

*Republic of Yemen*  
**21 September University Of Medical & Applied Sciences**



**FACULTY OF DENTISTRY**  
**Bachelor of Dental Technology (B.D.T)**  
**Program Specification**

**Preparation Committee:**

1. Prof. Mutea'a Abuarj.
2. Prof. Abdulwahab Al-kholani
3. Assoc. Prof. Muneer Alwesabi
4. Assis. Prof. Jamil Mujlli
5. Assis. Prof. Yaser A. S. Alrubaidi
6. Dr. Yaser Basheer.

**Program Coordinator:**

Prof. Abdulwahab Al-kholani

Dean of the Faculty

Prof. Abdulwahab Al-kholani

Center of Development & Quality Assurance

Assoc. Prof. Muneer Alwesabi.

Rector

Prof. Mojahed Measar.

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### 1. Program Identification and General Information:

1	Scientific name of the program:	Bachelor of Dental Technology (B.D.T)
2	Total credit hours required to award the degree	162 hours
3	Number of years needed for completion of the program:	Four Years
4	The body responsible for granting the degree:	21 September University
5	The body responsible for the program:	Faculty of Dentistry
6	Award granted on completion of the program:	Bachelor of Dental Technology (B.D.T)
7	Study system:	Integrated (Semester)
8	Study Language of the Program:	English Language
9	Entry requirements:	Secondary School (Scientific Section) & Acceptance Exam
10	Departments participating in the program:	Many departments participated 5 departments ( <a href="#">Annex 6</a> )
11	Starting year of the program:	2024/2025
12	Study methods in the program:	Full time
13	Location of Delivery:	University campus
14	The program resources:	Student fees
15	Minimum grade requirements:	As per regulations of the Ministry of Higher Education and Scientific Research
16	Other admission requirements:	According to the university rules and regulations.
17	Date of current development of the program:	February. 2024
18	Prepared by:	1- Prof. Muta'a Abuarij. 2- Prof. Abdulwahab Al-kholani 3- Assoc. Prof. Muneer Alwesabi 4- Assis. Prof. Jamil Mujli 5- Assis. Prof. Yaser A. S. Alrubaidi 6- Dr. Yaser Basheer.
19	Program coordinator:	Prof. Abdulwahab Al-kholani

## 2. Introduction:-

This Program for The Faculty of Dentistry at 21 September University has adopted the Semester system as a teaching system through which it will achieve its goal of graduating dental technician with high academic qualifications and skills to serve the community and alleviate its suffering.

It is offered for full-time four academic years.

The program aims to equip competent dental technician with strong theoretical and practical knowledge to significantly contribute as a member of the dental health care for planning, designing and fabrication of prosthodontics that involves construction of be taught in the faculty of dentistry. The dental technology training will be carried out in the prosthodontics, the basic biomedical sciences within this program will be in the Faculty of dentistry and dental Laporatory. The students enrolled in dental technology program will be integrated with undergraduate dental students for few course elements to ensure effective teamwork throughout their learning duration and future endeavors.

### Promising Jobs:

The graduated doctor will able to work in different filed as: -

- 1- Public and private hospitals.
- 2- Private clinics.
- 3- Academic fields.
- 4- Health organizations

## 3. University Vision, Mission, Values, Objectives, and Goals:

### 3.1-University vision:

A contemporary University with National Responsibility and a Faith Identity.

### 3.2-University mission:

Leading the transformation in the management and delivery of health care with all partners by setting a standard of excellence in education and medical and applied research in a way that meets the needs of Yemeni society, its specificity and regional influence.

### 3.3-University Core values:

- 1- Leadership and influence

- 2- Excellence
- 3- Creativity
- 4- Teamwork

### **3.5-Strategic goals:**

1. Ensuring the application of quality standards and setting standards of excellence in medical and applied sciences, scientific research and community service.
2. The centrality of the student in the educational process, the partnership with them for life, the consolidation of the principles of national responsibility and faith identity, their care and the development of their capabilities after graduation and during work.
3. Attracting, employing and retaining scholars, cadres and highly specialized talents to gain minds and reverse the trend of “brain drain” in a way that promotes and ensures the creation of thinkers, businessmen and good citizens.
4. Continuous development of the distinguished academic infrastructure and the establishment of modern research and service centers with high efficiency and capable of making a real impact locally and regionally.
5. Enhancing the university’s position as a preferred partner for local, regional and international partnership through implementing innovative models of education, exchanging research and knowledge, and providing real and effective outcomes for developing professional practices to benefit from them locally and regionally.

## **4. Faculty Vision, Mission, Values, and Objectives:**

### **4.1-Vision:**

A contemporary faculty of dentistry with National Responsibility and a Faith Identity.

### **4.2-Mission:**

Share the Leading of the transformation in delivery of dental care with high quality by setting a standard of excellence in education of medical and dentistry research with dental technology in a way that meets the needs of Yemeni society, its specificity and regional influence.

### **4.3-Values:**

1. Professional
2. Continuous Education.
3. Appreciation of Science and Scientists.
4. Transparency and Accountability.
5. Team Work.

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Rector

Prof. Abdulwahab Al-kholani

Assoc. Prof. Muneer Alwesabi.

Prof. Mojahed Measar

#### **4.4-Faculty Objectives(Strategic):**

1. Ensuring the application of quality standards and setting standards of excellence in dentistry sciences, dental technology, scientific research and community service.
2. The centrality of the student in the educational process, the partnership with them for life, the consolidation of the principles of national responsibility and faith identity, their care and the development of their capabilities after graduation and during work.
3. Attracting, employing and retaining scholars, cadres and highly specialized talents to gain minds and reverse the trend of “brain drain” in a way that promotes and ensures the creation of dentists, dental technicians, specialists, consultants, thinkers, businessmen and good citizens with high efficiency.
4. Continuous development of the distinguished academic infrastructure and the establishment of modern research and service centers with high efficiency and capable of making a real impact locally and regionally in dentistry and dental technology.
5. Enhancing the university’s position as a preferred partner for local, regional and international partnership through implementing innovative models of education, exchanging research and knowledge, and providing real and effective outcomes for developing professional dentistry practices to benefit from them locally and regionally.

### **5. Program Mission and Objectives:**

#### **5.1- Program Mission:**

To graduate dental technician equipped with knowledge, skills, and competencies to practice the profession to contribute significantly to scientific research and be committed to community services, thus improving biocompatible prosthodontics, and quality of life among the Yemen society and regional.

#### **5.2-Program Objectives- :**

**This program aims to:**

1. Provide the students with a comprehensive understanding of dental technology practices in terms of theoretical knowledge, practice, and hands-skills used for the construction of comprehensive prosthodontics as well as orthodontic and maxillofacial appliances.
2. Ensure the development of practical competencies for constructing dental prosthesis and appliances in collaboration with a real-life working environment Develop the students diagnostic and therapeutic skills in solving various prosthodontics problems.
3. Develop students critical thinking in dental technology that influences the creativity and the ability to deal with versatile dental technology aspects.

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4. Conduct dental technology-based research activities for providing inspirational teaching and contributing to the development of dental technology sciences.
5. Develop transferable skills applied to the working environment such as independent learning, problem-solving, assessment planning, time management, and dental laboratory management.
6. Enhancing the principles of professional, ethical and national responsibility among students.
7. Establishing communication channels and enhancing academic cooperation with the scientific departments in the corresponding colleges.

## 6. Program Standards & Benchmarks:

### 6.1- Program Standards: -

#### **A. Academic Standards:**

- 1- National Academic Reference Standards (NARS) for Undergraduate Dentistry Education Programs (V.2018).
- 2- National Accreditation Standards for Faculties of Medicine in Yemen (V.2022) [Compliant with the BASIC MEDICAL EDUCATION WFME GLOBAL STANDARDS FOR QUALITY IMPROVEMENT The 2020 Revision]

#### **B. Strategies :-**

- 1- University Strategy .
- 2- Faculty Strategy .

#### **C. Rules and Regulation :-**

- 1- Higher Education rules
- 2- Student affairs regulation.

[Annex- 2, Academic Standards Curriculum Criteria of Accreditation Board](#)

[Annex- 3. Unified Regulations for Student Affairs, Ministry of Higher Education and Scientific Research](#)

### 6.2- Program Benchmarks:

- 1- Sana'a University. Dentistry College -Yemen

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Prof. Mojahed Measar

- [https:// su.edu.ye/](https://su.edu.ye/)
- 2- Middle Technical University. Dental Technology department- Iraq  
<https://hmt.mtu.edu.iq/stu-info/dent-dep/>
- 3- King Saud University  
<https://cams.ksu.edu.sa/ar/dental-health/dental-technology>
- 4- Jordan University of Science and Technology Department of Applied Dental Science  
<https://www.just.edu.jo/>
- 5- Otago University. Faculty of Health Sciences - New Zealand  
[www.otago.ac.nz/healthsciences](http://www.otago.ac.nz/healthsciences)
- 6- Griffith University. School of Medicine and Dentistry- Australia  
<https://www.griffith.edu.au/>

## 7. Graduate Attributes:

### Upon successful completion of an undergraduate Dentistry program, graduates will be able to:

1. Dental technology provider: providing high-quality prosthesis , effectively and safely within their defined scope and limits of their expertise and within the context of dental team work.
2. Professional: Adhering to ethical, professional, and legal standards, demonstrating a commitment to dental team-work and society, and to their wellbeing and lifelong personal and professional development.
3. Scholar: Using Dental technology knowledge and evidence base research to meet the needs of patients, healthcare system, and society.
4. Smile creation: design and execute prosthodontics with quality control standard.
5. Health Advocate: contributing to prevent illness and promote the health and well-being of their patients, and society and controlling the infection with radiation protection.
6. Communicator & Collaborator: Communicate effectively with the dental team-work and the society, and collaborating inter professionally, working as a team member and a leader.
7. Apply critical thinking and evidence-based problem solving when providing the service.

## 8. Program Intended Learning Outcomes (PILOs):

### A. KNOWLEDGE AND UNDERSTANDING

*Upon successful completion of an undergraduate Dental technology program, the graduates will be able to:*

- A1. Describe the scientific basis of dental technology and the relevant technical, biomedical and behavioral sciences which form the basis for understanding human growth, development and health.
- A2. Explain the structure and function of the human body in health related to the practice of Dental Technology.
- A3. Identify the rules and ethics governing dental Technology practices.
- A4. Describe the different technical, laboratory and special investigatory procedures practiced in dental Technology.
- A5. Show an understanding of the psychological, cultural and social factors that have implications on dental Technology.
- A6. Explain the digital technology in dental Technology & Explain the principles of evidence-based dental Technology and its relation to scientific research.

### B. COGNITIVE/INTELLECTUAL SKILLS

*Upon successful completion of an undergraduate Dental technology program, the graduates will be able to:*

- B1. Incorporate theoretical basic technical ,biomedical, behavioral and dental sciences with the clinical signs and symptoms for appropriate understanding of dental Technology.
- B2. Evaluation of critical thinking and evidence-based problem solving when providing service.
- B3. Prioritize patient's treatment needs and formulate an appropriate treatment plan.
- B4. Construct preventive strategies at different levels according to the targeted individual and community needs.
- B5. Select suitable biocompatible dental materials and choose the best quality material to be used in a specific dental Technology situation.
- B6. Analyze and use the Artificial intelligence (AI) and digital technology in dentistry to solve the problems of dental Technology and recreate the reasonable solutions.

## 8. Program Intended Learning Outcomes (PILOs):

### C. PRACTICAL AND PROFESSIONAL SKILLS:

*Upon successful completion of an undergraduate Dental technology program, the graduates will be able to:*

- C1. Use the recent advance in dental technology to produce high and precise prosthodontics.
- C2. Manage the dental technology equipment with high quality standard of safety.
- C3. Use infection control protocol and radiation protection regulation according to international standards.
- C4. Apply comprehensive dental Technology practices & Apply preventive measures for different age groups bearing in mind the different needs of young children, adolescents, adults, special needs and the ageing population/elderly.
- C5. Ability to assess the risk of medical emergencies and be competent in their management within the dental technology practice setup.
- C6. Practicing Artificial intelligence (AI) and digital technology in dentistry.

### D. GENERAL / TRANSFERABLE SKILLS

*Upon successful completion of an undergraduate Dental technology program, the graduates will be able to:*

- D1. Commit to continuous education, self-development and lifelong learning to remain updated with advances in dental practice.
- D2. Communicate with professionals, patients, their families and the community through verbal, written and other non-verbal means ethically.
- D3. Work individually and in team and develop lifelong learning using up to date technology that help in understanding the diseases and its control and prevention.
- D4. Use advanced information and communication technologies to enrich and diversify professional experience.
- D5. Exhibit leadership and Management skills to set treatment priorities and work to prescribed time limits.
- D6. Maintain full and accurate clinical records (manual and electronic).
- D7. Respect the different cultural beliefs, ethics, personalities, privacy and values for patients and community with a good behavior and follow the institutional and national roles of medical practice.

[Annex- 5, Survey on Mission and Objectives of the Program and Similar Accredited Programs and its Alignment to the University, Faculty, and Department Missions and](#)

[Annex-7, Alignment of Program Intended Learning Outcomes \(PILOS\) to Program Objectives \(POs\)](#)

[Annex- 8, Mapping of Program Objectives to the Faculty Mission](#)

[Annex- 9, Survey of PILOs for Similar Accredited Programs at National and International universities](#)

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## 9. Teaching and Learning Strategies:

- Interactive lectures
- Seminars
- Practical session
- Training
- Discussion
- Self-learning
- Presentation
- Case study (CBL)
- Problem Based Learning (PBL)

Teaching Strategy	Description
<b>Interactive lectures</b>	These are interactive lectures weekly conducted in the class and supported with variety of teaching formats including, lectures and multimedia presentations, use of whiteboard to solve examples and illustrating different tasks and problems introduced by the presentation, and class discussions, in which concepts, approaches, and case studies are presented, explored, and shown students what they need to know.
<b>Seminars</b>	Discussion of specific topic by group of students under the observation of the lecturer.
<b>Practical session</b>	In highly equipped labs the student will trained by practicing certain topic.
<b>Training</b>	This training preformed in the hospital by such teaching strategy the students improve their clinical skills.
<b>Discussion</b>	It is interactive measure by which the lecturer explores the level of understanding the subject among students
<b>Self-learning</b>	Improving the knowledge by the student oneself without assistants .
<b>Office hours</b>	By which the lecturer discusses and answer for students' questions.
<b>Presentation</b>	An activity by which the student describes, explain something Infront of group of students.
<b>Case studies (CBL)</b>	Study the clinical cases in depth, training the details of history taking, examination, analysis the gathering data and obtaining diagnosis.

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Teaching Strategy	Description
<b>Problem Based Learning (PBL)</b>	A detailed analysis is made of some specific, usually compelling event or series of related events so that learners will better understand its nature and what might be done about it.

### 10. Assessment Methods:

- Written exam (mid and final terms and quizzes),
- Final practical exam
- OSCE & OSPE
- Final oral exam
- Research
- Homework

Assessment Strategy	Description
<b>Written exam (mid and final terms and quizzes)</b>	Mid-term test is conducted in the 8 <sup>th</sup> week and final exam is conducted at the end of each course. Both tests are closed book, closed notes.  quizzes are related to past as well as topics discussed in the period. This helps students develop self-confidence, readiness, and accuracy in major exams.
<b>Final practical exam</b>	Final practical exam is carried on the end of each course in order to examine the student's practical skills.
<b>OSCE &amp; OSPE</b>	OSCE/OSPE stands for "Objective Structured Clinical Examination." OSCEs/OSPEs are very helpful in medical education because they allow a student to practice and demonstrate clinical skills in a standardized medical scenario.
<b>Final oral exam</b>	It's part of the final assessment of the student knowledge by which the examiner gives the question in spoken form.
<b>Research project</b>	At the end of study years, the students have to work in research project in order to achieve bachelor degree.
<b>Homework</b>	Individual assessment

### 11. Alignment of Program Intended Learning Outcomes (PILOs) to Teaching Strategies and Assessment Methods:

PILOs	Teaching Strategy	Assessment Methods
<b>Knowledge and Understanding</b> A1, A2, A3, A4, A5, A6	<ul style="list-style-type: none"> <li>- Interactive lectures,</li> <li>- Seminars</li> <li>- Discussion</li> <li>- Case Study (CBL)</li> <li>- Office Hours</li> <li>- Self learning</li> </ul>	<ul style="list-style-type: none"> <li>-Quizzes</li> <li>- Written Exam</li> <li>-Final Oral Exam</li> </ul>
<b>Intellectual Skills</b> B1, B2, B3, B4, B5, B6	<ul style="list-style-type: none"> <li>-Interactive lectures,</li> <li>- Seminars</li> <li>- Discussion</li> <li>- Case Study (CBL)</li> <li>- Self Learning</li> <li>- PBL</li> </ul>	<ul style="list-style-type: none"> <li>-Written Exam</li> <li>-Final Oral Exam</li> <li>-Final Practical Exam</li> </ul>
<b>Professional &amp; practical skills</b> C1, C2, C3, C4, C5, C6	<ul style="list-style-type: none"> <li>-Practical session .</li> <li>-Training</li> <li>-Case Study (CBL)</li> <li>- PBL</li> </ul>	<ul style="list-style-type: none"> <li>- Final Practical Exam</li> <li>- OSCE</li> <li>-OSPE</li> </ul>
<b>General &amp; Transferable Skills</b> D1, D2, D3, D4, D5, D6, D7	<ul style="list-style-type: none"> <li>- Seminars</li> <li>- Discussion</li> <li>- Case Study (CBL)</li> <li>- Self Learning</li> <li>- Presentation</li> <li>- PBL</li> </ul>	<ul style="list-style-type: none"> <li>- Homework</li> <li>- Research</li> <li>- Oral Discussion</li> </ul>

### 12. Project Assessment:

Each project will be assessed as follows:

Item	Marks Distribution
Research Project	70
Discussion	30
<b>Total</b>	<b>100</b>

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### 13. Training Course Assessment:

The training course will be assessed through:

- Log Book
- Case discussion
- Final Practical Exam
- OSCE

### 14. Intended Learning Outcomes Mapping:

See below Annexes.

Annex- 10, Alignment of Program PILOs with Council of Accreditation and NARS Standards

### 15. Program Structure:

No	Requirements	No. of Courses	Credit Hours	Rational Weight %	
1	University Requirements	Compulsory	8	17	10.5%
		Elective	-	-	
2	Basic Requirements	Compulsory	-	-	
		Elective	-	-	
3	Faculty Requirements	Compulsory	11	27	16.7%
		Elective	-	-	
4	Department Requirements	Compulsory			
		Elective			
5	Program Requirements	Compulsory	40	118	72.8%
		Elective	-	-	

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	<b>Total:</b>		<b>59</b>	<b>162</b>	<b>100%</b>
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### 15.1. University Requirements

#### Compulsory Courses ( 8 course/ 17 Hrs)

No.	Level-Sem.	Course Code	Course Name	اسم المقرر	Cr. Hrs.	L	P	T	Prerequisites, Co-requisites
1.	1/1	A21U111	Islamic culture	ثقافة اسلامية	2	2	0	0	NONE
2.	1/1	A21U112	National culture	ثقافة وطنية	2	2	0	0	NONE
3.	1/1	A21U113	English Language 1	لغة انجليزية 1	2	2	0	0	NONE
4.	1/1	A21U114	Arabic Language 1	لغة عربية 1	2	2	0	0	NONE
5.	1/1	A21U115	Computer Skills	مهارات الحاسوب	3	2	2	0	NONE
6.	1/2	A21U121	Arabic Language 2	لغة عربية 2	2	2	0	0	Arabic Language 1
7.	1/2	A21U122	English Language 2	لغة انجليزية 2	2	2	0	0	English Language 1
8.	1/2	A21U124	Arab and Israeli conflict	الصراع العربي الإسرائيلي	2	2	0	0	NONE
<b>Total</b>					<b>17</b>	<b>16</b>	<b>2</b>	<b>0</b>	

### 15.2. Faculty Requirements

#### Compulsory Courses (11 courses/ 27 Hrs)

No.	Level-Sem.	Course Code	Course Name	اسم المقرر	Cr. Hrs.	L	P	T	Prerequisites, Co-requisites
1			Genral Biology and Genetics	علم الأحياء العامة والوراثة	3	2	2	---	---
2			General Chemistry	الكيمياء العامة	3	2	2	---	---
3			Oral Histology	انسجة الفم	3	2	2	---	---
4			Medical physics	الفيزياء الطبية	3	2	2	---	---
5			emergency (First Aide)	طوارئ (إسعافات أولية)	2	1	2		
6			Infection control & Community Dental Health	السيطرة على العدوى وصحة اسنان المجتمع	2	2			
7			Principle Health Management and Communication Skills	أسس الإدارة الصحية ومهارات الاتصال	2	2	----	---	---
8			Research Methodology & Graduation Research	مناهج البحث العلمي ومشروع بحث التخرج	3	2	----	3	Medical statistics
9			Medical statistics	إحصاء طبي	2	2	---	----	

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10			Quality management in Dental Technology Laboratories	ادارة الجودة في معامل الاسنان	2	2		---	Principle Health Management
11			Law and Ethics in Dentistry	تشريعات واخلاقيات طب الاسنان	2	2			
<b>Total</b>					<b>27</b>	<b>21</b>	<b>10</b>	<b>3</b>	

### 15.3. Program Major

#### Compulsory Courses ( 40 course / 118 Hrs)

No.	Level-Sem.	Course Code	Course Name	اسم المقرر	Cr. Hrs.	L	P	T	Pre requisites, Co-requisites
1			Dental Anatomy (1)	تشريح الاسنان (1)	3	2	2	-- -	---
2			Introduction and Terminology to Dentistry	مقدمة ومصطلحات طب الاسنان	2	2			
3			Dental Anatomy (2)	تشريح الاسنان (2)	3	2	2	-- -	Dental Anatomy (1)
4			Dental Materials (1)	المواد السنية (1)	3	2	2	-- -	---
5			Dental Materials (2)	المواد السنية (2)	3	2	2	-- -	Dental Materials (1)
6			Digital Dentistry And DSD And Photography (1)	تقنية طب الاسنان الرقمية (1)	3	2	2		
7			Digital Dentistry And DSD And Photography (2)	تقنية طب الاسنان الرقمية (2)	3	2	2		Digital Dentistry And DSD And Photography (1)
8			Maxillofacial prosthodontics (1)	تعويضات الوجه والفكين (1)	3	2	2		
9			Maxillofacial prosthodontics (2)	تعويضات الوجه والفكين (2)	3	2	2		Maxillofacial prosthodontics (1)
10			Removable complete Prosthodontics (1)	الاستعاضة السنية المتحركة الكاملة (1)	3	2	2	-- -	---
11			Removable complete Prosthodontics (2)	الاستعاضة السنية المتحركة الكاملة (2)	3	2	2		Removable complete

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No.	Level-Sem.	Course Code	Course Name	اسم المقرر	Cr. Hrs.	L	P	T	Pre requisites, Co-requisites
									Prosthodontics (1)
12			Removable complete Prosthodontics (3)	الاستعاضة السنية المتحركة الكاملة (3)	3	2	2		Removable complete Prosthodontics (2)
13			Removable complete Prosthodontics (4)	الاستعاضة السنية المتحركة الكاملة (4)	3	2	2		Removable complete Prosthodontics (3)
14			Dental implant (1)	غرسات الاسنان (1)	3	2	2	-- -	
15			Dental implant (2)	غرسات الاسنان (2)	3	2	2	-- -	Dental implant (1)
16			Fixed Prosthodontics (1)	الاستعاضة السنية الثابتة (1)	3	2	2	-- -	---
17			Fixed Prosthodontics (2)	الاستعاضة السنية الثابتة (2)	3	2	2	-- -	Fixed Prosthodontics (1)
18			Fixed Prosthodontics (3)	الاستعاضة السنية الثابتة (3)	3	2	2	-- -	Fixed Prosthodontics (2)
19			Removable Partial Prosthodontics (1)	التعويضات المتحركة الجزئية (1)	3	2	2	-- -	---
20			Removable Partial Prosthodontics (2)	التعويضات المتحركة الجزئية (2)	3	2	2	-- -	Removable Partial Prosthodontics (1)
21			Removable Partial Prosthodontics (3)	التعويضات المتحركة الجزئية (3)	3	2	2	-- -	Removable Partial Prosthodontics (2)
22			Orthodontics (1)	تقويم الأسنان (1)	3	2	2	--	----
23			Orthodontics (2)	تقويم الأسنان (2)	3	2	2	--	Orthodontics (1)
24			Dental OSSLUSSION (1)	علم طباق الاسنان (1)	2	2	----	--	----
25			Dental OSSLUSSION (2)	علم طباق الاسنان (2)	3	2	2		Dental OSSLUSSION (1)
26			Fundamentals of dental technology	اساسيات تكنولوجيا الاسنان	3	2	2		

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No.	Level-Sem.	Course Code	Course Name	اسم المقرر	Cr. Hrs.	L	P	T	Pre requisites, Co-requisites
27			Maintenance And Safety In Dental Technology Laboratories	الصيانة والسلامة في معامل الاسنان	3	2	2		
28			Oral pathology	علم امراض الفم	3	2	2		
29			Applied Removable complete Prosthodontics (1)	الاستعاضة السنية المتحركة التطبيقية الكاملة (1)	3	1	4		Removable Prosthodontics (4)
30			Applied Removable complete Prosthodontics (2)	الاستعاضة السنية المتحركة التطبيقية الكاملة (2)	3	1	4		Applied Removable complete Prosthodontics (1)
31			Applied Removable partial Prosthodontics (1)	الاستعاضة السنية المتحركة التطبيقية الجزئية (1)	3	1	4		Removable Partial Prosthodontics (3)
32			Applied Removable partial Prosthodontics (2)	الاستعاضة السنية المتحركة التطبيقية الجزئية (2)	3	1	4		Applied Removable partial Prosthodontics (1)
33			CAD-CAM Dental Technology (1)	تكنولوجيا صناعة الاسنان الرقمية (1)	3	2	2		
34			CAD-CAM Dental Technology (2)	تكنولوجيا صناعة الاسنان الرقمية (2)	3	2	2		CAD-CAM Dental Technology (1)
35			Fixed Prosthodontics (4)	الاستعاضة السنية الثابتة (4)	3	2	2		Fixed Prosthodontics (3)
36			Esthetics prosthodontics	التعويضات التجميلية	3	2	2		
37			Applied Fixed Prosthodontics	الاستعاضة السنية التطبيقية الثابتة	3	1	4		Fixed Prosthodontics (4)
38			Applied Orthodontics (1)	تقويم الأسنان التطبيقي (1)	3	1	4		Orthodontics (2)
39			Applied Orthodontics (2)	تقويم الأسنان التطبيقي (2)	3	1	4		Applied Orthodontics (1)

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No.	Level-Sem.	Course Code	Course Name	اسم المقرر	Cr. Hrs.	L	P	T	Pre requisites, Co-requisites
40			Applied dental implant prosthodontics	غرسات الاسنان التطبيقية	3	1	4		Dental implant (2)
<b>Total</b>					<b>118</b>	<b>72</b>	<b>92</b>		

**16. Study Plan: Total Credit Hours = 162 C.H**

**First Year – First Semester**

No	Course Code	English	Arabic	Credit Hours				Prerequisite
				Total	Theory	Lab/ Practical	Clinical Training	
1		English Language (1)	اللغة الإنجليزية (1)	2	2	---	---	---
2		Arabic Language (1)	اللغة العربية (1)	2	2	---	---	---
3		Islamic Culture	الثقافة الإسلامية	2	2	---	---	---
4		National CLTURE	الثقافة الوطنية	2	2	---	---	---
5		General Biology	علم الأحياء	3	2	2	---	---
6		Introduction and Terminology to Dentistry	مقدمة ومصطلحات طب الأسنان	2	2	--	---	---
7		Dental Anatomy (1)	تشريح الأسنان (1)	3	2	2	---	---
8		Fundamentals of dental technology	اساسيات تكنولوجيا الاسنان	3	2	2		
9		Medical physics	الفيزياء الطبية	3	2	2	---	---
<b>Total</b>				<b>22</b>	<b>18</b>	<b>8</b>	<b>---</b>	

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### First Year – Second Semester

No	Course Code	English	Arabic	Total Credit Hours				Prerequisite
				Total	Theory	Lab/ Practical	Clinical Training	
1		English Language (2)	اللغة الإنجليزية (2)	2	2	---	---	English Language (1)
2		Arabic Language (2)	اللغة العربية (2)	2	2	---	---	Arabic Language (1)
3		Computer Skills	مهارات الحاسوب	3	2	2	---	---
4		Arab-Israel Conflict	الصراع العربي الإسرائيلي	2	2	---	---	---
5		Law and Ethics in Dentistry	تشريعات واخلاقيات طب الأسنان	2	2	---	---	---
6		General Chemistry	الكيمياء العامة	3	2	2	---	---
7		Dental Anatomy (2)	تشريح الأسنان (2)	3	2	2	---	Dental Anatomy (1)
8		Principle Health Management and Communication Skills	أسس الإدارة الصحية ومهارات الاتصال	2	2	---	---	---
9		Emergency (First Aide)	طوارئ (إسعافات أولية)	2	1	2	---	---
<b>Total</b>				<b>21</b>	<b>17</b>	<b>8</b>	<b>---</b>	

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## Second Year – First Semester

No	Course Code	English	Arabic	Total Credit Hours				Prerequisite
				Total	Theory	Lab/ Practical	Clinical Training	
1		Dental OCCLUSION (1)	علم إطباق الاسنان (1)	2	2		---	
2		Removable complete Prosthodontics (1)	الاستعاضة السنية المتحركة الكاملة (1)	3	2	2		
3		Dental Materials (1)	المواد السنية (1)	3	2	2	---	---
4		Quality management in Dental Technology Laboratories	ادارة الجودة في معامل الاسنان	2	2		---	Principle Health Management
5		Fixed Prosthodontics (1)	الاستعاضة السنية الثابتة (1)	3	2	2		
6		Infection control & Community Dental Health	السيطرة على العدوى وصحة اسنان المجتمع	2	2			
7		Oral Histology	انسجة الفم	3	2	2		
8		Medical statistics	الإحصاء الطبي	2	2			
<b>Total</b>				<b>20</b>	<b>16</b>	<b>8</b>	<b>---</b>	

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### Second Year – Second Semester

No	Course Code	English	Arabic	Total Credit Hours				Prerequisite
				Total	Theory	Lab/ Practical	Clinical Training	
1		Removable complete Prosthodontics (2)	الاستعاضة السنية المتحركة الكاملة (2)	3	2	2		Removable complete Prosthodontics (1)
2		Removable Partial Prosthodontics (1)	الاستعاضة السنية المتحركة الجزئية (1)	3	2	2		
3		Dental occlusion (2)	علم إطباق الاسنان (2)	3	2	2		Dental OSCLUSION (1)
4		Oral pathology	علم امراض الفم	3	2	2		
5		Dental Materials (2)	المواد السنية (2)	3	2	2	---	Dental Materials (1)
6		Fixed Prosthodontics (2)	الاستعاضة السنية الثابتة (2)	3	2	2		Fixed Prosthodontics (1)
7		Maintenance & safety in dental technology.	الصيانة والسلامة في تكنولوجيا الأسنان	3	2	2		
<b>Total</b>				<b>21</b>	<b>14</b>	<b>21</b>	<b>---</b>	

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### Third Year – First Semester

No	Course Code	English	Arabic	Total Credit Hour				Prerequisite
				Total	Theory	Lab/ Practical	Clinical Training	
1		Removable complete Prosthodontics (3)	الاستعاضة السنية المتحركة الكاملة (3)	3	2	2	---	Removable complete Prosthodontics (2)
2		Removable Partial Prosthodontics (2)	الاستعاضة السنية المتحركة الجزئية (2)	3	2	2	----	Removable Partial Prosthodontics (1)
3		Fixed Prosthodontics (3)	الاستعاضة السنية الثابتة (3)	3	2	2	---	Fixed Prosthodontics (2)
4		Maxillofacial prosthodontics (1)	تعويضات الوجه والفكين (1)	3	2	2	---	
5		Orthodontics (1)	تقويم الأسنان (1)	3	2	2	----	----
6		Digital dental technology (1)	تكنولوجيا الأسنان الرقمي (1)	3	2	2		
7		Dental implant (1)	غرسات الاسنان (1)	3	2	2		
<b>Total</b>				<b>21</b>	<b>14</b>	<b>14</b>	<b>0</b>	

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### Third Year – Second Semester

No	Course Code	English	Arabic	Total Credit Hours				Pre requisites, Co-requisites
				Total	Theory	Lab/ Practical	Clinical Training	
1		Digital dental technology (2)	تكنولوجيا الأسنان الرقمي (2)	3	2	2		Digital dental technology (1)
2		Removable Prosthodontics (4)	الاستعاضة السنية المتحركة الكاملة (4)	3	2	2	---	Removable Prosthodontics (3)
3		Removable Partial Prosthodontics (3)	الاستعاضة السنية المتحركة الجزئية (3)	3	2	2	---	Removable Partial Prosthodontics (2)
4		Fixed Prosthodontics (4)	الاستعاضة السنية الثابتة (4)	3	2	2	---	Fixed Prosthodontics (3)
5		Orthodontics (2)	تقويم الأسنان (2)	3	2	2	----	Orthodontics (1)
6		Dental implant (2)	غرسات الاسنان (2)	3	2	2		Dental implant (1)
7		Maxillofacial prosthodontics (2)	تعويضات الوجه والفكين (2)	3	2	2	---	Maxillofacial prosthodontics (1)
<b>Total</b>				<b>21</b>	<b>14</b>	<b>14</b>	<b>0</b>	

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### Fourth Year – First Semester

No	Course Code	English	Arabic	Total Credit Hours				Pre requisites, Co-requisites
				Total	Theory	Lab/ Practical	Clinical Training	
1		Applied Removable complete Prosthodontics (1)	الاستعاضة السنية المتحركة التطبيقية الكاملة (1)	3	1	4		Removable Prosthodontics (4)
2		Applied Removable partial Prosthodontics (1)	الاستعاضة السنية المتحركة التطبيقية الجزئية (1)	3	1	4		Removable Partial Prosthodontics (3)
3		CAD-CAM Dental Technology (1)	تكنولوجيا صناعة الاسنان الرقمية (1)	3	2	2		
4		Applied Fixed Prosthodontics (1)	الاستعاضة السنية التطبيقية الثابتة	3	1	4		Fixed Prosthodontics (4)
5		Esthetics prosthodontics	التعويضات التجميلية	3	2	2		
6		Applied Orthodontics (1)	تقويم الأسنان التطبيقي (1)	3	1	4		Orthodontics (2)
Total				18	8	20		

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### Fourth Year – Second Semester

No	Course Code	English	Arabic	Total Credit Hours				Pre requisites, Co-requisites
				Total	Theory	Lab/ Practical	Clinical Training	
1		Applied Orthodontics (2)	تقويم الأسنان التطبيقي (2)	3	1	4		Applied Orthodontics (1)
2		Applied Removable Prosthodontics (2)	الاستعاضة السنية المتحركة التطبيقية الكاملة (2)	3	1	4		Applied Removable Prosthodontics (1)
3		Applied removable prosthodontics (2)	الاستعاضة السنية المتحركة التطبيقية الجزئية (2)	3	1	4		Applied removable prosthodontics (1)
4		CAD-CAM Dental Technology (2)	تكنولوجيا صناعة الاسنان الرقمية (2)	3	2	2		CAD-CAM Dental Technology (1)
5		Research Methodology & Graduation Research	مناهج البحث العلمي ومشروع بحث التخرج	3	2	---	3	Medical Statistic
6		Applied dental implant prosthodontics	غرسات الاسنان التطبيقية	3	1	4		Dental implant (2)
<b>Total</b>				<b>18</b>	<b>8</b>	<b>18</b>	<b>3</b>	

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### 17. Distribution of Total Credit Hours:

Level	Term	University Requirements		Faculty Requirements		Program Requirements		Training		Project		Total Cr. Hrs.		Total Cr. Hrs./ Level
		No. of Courses	Credit Hours	No. of Courses	Credit Hours	No. of Courses	Credit Hours	No. of Courses	Credit Hours	No. of Courses	Credit Hours	No. of Courses	Credit Hours	
First	First	4	8	2	6	3	8					9	22	43
	Second	4	9	4	9	1	3					9	21	
Second	First			4	9	4	11					8	20	41
	Second					7	21					7	21	
Third	First					7	21					7	21	42
	Second					7	21					7	21	
Fourth	First					6	18					6	18	36
	Second					5	15			1	3	6	18	
Total:		8	17	10	24	38	118			1	3	59	162	162
Percentage:		10.5%		14.8%		72.8%				1.9%		100%		

### 18. Admission Requirements:

- Admissions to the program shall be made as per the admission rules set by the Ministry of Higher Education and Scientific Research as well as 21 Sep. University admission guidelines.
- General Secondary school certificate (Science Section) or any equivalent certificate with grade as specified in the admission rules made by Ministry of Higher Education and Scientific Research.
- Pass the aptitude test and personal interview if any.
- Any necessary requirement for specialization, decided by the Faculty.

### 19. Attendance and Graduation Requirements:

- Student attendance should not be less than 75%.
- Student will graduate after successfully passing all program requirements.
- Total credit hours for the program is 162 credit hours.
- Minimum score for any student to pass any credit hours course is **65%** marks.

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## 20. Grading System:

From <b>90%</b> to <b>100%</b> of total marks	<b>Excellent</b>
From <b>80%</b> to less than <b>90%</b>	<b>Very Good</b>
From <b>70%</b> to less than <b>80%</b>	<b>Good</b>
From <b>65%</b> to less than <b>70%</b>	<b>Pass</b>
Less than <b>65%</b>	<b>Poor/Fail</b>

## 21. Facilities Required for Running the Program:

1. Sufficient Classrooms furnished with all necessary pieces and equipment.
2. Labs as per the course's specifications.
3. Computer Labs.
4. Academic and administrative staff offices.

## 22. Program Assessment:

Type of the Sample who Assess the program		Instruments used	Sample
1	Final year assessment	<b>Questionnaire</b>	Random
2	External examiner evaluation	<b>Questionnaire</b>	-Graduate Club - By Email
3	Graduated student evaluation	<b>Reports</b>	External University
4	External evaluator	<b>Reports</b>	External University
5	Council for Accreditation and Quality Assurance in Yemen	<b>Reports</b>	Review by team work

## 23. Program Quality Standards:

- Continuous evaluation
- Workshops

## 24. Internal and external training to satisfy program standards::

- Internally :- training in well-equipped labs
- Externally :- Training in hospital controlled by logbook

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## 25. Program Policies:

### Based on University Regulations

<b>1.</b>	<p><b>(Class Attendance) :</b></p> <p>A student should attend not less than 75 % of total hours of the subject; otherwise he/she will not be able to take the exam and will be considered as exam failure. If the student is absent due to illness, he/she should bring a proof statement from university Clinic. If the absent is more than 25% of a course total contact hours, student will be required to retake the entire course again.</p>
<b>2.</b>	<p><b>(Tardy) :</b></p> <p>For late in attending the class, the student will be initially notified. If he repeated lateness in attending class he/she will be considered as absent.</p>
<b>3.</b>	<p><b>(Exam Attendance/Punctuality) :</b></p> <p>A student should attend the exam on time. He/she is permitted to attend an exam half one hour from exam beginning, after that he/she will not be permitted to take the exam and he/she will be considered as absent in exam.</p>
<b>4.</b>	<p><b>(Assignments &amp; Projects) :</b></p> <p>Assignments and projects are given as per course specification; the student has to submit all the assignments for checking on time, mostly one week after given the assignment.</p>
<b>5.</b>	<p><b>(Cheating) :</b></p> <p>For cheating in exam, a student will be considered as fail. In case the cheating is repeated three times during his/her study the student will be disengaged from the Faculty.</p>
<b>6.</b>	<p><b>(Plagiarism) :</b></p> <p>Plagiarism is the attending of a student the exam of a course instead of another student. If the examination committee proofed a plagiarism of a student, he/she will be disengaged from the Faculty. The final disengagement of the student from the Faculty should be confirmed from the Student Council Affair of the university or according to the university roles.</p>
<b>7.</b>	<p><b>(Other policies) :</b></p> <ul style="list-style-type: none"> <li>- Mobile phones are not allowed to use during a class lecture. It must be closed; otherwise the student will be asked to leave the lecture room.</li> <li>- Mobile phones are not allowed in class during the examination.</li> <li>- Lecture notes and assignments might be given directly to students using soft or hard copy.</li> </ul>

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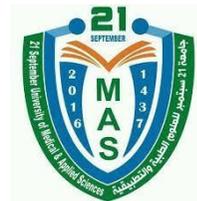
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## Annex- 1, Survey on the Strategic Orientations of the Program and Similar Program, and their Alignment to the Strategic Orientations of the University and Faculty:

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### Benchmarked Programs:

- 1- Sana'a University. Dentistry College -Yemen  
[https:// su.edu.ye/](https://su.edu.ye/)
- 2- Middle Technical University. Dental Technology department- Iraq  
<https://hmt.mtu.edu.iq/stu-info/dent-dep/>
- 3- King Saud University  
<https://cams.ksu.edu.sa/ar/dental-health/dental-technology>
- 4- Jordan University of Science and Technology Department of Applied Dental Science  
<https://www.just.edu.jo/>
- 5- Otago University. Faculty of health sciences - New Zealand  
[www.otago.ac.nz/healthsciences](http://www.otago.ac.nz/healthsciences)
- 6- Griffith University. School of Medicine and Dentistry- Australia  
<https://www.griffith.edu.au/>

### 1- Mapping of Department Vision to the University and Faculty Visions:

University Vision	Faculty of Dentistry Vision	Program Vision
A contemporary University with National Responsibility and a Faith Identity.	A contemporary faculty of dentistry with National Responsibility and a Faith Identity.	<b>No vision for the program.</b> But Mission

### 2- Mission of the Corresponding Departments and Suggested Mission: :(Benchmarks)

#	University	Mission
1.	Sana'a University	تلتزم كلية طب الأسنان - جامعة صنعاء- بتخريج كادر متميز قابل للتطور بمستوى عال منافس، قادر على تلبية احتياجات سوق العمل، وتقديم خدمات مجتمعية في إطار القيم والعادات التي تخدم المجتمع من خلال تطوير البرامج التعليمية والنهوض بالبحث العلمي وآليات التعليم المستمر.
2.	Middle Technical University	يسعى القسم إلى توسيع فهم المجالات الجديدة والمتطورة لتكنولوجيا تقنيات صناعة الأسنان إضافة إلى تعزيز العلاقات المهنية داخل فريق تقنيي الأسنان حيث ان هناك طلب متزايد في العراق (وخارجه) على الممارسين المحترفين في هذا المجال.
3.	King Saud University	تأهيل أخصائيي تقنية الأسنان المجهزين بالمعرفة والمهارات والكفاءات لممارسة المهنة والمساهمة في البحث العلمي والالتزام بالخدمات المجتمعية وذلك لتحسين صحة الأسنان ورفع جودة الحياة في المجتمع السعودي.
4.	Jordan University of Science and Technology	consistent with the mission of JUST and the Faculty of Applied Medical Sciences our mission at the department of applied dental sciences is to be a premier in improving applied dental sciences through persuing Scientific developments in the dental field and graduating fully qualified graduates to fulfill the need in the community and the region

#	University	Mission
5.	Otago University	The University of Otago's Bachelor of Dental Technology (BDentTech) programme is the only one in New Zealand.
6.	Griffith University	The School of Medicine and Dentistry strives to prepare the next generation of professionals and practitioners to tackle health and health care challenges in an ever-changing world. Our diverse student body benefits from the opportunity to study in state-of-the art facilities, and can select from degrees and courses across a wide range of disciplines spanning dentistry and oral health, First Peoples Health, medicine, paramedicine, and public health.
7.	21 September University	Share the Leading of the transformation in delivery of dental care with high quality by setting a standard of excellence in education of medical and dentistry research with dental technology in a way that meets the needs of Yemeni society, its specificity and regional influence.

### 3- Mapping of Program Mission to the University and Faculty Missions:

University Mission	Faculty of Dentistry Mission	Program Mission
Leading the transformation in the management and delivery of health care with all partners by setting a standard of excellence in education and medical and applied research in a way that meets the needs of Yemeni society, its specificity and regional influence.	Share the Leading of the transformation in delivery of dental care with high quality by setting a standard of excellence in education of medical and dentistry research with dental technology in a way that meets the needs of Yemeni society, its specificity and regional influence.	To graduate dental technologist equipped with knowledge, skills, and competencies to practice the profession to contribute significantly to scientific research and be committed to community services, thus improving oral and dental health and quality of life among the Yemen society and regional.

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#### 4- Objectives (Educational) of the Corresponding Program and Suggested Objectives:

#	University	Objectives
1.	Sana'a University	<ol style="list-style-type: none"> <li>1. الموازنة بين برامج الكلية ومناطق التميز التي تسعى إليها الجامعة</li> <li>2. الاسهام في سد احتياجات سوق العمل ومواكبة تغيراته</li> <li>3. تحديث البرامج الاكاديمية واعتمادها وتحقيق معايير الاعتماد الاكاديمي والمؤسسي</li> <li>4. بناء هيكل تنظيمي مرن للكلية وتحديد صلاحياته ووحداته</li> <li>5. تعزيز القدرات المالية للكلية وايجاد آليات تسمح بمرونة النظم المالية للكلية</li> <li>6. دعم منظومة الجودة والتدريب بالكلية</li> <li>7. بناء جسور التعاون مع المجتمع بجميع مؤسساته وبناء شراكة مع مؤسسات المجتمع المختلفة والجهات الدولية</li> <li>8. توفير مناخ جيد يرفع كفاءة وفاعلية العملية التعليمية ويسهم في تخرج طبيب أسنان عصري</li> <li>9. تطوير وتشجيع البحث العلمي ودعم الإبداع والتميز والتفاعل الإيجابي</li> </ol>
2.	Middle Technical University	<ol style="list-style-type: none"> <li>1. تهيئة وتخرج كوادر طبية تقنية ماهرة وكفؤة وبمستويات عالية من المهنية وذلك لخدمة المجتمع.</li> <li>2. اكساب الخريجين مهارة مختبرية متميزة تجعلهم قادرين على تصنيع تركيبات الأسنان الاصطناعية الكاملة والجزئية والتيجان والجسور والأجهزة مثل أجهزة تقويم الأسنان بحرفية عالية.</li> <li>3. إنجاز اعمال صناعة وتقويم الأسنان وتعويزات الوجه والفكين في المؤسسات الصحية لتبلي احتياجات المجتمع.</li> <li>4. العمل على رفد الوسط العلمي والأكاديمي بأخر المستجدات التكنولوجية العالمية في مجال تقنيات صناعة الأسنان.</li> <li>5. بناء قنوات التواصل وتعزيز التعاون الأكاديمي مع الأقسام العلمية في الكليات المناظرة.</li> <li>6. تقديم الخدمات الطبية للمرضى بصورة مباشرة من خلال عيادات طب الأسنان الاستشارية.</li> </ol>

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#	University	Objectives
3.	<b>King Saud University</b>	<p>1. تزويد الطلاب بفهم شامل للعلوم المتعلقة بتقنية الأسنان من حيث المعرفة النظرية والممارسة العملية التطبيقية والمهارات المتعلقة بالتقنيات المستخدمة في صناعة استعاضات الأسنان الثابتة والمتحركة والأجهزة المستخدمة في تقويم الاسنان واستعاضات الوجه والفكين.</p> <p>2. تطوير الكفاءات في الجوانب العملية التطبيقية في تجهيز استعاضات الأسنان المختلفة في بيئة عمل حقيقية وذلك بالتعاون مع معامل الاسنان خارج المؤسسة التعليمية</p> <p>3. إجراء أنشطة بحثية في مجال تقنية الأسنان وذلك لتقديم تعليم متميز والمساهمة في تطوير علوم صحة الأسنان.</p> <p>4. تطوير مهارات بيئة العمل مثل التعلم المستقل وحل المشكلات والتقييم وإدارة الوقت وإدارة معامل الأسنان.</p>
4.	<b>Jordan University of Science and Technology</b>	<ol style="list-style-type: none"> <li>1. To provide students with scientific knowledge and skills required for construction of removable complete and partial dentures.</li> <li>2. To provide students with scientific knowledge and skills required for construction of the fixed prosthodontics including ceramo-metal restorations, full metal restorations, free metal restorations with emphasis on implantology and adhesive restorations.</li> <li>3. To provide students with theoretical knowledge and practice on different designs of orthodontic appliances and their use in the real orthodontic practices.</li> <li>4. To teach the student several types and designs of cobalt chromium partial dentures.</li> <li>5. To provide students with theoretical knowledge and practice on the obturators used for intra-oral maxillofacial prostheses and fabrication of missing parts in the face and body including eye, ear, nose and fingers prosthesis.</li> <li>6. To equip the students with the professional ethics as a profession.</li> </ol>
5.	<b>Otago University</b>	<p>Dental technology is the technical side of dentistry. Dental technicians make appliances to improve patients' appearance, speech, or ability to chew.</p> <p>Dental technology teaches you how to:</p> <ul style="list-style-type: none"> <li>• Design and construct artificial teeth and removable orthodontic appliances</li> <li>• Create appliances to meet each patient's needs</li> <li>• Make appliances from a wide range of materials including gold, porcelain, and acrylic</li> </ul>

#	University	Objectives
		<ul style="list-style-type: none"> <li>• Work with a high level of responsibility and accuracy, as the product you make can affect a person's health and appearance</li> <li>• Visualize in 3D perspective and develop an eye for detail</li> </ul>
6.	<b>Griffith University</b>	<p>As an undergraduate student, you will learn and work alongside Dentistry students in our state of the art dental clinics and laboratories located in the same building. Our students enjoy working with industry-standard equipment including CAD-CAM (Computer Aided Design/Manufacturing) facilities.</p> <p>You will also expand your hands-on experience working with registered and experienced Dental Technicians in our commercial laboratory and through professional practice placements.</p>
7.	<b>21September University</b>	<ol style="list-style-type: none"> <li>1. Ensuring the application of quality standards and setting standards of excellence in dentistry sciences, dental technology, scientific research and community service.</li> <li>2. The centrality of the student in the educational process, the partnership with them for life, the consolidation of the principles of national responsibility and faith identity, their care and the development of their capabilities after graduation and during work.</li> <li>3. Attracting, employing and retaining scholars, cadres and highly specialized talents to gain minds and reverse the trend of “brain drain” in a way that promotes and ensures the creation of dentists, dental technicians, specialists, consultants, thinkers, businessmen and good citizens with high efficiency.</li> <li>4. Continuous development of the distinguished academic infrastructure and the establishment of modern research and service centers with high efficiency and capable of making a real impact locally and regionally in dentistry and dental technology.</li> <li>5. Enhancing the university’s position as a preferred partner for local, regional and international partnership through implementing innovative models of education,</li> </ol>

#	University	Objectives
		exchanging research and knowledge, and providing real and effective outcomes for developing professional dentistry practices to benefit from them locally and regionally.

### 5- Mapping of Department Objectives to the University and Faculty Objectives:

University Objectives	Faculty of Dentistry Objectives	Dental Technology Program Objectives
<p>1. Ensuring the application of quality standards and setting standards of excellence in medical and applied sciences, scientific research and community service.</p> <p>2. The centrality of the student in the educational process, the partnership with them for life, the consolidation of the principles of national responsibility and faith identity, their care and the development of their capabilities after graduation and during work.</p> <p>3. Attracting, employing and retaining scholars, cadres and highly specialized talents to gain minds and reverse the trend of “brain drain” in a way that promotes and ensures the creation of thinkers, businessmen and good citizens.</p>	<p>1. Ensuring the application of quality standards and setting standards of excellence in dentistry sciences, dental technology, scientific research and community service.</p> <p>2. The centrality of the student in the educational process, the partnership with them for life, the consolidation of the principles of national responsibility and faith identity, their care and the development of their capabilities after graduation and during work.</p> <p>3. Attracting, employing and retaining scholars, cadres and highly specialized talents to gain minds and reverse the trend of “brain drain” in a way that promotes and ensures the creation of dentists, dental technicians, specialists, consultants, thinkers,</p>	<p>1. Provide the students with a comprehensive understanding of dental technology practices in terms of theoretical knowledge, practice, and skills used for the construction of fixed and removable dental prostheses as well as orthodontic and maxillofacial appliances.</p> <p>2. Ensure the development of practical competencies for constructing dental prostheses and appliances in collaboration with a real-life working environment Develop the students</p>

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University Objectives	Faculty of Dentistry Objectives	Dental Technology Program Objectives
<p>4. Continuous development of the distinguished academic infrastructure and the establishment of modern research and service centers with high efficiency and capable of making a real impact locally and regionally.</p> <p>5. Enhancing the university's position as a preferred partner for local, regional and international partnership through implementing innovative models of education, exchanging research and knowledge, and providing real and effective outcomes for developing professional practices to benefit from them locally and regionally.</p>	<p>businessmen and good citizens with high efficiency.</p> <p>4. Continuous development of the distinguished academic infrastructure and the establishment of modern research and service centers with high efficiency and capable of making a real impact locally and regionally in dentistry and dental technology.</p> <p>5. Enhancing the university's position as a preferred partner for local, regional and international partnership through implementing innovative models of education, exchanging research and knowledge, and providing real and effective outcomes for developing professional dentistry practices to benefit from them locally and regionally.</p>	<p>diagnostic and therapeutic skills in solving various oral health problems.</p> <p>3. Develop students critical thinking in dental technology that influences the creativity and the ability to deal with versatile medical aspects.</p> <p>4. Conduct dental technology-based research activities for providing inspirational teaching and contributing to the development of dental health sciences.</p> <p>5. Develop transferable skills applied to the working environment such as independent learning, problem-solving, assessment planning, time management, and dental laboratory management.</p> <p>6. Enhancing the principles of professional, ethical and</p>

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University Objectives	Faculty of Dentistry Objectives	Dental Technology Program Objectives
		<p>national responsibility among students.</p> <p>7. Establishing communication channels and enhancing academic cooperation with the scientific departments in the corresponding colleges.</p>

### Mapping of Program Values with the University and Faculty Values:

University Values	Faculty of Dentistry Values	Dental Technology Program Values
<p>1- <b>University Values:</b></p> <ol style="list-style-type: none"> <li>1. Leadership and influence</li> <li>2- Excellence</li> <li>3- Creativity</li> <li>4- Teamwork</li> </ol>	<p><b>Faculty Values:</b></p> <ol style="list-style-type: none"> <li>1. 1 Professional</li> <li>2. Continuous Education.</li> <li>3. Appreciation of Science and Scientists.</li> <li>4. Transparency and Accountability.</li> <li>5. Team Work</li> </ol>	<p><b>Program Values:</b></p> <ol style="list-style-type: none"> <li>1. Professional</li> <li>2. Continuous Education.</li> <li>3. Appreciation of Science and Scientists.</li> <li>4. Transparency and Accountability.</li> <li>5. Team Work</li> </ol>

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## Annex- 2, Academic Standards Curriculum Criteria of Accreditation Board



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### **National Academic Reference Standards (NARS) For Dentistry Sciences**

First Edition

Council for Accreditation & Quality Assurance, Yemen

May 2018



Council for Accreditation & Quality Assurance

### **National Academic Accreditation Standards For Medical Sciences**

Second Edition

Council for Accreditation & Quality Assurance, Yemen

April 2022

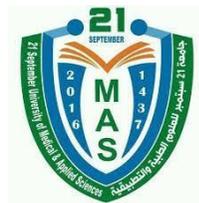


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### Annex- 3, Unified Regulations for Student Affairs, Ministry of Higher Education and Scientific Research

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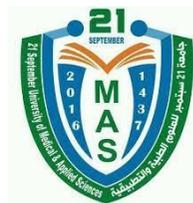
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### Annex- 4, Survey of Similar Accredited Programs at National and International Universities (Benchmarks)

Program No.	The Academic Program	The University	Website	The Faculty	The Department	The Country	Degree Award at Program Completion	Program Accrediting Body	Year of Accreditation	Study Duration
Current Program	Dental Technology	21 September University	<a href="https://21umas.edu.ye">https://21umas.edu.ye</a>	Dentistry	Dental Technology	Yemen	Bachelor of Dental Technology	Ministry of Higher Education and Scientific Research in Yemen	2024	Four Years
The 2 <sup>nd</sup> Program	Dental Technology	Sana'a University	<a href="https://su.edu.ye/">https://su.edu.ye/</a>	Dentistry	Dental Technology	Yemen	Bachelor of Dental Technology	Ministry of Higher Education and Scientific Research in Yemen	2022	Four Years
The 3 <sup>rd</sup> Program	Dental Technology	Middle Technical University	<a href="https://hmt.mtu.edu.iq/stu-info/dent-dep/">https://hmt.mtu.edu.iq/stu-info/dent-dep/</a>	Health and Medical Technology	Dental Technology	Iraq	Bachelor of Dental Technology	Ministry of Higher Education and Scientific Research in Iraq	2016	Four Years
The 4 <sup>th</sup> Program	Dental Technology	King Saud University	<a href="https://cams.ku.edu.sa/ar/dental-health/dental-technology">https://cams.ku.edu.sa/ar/dental-health/dental-technology</a>	Medical Applied Sciences	Dental & Oral Health	KSA	Bachelor of Dental Technology	higher studies in the Kingdom and abroad	1979	Four Years
The 5 <sup>th</sup> Program	Dental Technology	Jordan University of Science and Technology	<a href="https://www.just.edu.jo/">https://www.just.edu.jo/</a>	Medical Applied Sciences	Applied Dental Science	Jordan	Bachelor of Dental Technology	Ministry of Higher Education and Scientific Research in Jordan	1987	Four Years
The 6 <sup>th</sup> Program	Dental Technology	Otago University	<a href="http://www.otago.ac.nz/healthsciences">www.otago.ac.nz/healthsciences</a>	health sciences	Dental Technology	New Zealand	Bachelor of Dental Technology	New Zealand Dental Technicians Board	2004	Three Years + Three Summer Semester

Program No.	The Academic Program	The University	Website	The Faculty	The Department	The Country	Degree Award at Program Completion	Program Accrediting Body	Year of Accreditation	Study Duration
The 7 <sup>th</sup> Program	Dental Technology	Griffith University	<a href="https://www.griffith.edu.au/">https://www.griffith.edu.au/</a>	Medicine and Dentistry	Dental Technology	Australia	Bachelor of Dental Technology	Australian Health Practitioner Regulation Agency (AHPRA)	2009	Three Years



**Annex- 5, Survey on Mission and Objectives of the Program and Similar Accredited Programs and its Alignment to the University, Faculty, and Department Missions and objectives**

**1- Survey on Mission and Objectives of the Program and Similar Accredited Program**

University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University	21 Sep. University
Faculty	Dentistry	Health and Medical Technology	Medical Applied Sciences	Medical Applied Sciences	health sciences	Medicine and Dentistry	Dentistry
Department	Dental Technology	Dental Technology	Dental & Oral Health	Applied Dental Science	Dental Technology	Dental Technology	Dental Technology
Program	Dental Technology	Dental Technology	Dental Technology	Dental Technology	Dental Technology	Dental Technology	Dental Technology
Country	Yemen	Iraq	KSA	Jordan	New Zealand	Australia	Yemen
Program Mission	To produce a caring, knowledgeable, competent and skilled dentist who is able, on graduation, to accept professional	The department seeks to broaden the understanding of new and advanced areas of dental technology, in addition to strengthening professional relationships	To graduate dental technologist equipped with knowledge, skills, and competencies to practice the profession to contribute	To graduate qualified dentists equipped with the knowledge, skills and competencies required, by providing a learning and research environment	The University of Otago's Bachelor of Dental Technology (BDentTech) programme is the only one in New Zealand.	Dental Technologists (or Dental Technicians as they are often referred to) are highly skilled members of the dental team.	To graduate dental technologist equipped with knowledge, skills, and competencies to practice the profession to contribute significantly to scientific research

University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University	21 Sep. University
	responsibility of providing effective and safe care of patients, who appreciates the need for continuing professional development, who is able to use advances in relevant knowledge and techniques and who understands the role of the patients in decision making.	within the dental technician team, as there is an increasing demand in Iraq (and abroad) for professional practitioners in this field.	significantly to scientific research and be committed to community services, thus improving oral and dental health and quality of life among the Saudi society.	according to the highest quality standards.		They combine art and science skills to construct custom-made dental devices to replace, restore and correct defects that may affect our facial appearance and the ability to use our teeth properly.	and be committed to community services, thus improving oral and dental health and quality of life among the Yemen society and regional.
Program Objectives	- 1.knowledge of basic medical sciences to be able to	The primary objective of the Bachelor's	• Provide the students with a comprehensive	- Provide the student with up-to-date and detailed	Dental technology is the technical side of dentistry. Dental technicians make	As an undergraduate student, you will learn and	1. Provide the students with a comprehensive understanding of

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University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University	21 Sep. University
	<p>understand and manage patients including patients with medical conditions.</p> <p>- 2. knowledge in basic and clinical dental sciences. Hence, providing the society with highly qualified professionals who are capable and committed to oral and dental health</p> <p>- 3. Potential for career improvement through lifelong learning, future specialization, graduate studies.</p> <p>- 4. Essential knowledge on the</p>	<p>Degree in Prosthetic Dental Techniques is to establish the skills and theoretical knowledge necessary to build a successful career for dental technicians to be able to manufacture dental restorations with a high level of precision. This objective is maintained</p>	<p>understanding of dental technology practices in terms of theoretical knowledge, practice, and skills used for the construction of fixed and removable dental prostheses as well as orthodontic and maxillofacial appliances.</p> <ul style="list-style-type: none"> <li>• Ensure the development of practical competencies</li> </ul>	<p>comprehensive knowledge of basic medical sciences to be able to understand and manage medically-compromised patients, especially with the increase in life expectancy and the subsequent increase in the numbers of older patients suffering from chronic medical problems.</p> <p>- Provide the student with knowledge in basic and clinical</p>	<p>appliances to improve patients' appearance, speech, or ability to chew.</p> <p>Dental technology teaches you how to:</p> <ul style="list-style-type: none"> <li>• Design and construct artificial teeth and removable orthodontic appliances</li> <li>• Create appliances to meet each patient's needs</li> <li>• Make appliances from a wide range of materials</li> </ul>	<p>work alongside Dentistry students in our state of the art dental clinics and laboratories located in the same building. Our students enjoy working with industry-standard equipment including CAD-CAM (Computer Aided Design/Manufacturing) facilities.</p> <p>You will also expand your hands-on experience working with</p>	<p>dental technology practices in terms of theoretical knowledge, practice, and skills used for the construction of fixed and removable dental prostheses as well as orthodontic and maxillofacial appliances.</p> <p>2. Ensure the development of practical competencies for constructing dental prostheses and appliances in collaboration with a real-life working environment Develop the</p>

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University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University	21 Sep. University
	<p>local communities enabling them to manage health problems in their communities.</p> <ul style="list-style-type: none"> <li>- 5. Skills focused on preventive dentistry and directed at development and enhancement of oral and dental health and awareness of the community.</li> </ul>	<p>through the following:</p> <ol style="list-style-type: none"> <li>1. Preparing and graduating skilled and efficient medical and technical staff with a high level of professionalism to serve the community.</li> <li>2. Providing graduates with distinguished laboratory skills that make them able to</li> </ol>	<p>for constructing dental prostheses and appliances in collaboration with a real-life working environment.</p> <ul style="list-style-type: none"> <li>• Conduct dental technology-based research activities for providing inspirational teaching and contributing to the development of dental health sciences.</li> <li>• Develop transferable</li> </ul>	<p>dental sciences with an emphasis on the evidence-based state-of-the-art practices. Hence, providing the society with highly qualified professionals who are capable and committed to oral and dental health, and who can continue to advance their careers through lifelong learning.</p> <ul style="list-style-type: none"> <li>- To boost the students' potential for future specialization and graduate studies through the introduction of</li> </ul>	<p>including gold porcelain, and acrylic</p> <ul style="list-style-type: none"> <li>• Work with a high level of responsibility and accuracy, as the product you make can affect a person's health and appearance</li> <li>• Visualise in 3D perspective and develop an eye for detail</li> </ul>	<p>registered and experienced Dental Technicians in our commercial laboratory and through professional practice placements.</p>	<p>students diagnostic and therapeutic skills in solving various oral health problems.</p> <ol style="list-style-type: none"> <li>3. Develop students critical thinking in dental technology that influences the creativity and the ability to deal with versatile medical aspects.</li> <li>4. Conduct dental technology-based research activities for providing inspirational teaching and contributing to the development</li> </ol>

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University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University	21 Sep. University
		<p>manufacture complete and partial dental prostheses, crowns, bridges, and devices such as orthodontic appliances with high professionalism.</p> <p>3. Carrying out the work of manufacturing, orthodontics, and maxillofacial prostheses in health institutions to meet the needs</p>	<p>skills applied to the working environment such as independent learning, problem-solving, assessment planning, time management, and dental laboratory management</p>	<p>the basics of scientific research and the presentation of the new advancements and techniques in the different specialties.</p> <p>- Provide the students with the essential knowledge about the local and regional communities to help them understand and be able to manage the health problems in their communities, with an emphasis on preventive dentistry and the</p>			<p>of dental health sciences.</p> <p>5. Develop transferable skills applied to the working environment such as independent learning, problem-solving, assessment planning, time management, and dental laboratory management.</p> <p>6. Enhancing the principles of professional, ethical and national responsibility among students.</p> <p>7. Establishing communication</p>

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University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University	21 Sep. University
		<p>of the community.</p> <p>4. Working to provide the scientific and academic community with the latest global technological developments in the field of dental industry techniques.</p> <p>5. Providing medical services to patients directly through consultation</p>		<p>impact of improving oral and dental health on the society and its development.</p> <p>- To recruit, retain, support and develop faculty and staff devoted to providing high quality teaching, enforcing ethical conduct, producing highly-ranked research and serving their communities.</p> <p>- To promote scientific research in different fields of dentistry.</p>			<p>channels and enhancing academic cooperation with the scientific departments in the corresponding colleges.</p>

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University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University	21 Sep. University
		dental clinics in the college.  6. Establishing communication channels and enhancing academic cooperation with the scientific departments in the corresponding colleges.		- To ensure constructive interaction through strengthening academic ties among dentists, and with local and global communities.			
Program ILOs	<b><u>Knowledge and Understanding</u></b>  1. Discuss the scientific basis of dentistry and the	A. Knowledge and Understanding  A1. enable students to acquire knowledge and	<b><u>a. Knowledge and Understanding</u></b>  By the end of the program, the graduate will gain knowledge and	1. Utilize knowledge in the basic medical and dental sciences with emphasis on subjects and systems with direct relation to oral health and oral function.	1. Students who successfully complete this program will have the knowledge, competencies and problem-solving skills	Program Learning Outcomes communicate to the community the value of the Griffith educational experience as	<b><u>A:KNOWLEDGE AND UNDERSTANDING</u></b>  <i>Upon successful completion of an undergraduate Dental technology</i>

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University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University	21 Sep. University
	<p>relevant biomedical, and behavioral sciences which form the basis for understanding human growth, development and health</p> <p>2. Describe the structure and function of the human body in health and disease related to the practice of dentistry.</p> <p>3. State the laws and ethics</p>	<p>understanding of the histology and anatomy of teeth and mouth.</p> <p>A2. to enable students to acquire knowledge and understanding of the dental material</p> <p>A3. to enable students to acquire knowledge and understanding of the techniques Dental Devices</p>	<p><u>understanding to be able to:</u></p> <p>A1 Describe the normal structure and function of human body.</p> <p>A2 Describe molecular, biochemical and cellular mechanisms needed in maintaining homeostasis.</p> <p>A3 Identify the developmental changes in humans and the effect of growth and aging on individuals and their family.</p> <p>A4. Describe basics of normal and</p>	<p>2. Communicate effectively and sensibly by spoken and written means, with patients, parents, guardians, peers, staff and faculty.</p> <p>3. Obtain and record an accurate and comprehensive medical and dental history from patients, and produce an appropriate systematic intra- and extra-oral clinical examination.</p> <p>4. Interpret the significance of history and examination and employ relevant special investigations and</p>	<p>necessary to provide removable prostheses for the treatment of edentulous patients</p> <p>2. Students who successfully complete this program will gain a more in-depth understanding of dental materials.</p> <p>3. Students who successfully complete this program will have the knowledge, competencies and problem-solving skills necessary to</p>	<p>benchmarked against national qualification standards.</p> <p><b>Program Learning Outcomes for this award</b> describe the knowledge, skills and the application of knowledge and skills you will acquire through studying the Griffith program of your choice.</p>	<p><i>program, the graduates will be able to:</i></p> <p><b>A1. Describe the scientific basis of dental technology and the relevant technical, biomedical and behavioral sciences which form the basis for understanding human growth, development and health.</b></p> <p><b>A2. Explain the structure and function of the human body in health related to the practice of</b></p>

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	<p>governing dental practice.</p> <p>4. Recognize the clinical, laboratory and special investigatory procedures practiced in dentistry.</p> <p>5. Identify psychological, cultural, and social factors related to oral disease prevention and management.</p> <p>6. Recognize the principles of evidence-based dentistry and its</p>	<p>A4: enable students to acquire knowledge and understanding of the complete and partial denture - removable and fixed prosthetics.</p> <p>B. Subject-specific skills</p> <p>B1: enable students to solve the problems associated with the histology</p>	<p>abnormal human behaviors.</p> <p>A5 Identify altered structure and function of humans in various diseases and conditions in relation to gender and age.</p> <p>A6 Describe the common diseases and life-threatening conditions as regards etiology, pathogenesis, clinical features, differential diagnosis and complications throughout the different age groups.</p>	<p>diagnostic procedures to develop appropriate differential diagnoses and treatment plans.</p> <p>5. Demonstrate proficiency in conducting different clinical procedures of specialized areas of dentistry at a level that is appropriate for a general dentist.</p> <p>6. Promote oral health and disease prevention measures to individual patients and employ them in the society.</p> <p>7. Practice and apply a wide range of skills,</p>	<p>provide removable prosthesis for the treatment of patients</p> <p>4. Students who successfully complete this program .will gain knowledge, competencies and problem-solving skills around the design and construction of fixed prosthodontic appliances used in conservative restorations for the treatment of patients</p>		<p><b>Dental Technology.</b></p> <p><b>A3. Identify the rules and ethics governing dental Technology practices.</b></p> <p><b>A4. Describe the different technical, laboratory and special investigatory procedures practiced in dental Technology.</b></p> <p><b>A5. Show an understanding of the psychological, cultural and social factors that have implications on</b></p>

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	<p>relation to scientific research and clinical practice.</p> <p><b>B. Cognitive/ Intellectual Skills:</b> On successful completion of the program, the graduates should be able to:</p> <p>Incorporate theoretical basic science of human body with clinical findings for appropriate understanding of oral disease and its management.</p>	<p>and anatomy of teeth and mouth.</p> <p>B2: enable students to solve the problems associated with the dental material.</p> <p>B3: enable students to solve the associated technologies Dental Devices problems</p> <p>B4: Enable students to</p>	<p>A7 Define the principles of management for common diseases and life-threatening conditions including pharmacological basis of drugs, non-invasive and invasive interventions, basic pre- and post-operative care, pain relief and palliative care.</p> <p>A8 Describe the theoretical basis of professional, practical skills and evidence based medicine (EBM).</p>	<p>including investigative, analytical, problem-solving, critical thinking, planning, presentation and team work skills.</p> <p>8. Adhere to the legal, ethical and professional responsibilities while practicing dentistry.</p> <p>9. Apply safety measures for self, dental team, and patient while providing treatment, taking into consideration the medico-legal issues.</p> <p>10. Recognize, evaluate and manage medical and dental</p>	<p>5. Students who successfully complete this program will gain knowledge, competencies and problem-solving skills around the design and construction of fixed prosthodontic appliances used in conservative restorations for the treatment of patients.</p> <p>6. Students who successfully complete this program will gain the</p>		<p><b>dental Technology.</b></p> <p><b>A6. Explain the digital technology in dental Technology &amp; Explain the principles of evidence-based dental Technology and its relation to scientific research.</b></p> <p><b><u>B:COGNITIVE/INTELLECTUAL SKILLS</u></b></p> <p><i>Upon successful completion of an undergraduate Dental technology program, the graduates will be able to:</i></p>

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	<p>Apply critical thinking and evidence-based problem solving when providing patient care</p> <p>Independently formulate appropriate treatment plans based on best interest and preference of the patient and distinguish patients who require referral for specialist care.</p> <p>Construct preventive strategies</p>	<p>accomplish all the steps related to complete and partial - removable and fixed prosthodontic.</p> <p>C. Thinking Skills</p> <p>C1. interaction during the lecture.</p> <p>C2. homework.</p> <p>C3. extra-curricular activities.</p>	<p>A9 Describe the role of genetics in health and disease and the basic principles of gene therapy and genetic counseling</p> <p>A10 Identify the determinants of health, principles of health promotion, disease prevention, early detection and control of common community health problems including disease surveillance and screening.</p> <p>A11 Define the principles of management and appropriate quality</p>	<p>emergencies appropriately.</p> <p>11. Utilize contemporary information and technology tools available for dentist for continuing self-education, medical records and communication.</p> <p>12. Apply and evaluate research and new information to dental practice.</p>	<p>communication skills, knowledge of legal responsibilities, professional conduct and business management skills needed to work within the dental laboratory industry.</p> <p>7. The aim of this program is to provide the students with an introduction to the principles of research and critical literature</p>		<p><b>B1. Incorporate theoretical basic technical ,biomedical, behavioral and dental sciences with the clinical signs and symptoms for appropriate understanding of dental Technology.</b></p> <p><b>B2. Evaluation of critical thinking and evidence-based problem solving when providing service.</b></p> <p><b>B3. Prioritize patient's treatment needs and formulate an</b></p>

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	<p>according to the targeted individual and community needs and capabilities. Select suitable dental materials, investigations and medications for specific clinical situations. Assess the risk of medical emergencies within the dental practice.</p> <p><b>C. Professional and practical skills:</b> On successful</p>	<p>C4.Scientific research.</p> <p>D. General and Transferable Skills (other skills relevant to employability and personal development)</p> <p>D1: participate in the sessions and local and international conferences to learn the technological development in the field of</p>	<p>concepts and processes required for healthcare facilities.</p> <p>A12 Describe the epidemiologic principles and the effect of social and demographic patterns on disease and vulnerability.</p> <p>A13 Describe the Egyptian health systems and different population-based approaches of health care including disease burden, quality of life and well-being.</p>		<p>evaluation followed by a structured research experience in the area of dental materials science.</p> <p>8. This program will provide the student with the knowledge, competencies and problem-solving skills around the design and construction of complex appliances used in conservative restorations, maxillofacial</p>		<p><b>appropriate treatment plan.</b></p> <p><b>B4. Construct preventive strategies at different levels according to the targeted individual and community needs.</b></p> <p><b>B5. Select suitable biocompatible dental materials and choose the best quality material to be used in a specific dental Technology situation.</b></p> <p><b>B6. Analyze and use the Artificial intelligence (AI) and digital</b></p>

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	<p>completion of the program, the graduates should be able to:</p> <p>Obtain and record a comprehensive history, perform an appropriate physical examination, and carry out required investigations required to reach a proper diagnosis and treatment plan.</p> <p>Apply infection control and radiation protection measured according to international standards.</p> <p>Provide preventive and therapeutic dental services for all age groups in the community.</p> <p>Prescribe medications for specific clinical</p>	<p>Dental technology.</p> <p>D2: enable students to pass job interviews in the government and private laboratories.</p> <p>D3: enable students to pass the professional tests organized by local / regional / international bodies.</p> <p>D4: enable students to develop self</p>	<p>A14 Recognize basics of ethics, medico legal aspects of health problems, malpractice and common medical errors.</p> <p>A15 Recognize basics of health and patient's safety and safety procedures during practical and clinical years.</p> <p>A16 Define principles of clinical audit.</p> <p><b><u>B. Practical and Clinical Skills</u></b></p> <p><b>By the end of the program, the</b></p>		<p>reconstruction and implant restorations for the treatment of patients</p>		<p><b>technology in dentistry to solve the problems of dental Technology and recreate the reasonable solutions.</b></p> <p><b><u>C.PRACTICAL AND PROFESSIONAL SKILLS:</u></b></p> <p><i>Upon successful completion of an undergraduate Dental technology program, the graduates will be able to:</i></p> <p><b>C1. Use the recent advance in dental technology to produce high and</b></p>

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	<p>situations and refer patients for specialist care whenever required. Manage medical emergencies within the dental practice setup.</p> <p><b>D. General and transferable skills</b> On successful completion of the program, the graduates should be able to: Efficiently use advanced technologies for self-development to remain updated with advancements in the dental practice. Demonstrate leadership and teamwork skills with</p>	<p>continuously for after graduation.</p>	<p><b>graduate will be able to:</b> B.1 Demonstrate basic sciences' practical skills relevant to the future practice and acquire practical, clinical skills and competencies. B.2 Take and record a structured patient-centered history. B.3 Perform full physical examination appropriate to age and gender in acute and chronic clinical conditions.</p>				<p><b>precise prosthodontics.</b> <b>C2. Manage the dental technology equipment with high quality standard of safety.</b> <b>C3. Use infection control protocol and radiation protection regulation according to international standards.</b> <b>C4. Apply comprehensive dental Technology practices &amp; Apply preventive measures for different age groups bearing in</b></p>

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	<p>colleagues and other oral health care workers for effective delivery of oral health care.</p> <p>Manage time, set treatment priorities and work to prescribed time limit</p> <p>Display appropriate attitudes at the personal and professional levels to maintain an excellent image of the profession in the society.</p> <p>Communicate with patients of all age groups in a caring, respectful, professional and informative way.</p>		<p>B.4 Assess the mental state of the patient.</p> <p>B.5 Construct appropriate management strategies both diagnostic and therapeutic for patients with common acute and chronic diseases including medical, psychiatric and surgical conditions.</p> <p>B.6 Compose an initial plan of management for stabilization of injured and critically-ill patients.</p>				<p><b>mind the different needs of young children, adolescents, adults, special needs and the ageing population/elderly</b></p> <p><b>C5. Ability to assess the risk of medical emergencies and be competent in their management within the dental technology practice setup.</b></p> <p><b>C6. Practicing Artificial intelligence (AI) and digital</b></p>

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			<p>B.7 Provide first aid measures for injured and critically-ill patients.</p> <p>B.8 Work out drug dosage based on patient's criteria and health condition.</p> <p>B.9 Write safe prescriptions of different types of drugs.</p> <p>B.10 Conduct community diagnosis for priority setting of community health problems</p> <p>B.11 Perform venipuncture and</p>				<p><b>technology in dentistry.</b></p> <p><b><u>D: GENERAL / TRANSFERABLE SKILLS</u></b></p> <p><i>Upon successful completion of an undergraduate Dental technology program, the graduates will be able to:</i></p> <p><b>D1. Commit to continuous education, self-development and lifelong learning to remain updated with advances in dental practice.</b></p> <p><b>D2. Communicate with professionals patients, their</b></p>

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			collect blood samples. B.12 Insert a cannula into peripheral veins. B.13 Practice enteral, parenteral, inhalational and topical methods for drug administration B.14 Perform suturing of superficial wounds. B.15 Demonstrate competency in cardiopulmonary resuscitation and basic life-support. B.16 Perform and interpret ECG. B.17 Perform and interpret basic				<b>families and the community through verbal, written and other non-verbal means ethically.</b> <b>D3. Work individually and in team and develop lifelong learning using up to date technology that help in understanding the diseases and its control and prevention.</b> <b>D4. Use advanced information and communication technologies to enrich and diversify</b>

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			respiratory function tests. B.18 Use a nebulizer for administration of inhalation therapy. B.19 Administer basic oxygen therapy. B.20 Insert a nasogastric tube. B.21 Perform bladder catheterization. B.22 Assist in procedure of normal labor. B.23 Perform and interpret basic bedside laboratory tests.				<b>professional experience.</b> <b>D5. Exhibit leadership and Management skills to set treatment priorities and work to prescribed time limits.</b> <b>D6. Maintain full and accurate clinical records (manual and electronic).</b> <b>D7. Respect the different cultural beliefs, ethics, personalities, privacy and values for patients and community</b>

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			<p>B.24 Administer compulsory childhood vaccines</p> <p>B.25 Adopt suitable measures for safety and infection control.</p> <p><b><u>C. Professional Attitude and Behavioral Skills</u></b></p> <p><b><u>By the end of the program, the graduates will acquire the skills required to:</u></b></p> <p>C.1 Adopt an empathic and holistic approach to patients and their problems, taking into consideration beliefs values,</p>				<p><b>with a good behavior and follow the institutional and national roles of medical practice.</b></p>

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			<p>goals and concerns</p> <p>C.2 Respect the patient's right to know and share in decision making as well as dignity, privacy, information confidentiality and autonomy.</p> <p>C.3 Understand and respect the different cultural beliefs and values regardless of their disabilities in the community they serve.</p> <p>C.4 Recognize the important role played by other health care</p>				

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			<p>conditions as well as their families.</p> <p>C.8 Recognize one's own limitations of knowledge and skills referring patients to appropriate health facility at the appropriate stage.</p> <p>C.9 Ensure confidentiality and privacy of patients information</p> <p>C.10 Treat all patients equally, and avoid stigmatizing any category regardless of beliefs, culture, and behaviors.</p>				

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			<p>C.11 Work cooperatively demonstrating respect with other health care professions for effective patient management.</p> <p>C.12 Be willing to share in all types of inter- professional activities including collaborative and shared learning.</p> <p>C.13 Ensure the cost effectiveness of health care management.</p> <p>C.14 Notify about or report any physical or mental conditions related</p>				

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			<p>to himself, colleagues or any other person that might jeopardize patients' safety.</p> <p>D. Communication Skills:</p> <p><b><u>By the end of the program, the graduate will be able to:</u></b></p> <p>D.1 Communicate clearly, sensitively and effectively with patients and their relatives and colleagues from a variety of health and social care professions.</p> <p>D.2 Communicate effectively with</p>				

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			<p>individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities.</p> <p>D.3 Cope with situations where communication is difficult including breaking bad news.</p> <p>D.4 Show compassion to patients and their relatives in situations of stress and grief.</p> <p>D.5 Honor and respect patients and their relatives, superiors, colleagues and any</p>				

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			<p>other member of the health profession.</p> <p>Dd.6 Use different communication approaches to bring about behavioral change.</p> <p><b><u>E. Intellectual Skills</u></b> By the end of the program, the graduate will acquire the skills required to:</p> <p>E.1 Integrate basic anatomical, biochemical and physiological facts with clinical data.</p> <p>E.2 Integrate the results obtained from history,</p>				

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			<p>clinical examination and investigational data into meaningful diagnostic formulation.</p> <p>E.3 Combine clinical and investigational data with evidence based knowledge and skill of deductive reasoning for clinical problem solving.</p> <p>E.4 Prioritize the medical problems and their differential diagnoses</p>				

University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University	21 Sep. University
			<p>E.5 Design a management plan for common diseases and emergencies.</p> <p>E.6 Determine the different strategies for risk management of disease and injury.</p> <p>E.7 Design scientific research through the formulation of research questions pertinent to medicine and the collection, analysis and interpretation of medical data.</p> <p>E.8 Recognize and cope with</p>				

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			<p>uncertainty that is unavoidable in the practice of medicine by accepting and reacting to uncertain situations through proper counseling, consultation and referral.</p> <p><b><u>F. General and Transferable Skills</u></b></p> <p><u>By the end of the program, the graduate will acquire the skills required to:</u></p> <p>F1 Adopt the principles of lifelong learning</p>				

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			<p>needs of the medical profession (continuous professional development; CPD).</p> <p>F2 Use computers efficiently in reaching biomedical information to remain current with advances in knowledge and practice.</p> <p>F.3 Present information clearly in written, electronic and verbal forms</p> <p>F.4 Communicate ideas and</p>				

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			<p>arguments effectively</p> <p>F.5 Work effectively within a multidisciplinary team</p> <p>F6 Manage time and resources effectively and set priorities</p> <p>F.7 Apply simple statistical methods</p> <p>F8. Apply English language as needed for appropriate learning and communication in relation to medicine</p> <p>F10 Manage time and resources</p>				

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			<p>effectively and set priorities.</p> <p>F.11 Work effectively within healthcare team and as an effective team leader.</p> <p>F12 Solve problems related to patients, work management and among colleagues.</p> <p>F13 Cope with a changing work environment.</p> <p>F14 Apply safety and infection</p>				

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			control measures during practice.  F15 Evaluate their work and that of others using constructive feedback.				

**Annex- 6, Department Name:**

No.	Department Name
1	<b>Restorative Dentistry</b>
2	<b>Pediatric Dentistry, Orthodontics and Preventive Dentistry</b>

No.	Department Name
3	<b>Oral and Maxillofacial Surgery, Oral Medicine and Periodontology</b>
4	<b>Fixed and Removable Prosthodontics</b>

### Annex-7, Alignment of Program Intended Learning Outcomes (PILOS) to Program Objectives (POs)

Program PILOs	Program Objectives						
	PObj1	PObj2	PObj3	PObj4	PObj5	PObj6	PObj7
A1	√	√	√			√	
A2	√	√	√				
A3	√	√	√			√	
A4	√	√		√		√	
A5	√	√	√		√	√	
A6	√	√		√			
B1		√			√	√	
B2		√	√	√			
B3		√	√			√	
B4		√	√			√	
B5		√	√			√	
B6		√	√		√		
C1	√	√					
C2	√	√	√			√	
C3			√	√		√	
C4	√	√					
C5			√	√			
C6			√	√			
D1			√				√
D2							√
D3	√			√			√
D4	√			√			
D5					√		
D6					√		
D7						√	√

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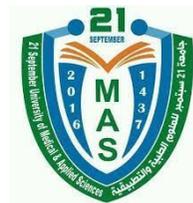
### Annex- 8, Mapping of Program Objectives to the Faculty Mission

Program Objectives	Faculty Mission
PObj1	✓
PObj2	✓
PObj3	✓
PObj4	✓
PObj5	✓
PObj6	✓
PObj7	✓

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Annex- 9, Survey of PILOs for Similar Accredited Programs at National and International Universities

Program PILOs	Similar Accredited Programs					
	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
A1	√	√	√	√	√	√
A2	√	√	√	√	√	√
A3	√	√	√		√	
A4	√		√		√	
A5	√	√	√	√	√	√
A6	√	√	√		√	
B1	√	√	√	√	√	√
B2	√	√	√	√	√	√
B3	√	√	√		√	
B4	√	√	√	√	√	√
B5	√	√	√	√	√	√
B6	√	√	√		√	
C1	√	√	√	√	√	√
C2	√	√	√	√	√	√
C3	√	√	√	√	√	√
C4	√	√	√	√	√	√
C5	√	√	√	√	√	√
C6	√	√	√		√	
D1	√	√		√		√

Program PILOs	Similar Accredited Programs					
	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
D2	√	√	√	√	√	√
D3	√	√	√		√	
D4	√	√	√	√	√	√
D5	√	√	√	√	√	√
D6	√	√	√		√	
D7	√	√	√	√	√	√

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Prof. Abdulwahab Al-kholani

Assoc. Prof. Muneer Alwesabi.

Prof. Mojahed Measar

## Annex- 10, Alignment of Program PILOs with Council of Accreditation and NARS Standards

Accreditation Body: National Academic Reference Standards (NARS), Yemen, 2018.

Program PILOs	NARS (Yemen), ILOs for Undergraduate Dentistry Programs																										
	Knowledge and Understanding						Intellectual Skills					Professional and Practical Skills							Transferable Skills								
	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	C6	C7	D1	D2	D3	D4	D5	D6	D7	D8	
A1																											
A2																											
A3																											
A4																											
A5																											
A6																											
B1																											
B2																											
B3																											
B4																											
B5																											
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C1																											
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C5																											
C6																											

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Program PIOs	NARS (Yemen), ILOs for Undergraduate Dentistry Programs																											
	Knowledge and Understanding						Intellectual Skills					Professional and Practical Skills							Transferable Skills									
	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	C6	C7	D1	D2	D3	D4	D5	D6	D7	D8		
C7																												
D1																												
D2																												
D3																												
D4																												
D5																												
D6																												
D7																												

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Prof. Abdulwahab Al-kholani

Assoc. Prof. Muneer Alwesabi.

Prof. Mojahed Measar

## National Academic Reference Standards For Dentistry Programs, Yemen,2018.

### I. GRADUATE ATTRIBUTES

*Upon successful completion of an undergraduate engineering program, the graduates will be able to:*

1. Independently deliver oral health care services within the scope of general dentistry including patients with special needs.
2. Apply infection control measures and radiation protection.
3. Communicate effectively with patients, colleagues and other members of medical and/oral dental team.
4. Apply critical thinking and evidence-based problem solving when providing patients' care.
5. Respond to community's cultured and social characteristics and understand their implications on oral disease management and prevention.
6. Work in a team with dental staff (receptionists, dental assistants, dental hygienists, dental laboratory technicians and treatment coordinators) to deal with dental cases.
7. Conduct dental practice with high regard to ethics and abide to medico-legal standards.
8. Demonstrate leadership qualities and capacity to function effectively within a team.
9. Identify their own professional limits and conduct clinical referrals when appropriate.
10. Strive for continuous education, self-development, lifelong learning and research to remain updated with advancements in dental practices and dental technology.

### II. LEARNING OUTCOMES

#### A. KNOWLEDGE AND UNDERSTANDING

*Upon successful completion of an undergraduate medical education program, the graduates will be able to:*

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- A1. Describe the scientific basis of dentistry and the relevant biomedical and behavioral sciences which form the basis for understanding human growth, development and health.
- A2. Explain the structure and function of the human body in health and disease related to the practice of dentistry.
- A3. Identify the rules and ethics governing dental practices.
- A4. Describe the different clinical, laboratory and special investigatory procedures practiced in dentistry.
- A5. Show an understanding of the psychological, cultural and social factors that have implications on oral disease management and prevention.
- A6. Explain the principles of evidence-based dentistry and its relation to scientific research

## **B. COGNITIVE/INTELLECTUAL SKILLS**

*Upon successful completion of an undergraduate medical education program, the graduates will be able to:*

- B1. Incorporate theoretical basic biomedical, behavioral and dental sciences with the clinical signs and symptoms for appropriate understanding of disease and its management.
- B2. Apply critical thinking and evidence-based problem solving when providing patient's care.
- B3. Prioritize patient's treatment needs and formulate an appropriate treatment plan.
- B4. Construct preventive strategies at different levels according to the targeted individual and community needs.
- B5. Select suitable dental materials, and prescribe medicaments to be used in a specific clinical situation.

## **C. PRACTICAL AND PROFESSIONAL SKILLS:**

*Upon successful completion of an undergraduate medical education program, the graduates will be able to:*

- C1. Obtain and record a comprehensive history, perform an appropriate physical examination, and carry out different investigations to reach a correct diagnosis and treatment.
- C2. Detect pathological conditions related to the dental practice.
- C3. Apply infection control and radiation protection according to international standards.

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- C4. Apply preventive measures for different age groups bearing in mind the different needs of young children, adolescents, adults, special needs and the ageing population/elderly.
- C5. Plan when, how and where to refer a patient to a specialist based on clinical assessment.
- C6. Assess the risk of medical emergencies and be competent in their management within the dental practice setup.
- C7. Apply comprehensive clinical practices.

#### **D. GENERAL / TRANSFERABLE SKILLS**

*Upon successful completion of an undergraduate medical education program, the graduates will be able to:*

- D1. Commit to continuous education, self-development and lifelong learning to remain updated with advances in dental practice.
- D2. Use advanced information and communication technologies to enrich and diversify professional experience.
- D3. Demonstrate leadership and teamwork skills with colleagues and other oral health team for effective delivery of oral health care.
- D4. Manage time, set treatment priorities and work to prescribed time limits.
- D5. Maintain full and accurate clinical records (manual and electronic).
- D6. Display appropriate attitudes both on personal and professional levels to keep an excellent regard of the profession in the society.
- D7. Identify patients' expectations, desires and attitudes when considering treatment planning.
- D8. Analyze and resolve problems and deal with uncertainty.

Benchmarking		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
University Requirements	Credit Hours	17	17	12	10	16		
	Percentage	10.5%						
University Electives	Credit Hours	----		8	18	9		
	Percentage	----						
Faculty Requirements	Credit Hours	27	23		10	24		
	Percentage	16.7%						
Faculty Electives	Credit Hours	----			10			
	Percentage	----						
Department Requirements	Credit Hours	----						
	Percentage	----						
Major Requirements	Credit Hours	118	124	120	102	83	135	120
	Percentage	72.8%						
Major Electives	Credit Hours	----			10			
	Percentage	----						
Practical Courses	Credit Hours	----						
	Percentage	----						
Training Courses	Credit Hours	----						
	Percentage	----						
Project Courses	Credit Hours	----						
	Percentage	----						
Total Credit Hours	Credit Hours	162	164	140	160	132	135 (360 point)	120 (240 point)

### Annex- 11, Survey of Credit Hours of Similar Programs

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### Annex- 12, Survey of Number of Courses and Credit Hours of Similar Programs

University		21 SEPTEMBER. University		Sana'a University		King Saud University		Jordan University of Science and Technology		Otago University		Griffith University		Middle Technical University		Average	
Total Courses and Cr. Hrs.		Cr. Hrs.	Courses	Cr. Hrs.	Courses	Cr. Hrs.	Courses	Cr. Hrs.	Courses	Cr. Hrs.	Courses	Cr. Hrs.	Courses	Cr. Hrs.	Courses	Cr. Hrs.	Courses
University Requirements	Compulsory	17	8	17	8	10	5	16	8					12	6	14	7
	Electives	--	--			18	9	9	4							14	7
Faculty Requirements	Compulsory	27	11	23	10	10	5	24	12					8	6	16	9
	Electives	--	--			10	5									10	5
Department Requirements	Compulsory	118	40	124	42	102	27	83	28	135		120		120	24	107	30
	Electives	--				10	5									10	5
<b>Total</b>		Cr. Hrs.	Courses	Cr. Hrs.	courses	Cr. Hrs.	courses	Cr. Hrs.	Courses	Cr. Hrs.	Courses	Cr. Hrs.	Courses	Cr. Hrs.	Courses	<b>150 Hrs -51 Course</b>	
		162	59	164	60	160	56	132	52	135		120		140	36		

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### Annex- 13, Themes of Courses of Study and their Weightage

#	Themes	No. of Courses	Credit Hours	Percentage of Cr. Hrs.
1	University Requirements	8	17	10.5%
2	Faculty Requirements	11	27	16.7%
3	Program Compulsory Courses	40	118	72.8%
4	Program Elective Courses	0	0	0
Program Total		59	162	100%

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Assoc. Prof. Muneer Alwesabi.

Prof. Mojahed Measar

## Annex14 -, Coding System

The course code consists of three character + three digits

### Abbreviation of character code :

A21U  
D21F  
DT21P

### The three digits:

- First digit for Level
- Second digit for Semester
- Third digit for Course No.

Example:

University Requirement	Level	Semester	Course No.
<b>A21U</b>	<b>1</b>	<b>1</b>	<b>1</b>

Islamic Culture (A21U111)

Faculty Requirement	Level	Semester	Course No.
<b>D21F</b>	<b>1</b>	<b>2</b>	<b>3</b>

Medical Terminology (D21F113)

Major Requirement	Level	Semester	Course No.
<b>DT21P</b>	<b>4</b>	<b>2</b>	<b>1</b>

Dental Anatomy (1) (DT21P116)

### Annex15 -, Survey of Course Names per Academic Semesters of Similar Programs

University	21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University	
No of Courses	59	60	36	56	52			
Total Cr. Hrs.	162	164	140	160	132	135	120	
Total Years	4 Years	4 Years	4 Years	4 Years	4 Years	3 Years	3 Years	
Level 1								
Semester	No	Course Name	Course Name	Course Name	Course Name	Course Name	Course Name	
1	1	English(1)	English(1)	Dental anatomy (Basic)	English Language	University elective	DTEC 102 3D and Digital Removable Prosthetics 1	Introduction to Dental Technology
	2	Arabic language (1)	Arabic language(1)	Dental materials (Basic)	IT Skills	English language 2	DTEC 111 Fundamental Sciences for Dental Technology	Foundational Anatomy and Physiology
	3	Islamic culture	Islamic culture	Dental equipment (Basic)	Fitness & Culture Health	The social responsibility	DTEC 113 3D and Digital Fixed Prosthetics 1	Applied Oral Biology 1

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University	21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
	4	National culture	National culture	Occupational Safety	Academic Skills	General chemistry	Communication and Culture OR  Language and Communication for Health
	5	General biology		English language	Biostatistics	General chemistry lab	Applied Oral Biology 2
	6	Fundamentals of dental technology		Computer principles 1		General biology	
	7	Introduction to dental science and dental terminology	Introduction to dental sciences	Democracy and human rights		General biology practical	
	8	Dental anatomy (1)	Dental anatomy (1)				
	9	Medical physics	Dental materials(1)				
	10		General physics				

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
			general chemistry					
2	1	English Language (2)	English(2)	Dental anatomy (advanced)	General Zoology	Gross anatomy and histology		Laboratory Practicum 1
	2	Arabic Language (2)	Arabic language(2)	Dental materials (intermediate)	Physics	Introduction to dental sciences and dental terminology		Prosthetic Technology 1
	3	Computer Skills	Computer Science	Dental equipment (Advanced)	Introduction to Organic Chemistry	Arabic language		
	4	Arab-Israel Conflict	The Arab- Israeli conflict	Physics	English	Entrepreneurship and innovation		
	5	Law and Ethics in Dentistry	General neighbourhoods	Arabic language		The general skills		

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
	6	General Chemistry	Dental terminology	Computer principles 2		Military sciences		
	7	Dental Anatomy (2)	Dental equipment technology			General physics		
	8	Principle Health Management and Communication Skills	Dental drawing and design					
	9		Dental anatomy (2)					
	10		Dental materials(2)					
Level 2								
Semester	No							

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
1	1	MAINTENANCE OF EQUIPMENT AND GENERAL SAFETY IN DENTAL TECHNOLOGY LABORATORIE S	Anatomy of the head and neck	Crowns and bridges	Writing Skills	University elective	DTEC 201 Materials Science for Dental Technology	First Peoples Health and Practice
	2	Dental OSSLUSION 1	Infection control and community health	Complete denture	Medical Jurisprudence	Human physiology	DTEC 202 3D and Digital Removable Prosthetics 2	Prosthetic Technology 2
	3	Removable complete Prostodontics (1)	Oral tissue	Partial denture	Dental Anatomy and Morphology	Human physiology lab	DTEC 203 3D and Digital Fixed Prosthetics 2	Laboratory Practicum 2
	4	Dental Materials (1)	Complete mobile prosthetics (1)	Dental material	Introduction to Dental Technology	Dental materials		Prosthetic Technology 3

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
	5	Quality management in dental technology	Partial removable prosthetics(1)	Oral Histology	Safety in Dental Laboratory	Dental materials practical		Laboratory Practicum 3
	6	Infection control	Fixed prosthodontics (1)	Anatomy and physiology of the mouth	Basic Anatomy and Physiology	Fundamentals of dental technology		
	7	Fundamental of Research methods	Dental laboratory management	English language		Fundamentals of dental technology practical		
	8	Medical statistics				Dental morphology and occlusion		
	9					Dental morphology and occlusion practical		
	10							

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
2	1	Removable complete Prosthodontics (2)	Emergency (first aid)		Dental Occlusion	University elective		
	2	Removable Partial Prosthodontics (1)	functions of organs		Dental Materials	Head and neck anatomy		
	3	Dental occlusion 2	Professional ethics		Complete Denture Prosthodontics I	Head and neck anatomy practical		
	4	Oral pathology	Complete motion prosthetics (2)		Removable Partial Prosthodontics I	Ethics in applied medical careers		
	5	Dental Materials (2)	Partial removable prosthetics (2)		Fixed Restorative Prosthodontics I	Maintenance of equipment and general safety in dental technology laboratories		

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
	6	Fixed Prosthodontics (1)	Fixed prosthodontics (2)			Removable complete prosthodontics 1		
	7	Removable complete Prosthodontics (2)	Occupational safety in dental laboratories			Removable complete prosthodontics 1 practical		
	8					Removable partial prosthodontics 1		
	9					Removable partial prosthodontics 1 practical		
	10					Fixed prosthodontics 1		
	11					Fixed prosthodontics 1 practical		
	12					Oral pathology		

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
Semester		Level 3						
r	No							
1	1	Removable complete Prosthodontics (3)	Counting	Complete denture	Basics of Emergency Care	Removable complete prosthodontics 2	DTEC 303 Professional Practice	Prosthetic Technology 4
	2	Removable Partial Prosthodontics (2)	Maxillofacial prosthetics(1)	Partial denture	Complete Denture Prosthodontics II	Removable complete prosthodontics 2 practical	DTEC 311 Applied Research for Dental Technology	Laboratory Practicum 4
	3	Fixed Prosthodontics (2)	Complete motion prosthetics(3)	Orthodontic	Removable Partial Prosthodontics II	Removable partial prosthodontics 2	DTEC 312 Integrated 3D and Digital Prosthetics	Health Practice Management
	4	Maxillofacial prosthodontics	Partial removable prosthetics(3)	Crowns and bridges	Fixed Restorative Prosthodontics II	Removable		Professional Practice

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University	21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
					partial prosthodontics 2 practical		
	5	Orthodontics (1)	Fixed prosthetics (3)	Maxillofacial	Orthodontics	Fixed prosthodontics 2	Research Development
	6	DIGITAL dentistry and DSD and photography 1	Dental dishes	Medical Sciences		Fixed prosthodontics 2 practical	Prosthetic Technology 4
	7	Dental implant 1	Ceramics(1)	Search methods	Complete Denture Prosthodontics II	Orthodontics 1	
	8	Removable complete Prosthodontics (3)	Orthodontics(1)	Computing applications	Removable Partial Prosthodontics II	Orthodontics 1 practical	
	9			English Language		Maxillofacial prosthetics 1	

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
	10					Maxillofacial prosthetics 1 practical		
	11					Biostatistics		
2	1	DIGITAL dentistry and DSD and photography 2	Research Methodology		Digital Dental Technology	Advanced removable prosthodontics		
	2	Removable Prosthodontics (4)	Maxillofacial prosthetics(2)		Advanced Removable Prosthodontics	Advanced removable prosthodontics practical		
	3	Removable Partial Prosthodontics (3)	Complete motion prosthetics(4)		Dental Ceramics	Fixed prosthodontics 3		
	4	Fixed Prosthodontics (3)	Partial removable prosthetics(4)		Advanced Orthodontics	Fixed prosthodontics 3 practical		

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
	5	Orthodontics (2)	Fixed prosthodontics(4)			Orthodontics 2		
	6	Dental implant 2	Ceramics(2)			Orthodontics 2 practical		
	7	Maxillofacial prosthodontics2	Orthodontics(2)			Maxillofacial prosthetics 2		
	8					Maxillofacial prosthetics 2 practical		
	9					Administration and quality assurance in applied medical sciences		
		Level 4						

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
Semester	No							
1	1	Applied Removable complete Prosthodontics (1)	Cosmetic compensation	Complete denture	Dental Materials Evaluation	Applied removable prosthodontics 1		
	2	Applied Removable partial Prosthodontics 1	Complete motion prosthetics(5)	Partial denture	Esthetic Prosthodontics	Applied fixed prosthodontics 1		
	3	Cad cam dental technology	Partial removable prosthetics(5)	Orthodontic	Clinical Practice I	Applied orthodontics		
	4	Applied Fixed Prosthodontics (1)	Ceramics(3)	Crowns and bridges	Dental Laboratory Management	Esthetic prosthodontics 1		
	5	Esthetics prosthodontics 1	Orthodontics(3)	Maxillofacial		Esthetic prosthodontics 1 practical		

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
	6	Applied Orthodontics (1)	CAD CAM digital dental technology (1)	Graduation project		Scientific research methods		
	7		Dental implants	Dental Implant				
	8			Professional ethics				
	9			English Language				
2	1	Applied Orthodontics (2)	Graduation Project		New Advances in Dental Technology	Applied removable prosthodontics 2		
	2	Applied Removable Prosthodontics (2)	Comple removable prosthetics(6)		Maxillofacial Technology	Applied fixed prosthodontics 2		
	3	Applied removable prtodontics 2	Partial removable prosthetics(6)		Clinical Practice II	Esthetic prosthodontics 2		

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University		21 SEPTEMBER. University	Sana'a University	Middle Technical University	King Saud University	Jordan University of Science and Technology	Otago University	Griffith University
	4	Cad cam dental technology 2	Ceramic(4)		Project	Dental implants		
	5	Esthetics prosthodontics 2	Orthodontics (4 )			Dental implants practical		
	6	Research Methodology	digital dental technology(2)			Research project		
	7	Graduation Research						
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Prof. Abdulwahab Al-kholani

Assoc. Prof. Muneer Alwesabi.

Prof. Mojahed Measar



#	21 SEPTEMBER. University					Sana'a University				Middle Technical University				King Saud University				Jordan University of Science and Technology				Otago University				Griffith University										
	Course	Course Hours				Course	Course Hours				Course	Course Hours				Course	Course Hours				Course	Course Hours				Course	Course Hours									
		C H	L	P	T		C H	L	T	P		C H	L	T	P		C H	L	T	P		C H	L	T	P		C H	L	T	P						
3	Arabic Language (1)	2	2	0	0	Arabic Language (1)	2	2	0	0	Arabic Language					Arabic Language (1)	3	3																		
4	Computer Skills	3	2	2	0	Computer science and IT	3	2	2	0	Computer Principles(1)					)Introduction to Computer Systems	2																			

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Level semester	Course Code	Courses	Credit hours	Lectures	Lab hours	Training	Program ILOs																											
							Knowledge and Understanding						Intellectual Skills						Professional and Practical Skills						Transferable Skills									
							A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	B6	C1	C2	C3	C4	C5	C6	D1	D2	D3	D4	D5	D6	D7			
56		Applied Fixed Prosthodontics	3	1	4					A				M	A		A																	
57		Applied Orthodontics (1)	3	1	4					A				M	A		A																	
58		Applied Orthodontics (2)	3	1	4					A				M	A		A																	
59		Applied dental implant prosthodontics	3	1	4					A				M	A		A																	

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## **Program Intended Learning Outcomes (PILOs): Bachelor Dental Technology Program at 21 September University**

### **A:KNOWLEDGE AND UNDERSTANDING**

*Upon successful completion of an undergraduate Dental technology program, the graduates will be able to:*

- A1.** Describe the scientific basis of dental technology and the relevant technical, biomedical and behavioral sciences which form the basis for understanding human growth, development and health.
- A2.** Explain the structure and function of the human body in health related to the practice of Dental Technology.
- A3.** Identify the rules and ethics governing dental Technology practices.
- A4.** Describe the different technical, laboratory and special investigatory procedures practiced in dental Technology.
- A5.** Show an understanding of the psychological, cultural and social factors that have implications on dental Technology.
- A6.** Explain the digital technology in dental Technology & Explain the principles of evidence-based dental Technology and its relation to scientific research.

### **B:COGNITIVE/INTELLECTUAL SKILLS**

*Upon successful completion of an undergraduate Dental technology program, the graduates will be able to:*

- B1.** Incorporate theoretical basic technical ,biomedical, behavioral and dental sciences with the clinical signs and symptoms for appropriate understanding of dental Technology.
- B2.** Evaluation of critical thinking and evidence-based problem solving when providing service.
- B3.** Prioritize patient's treatment needs and formulate an appropriate treatment plan.
- B4.** Construct preventive strategies at different levels according to the targeted individual and community needs.
- B5.** Select suitable biocompatible dental materials and choose the best quality material to be used in a specific dental Technology situation.
- B6.** Analyze and use the Artificial intelligence (AI) and digital technology in dentistry to solve the problems of dental Technology and recreate the reasonable solutions.

### **C. PRACTICAL AND PROFESSIONAL SKILLS:**

*Upon successful completion of an undergraduate Dental technology program, the graduates will be able to:*

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- C1. Use the recent advance in dental technology to produce high and precise prosthodontics.
- C2. Manage the dental technology equipment with high quality standard of safety.
- C3. Use infection control protocol and radiation protection regulation according to international standards.
- C4. Apply comprehensive dental Technology practices & Apply preventive measures for different age groups bearing in mind the different needs of young children, adolescents, adults, special needs and the ageing population/elderly.
- C5. Ability to assess the risk of medical emergencies and be competent in their management within the dental technology practice setup.
- C6. Practicing Artificial intelligence (AI) and digital technology in dentistry.

#### **D:GENERAL / TRANSFERABLE SKILLS**

*Upon successful completion of an undergraduate Dental technology program, the graduates will be able to:*

- D1. Commit to continuous education, self-development and lifelong learning to remain updated with advances in dental practice.
- D2. Communicate with professionals, patients, their families and the community through verbal, written and other non-verbal means ethically.
- D3. Work individually and in team and develop lifelong learning using up to date technology that help in understanding the diseases and its control and prevention.
- D4. Use advanced information and communication technologies to enrich and diversify professional experience.
- D5. Exhibit leadership and Management skills to set treatment priorities and work to prescribed time limits.
- D6. Maintain full and accurate clinical records (manual and electronic).
- D7. Respect the different cultural beliefs, ethics, personalities, privacy and values for patients and community with a good behavior and follow the institutional and national roles of medical practice.

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## **Annex- 18 CVs for the Preparation Committee**

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### **Preparation Committee:**

1. Prof. Abdulwahab Al-kholani
2. Asiss. Prof. Yaser A. S. Alrubaidi
3. Dr. Yaser Basheer.

### **Program Coordinator:**

Prof. Abdulwahab Al-kholani

### **Review by:**

1. Prof. Mutea'a Abuarij.
2. Assoc. Prof. Muneer Alwesabi.
3. Assis. prof. Jamil Mujally

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