



**JORDAN UNIVERSITY of SCIENCE &  
TECHNOLOGY**

**FACULTY OF APPLIED MEDICAL SCIENCES**

**CURRICULUM FOR THE BACHELOR'S  
DEGREE**

**IN**

**DIGITAL DENTAL TECHNOLOGY**

**2025**



## About the Program

The Bachelor's program in Digital Dental Technology is a specialized academic program that combines medical knowledge, technical skills, and modern digital technologies to qualify digital dental technicians to work in designing and manufacturing dental prostheses, orthodontic devices, maxillofacial prosthetics, and advanced applications such as 3D printing.

## Vision

The department aspires to achieve leadership and excellence in academic education and scientific research, and to play a leading role in graduating scientifically and practically qualified personnel in the fields of allied dental sciences and dental technology.

## Mission

In line with the mission of Jordan University of Science and Technology and the Faculty of Applied Medical Sciences, the mission of the Department of Applied Dental Sciences is to lead in advancing various dental sciences by keeping up with scientific progress to graduate qualified professionals who meet emerging needs and contribute to the development of dental and health sciences.

## Objectives

1. Provide students with scientific knowledge about dental prostheses using digital technologies.
2. Develop practical skills in using CAD/CAM systems and 3D printing.
3. Train students to design digital orthodontic devices.
4. Prepare students to fabricate maxillofacial prostheses using digital modeling.
5. Enable students to use specialized software and integrate AI solutions.
6. Promote professional and ethical values in the dental workplace.

## Outcomes

Knowledge:

K1: Understand scientific principles of dental technology.

K2: Master 3D printing and CAD/CAM technologies. K3: Be familiar with the design of maxillofacial prostheses.

Skills:

S1: Efficient use of digital tools and software.

S2: Perform digital scanning and 3D design. Competence:

C1: Work effectively in interdisciplinary teams.

C2: Apply ethics and professional responsibility.

C3: Adapt to technological advancements.

C4: Adhere to maintenance and safety standards.

C5: Engage in research and innovation.



Curriculum for Bachelor degree in DIGITAL DENTAL TECHNOLOGY 2024-2025



### The University Codes are as follows:

Code	Department
MED	DOCTOR OF MEDICINE (MD)
TDEN	DENTAL TECHNOLOGY
LM	ALLIED MEDICAL SCIENCES
P.T	PHYSICAL THERAPY
PARA	PARAMEDICS
ADS	ALLIED DENTAL SCIENCES
PHY	PHYSICS
BT	BIOTECHNOLOGY & GENETIC ENGINEERING
CHEM	CHEMISTRY
PH	PUBLIC HEALTH
DDT	DIGITAL DENTAL TECHNOLOGY

### Study Plan of The Bachelor's Degree in DIGITAL DENTAL TECHNOLOGY

The Bachelor's Degree in DIGITAL DENTAL TECHNOLOGY is awarded from Department of Applied Dental Sciences at the FACULTY OF APPLIED MEDICAL SCIENCES in Jordan University of Science & Technology (JUST) after the successful completion of 132 credit hours distributed as shown in the following table:

Requirements	Credit Hours		
	Compulsory Hours	Elective Hours	Total
University Requirements	16	9	25
Faculty Requirements	20	0	20
Specialization Requirements	87	0	87
<b>Total</b>	<b>123</b>	<b>9</b>	<b>132</b>

After fulfilling the requirements stipulated in the instructions for granting a Bachelor's degree (revised edition) at the Jordan university of Science and Technology issued by the Dean's Council abiding by the regulation concerned with issuing scientific degrees and diplomas at the Jordan university of Science and Technology for 1987.



### Firstly: University Requirements

Allocated to it (25 CHs) as stipulated in the instructions for granting a bachelor's degree, distributed as follows:

- a. Compulsory Requirements (16 CHs)
- b. Elective Requirements (9 CHs)

### Secondly: Faculty Requirements

Allocated to it (20 CHs) Compulsory as shown in the following table:

Course Number	Course Title	Credit Hours	Hrs Distribution		Prerequisite/Concurrent
			Theoritic	Lab	
HSS103BT	General Biology	3	3	0	
HSS103CHEM	General Chemistry	3	3	0	
HSS107CHEM	General Chemistry Lab	1	0	3	(CHEM103 OR Concurrent) OR (HSS103CHEM OR Concurrent).
HSS107BT	General Biology Laboratory	1	0	3	(HSS103BT OR Concurrent) OR (BT103 OR Concurrent).
HSS218P.T	Gross Anatomy & Histology	2	2	0	HSS103BT. (HSS107BT OR Concurrent).
HSS220P.T	Gross Anatomy and Histology (Lab)	1	0	2	Concurrent with HSS218P.T.
HSS230 MED	Human Physiology	3	3	0	HSS103BT OR BT103.
HSS230MED	Human Physiology (Lab)	1	0	2	(HSS230 MED OR Concurrent).
HSS311PH	Biostatistics	2	2	0	
HSS491LM	Scientific Research Methods	1	1	0	HSS311PH.
HSS493LM	Research Project	2	2	0	(HSS491LM OR Concurrent).



### Thirdly: Specialization Requirements

Allocated to it (87 CHs) Compulsory as shown in the following table:

Course Number	Course Title	Credit Hours	Hrs Distribution		Prerequisite/Concurrent
			Theoretic	Lab	
MED219	Head & Neck Anatomy	3	2	1	(HSS218P.T OR Concurrent).
MED219	Head & Neck Anatomy (Lab)	0	0	2	Concurrent with MED219.
TDEN202	Maintenance of Equipments and General Safety in The Dental Technology Laboratory	1	1	0	(TDEN232 OR Concurrent).
TDEN203	Dental Materials	3	2	1	(ADS102 OR Concurrent).
TDEN203	Dental Materials	0	0	3	Concurrent with TDEN203.
TDEN207	Fundamentals of Dental Technology	1	1	0	(TDEN203 OR Concurrent).
TDEN209	Fundamentals of Dental Technology Practical	1	0	3	Concurrent with TDEN207.
TDEN222	Removable Partial Prosthodontics (1)	1	1	0	(DDT210 OR Concurrent).
TDEN224	Removable Partial Prosthodontics (1) Practical	1	0	3	Concurrent with TDEN222.
TDEN232	Fixed Prosthodontics (1)	1	1	0	TDEN207 AND ADS201.
TDEN234	Fixed Prosthodontics (1) Practical	2	0	4	Concurrent with TDEN232.
TDEN341	Orthodontics (1)	1	1	0	TDEN207.
TDEN343	Orthodontics (1) Practical	2	0	6	Concurrent with TDEN341.
TDEN351	Maxillofacial Prosthodontics (1)	1	1	0	(DDT321 OR Concurrent).
TDEN353	Maxillofacial Prosthodontics (1) Practical	1	0	3	Concurrent with TDEN351.
TDEN388	Maintenance of Equipments and General Safety in The Dental Technology Laboratory	1	1	0	Concurrent with DDT380 AND Concurrent with DDT384.
TDEN389	Medical Applications of 3d Printing Practical	2	0	6	Concurrent with TDEN388.
TDEN431	Applied Fixed Prosthodontics (1)	4	0	12	DDT384.
TDEN441	Applied Orthodontics	2	0	4	DDT344.
TDEN461	Esthetic Prosthodontics (1)	1	1	0	Passing 5 CHs DDT384.
TDEN463	Esthetic Prosthodontics (1) Practical	2	0	4	Concurrent with TDEN461.
TDEN472	Dental Implants Technology	1	1	0	DDT380 AND DDT384.
TDEN474	Dental Implants Technology Practical	2	0	4	Concurrent with TDEN472.
ADS102	Introduction to Dental Sciences & Dental Terminology	1	1	0	
ADS201	Dental Morphology & Occlusion	1	1	0	(ADS102 OR Concurrent).
ADS203	Dental Morphology & Occlusion Practical	2	0	4	Concurrent with ADS201.
ADS242	Oral Pathology	2	2	0	HSS218P.T.
HSS103PHY	General Physics	3	3	0	



Course Number	Course Title	Credit Hours	Hrs Distribution		Prerequisite/Concurrent
			Theoretic	Lab	
HSS391PARA	Ethics in Applied Medical Careers	1	1	0	
HSS491ADS	Administration and Quality Assurance in Applied Medical Sciences	3	3	0	
DDT104	Introduction to Digital Dental Technology	1	1	0	
DDT106	Introduction to Digital Dental Technology(Lab)	1	0	3	Concurrent with DDT104.
DDT210	Removable Complete Prosthodontics (1)	1	1	0	TDEN207 AND ADS201.
DDT212	Removable Complete Prosthodontics (1) Practical	1	0	3	DDT210.
DDT311	Digital Removable Complete Prosthodontics	1	1	0	DDT210.
DDT313	Digital Removable Complete Prosthodontics Practical	2	0	6	Concurrent with DDT311.
DDT321	Digital Removable Partial Prosthodontics	1	1	0	TDEN222.
DDT323	Digital Removable Partial Prosthodontics Practical	2	0	6	Concurrent with DDT321.
DDT331	Digital Fixed Prosthodontics (1)	1	0	3	TDEN232.
DDT333	Digital Fixed Prosthodontics (1) Practical	3	0	9	Concurrent with DDT331.
DDT344	Digital Orthodontics	1	1	0	TDEN341.
DDT346	Digital Orthodontics Practical	1	0	3	Concurrent with DDT344.
DDT354	Digital Maxillofacial Prosthetics	1	1	0	TDEN351.
DDT356	Digital Maxillofacial Prosthetics Practical	2	0	6	Concurrent with DDT354.
DDT380	Digital Removable Prosthodontics	2	2	0	DDT311 AND DDT321.
DDT382	Digital Removable Prosthodontics Practical	2	0	6	Concurrent with DDT380.
DDT384	Digital Fixed Prosthodontics (2)	1	1	0	DDT331.
DDT386	Digital Fixed Prosthodontics (2) Practical	2	0	6	Concurrent with DDT384.
DDT421	Applied Removable Prosthodontics (1)	4	0	8	DDT380.
DDT422	Applied Partial Removable Prosthodontics (2)	3	0	6	DDT421.
DDT432	Applied Fixed Prosthodontics (2)	3	0	6	TDEN431.
DDT462	Digital Esthetic Prosthodontics	2	0	6	TDEN461.
DDT481	Digital Cranioplasty Reconstruction	1	1	0	DDT356.
DDT483	Digital Cranioplasty Reconstruction Practical	1	0	3	Concurrent with DDT481.



## Guidance Plan

### First Year

#### First Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Hss103bt General Biology	3	
Hss103chem General Chemistry	3	
Hss107chem General Chemistry Lab	1	(CHEM103 OR Concurrent) OR (HSS103CHEM OR Concurrent).
Hss110 Leader and Social Responsibility	3	
Lg101 Communication Skills in English	3	Passing LG099 OR Passing ENG099. OR Passing the Placement Test with a mark of 50 or above.
Lg103 Life Skills	2	
University Elective Requisite	3	
<b>Total Hours</b>	<b>18</b>	

#### Second Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Ads102 Introduction to Dental Sciences & Dental Terminology	1	
Arb102 Communication Skills in Arabic	3	
Ddt104 Introduction to Digital Dental Technology	1	
Ddt106 Introduction to Digital Dental Technology(Lab)	1	Concurrent with DDT104.
Hss103phy General Physics	3	
Hss107bt General Biology Laboratory	1	(HSS103BT OR Concurrent) OR (BT103 OR Concurrent).
Hss119 Entrepreneurship and Innovation	2	
Hss218p.T Gross Anatomy & Histology	2	HSS103BT. (HSS107BT OR Concurrent).
Hss220p.T Gross Anatomy and Histology (Lab)	1	Concurrent with HSS218P.T.
Ms100 Military Sciences	3	
<b>Total Hours</b>	<b>18</b>	



## Second Year

### First Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Ads201 Dental Morphology & Occlusion	1	(ADS102 OR Concurrent).
Ads203 Dental Morphology & Occlusion Practical	2	Concurrent with ADS201.
Hss230 Med Human Physiology	3	HSS103BT OR BT103.
Hss230med Human Physiology (Lab)	1	(HSS230 MED OR Concurrent).
Tden203 Dental Materials	3	(ADS102 OR Concurrent).
Tden203 Dental Materials	0	Concurrent with TDEN203.
Tden207 Fundamentals of Dental Technology	1	(TDEN203 OR Concurrent).
Tden209 Fundamentals of Dental Technology Practical	1	Concurrent with TDEN207.
University Elective Requisite	3	
<b>Total Hours</b>	<b>15</b>	

### Second Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Ads242 Oral Pathology	2	HSS218P.T.
Ddt210 Removable Complete Prosthodontics (1)	1	TDEN207 AND ADS201.
Ddt212 Removable Complete Prosthodontics (1) Practical	1	DDT210.
Hss391para Ethics in Applied Medical Careers	1	
Med219 Head & Neck Anatomy	3	(HSS218P.T OR Concurrent).
Med219 Head & Neck Anatomy (Lab)	0	Concurrent with MED219.
Tden202 Maintenance of Equipments and General Safety in The Dental Technology Laboratory	1	(TDEN232 OR Concurrent).
Tden222 Removable Partial Prosthodontics (1)	1	(DDT210 OR Concurrent).
Tden224 Removable Partial Prosthodontics (1) Practical	1	Concurrent with TDEN222.
Tden232 Fixed Prosthodontics (1)	1	TDEN207 AND ADS201.
Tden234 Fixed Prosthodontics (1) Practical	2	Concurrent with TDEN232.
University Elective Requisite	3	
<b>Total Hours</b>	<b>17</b>	



### Third Year

#### First Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Ddt311 Digital Removable Complete Prosthodontics	1	DDT210.
Ddt313 Digital Removable Complete Prosthodontics Practical	2	Concurrent with DDT311.
Ddt321 Digital Removable Partial Prosthodontics	1	TDEN222.
Ddt323 Digital Removable Partial Prosthodontics Practical	2	Concurrent with DDT321.
Ddt331 Digital Fixed Prosthodontics (1)	1	TDEN232.
Ddt333 Digital Fixed Prosthodontics (1) Practical	3	Concurrent with DDT331.
Hss311ph Biostatistics	2	
Tden341 Orthodontics (1)	1	TDEN207.
Tden343 Orthodontics (1) Practical	2	Concurrent with TDEN341.
Tden351 Maxillofacial Prosthodontics (1)	1	(DDT321 OR Concurrent).
Tden353 Maxillofacial Prosthodontics (1) Practical	1	Concurrent with TDEN351.
<b>Total Hours</b>	<b>17</b>	

#### Second Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Ddt344 Digital Orthodontics	1	TDEN341.
Ddt346 Digital Orthodontics Practical	1	Concurrent with DDT344.
Ddt354 Digital Maxillofacial Prosthetics	1	TDEN351.
Ddt356 Digital Maxillofacial Prosthetics Practical	2	Concurrent with DDT354.
Ddt380 Digital Removable Prosthodontics	2	DDT311 AND DDT321.
Ddt382 Digital Removable Prosthodontics Practical	2	Concurrent with DDT380.
Ddt384 Digital Fixed Prosthodontics (2)	1	DDT331.
Ddt386 Digital Fixed Prosthodontics (2) Practical	2	Concurrent with DDT384.
Hss491ads Administration and Quality Assurance in Applied Medical Sciences	3	
Tden388 Maintenance of Equipments and General Safety in The Dental Technology Laboratory	1	Concurrent with DDT380 AND Concurrent with DDT384.
Tden389 Medical Applications of 3d Printing Practical	2	Concurrent with TDEN388.
<b>Total Hours</b>	<b>18</b>	



### Forth Year

#### First Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Ddt421 Applied Removable Prosthodontics (1)	4	DDT380.
Ddt481 Digital Cranioplasty Reconstruction	1	DDT356.
Ddt483 Digital Cranioplasty Reconstruction Practical	1	Concurrent with DDT481.
Hss491lm Scientific Research Methods	1	HSS311PH.
Tden431 Applied Fixed Prosthodontics (1)	4	DDT384.
Tden441 Applied Orthodontics	2	DDT344.
Tden461 Esthetic Prosthodontics (1)	1	Passing 5 CHs DDT384.
Tden463 Esthetic Prosthodontics (1) Practical	2	Concurrent with TDEN461.
<b>Total Hours</b>	<b>16</b>	

#### Second Semester

Course Number & Title	Credit Hours	Prerequisite/Concurrent
Ddt422 Applied Partial Removable Prosthodontics (2)	3	DDT421.
Ddt432 Applied Fixed Prosthodontics (2)	3	TDEN431.
Ddt462 Digital Esthetic Prosthodontics	2	TDEN461.
Hss493lm Research Project	2	(HSS491LM OR Concurrent).
Tden472 Dental Implants Technology	1	DDT380 AND DDT384.
Tden474 Dental Implants Technology Practical	2	Concurrent with TDEN472.
<b>Total Hours</b>	<b>13</b>	



## Description of Courses

### **DDT104: Introduction to Digital Dental Technology (1 CHs)**

#### **Prerequisite: None**

This course introduces students to the fundamentals of digital technologies in dental laboratory practice. It covers digital workflows, CAD/CAM systems, 3D printing, and scanning technologies, emphasizing their application in modern dental prosthetics and restoration processes.

### **DDT106: Introduction to Digital Dental Technology(Lab) (1 CHs)**

#### **Prerequisite: Concurrent with DDT104.**

This practical course provides hands-on experience with digital tools used in dental laboratories, including intraoral and model scanning, CAD design software, and 3D printing. Students will apply digital workflows to fabricate basic dental component

### **DDT210: Removable Complete Prosthodontics (1) (1 CHs)**

#### **Prerequisite: TDEN207 AND ADS201.**

Provide students with the theoretical background relevant to technical and clinical aspects needed in the construction of complete dentures.

### **DDT212: Removable Complete Prosthodontics (1) Practical (1 CHs)**

#### **Prerequisite: DDT210.**

Provide students with the required skills necessary in the construction of complete denture, such as setting of acrylic teeth, festooning and curing and finishing of acrylic.

### **DDT311: Digital Removable Complete Prosthodontics (1 CHs)**

#### **Prerequisite: DDT210.**

This course focuses on the digital design and fabrication of complete removable dentures. Students learn to apply intraoral and extraoral scanning, digital denture design software, and 3D printing or milling technologies to produce functional and esthetic prostheses.

### **DDT313: Digital Removable Complete Prosthodontics Practical (2 CHs)**

#### **Prerequisite: Concurrent with DDT311.**

This hands-on course trains students in the digital workflow for fabricating complete removable dentures, including digital impressions, virtual tooth arrangement, and CAM processes such as 3D printing and milling. Emphasis is placed on accuracy, function, and esthetics in prosthesis production.

### **DDT321: Digital Removable Partial Prosthodontics (1 CHs)**

#### **Prerequisite: TDEN222.**

This course covers the principles and digital workflow involved in the design and fabrication of removable partial dentures. Topics include digital surveying, framework design, and CAD/CAM integration for partial prostheses

**DDT323: Digital Removable Partial Prosthodontics Practical (2 CHs)****Prerequisite: Concurrent with DDT321.**

In this laboratory course, students apply digital techniques to fabricate removable partial dentures. Activities include digital scanning, designing RPD frameworks, and using additive or subtractive manufacturing technologies.

**DDT331: Digital Fixed Prosthodontics (1) (1 CHs)****Prerequisite: TDEN232.**

This course introduces the digital workflow for fixed dental restorations, including crowns, bridges, and inlays/onlays. It covers digital tooth preparation analysis, margin detection, CAD design, and CAM fabrication methods.

**DDT333: Digital Fixed Prosthodontics (1) Practical (3 CHs)****Prerequisite: Concurrent with DDT331.**

This practical course provides hands-on experience in designing and fabricating fixed prostheses using digital technologies. Students engage in digital scanning, restoration design, and milling/printing of fixed restorations in a simulated clinical setting

**DDT344: Digital Orthodontics (1 CHs)****Prerequisite: TDEN341.**

This course introduces students to the principles and applications of digital technologies in orthodontics, including digital impressions, treatment

**DDT346: Digital Orthodontics Practical (1 CHs)****Prerequisite: Concurrent with DDT344.**

This laboratory course provides practical experience with digital orthodontic tools. Students will perform digital scanning, virtual setup of orthodontic cases, and design of appliances such as clear aligners and retainers using CAD software.

**DDT354: Digital Maxillofacial Prosthetics (1 CHs)****Prerequisite: TDEN351.**

This course explores the digital design and fabrication of maxillofacial prostheses, including facial and cranial devices. It covers 3D scanning, computer-aided design, and additive manufacturing techniques used to restore complex anatomical defect

**DDT356: Digital Maxillofacial Prosthetics Practical (2 CHs)****Prerequisite: Concurrent with DDT354.**

In this practical course, students apply digital tools to create maxillofacial prostheses such as ears, noses, and orbital devices. The course includes digital impression acquisition, 3D modeling, and the production of silicone molds or implant-supported structures.

**DDT380: Digital Removable Prosthodontics (2 CHs)****Prerequisite: DDT311 AND DDT321.**

Provide students with theoretical knowledge needed to fabricate complete and partial prostheses including advanced and complex cases using CAD/CAM technology. This includes the knowledge needed to construct partial prostheses that include precision attachments.



**DDT382: Digital Removable Prosthodontics Practical (2 CHs)**

**Prerequisite: Concurrent with DDT380.**

Provide students with the skills needed to fabricate complete and partial prostheses including advanced and complex cases using CAD/CAM technology. This course is a complementary to TDEN 313 and TDEN 323 courses.

**DDT384: Digital Fixed Prosthodontics (2) (1 CHs)**

**Prerequisite: DDT331.**

Provide students with the theoretical knowledge needed to use digital dental systems to fabricate ceramic restoration using dental CAD/CAM system

**DDT386: Digital Fixed Prosthodontics (2) Practical (2 CHs)**

**Prerequisite: Concurrent with DDT384.**

Provide students with skills and advanced training on digital dental systems to fabricate ceramic restoration using CAD/CAM technology

**DDT421: Applied Removable Prosthodontics (1) (4 CHs)**

**Prerequisite: DDT380.**

Totally practical course where the students gain more training and experience in constructing removable prostheses. The students work in a real-work environment and are encouraged to apply their previous knowledge to fabricate the prostheses for patients treated at approved dental centers/ hospitals.

**DDT422: Applied Partial Removable Prosthodontics (2) (3 CHs)**

**Prerequisite: DDT421.**

Totally practical course where the students gain more training and experience in constructing removable partial prostheses.

The students will work their patient cases at approved dental centers/hospitals. This will enhance their self confidence in fabricating removable prostheses and dealing with dental team.

**DDT432: Applied Fixed Prosthodontics (2) (3 CHs)**

**Prerequisite: TDEN431.**

Totally practical course where the students gain more training and experience in constructing metal ceramic crowns and fixed partial dentures at approved dental centers/hospitals. This will enhance their self confidence in fabricating removable prostheses and dealing with dental team.

**DDT462: Digital Esthetic Prosthodontics (2 CHs)**

**Prerequisite: TDEN461.**

Totally practical course in which the students gain more training and experience in constructing various adhesive restorations and dealing with different all ceramic systems like IPS e.max and fabricating all-ceramic restorations using CAD/CAM.

**DDT481: Digital Cranioplasty Reconstruction (1 CHs)**

**Prerequisite: DDT356.**

This course introduces the digital planning and fabrication of patient-specific cranial implants. It covers anatomical data acquisition, 3D modeling of cranial defects, and the use of CAD/CAM techniques to design and produce biocompatible implants.



**DDT483: Digital Cranioplasty Reconstruction Practical (1 CHs)**

**Prerequisite: Concurrent with DDT481.**

This hands-on course provides practical experience in digital cranioplasty workflows. Students engage in CT data processing, digital reconstruction of cranial defects, implant design, and the preparation of surgical guides or implant prototypes using 3D printing.

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