • Sequential observation • Discussion and exchange of views • Information presentation • Training and presentation of recent scientific developments	Daily, oral, and written exams; reports; discussions.
2	4	=	Ohm's law	Same as above	Same as above
3	4	=	Determination of electromotive force (e.m.f) and internal resistance	Same as above	Same as above

4	4	=	Determination of electromotive force (e.m.f) and internal resistance	Same as above	Same as above
5	4	=	Test	Same as above	Same as above
6	4	=	Hooke's law	Same as above	Same as above
7	4	=	Hooke's law	Same as above	Same as above
8	4	=	The simple pendulum	Same as above	Same as above
9	4	=	The simple pendulum	Same as above	Same as above
10	4	=	Test	Same as above	Same as above
11	4	=	The moment of inertia of a flywheel	Same as above	Same as above
12	4	=	The moment of inertia of a flywheel	Same as above	Same as above
13	4	=	Determination of the friction of wood	Same as above	Same as above
14	4	=	Determination of the friction of wood — review session	Same as above	Same as above
15	4	=	Test	Same as above	Same as above



Course Assessment

The 100-point grade is distributed according to the tasks assigned to the student, such as daily preparation, daily and oral exams, monthly and written exams, reports, and so on.

Learning and Teaching Resources

Required Textbooks (Curriculum, if any)

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Main References (Sources)

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Recommended Supporting Books and References (Scientific Journals, Reports, etc.)

- Serway, R.A., & Jewett, J.W. — Physics for Scientists and Engineers.
- Young, H.D., & Freedman, R.A. (2020). University Physics with Modern Physics (15th ed.). Pearson.
- Halliday, D., Resnick, R., & Walker, J. (2018). Fundamentals of Physics (11th ed.). Wiley.
- Serway, R.A., & Jewett, J.W. (2018). Physics for Scientists and Engineers (10th ed.). Cengage Learning.
- Hewitt, P.G. (2015). Conceptual Physics (12th ed.). Pearson.
- Feynman, R.P., Leighton, R.B., & Sands, M. (2011). The Feynman Lectures on Physics (New Millennium ed.). Basic Books.



1. Course Name:	
Arabic Language	
2. Course Code:	
ATU11	
3. Semester / Year:	
First Stage / Second Semester	
4. Date of Preparation of this Description:	
20/1/2026	
5. Available Modes of Attendance:	
Mandatory attendance	
6. Total Teaching Hours / Total Units:	
30 hours / 2 units	
7. Name of the Course Coordinator:	
Asst. Lect. Zainab Thamer Abbas zainabjrew.chm@atu.edu.iq	
8. Course Objectives	
Course Objectives	General Objective: To acquaint the student with the most important topics of the Arabic language. Specific Objective: The student will be able to: 1- Know the fundamentals of the Arabic language. 2- Know the important grammatical rules. 3- Know correct spelling (orthography).
9. Teaching and Learning Strategies	
Strategy	Cooperative learning strategy. Brainstorming strategy.



	Cooperative concept-mapping strategy. Real-time feedback strategy. Note-chaining strategy. Discussion and opinion-exchange strategy. Information-presentation strategy. Training and presentation of scientific updates.
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10. First: Course Structure (Theoretical)

Week	Hours (Theory)	Required Learning Outcomes	Unit / Topic Title	Teaching Method	Assessment Method
1-2	4	1- Raise students' level in grammatical writing. 2- Knowledge of the fundamentals of grammar. 3- Knowledge of spelling (orthography) rules.	Introduction to linguistic errors – the tied Taa', open Taa', and long Taa'.	Cooperative learning strategy. Brainstorming strategy. Cooperative concept-mapping strategy. Real-time feedback strategy. Note-chaining strategy. Discussion and opinion-exchange strategy. Information-presentation strategy. Training and presentation of scientific updates.	Daily, oral, and written exams; reports; and discussions.
3	2	=	Rules of writing extended (Alif Mamdoodah) and shortened Alif (Maqsoorah), and knowledge of sun and moon letters.	=	=
4	2	=	The letters Daad (ض) and Dhaa (ظ).	=	



5	2	=	Writing the Hamza.	=	=
6	2	=	Punctuation marks.	=	=
7	2	=	The noun and the verb, and the difference between them.	=	=
8	2	=	The objects (Al-Mafa'eel).	=	=
9	2	=	Numbers.	=	=
10	2	=	Applications on linguistic errors.	=	=
11	2	=	The Noon and Tanween, and the meanings of prepositions.	=	=
12	2	=	Formal aspects of administrative discourse.	=	=
13	2	=	The language of administrative discourse.	=	=
14-15	2	=	Samples of administrative correspondence.	=	=

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks specialized in the Arabic language.

Main references specialized in grammar (Nahw), morphology (Sarf), and semantics (Dalala).

