الجامعة الإسلامية العالمية ماليزيا
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
يونيۏرسيتي اسلام انتارابڠسا مليسيا
Garden of Knowledge and Virtue

LEADING THE WAY
KHALĪFAH • AMĀNAH • IQRA' • RAḤMATAN LIL-ĀLAMĪN
LEADING THE WORLD

UNDERGRADUATE

Student Handbook

BACHELOR OF DENTAL SURGERY

ACADEMIC SESSION 2023/2024

Kulliyyah of Dentistry | International Islamic University Malaysia

UNDERGRADUATE STUDENT HANDBOOK
BACHELOR OF DENTAL SURGERY

EDITORIAL BOARD MEMBERS

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KEY MESSAGE FROM DEAN

السلام عليكم و رحمة الله و بركاته

All praises be to Allah, the Creator of the Universe, The One and Only. Peace be upon our Prophet, Muhammad s.a.w, the Messenger to all mankind. It is my distinct pleasure to welcome all students to Kulliyyah of Dentistry, IIUM.

The Kulliyyah aims to produce world-class dentists in the field of dental sciences, imbued with Islamic qualities. Hence it is my fervent hope that everyone, students and staff alike, would endeavor to make this fledgling dental faculty to become the frontrunner in dental excellence.

I would like to take this opportunity to welcome again, and we hope that you will have a pleasant learning experience in our Kulliyyah.

Wassalam,

Capt. (R) Assoc Prof Dr Mohd Haikal Bin Muhamad Halil
Dean, Kulliyyah of Dentistry, IIUM

PHILOSOPHY, MISSION, VISION IIUM

Philosophy

The philosophy of the University is based on the belief that knowledge must be pursued as an ibadah (continuous worship) and Amanah (a trust) which Allah (SWT) has placed upon humankind. The knowledge pursued should lead to the recognition that Allah (SWT) is the Absolute Creator, Cherisher and Sustainer of the universe. This total and uncompromising recognition of Allah (SWT) "as Rabb al-alamin (the Lord of the World) represents the apex in the hierarchy of knowledge". This philosophy is predicated on the first five verses of Sürat al-Alaq ("The Clot"), the 96th surah or chapter of the Qur'an, which are incorporated in the Constitution of the IIUM.

Read! In the name of your Sustainer who created:
He created man from a germ-cell.
Read! Your Sustainer is the Most Bountiful One who has
taught [man] the use of the pen [and]
taught man what he did not know

These five verses emphasises the fact that knowledge must be acquired, internalised and disseminated in the name of Allah (SWT) and that this knowledge should be acquired through the pen, intellect, and divine revelation. Knowledge based upon the harmony of revelation and reason would surely elevate men to a position of honour and high status. Knowledge acquired through human reasoning to the neglect of revelation would be incomplete and would not be beneficial to mankind.

Vision

Inspired by the worldview of tawhid and Islamic philosophy of the unity of knowledge as well as its concepts of holistic education, the University aims at becoming a leading international centre of excellence in education, research and innovation which seeks to restore the dynamic and progressive role of the ummah in all branches of knowledge for the betterment of human life and civilisation.

Missions

Towards actualizing the University's vision, IIUM endeavors to:

i. undertake the special and greatly needed task of reforming contemporary Muslim mentality and integrating Islamic revealed knowledge and human sciences in a positive manner.
ii. produce better quality intellectuals, professionals and scholars of distinction by integrating quality of faith (īmān), knowledge ('ilm) and good character (akhlāq) to serve as agents of comprehensive and balanced progress as well as sustainable development in Malaysia and in the Muslim world.
iii. promote the concept of Islamisation of human knowledge in teaching, research, consultancy, dissemination of knowledge and the development of academic excellence in the University.

iv. nurture the quality of holistic excellence imbued with Islamic moral-spiritual values, in learning, teaching, research, consultancy, publication, administration and student life.
v. exemplify an international community of dedicated intellectuals, scholars, professionals, officers and staff motivated by the Islamic worldview and code of ethics as an integral part of their work culture.
vi. enhance intercultural understanding and foster civilisational dialogues in Malaysia as well as across communities and nations.
vii. develop an environment which instils commitment for life-long learning and a deep sense of social responsibility among staff and students.

MISSION, VISION KULLIYYAH OF DENTISTRY

Vision

Kulliyyah of Dentistry is acknowledged as a Mecca for lifelong dental learning, research and education.

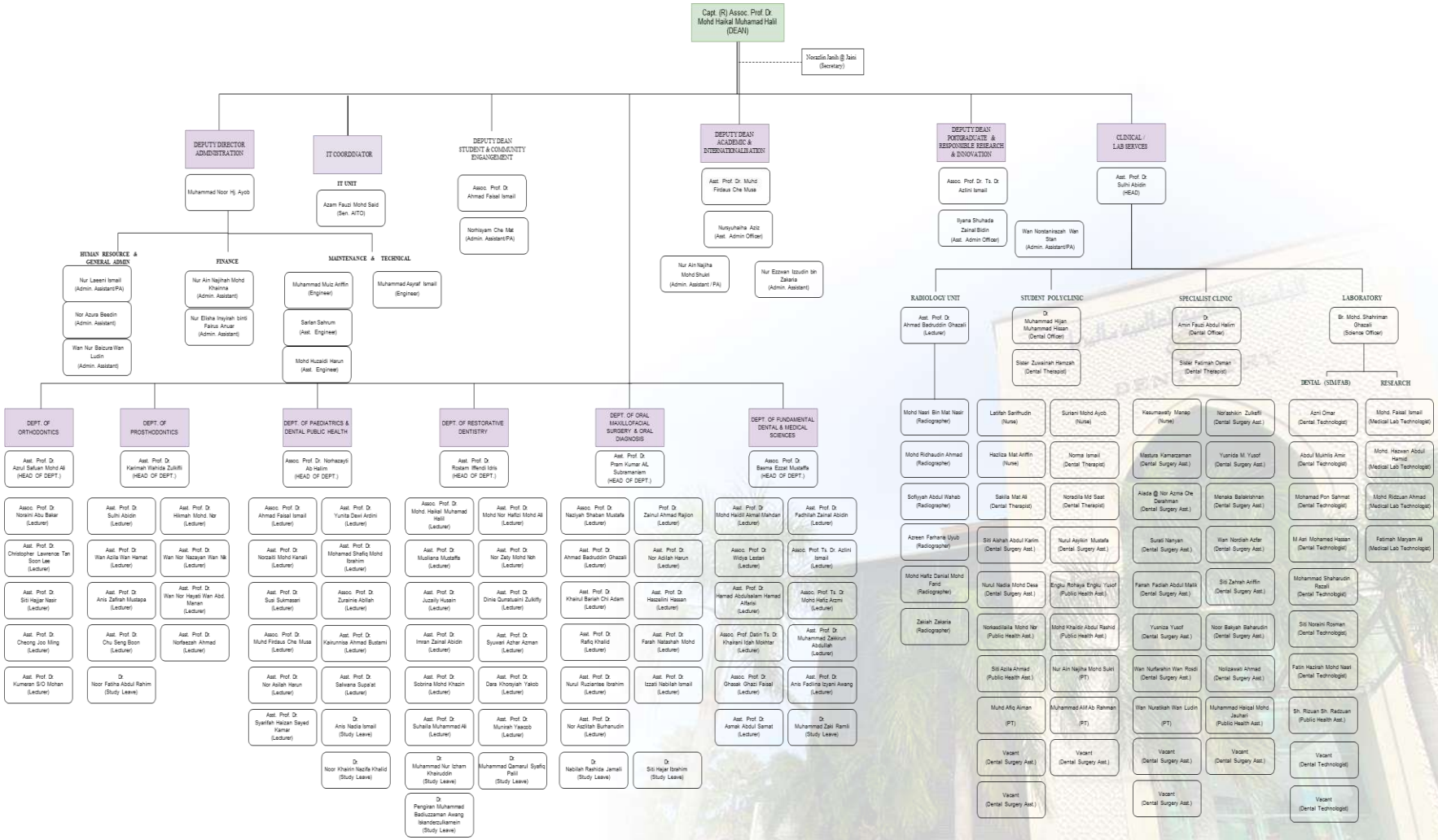
Mission

Kulliyyah that is dedicated to a culture of excellence in its academia and treatment services, utilizing contemporary techniques and modern equipment, training and producing generations of dental professionals with leadership qualities imbued in Islamic values.

Objectives

i. To strive for excellence in dental knowledge, research, care delivery and education.
ii. To practice good management, encourage innovativeness, instill pioneering spirit and encourage collaborations.
iii. To apply modern practice and usage of the contemporary technology
iv. To ensure students remain keen learners, exemplary leaders and good citizens.
v. To promote a culture of respect, caring attitude, unity and loyalty, regardless of race, religion or creed.

ORGANIZATION CHART KULLIYYAH OF DENTISTRY



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BDS CURRICULUM STRUCTURE

To obtain the degree of Bachelor of Dental Surgery (BDS) from IIUM, a student must successfully complete all the University and Kulliyyah's required courses as shown below:

Table 1. University and Kulliyyah courses credit hours.

Courses	Credit Hour
University Required Courses	20 (local) 22 (international)
Kulliyyah Courses	259 (New curriculum: DENS) 258 (Old curriculum: DENT)
Total	**278 / 279 (local)** **280 / 281 (international)**

** Kulliyyah of Dentistry (KOD) is currently in the academic transition phase following the recent major curriculum review (endorsed in 503rd Senate meeting; 22nd September 2023). Term **'old curriculum (DENT)'** in this document is referring to the curriculum used for the current **Year 2 till Year 5** session 2023/2024. Meanwhile **'new curriculum (DENS)'** is referring the latest cohort of intake, current **Year 1** session 2023/2024.*

UNIVERSITY REQUIRED COURSES

Students must complete all university required courses. The total university required courses are 20 credit hours (refer to **Table 2**).

KULLIYYAH REQUIRED COURSES

The Kulliyyah of Dentistry curriculum is structured throughout Year 1 to Year 5. Students must pass all courses in each year of study in their Professional Examination to go to the next level of study. The list of Kulliyyah required courses is as shown in **Table 5**.

Table 2. University Required Courses

No.	Course Code	Course Title	Credit Hours
1	UNGS 1301	Basic Philosophy and Islamic Worldview	3
2	SCSH 1201	Sustainable Development: Issues, Policies and Practices	2
3	LMBD 1131	Bahasa Melayu 1*	1
4	LMBD 1132	Bahasa Melayu 2*	1
5	CCUB 1061	Usrah 1	0.5
6	CCUB 1062	Usrah 2	0.5
7	CCFM 2061	Family Management	0.5
8	CCLM 2020	Leadership	0.5
9	CC**	Skill 1	0.5
10		Skill 2	0.5
11	LEED 1301	English for Academic Writing	3

12	TQTD 1002	Tilawah Al-Quran 1	0.5
13	TQTD 2002	Tilawah Al-Quran 2	0.5
14	LQAD 1003	Introduction to Arabic for Quranic Understanding 1	0.5
15	LQAD 2003	Introduction to Arabic for Quranic Understanding 2	0.5
16	UNGS 2380	Ethics and *Fiqh* of Contemporary Issues	2
17	UNGS 2290	Knowledge & Civilization in Islam	3
18	SCSH 2163	Usrah in Action 1 (SD: Community Profiling)	1
19	SCSH 3164	Usrah in Action 2	1
TOTAL			**20**

Table 3 displays the proposed UNICORE plan for dentistry students' academic session 2023/2024.

Table 3. Proposed Unicore Plan for Dentistry Students

No.	Course Code	Course Title	Credit Hours
YEAR 1 - SEMESTER 1			
1	LEED 1301	English for Academic Writing	3
2	CCUB 1061	Usrah 1	0.5
3	CCLM 2020	Leadership	0.5
4	TQTD 1002	Tilawah Al-Quran 1	0.5
5	SCSH 1201	Sustainable Development: Issues, Policies and Practices	2
			6.5
YEAR 1 - SEMESTER 2			
1	UNGS 1301	Basic Philosophy and Islamic Worldview	3
2	CCUB 1062	Usrah 2	0.5
3	CCFM 2061	Family Management	0.5
4	TQTD 2002	Tilawah Al-Quran 2	0.5
5			4.5
YEAR 2 - BLOCK 1 & 2 (SEMESTER 1)			
1	CC**	Skill 1	0.5
2	LQAD 1003	Introduction to Arabic for Quranic Understanding 1	0.5
3	UNGS 2290	Ethics and *Fiqh* of Contemporary Issues	3
			4
YEAR 2 - BLOCK 3 & 4 (SEMESTER 2)			
1	CC**	Skill 2	0.5
2	LQAD 2003	Introduction to Arabic for Quranic Understanding 2	0.5
3	UNGS 2380	Knowledge & Civilization in Islam	3
			4
YEAR 4 - BLOCK 1 & 2 (SEMESTER 1)			

	SCSH 2163	Usrah in Action 1 (SD: Community Profiling)	1
YEAR 4 - BLOCK 3 & 4 (SEMESTER 2)			
	SCSH 3164	Usrah in Action 2	1
TOTAL CREDIT HOURS			**20**
INTERNATIONAL / NON-MALAY SPEAKING STUDENT ONLY			
1	LMBD 1131	Bahasa Melayu 1*	1
2	LMBD 1132	Bahasa Melayu 2*	1
TOTAL CREDIT HOURS			**22**

Table 4. List of Credited Co-Curricular Activity Courses Offered

Course Code	Course Name
CCBB 3431	Badminton 1
CCBB 3432	Badminton 2
CCCS 3231	Basic Counseling Skills 1
CCCS 3231	Basic Counseling Skills 2
CCPS 3101	Photography 1
CCPS 3102	Photography 2
CCRN 3151	Recreation 1
CCRN 3152	Recreation 2
CCSB 3211 / CCSS 3211	Swimming 1
CCSB 3212 / CCSS 3212	Swimming 2
CCNC 3451	Netball 1
CCNC 3452	Netball 2
CCFC 3411	Football 1
CCFA 3071	First Aid 1
CCFA 3072	First Aid 2
CCKG 3141	Percussion 1
CCKG 3142	Percussion 2
CCVL 3171	Volleyball 1
CCVL 3172	Volleyball 2
CCKS 3131	Khat 1
CCKS 3132	Khat 2
CCMG 3281	Mosque Management 1
CCMG 3282	Mosque Management 2
CCSM 3271	Event Management 1
CCSM 3272	Event Management 2

Table 5. Kulliyyah Required Courses

NO	COURSE TITLE	COURSE CODE	YEAR	CREDIT HOUR
YEAR 1				
1	Normal Structure & Function of Human Cell, Tissue & Body System	DENS 1101	1	7
2	Body Reactions to Physical, Chemical and Biological Agents	DENS 1102	1	6
3	Normal Response to Diseased State & Basic Pharmacology	DENS 1103	1	5
4	Craniofacial & Human Biology	DENS 1104	1	5
5	Oral Biology	DENS 1115	1	9
	TOTAL			31
YEAR 2				
6	Pathology	DENT 2210	2	6
7	Microbiology and Immunology	DENT 2211	2	5
8	Pharmacology	DENT 2212	2	6
9	Dental Materials Science	DENT 2204	2	4
10	Dental Public Health	DENT 2432	2	2
11	Conservative Dentistry	DENT 2413	2	12
12	Prosthodontics	DENT 2414	2	8
	TOTAL			43
YEAR 3				
13	General Medicine and General Surgery	DENT 3328	3	13
14	Dental Public Health	DENT 3432	3	5
15	Conservative Dentistry	DENT 3413	3	8
	Prosthodontics	DENT 3414	3	10
16	Orthodontics	DENT 3424	3	2
17	Paediatric Dentistry	DENT 3423	3	4
	Periodontics	DENT 3426	3	5
18	Oral and Maxillofacial Surgery	DENT 3427	3	5
19	Oral Medicine and Oral Pathology	DENT 3431	3	7
	TOTAL			59
YEAR 4				
20	Dental Public Health	DENT 4432	4	7
21	Conservative Dentistry	DENT 4413	4	11
22	Prosthodontics	DENT 4414	4	16
23	Orthodontics	DENT 4424	4	3
24	Paediatric Dentistry	DENT 4423	4	6
25	Periodontics	DENT 4426	4	5
26	Oral and Maxillofacial Surgery	DENT 4427	4	5
27	Oral Medicine and Oral Pathology	DENT 4431	4	8

NO	COURSE TITLE	COURSE CODE	YEAR	CREDIT HOUR
28	Research	DENT 4438	4	2
	TOTAL			63
		YEAR 5		
29	Dental Public Health	DENT 5432	5	10
30	Conservative Dentistry	DENT 5413	5	5
31	Prosthodontics	DENT 5414	5	7
32	Orthodontics	DENT 5424	5	3
33	Paediatric Dentistry	DENT 5423	5	5
34	Periodontics	DENT 5426	5	5
35	Oral and Maxillofacial Surgery	DENT 5427	5	6
36	Oral Medicine and Oral Pathology	DENT 5431	5	5
37	Integrated Dental Practice	DENT 5434	5	9
38	Research	DENT 5438	5	2
39	Forensic Odontology	DENT 5435	5	1
	TOTAL			58
	TOTAL CREDIT HOUR FOR 5 YEARS			**258 (OLD)** **259 (NEW)**

The current Year 1 students for the academic session 2023/24 which is currently under the **new curriculum** will be taking following courses (as below) on their remaining four year of studies.

COURSE CODE	COURSE TITLE (New curriculum)
	YEAR 2
DENS 2201	CARDIOVASCULAR & RESPIRATORY SYSTEMS
DENS 2102	GASTROINTESTINAL, HEPATOBILIARY AND HEMATOPOIETIC SYSTEMS
DENS 2203	ENDOCRINE, GENITOURINARY, LOCOMOTOR SYSTEMS
DENS 2205	HEAD & NECK AND NERVOUS SYSTEMS
DENS 2413	CONSERVATIVE DENTISTRY YEAR 2
DENS 2414	PROSTHODONTICS YEAR 2
DENS 2204	DENTAL MATERIALS SCIENCE
DENS 2432	DENTAL PUBLIC HEALTH YEAR 2
	YEAR 3
DENS 3407	INTRODUCTION TO CLINICAL DENTISTRY
DENS 3413	CONSERVATIVE DENTISTRY YEAR 3
DENS 3414	PROSTHODONTICS YEAR 3
DENS 3423	PAEDIATRIC DENTISTRY YEAR 3

DENS 3424	ORTHODONTICS YEAR 3
DENS 3426	PERIODONTICS YEAR 3
DENS 3427	ORAL AND MAXILLOFACIAL SURGERY YEAR 3
DENS 3431	ORAL MEDICINE, ORAL PATHOLOGY AND ORAL RADIOLOGY YEAR 3
DENS 3432	DENTAL PUBLIC HEALTH YEAR 3
DENS 3328	GENERAL MEDICINE AND GENERAL SURGERY
YEAR 4	
DENS 4413	CONSERVATIVE DENTISTRY YEAR 4
DENS 4414	PROSTHODONTICS YEAR 4
DENS 4423	PAEDIATRIC DENTISTRY YEAR 4
DENS 4424	ORTHODONTICS YEAR 4
DENS 4426	PERIODONTICS YEAR 4
DENS 4427	ORAL AND MAXILLOFACIAL SURGERY YEAR 4
DENS 4431	ORAL MEDICINE, ORAL PATHOLOGY AND ORAL RADIOLOGY YEAR 4
DENS 4432	DENTAL PUBLIC HEALTH YEAR 4
DENS 4438	RESEARCH YEAR 4
YEAR 5	
DENS 5513	CONSERVATIVE DENTISTRY YEAR 5
DENS 5514	PROSTHODONTICS YEAR 5
DENS 5523	PAEDIATRIC DENTISTRY YEAR 5
DENS 5524	ORTHODONTICS YEAR 5
DENS 5526	PERIODONTICS YEAR 5
DENS 5527	ORAL AND MAXILLOFACIAL SURGERY YEAR 5
DENS 5531	ORAL MEDICINE, ORAL PATHOLOGY AND ORAL RADIOLOGY YEAR 5
DENS 5532	DENTAL PUBLIC HEALTH YEAR 5
DENS 5534	GENERAL DENTAL PRACTICE
DENS 5535	FORENSIC ODONTOLOGY
DENS 5438	RESEARCH YEAR 5

PROFESSIONAL QUALIFYING EXAMINATION (PQE)

PQE is an examination for all new dental graduates and dental practitioners to be eligible for registration with the Malaysian Dental Council (MDC) to practise as dental surgeons in Malaysia. The PQE assesses the knowledge, skills and attitude required by the MDC standards in its document "Competencies of New Dental Graduates Malaysia". The examination consists of three (3) parts; viz. Part I (Theory), Part II (Pre-clinical) and Part III (Clinical). All questions are mapped to an assessment blueprint for the PQE based on the competencies stated in the document.

Components of PQE as detailed in the Handbook for Professional Qualifying Examination:

- Part I – Theory examination consisting of one best answer (OBA) and short answer questions (SAQ)
  i) Fifty (50) OBA questions
  ii) Ten (10) SAQ
- Part II – Practical examination consisting of three components:
  i) Component 1
     Restoration of a large carious (ICDAS Code 5) lesion of a standardised molar resin tooth.
  ii) Component 2
     Porcelain-fused to metal (PFM) crown preparation of upper central incisor resin tooth and secondary impression.
  iii) Component 3
     Root canal treatment of a single-rooted premolar resin tooth from access to coronal gutta percha removal.
- Part III – Clinical examination
  This part consists of 10 Objective Structured Clinical Examination (OSCE) questions with ten (10) stations

* minimum requirement

Kulliyyah of Dentistry has embedded the PQE components into its BDS programme (***affected batch 2022/2023 onwards***) to ensure IIUM dental graduates able to register with Malaysian Dental Council upon completion of study; and is in aligned with professional body regulations and Dental Act 2018.

Summary of curriculum embedment are as below:

1. Professional I examination
- written paper for PQE questions
2. Professional II examination
- written paper for PQE questions
3. Professional IV/V examination
- written paper for PQE questions
- Preclinical assessment for PQE questions
- Clinical assessment (OSCE) for PQE questions

Ref: Guidelines to Fulfil the Requirements of Professional Qualifying Examinations: Conduct of Examination by Local Institutions 2023.

SCHEDULE OF EXAMINATIONS

The examination structure of Bachelor of Dental Surgery programme is shown in the following **Table 6.**

Table 6. Kulliyyah Examination

NO	YEAR	EXAMINATION NAME	REMARKS
1	**YEAR 1**	Modular tests / Pre-Professional I Examination	* Modular test except for DENS 1115
2		Professional I Examination	
3		Re-sit Professional I Examination	*Only for students who failed the Professional I Examination
4	**YEAR 2**	Modular tests / Pre-Professional II Examination	* Modular test for DENS only except for DENS 2204
5		Professional II Examination	
6		Re-sit Professional II Examination	*Only for students who failed the Professional II Examination
7	**YEAR 3**	Mid-Year Examination	
8		Pre-Professional III Examination	*GMGS
9		Professional III Examination	*GMGS
10		Re-sit Professional III Examination	*Only for students who failed the Professional III Examination
11	**YEAR 4**	Mid-Year Examination	
12		Year-End Examination	
13	**YEAR 5**	Pre-Professional IV Examination	
14		Professional IV Examination	
15		Supplementary Professional IV Examination	Only for students who failed/barred from the Professional IV Examination

Note:

1. The Resit Professional I, II, and III Examination for any courses that the student failed will be conducted four (4) weeks after the Professional Examination.
2. Supplementary Professional IV Examination IV will be scheduled after 6 months.

Eligibility to sit for Professional I, II, III and IV Examination

Students are eligible to sit for Professional examination if:

a. attendance is **90%** and above.
b. completes all the **requirements** set by each individual course.
c. approves by **Board of Examiners Meeting**

Students are not eligible to sit for Professional examinations for the individual courses if:

a. attendance is **< 90%**
b. does not complete the **requirement** set by each individual course.
c. does not approved by **Board of Examiners Meeting**

APPLICATION FOR SPECIAL EXAMINATION

Special Examination

A special examination shall be arranged for a student who is absent from the Pro. Examination on reasons acceptable to the Dean.

A student shall not be allowed to defer special examination without a valid reason acceptable to the Dean, or otherwise shall be graded on the coursework marks.

Ref: Student Academic Performance Evaluation (Undergraduate) Regulations 2021

EXAMINATION RESULT

The result shall be published as **PASS** and **FAIL** only for all Professional examinations. However, result with grade shall be published for mid-year, year-end, and pre-professional examinations to the student for them to improve their performance prior to professional examination.

The following grading system shall be adopted for Kulliyyah of Dentistry:

Table 7. Grading System

Percentage score	Grade	STATUS
80 - 100	A	PASS
75 - 79	A-	
70 - 74	B+	
65 - 69	B	
60 - 64	B-	
55 - 59	C+	
50 - 54	C	
45 - 49	D	FAIL
40 - 44	D-	
35 - 39	E	
0 - 34	F	

* 80 – 100% Pass with Distinction
* 50 – 79% Pass
* 0 – 49% Fail

The announcement of examination result to students will be **within 24 hours** post endorsement in the Kulliyyah Board of Examination meeting.

SOFT SKILLS ELEMENTS ASSESSMENT

Soft skills elements will be evaluated based on standardized rubrics throughout the study period at the Kulliyyah by respective units. Upon graduation, the students will be awarded a certificate in Soft Skills if they have successfully achieved competencies in the following seven elements of soft skills.

1. Teamwork
2. Leadership
3. Lifelong learning and Information management
4. Communication
5. Critical thinking
6. Entrepreneurship
7. Moral and professional ethics

REQUIREMENT FOR GRADUATION

1. Pass Professional IV examination
2. Complete all University Required Courses

* Complete Research Project (FYP)

UNDERGRADUATE STUDENT HANDBOOK

BASIC MEDICAL SCIENCES

Year 1

DENS 1101

NORMAL STRUCTURE AND FUNCTION OF HUMAN BODY SYSTEM

DENS 1102

BODY REACTIONS TO PHYSICAL, CHEMICAL AND BIOLOGICAL AGENTS

DENS 1103

NORMAL RESPONSE TO DISEASED STATE AND BASIC PHARMACOLOGY

DENS 1104

CRANIOFACIAL AND HUMAN BIOLOGY

Year 2

DENT 2210

PATHOLOGY

DENT 2211

MICROBIOLOGY AND IMMUNOLOGY

DENT 2212

PHARMACOLOGY

BASIC MEDICAL SCIENCES

INTRODUCTION

Primarily involved in the teaching of the Phase 1 undergraduate programme, which spans over the first 2 years of the dental programme. The teaching-learning is used in all the subjects and several practical correlation classes are held in order to prepare graduates towards a comprehensive approach to solve the problem related to the needs of the dental profession.

GENERAL OBJECTIVES

1. To understand the mechanisms of body functions in health and disease from the biological, behavioral, epidemiological, and social aspects.
2. To produce graduates who are competent to apply knowledge and able to relate their understanding of the structures, functions, chemical composition, development, metabolic pathways in human body.

TEACHING STAFF

Head of Department

Assoc. Prof. Dr. Basma Ezzat Mustafa

Head of Unit

Assoc. Prof. Datin Ts. Dr. Khairani Idah Mokhtar

Lecturers

1. Assoc. Prof. Dr. Ghasak Ghazi Faisal
2. Assoc. Prof. Ts. Dr. Azlini Ismail
3. Assoc. Prof. Dr. Mohd Hafiz Arzmi
4. Asst. Prof. Dr. Fadhilah Zainal Abidin
5. Asst. Prof. Dr. Mohd. Haidil Akmal Bin Mahdan
6. Asst. Prof. Ts. Dr. Mohamad Zakkirun Bin Abdullah
7. Asst. Prof. Dr. Hamad Abdulsalam Hamad Alfarisi
8. Asst. Prof. Dr. Anis Fadhlina Izyani Binti Awang
9. Asst. Prof. Dr. Asmak Abdul Samat
10. Asst. Prof. Dr. Samiullah Dowlath Saheb

METHODS OF DELIVERY

1. Lecture
2. Tutorial
3. Laboratory Practical
4. Clinical
5. Others (PBL / Seminar / Small Group Discussion /Quiz)

COURSE MODULE: YEAR 1 (DENS 1101 NORMAL STRUCTURE AND FUNCTION OF HUMAN BODY SYSTEM)

COURSE SYNOPSIS

This course is designed to provide basic knowledge on the anatomy and physiology of the human body. Introduction to normal structures and functions of cells, tissues, and organs/systems in the body and how they relate to each other are discussed deliberately in classes as well as during practical sessions. The knowledge acquired will provide a solid foundation for understanding and visualizing the human body, and subsequently assists the understanding of their interrelationships with dental subjects as students enter their clinical years.

LECTURER(S)

1. Asst. Prof. Dr. Fadhilah Zainal Abidin (Course coordinator)
2. Prof. Dr. Zainul Ahmad Rajion
3. Assoc. Prof. Dr. Ghasak Ghazi Faisal

TEACHING METHOD(S)

Lecture, tutorial, practical (gross and histology).

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Describe normal structure and function of cells and tissues.
2. Explain the anatomical and physiological concepts of the human body, including basic physiology laboratory investigations.
3. Explain the embryology in the human body.
4. Relate Islamic revealed knowledge and values to the practice of dentistry.

ASSESSMENT

Methods	Percentage
Continuous assessment • Modular Test (20%) • Quiz, Practical (20%)	40
Professional Examination	60
TOTAL	**100**

LIST OF LECTURES FOR 2023/2024

No	Topics	Face-to-face hours
1	Introduction to Anatomy: Medical Terminology	2
2	Introduction to Physiology	1
3	Epithelium (Anatomy)	2
4	Cell Membrane and Membrane Transport (Physiology)	1
5	Connective Tissue (Anatomy)	2
6	Osmosis and Body Fluids (Physiology)	1
7	Embryology I (Anatomy)	2
8	Homeostasis and Body Function (Physiology)	1
9	Skin & Appendages (Anatomy)	2
10	Practical: Histology I (Epithelium)	3
11	Tutorial: Basic concepts in Physiology	1
12	Tutorial: Basic concepts in Anatomy	1
13	Introduction to Nervous System I (Anatomy)	1
14	Resting Membrane Potential and Action Potential (Physiology)	1
15	Introduction to Nervous System II (Anatomy)	1
16	Synaptic Transmission and Role of Neurotransmitter (Physiology)	1
17	Autonomic Nervous System (Physiology)	1
18	Function of Sympathetic and Parasympathetic Nervous System (Physiology)	1
19	Embryology II (Anatomy)	2
20	Embryology III (Anatomy)	2
21	Practical: Histology II (connective tissue)	3
22	Introduction to Muscle Tissues (Anatomy)	2
23	Embryology IV (Anatomy)	2
24	Introduction to Joints (Anatomy)	2
25	Tutorial: Basic of Embryology (Anatomy)	1
26	Introduction to Bone Tissue (Anatomy)	2
27	Practical: Histology III (MSK)	3
28	Osteology of ribs, sternum & vertebrae (Anatomy)	2
29	Thoracic wall, diaphragm & chest movement (Anatomy)	2

No	Topics	Face-to-face hours
30	Mediastenum & great vessels I (Anatomy)	1
31	Mediastenum & great vessels II (Anatomy)	1
32	Introduction to cardiovascular system (Anatomy)	2
33	Tutorial: Basic of Musculoskeletal system (Anatomy)	1
34	Tutorial: Quiz	1
35	Anatomy of heart I (Anatomy)	1
36	Cardiac muscle & conducting system (Physiology)	1
37	Anatomy of heart II (Anatomy)	1
38	Normal ECG (Physiology)	1
39	Cardiac cycle (Physiology)	1
40	Myocardial performance/ Cardiac output (Physiology)	1
41	Haemodynamics (Physiology)	1
42	Blood pressure regulation (Physiology)	1
43	Practical: Recording and examination of ECG (Physiology)	3
44	Tutorial: Cardiovascular system (Physiology)	1
45	Tutorial (Anatomy)	1
46	Gross anatomy of lungs and pleura (Anatomy)	2
47	Mechanics of Breathing (Physiology)	1
48	Gaseous exchange & transport (Physiology)	1
49	Blood cells (Anatomy)	2
50	Ventilation & perfusion ratio (Physiology)	1
51	Introduction to lymphatic system (Anatomy)	2
52	Practical: Heart and Lungs (KOM)	3
53	Regulation of respiration (Physiology)	1
54	Introduction to endocrine system (Anatomy)	2
55	Practical: Lung function (Physiology)	3
56	Tutorial: Respiratory system (Physiology)	1
57	Introduction to male reproductive system (Anatomy)	2
58	Introduction to female reproductive system (Anatomy)	2

No	Topics	Face-to-face hours
59	Tutorial: Basic of Endocrine and Reproductive Systems (Anatomy)	1
60	Practical: Reproductive system (Anatomy)	3
61	Tutorial: Revision for Modular Test - Anatomy	2
62	Tutorial: Revision for Modular Test - Physiology	2
63	Tutorial: Modular test	1
64	Revision week for Professional I examination	4

REFERENCE BOOKS

Required:

1. Gerard J. Tortora, Bryan H. Derrickson (2017). Tortora's Principles of Anatomy & Physiology 15th Edition
2. Anne M. R. Agur, Arthur F. Dalley (2020). Grant's- Atlas of Anatomy 15th Edition.
3. Wojciech Pawlina (2019). Histology A Text & Atlas: With Correlated Cell and Molecular Biology 8th Edition
4. T.W Sadler (2018). Langman's Medical Embryology 14th Edition
5. John E. Hall, Michael E. Hall (2020). Guyton and Hall Textbook of Medical Physiology 14th Edition
6. Kim E. Barrett, Susan M. Barman, Scott Boitano, Heddwen Brooks (2019). Ganong Review of Medical Physiology 26th Edition
7. Pravati Pal G K Pal (2017). Textbook of Practical Physiology for Dental Students

Recommended:

1. Lawrence E. Wineski (2018). Snell's Clinical Anatomy by Regions 10th Edition
2. Robin R. Preston, Thad Wilson (2018). Lippincott Illustrated Review Physiology 2nd Edition

COURSE MODULE: YEAR 1 (DENS 1102 BODY REACTIONS TO PHYSICAL, CHEMICAL AND BIOLOGICAL AGENTS)

COURSE SYNOPSIS

This module provides a foundation level understanding of the structure and function of biological macromolecules (proteins, carbohydrates, lipids, and nucleic acids) and the major metabolic and bio-energetic pathways within cells. It also deals with the elementary principles of bacteriology, virology, mycology and immunology. The knowledge provides the basis for further studies by Dentistry students in applied genetics, immunology, pathology, pharmacology-therapeutics and in clinical dental subjects.

LECTURER(S)

1. Assoc. Prof. Ts. Dr. Azlini Ismail (Course coordinator)
2. Assoc. Prof. Dr. Basma Ezzat Mustafa
3. Assoc. Prof. Dr. Ghasak Ghazi Faisal
4. Asst. Prof. Dr. Fadhilah Zainal Abidin
5. Assoc. Prof. Dr. Widya Lestari

TEACHING METHOD(S)

Lecture, tutorial, practical, seminar.

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Describe the biochemical structure, properties and functions of proteins, amino acids, carbohydrates, lipids, nucleic acids, and vitamins.
2. Describe the metabolic pathways, regulations, and biochemical changes of normal cells at molecular level.
3. Explain the molecular basis of genetic inheritance in relation to disease processes.
4. Discuss the pathogenic microorganisms, their general characteristics, classifications, nomenclature sources, modes of transmission and methods of identification.
5. Demonstrate knowledge in laboratory investigations for diagnostic microbiology and their applications on infectious control.
6. Describe the mechanisms of body immunity towards infection.

ASSESSMENT

Methods	Percentage
Continuous assessment • Modular Test (20%) • Quiz, Practical (20%)	40
Professional Examination	60
TOTAL	**100**

LIST OF LECTURES FOR 2023/2024

No	Topics	Face-to-face hours
1	Introduction into Biochemistry - Cellular Constituents	1
2	Introduction to Microbiology	2
3	Amino Acids & Peptides (Biochemistry)	1
4	Diagnostic microbiology (Microbiology)	1
5	Protein Structure & Functions (Biochemistry)	1
6	Infection control (Microbiology)	2
7	Amino Acid Metabolism (Biochemistry)	1
8	Conversion of Amino Acids to Specialized Products (Biochemistry)	1
9	Practical I: CSSD visit (Microbiology)	3
10	Inborn Error in Amino acid metabolism (Biochemistry)	1
11	Bacteriology I (General bacteria: Gram positive) (Microbiology)	1
12	Tutorial: Amino Acids & Protein (Biochemistry)	1
13	Bacteriology II (General bacteria: Gram positive) (Microbiology)	1
14	Bacteriology III (General bacteria: Gram negative) (Microbiology)	1
15	Carbohydrate & its Physico-chemical Properties (Biochemistry)	1
16	Bacteriology IV (General bacteria: Gram negative) (Microbiology)	1
17	Glycolysis (Biochemistry)	1
18	Krebs Cycle (Biochemistry)	1
19	Seminar: Oral bacteriology (Microbiology)	3
20	Oxidative Phosphorylation & Electron Transport (Biochemistry)	1
21	Mycology I (Microbiology)	1
22	Gluconeogenesis, Cori Cycle (Biochemistry)	1
23	Mycology II (Microbiology)	1
24	Practical II: Microbial growth and identification (Microbiology)	3
25	Glycogen Metabolism (Biochemistry)	1
26	HMP Shunt, NADPH & Metabolism of Simple Sugar (Biochemistry)	1
27	Blood Glucose Regulation (Biochemistry)	1
28	Virology I (Virus classification) (Microbiology)	2
29	Tutorial: Carbohydrates & Metabolisms (Biochemistry)	1
30	Virology II (The important virus in human	2
31	Glycosaminoglycan, Proteoglycan & Glycoprotein (Biochemistry)	1
32	Practical: Antimicrobial testing (Microbiology)	3
33	Tutorial: Quiz	1

No	Topics	Face-to-face hours
34	Purine Metabolism (Biochemistry)	1
35	Parasitology (Microbiology)	1
36	Introduction to Immunology I (Cytokines) (Immunology)	1
37	Introduction to Immunology II (Complements) (Immunology)	1
38	Pyrimidine Metabolism (Biochemistry)	1
39	Introduction to Immunology III (Hypersensitivity) (Immunology)	1
40	Introduction to Immunology IV (Autoimmunity) (Immunology)	1
41	Introduction to Immunology V	1
42	Innate immunity (Immunology)	1
43	Fatty Acid, Fatty Acid Oxidation & Triglyceride Synthesis	1
44	Adaptive immunology (Humoral and cell mediated immunity)	1
45	Vaccine immunology (Immunology)	1
46	Phospholipid Metabolism and Ketogenesis (Biochemistry)	1
47	Seminar: Immunity to microorganisms	3
48	Lipoprotein Metabolism (Biochemistry)	1
49	Practical Session: Blood glucose measurement (Biochemistry)	3
50	Cholesterol Metabolism (Biochemistry)	1
51	Tutorial: Lipid-Fatty Acid-Cholesterol (Biochemistry)	1
52	Introduction to Nucleic Acid & Genetic (Biochemistry)	1
53	DNA Replication (Biochemistry)	1
54	Transcription (Biochemistry)	1
55	Translation (Biochemistry)	1
56	Regulation of Gene Expression (Biochemistry)	1
57	Gene Mutation & Repair (Biochemistry)	1
58	Application of DNA Technology & Genetic in Dentistry	1
59	Tutorial: Nucleic Acid & Genetic (Biochemistry)	1
60	Tutorial: Revision for Modular Test -Biochemistry	2
61	Tutorial: Revision for Modular Test -Microbiology	2
62	Tutorial: Revision for Modular Test -Immunology	2
63	Tutorial: Modular Test	1
64	Revision for Professional I Examination	4

REFERENCE BOOKS

Required:

1. Emine EA, Susan DC, David SF & Susan MV (2021) Biochemistry (Lippincott Illustrated Reviews Series) 8th Edition.
2. Samaranayake LP. (2017) Essential Microbiology for Dentistry 5th Edition.
3. Abbas A, Lichtman A, Pillai S. (2019) Basic immunology 6th Edition.
4. Levinson W. (2020) Review of Medical Microbiology and Immunology 17th Edition.

Recommended:

1. Murray RK, Granner DK, Mayes PA, Rodwell VW. (2022*) Harper's Biochemistry* 32nd Edition.
2. Cornelissen CN, Hobbs MM. (2019) *Lippincott's Illustrated Reviews: Microbiology* South East Asia Edition.
3. Murphy K, Weaver C, Berg L (2022) *Janeway's Immunobiology* 10th Edition.

COURSE MODULE: YEAR 1 (DENS 1103 NORMAL RESPONSE TO DISEASED STATE AND BASIC PHARMACOLOGY)

COURSE SYNOPSIS

General pathology covers the basic concepts and principles of various disease mechanisms through understanding the cause and pathogenesis of the disease process and recognizing the morphological changes that occur due to the disease process on the gross and microscopic levels. General pharmacology covers two main topics: pharmacodynamics, which is the study of how drugs affect the body system; and pharmacokinetics, which is the study of how drugs are handled in the body. An introduction to clinical pharmacology therapeutic monitoring is also involved in the latter. Core concepts of basic principles are to be learned.

LECTURER(S)

1. Assoc. Prof. Datin Dr. Ts. Khairani Idah Mokhtar (Course coordinator)
2. Assoc. Prof. Dr. Basma Ezzat Mustafa
3. Assoc. Prof. Dr. Mohd Hafiz Arzmi
4. Assoc. Prof. Dr. Azlini Ismail

TEACHING METHOD(S)

Lecture, tutorial, practical, seminar.

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Explain the etiology and pathogenesis of basic pathological processes.
2. Describe the pathological features of basic pathological processes on gross and microscopic levels.
3. Explain the concepts of pharmacokinetic and pharmacodynamics of commonly used drugs.
4. Relate the basic knowledge in pathology and pharmacology to dental practice.
5. Describe the efficacy, side effects, and drug interactions of commonly used drugs in different groups.

ASSESSMENT

Methods	Percentage
Continuous ASSESSMENT • Modular test (20%) • Quiz, Practical (20%)	40
Professional I exam	60
TOTAL	**100**

LIST OF LECTURES FOR 2023/2024

No	Topics	Face-to-face hours
1	Introduction to Pathology	1
2	Introduction to Pharmacology	1
3	Cell adaptation to disease (Pathology)	2
4	Pharmacokinetics I (Pharmacology)	1
5	Cell injury, necrosis and apoptosis I (Pathology)	2
6	Pharmacokinetics II (Pharmacology)	1
7	Cell injury, necrosis and apoptosis II (Pathology)	2
8	Pharmacokinetics III (Pharmacology)	1
9	Tutorial: cell adaptation and injury (Pathology)	2
10	Pharmacokinetics IV (Pharmacology)	1
11	Acute inflammation (Pathology)	2
12	Pharmacokinetics V (Pharmacology)	1
13	Chronic inflammation (Pathology)	2
14	Pharmacodynamics I&II (Pharmacology)	2
15	Practical: Inflammation (Pathology)	3
16	Regeneration and repair (Pathology)	2
17	Tutorial: Pharmacodynamics & Pharmacokinetics (Pharmacology)	2
18	Practical : Drug response pharmacokinetics	3
19	Antimicrobial chemotherapy I (Pharmacology)	1
20	Tutorial: Inflammation (Pathology)	2
21	Antimicrobial chemotherapy II (Pharmacology)	1
22	Antimicrobial chemotherapy III (Pharmacology)	1
23	Antimicrobial chemotherapy IV (Pharmacology)	1
24	Amyloidosis (Pathology)	1
25	Antiviral & antifungal drugs (Pharmacology)	2
26	Cellular Pigments, deposits and calcification (Pathology)	2
27	Drugs affecting sympathetic system I (Pharmacology)	1
28	Tutorial: Regeneration (Pathology)	2
29	Drugs affecting sympathetic system II (Pharmacology)	1
30	Tutorial: Quiz	1
31	Practical: Necrosis, healing, pigments (Pathology)	3
32	Neoplasia I (Pathology)	2
33	Drugs affecting parasympathetic system I (Pharmacology)	1
34	Neoplasia II (Pathology)	2

No	Topics	Face-to-face hours
35	Drugs affecting parasympathetic system II (Pharmacology)	1
36	Neoplasia III (Pathology)	2
37	Practical: Benign tumours (Pathology)	3
38	Tutorial: Autonomic nervous system (Pharmacology)	2
39	Tutorial: Neoplasia (Pathology)	2
40	Practical: Drugs acting on parasympathetic system (Pharmacology)	3
41	Dental Pharmacology (Pharmacology)	2
42	Mercury Toxicity 1 (Pharmacology)	2
43	Tutorial: antimicrobial and antiviral drugs (Pharmacology)	2
44	Practical: Malignant tumours (Pathology)	3
45	Prescription Writing (Pharmacology)	2
46	Practical: Dose-response curves (Pharmacology)	3
47	Tutorial: Revision for Modular Test - Pathology	2
48	Tutorial: Revision for Modular Test - Pharmacology	2
49	Tutorial: Modular Test	1
50	Revision for Professional I examination	4

REFERENCE BOOKS

Required

1. Vinay Kumar, Abul Abbas, Jon Aster (2017). Robbins Basic Pathology 10th edition
2. Harvey R.H, Champe P.C (2018). Lippincotts illustrated Reviews: Pharmacology 7th edition

Recommended

1. Vinay Kumar, Abul Abbas, Jon Aster (2020), Robbins & Cotran Pathologic Basis of Disease 10th edition
2. Katzung B.G, Trevor A.J (2016). Basic & Clinical Pharmacology 13th edition

COURSE MODULE: YEAR 1 (DENS 1104 CRANIOFACIAL AND HUMAN BIOLOGY)

COURSE SYNOPSIS

This course is designed to provide basic knowledge on the anatomy and physiology of the head and neck region, as well as the abdominopelvic region. Introduction to normal structures in the head and neck and abdominopelvic regions, and their functions in the body are discussed deliberately in classes as well as during practical sessions. The knowledge acquired will provide a solid foundation for understanding and visualizing the human body, and subsequently assists the understanding of their interrelationships with dental subjects as students enter their clinical years.

LECTURER(S)

1. Assoc. Prof. Datin Dr. Ts. Khairani Idah Mokhtar (Course coordinator)
2. Assoc. Prof. Dr. Basma Ezzat Mustafa
3. Assoc. Prof. Dr. Mohd Hafiz Arzmi
4. Assoc. Prof. Dr. Azlini Ismail

TEACHING METHOD(S)

Lecture, tutorial, practical, seminar.

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Explain the etiology and pathogenesis of basic pathological processes.
2. Describe the pathological features of basic pathological processes on gross and microscopic levels.
3. Explain the concepts of pharmacokinetic and pharmacodynamics of commonly used drugs.
4. Relate the basic knowledge in pathology and pharmacology to dental practice.
5. Describe the efficacy, side effects, and drug interactions of commonly used drugs in different groups.

ASSESSMENT

Methods	Percentage
Continuous ASSESSMENT • Modular test (20%) • Quiz, Practical (20%)	40
Professional I exam	60
TOTAL	**100**

LIST OF LECTURES FOR 2023/2024

No	Topics	Face-to-face hours
1	Osteology of head I (Anatomy)	2
2	Osteology of head II (Anatomy)	2
3	Temporal, Infratemporal region and pterygopalatine fossae (Anatomy)	2
4	Scalp and Face (Anatomy)	2
5	Practical: Osteology of head	3
6	Tongues (Anatomy)	2
7	Palates (Anatomy)	2
8	Vasculature of head and neck I (Anatomy)	1
9	Tutorial: Osteology of head (Anatomy)	1
10	Vasculature of head and neck II (Anatomy)	1
11	Lymphatics of head & neck (Anatomy)	2
12	Practical: Facial muscles (Anatomy)	3
13	Neck fascia (Anatomy)	2
14	Neck triangles (Anatomy)	2
15	Back of the neck & the back (Anatomy)	2
16	Tutorial: Orofacial anatomy (Anatomy)	1
17	Introduction to digestive system I (Anatomy)	1
18	Physiology function of mouth, pharynx & oesophagus (Physiology)	1
19	Physiology function of stomach (Physiology)	1
20	Introduction to digestive system II (Anatomy)	1
21	Function of small & large intestine (Physiology)	1
22	Enteric nervous system (Physiology	1
23	Pharynx (Anatomy)	2
24	Larynx I (Anatomy)	1
25	Larynx II (Anatomy)	1
26	Tutorial: Quiz	1
27	Introduction to hepatobiliary system (Anatomy)	2
28	Practical: Pharynx and larynx (KOM)	3
29	Function of hepatobiliary system (Physiology)	1
30	Tutorial: Gastrointestinal system (Physiology)	1
31	Tutorial: Hepatobiliary system (Physiology)	1
32	Tutorial: Basics of Gastrointestinal & Hepatobiliary Systems (Anatomy)	1
33	Introduction to urinary system I (Anatomy)	1

No	Topics	Face-to-face hours
34	Functional structure of the kidney (Physiology)	1
35	Renal blood flow (Physiology)	1
36	Introduction to urinary system II (Anatomy)	1
37	Practical: GIT (KOM)	3
38	Glomerular filtration (Physiology)	1
39	Renal clearance & tubular transport (Physiology)	1
40	Tutorial: Basic of Urinary System (Anatomy)	1
41	Renal tubular transport of glucose, Na^+ & K^+ (Physiology)	1
42	Renal tubular transport of Cl^-, H^+, H_2CO_3 (Physiology)	1
43	Urine concentration (Physiology)	1
44	Micturition (Physiology)	1
45	Acid base balance I (Physiology)	1
46	Acid base balance II (Physiology)	1
47	Tutorial: Renal system (Physiology)	2
48	Tutorial: Revision for Modular test - Anatomy	2
49	Tutorial: Revision for Modular test - Physiology	2
50	Tutorial: Modular Test	1
51	Revision for Professional 1 Examination	4

REFERENCE BOOKS

Required

1. Gerard J. Tortora, Bryan H. Derrickson (2017). Tortora's Principles of Anatomy & Physiology 15th Edition
2. Anne M.R.Agur, Arthur F.Dalley (2020). Grant's- Atlas of Anatomy 15th Edition.
3. John E. Hall, Michael E. Hall (2020). Guyton and Hall Textbook of Medical Physiology 14th Edition.
4. Kim E. Barrett, Susan M. Barman, Scott Boitano, Heddwen Brooks (2019). Ganong Review of Medical Physiology 26th Edition

Recommended

1. Lawrence E. Wineski (2018). Snell's Clinical Anatomy by Regions 10th Edition
2. Robin R. Preston, Thad Wilson (2018). Lippincott Illustrated Review Physiology 2nd Edition.

COURSE MODULE: YEAR 2 (DENT 2210 PATHOLOGY)

COURSE SYNOPSIS

This course in Pathology highlights the basic concepts and principles of various disease mechanisms. The application of the principles of Pathology in understanding disease processes will be emphasized to illustrate the relationship between the cause (agent), lesion (structural abnormality) and sign (functional abnormality) in disease as can be observed grossly and microscopically. This course will enable students to relate between disease process and clinical features.

LECTURER(S)

Assoc. Prof. Dr. Ghasak Ghazi Faisal (Course coordinator)

TEACHING METHOD(S)

Lecture, tutorial, practical.

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Explain the basic concepts and theories of general pathology.
2. Explain the pathogenesis of common diseases affecting the major organs and systems.
3. Illustrate pathological changes of the disease processes at the gross and microscopic levels.
4. Show knowledge of pathology laboratory investigations.
5. Relate the basic knowledge in pathology to dental practice.

ASSESSMENT

Methods	Percentage
Continuous assessment • Pre-Professional I Examination (20%) • Laboratory Practical (5%) • Quiz (5%)	30
Professional Examination	70
TOTAL	**100**

LIST OF LECTURES FOR 2023/2024

No	Topics	Face-to-face hours
	BLOCK 1	
1	Introduction to Pathology	1
2	Cellular adaptation to disease	2
3	Tutorial: cell adaptation	1
4	Cell injury and cell death	4
5	Tutorial: Cell injury	1
6	Acute Inflammation	2
7	Tutorial: Acute inflammation	1
8	Chronic Inflammation	2
9	Tutorial: Chronic inflammation	1
10	Healing and repair	2
11	Tutorial: healing	1
12	Pigments and calcification	1
13	Amyloidosis	1
14	Tutorial: Pigments	1
15	Practical :Cell injury	3
16	Practical: Acute inflammation	3
17	Practical: Chronic inflammation	1
	BLOCK 2	
1	Hemodynamic disorders	4
2	Tutorial: hemodynamics	1
3	Genetic Disorders	1
4	Tutorial:Genetics	1
5	Immunopathology	3
6	Tutorial: immunopathology	1
7	Neoplasia	5
8	Tutorial: neoplasia	2
9	Practical: benign tumors	3
10	Practical: malignant tumors	3
	BLOCK 3	
1	Disorders of cardiovascular system	3
2	Tutorial: cardiovascular	1
3	Disorders of red blood cells	3
4	Tutorial: Disorders of red blood cells	1

5	Hemorrhagic disorders	2
6	Tutorial: Hemorrhagic disorders	1
7	Disorders of White blood cells and lymphoid tissue	4
8	Tutorial: Disorders of White blood cells and lymphoid tissue	2
9	Practical: Anemia	3
10	Practical: Leukaemia	3
11	Practical: Cardiovascular and hemodynamics	3
BLOCK 4		
1	Disorders of Gastrointestinal tract	3
2	Tutorial: Disorders of Gastrointestinal tract	1
3	Disorders of respiratory system	4
4	Tutorial: Disorders of respiratory system	1
5	Disorders of bones and joint	2
6	Tutorial: Disorders of bones and joint	1
7	Diseases of the Urinary tract	2
8	Tutorial: Diseases of the Urinary tract	1
9	Practical: Disorders of Gastrointestinal tract	3
10	Practical: Disorders of respiratory system	3

REFERENCE BOOKS

Required:

1. Robbins,S.L.R.S.Cotran and V. Kumar (10th edition, 2017). Robbins Basic Pathology, Elsevier.

Recommended:

1. Underwood & Cross General and Systemic Pathology (7th edition) 2018, Elsevier.

COURSE MODULE: YEAR 2 (DENT 2211 MICROBIOLOGY AND IMMUNOLOGY)

COURSE SYNOPSIS

This unit deals with the elementary principles of bacteriology, virology, mycology and immunology. It covers bacterial, viral and fungal structure and function. Microorganisms involved in oral infections; the importance of disinfection and sterilization in the dental setting. Chemotherapy of microbial diseases; pathogenicity and immune responses; the microbiology and immunology of dental caries, pulp and periodontal disease are also included. The lecture series are supported by laboratory practical, demonstrations in microbiology, case studies and tutorials. Immunology provides a detailed knowledge of immune response at the basic clinical and molecular level while human genetics covers the basic principles of gene structure and expression, structure of immunoglobulins, diseases, congenital and metabolic disorders with genetic basis.

LECTURER(S)

1. Assoc. Prof. Dr. Mohd Hafiz Arzmi (Course coordinator)
2. Assoc. Prof. Dr. Basma Ezzat Mustafa
3. Assoc. Prof. Dr. Ghasak Ghazi Faisal

TEACHING METHOD(S)

Lecture, tutorial, practical, seminar, PBL.

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Describe the normal flora and infective microorganisms of the human body (especially in the oral cavity) and the host-parasite relationship.
2. Discuss the pathogenic microorganisms, their general characteristics, classifications, nomenclature, sources, modes of transmission and methods of identification of bacteria.
3. Demonstrate skills in the laboratory investigations and knowledge in the application of the finding to microbiological diagnosis.
4. Describe the mechanisms of immunity of infection.
5. Demonstrate the methods of sterilization and disinfection to prevent and control infections.
6. State the suitable antimicrobial agents for treatment and vaccines available for the prevention of communicable diseases.
7. Indicate the importance of the oral cavity as a portal route for diseases of other host systems.

ASSESSMENT

Methods	Percentage
Continuous assessment • Pre-professional II Examination: (MCQ, MEQ, SN, OSPE) (20%) • Laboratory Practical (4%) • Quiz (2%) • Seminar (2%) • PBL (2%)	30
Professional Examination	70
TOTAL	**100**

LIST OF LECTURES FOR 2023/2024

No	Topics	Face-to-face hours
	BLOCK 1	
1	Introduction into medical microbiology	1
2	Bacterial structure and taxonomy	1
3	Bacterial physiology and genetics	1
4	Pathogenesis of microbial diseases	1
5	Diagnostic microbiology and laboratory methods	1
6	Infection control I and II	2
7	Implementation of infection control in the dental practice	1
8	Principles of chemotherapy and mechanism of antibiotic resistance	1
9	*Staphylococci*	1
10	*Streptococci*	1
11	*Anaerobes*	1
12	*Mycobacteria*	1
13	Tutorial: Bacteriology I	1
14	Practical: Aseptic technique & sterilization I, introduction to CSSD	3
15	Seminar: Bacterial of relevance to Dentistry	2
16	Quiz	1
	BLOCK 2	
1	*Enterobacteriaceae*	1
2	*Parvobacteriaceae*	1
3	Oxidase positive Gram-negative Bacillus	1
4	*Actinomycetes*	1
5	*Corynebacteria*	1
6	Practical: Aseptic technique and sterilization II	3

7	*Spirochaetes*	1
8	*Neisseria*	1
9	Practical: Bacterial Cultivation	3
10	Oral *Streptococci*	1
11	*Lactobacilli*	1
12	*Actinobacillus*	1
13	Practical: Staining technique	3
14	Mycology I and II	2
15	Oral microflora and ecosystem	1
16	Tutorial: Bacteriology II and mycology	1
17	Seminar: Microbes of relevance to dentistry	2
18	Revision for Pre-Professional II Examination	0
BLOCK 3		
1	Introduction to immunology	1
2	Innate immunity	1
3	Immunoglobulins	1
4	Complement	1
5	Cytokines	1
6	Oral Immunity	1
7	Autoimmune disease	1
8	MHC	1
9	Hypersensitivity	1
10	Practical: Antibiotic sensitivity test	3
11	Immunity to viruses	1
12	Immunity to *Candida* infection	1
13	Seminar	2
14	Tutorial: Immunology	1
15	Quiz	1
BLOCK 4		
1	Introduction and classification to viruses	1
2	Herpesvirus	1
3	Hepatitis	1

4	HIV and AIDS	1
5	Other viruses	1
6	Tutorial: Viruses	1
7	Seminar: Viruses of relevance to dentistry	2
8	PBL with Anatomy, Physiology, Pathology, Pharmacology and Oral Biology	6
9	Revision	2
10	Revision for Professional II Exam	0

REFERENCE BOOKS

Required:

1. Abbas A, Lichtman A, Pillai S. 2014. *Basic immunology*, 5th ed., Elsevier.
2. Levinson W. 2014. *Review of Medical Microbiology and Immunology*, 13th ed., McGraw Hill.
3. Samaranayake LP. 2012. *Essential Microbiology for Dentistry*, 4th ed., Churchill Livingstone.

Recommended:

1. Harvey RA. 2012. *Lippincott's Illustrated Reviews: Microbiology*, 3rd ed, Lippincott Williams & Wilkins.
2. Jawetz E, Melnick JL & Adelberg EA. 2015. *Medical Microbiology*, 27th ed., Appleton and Lange.
3. Marsh P & Martin M. 2009. *Oral microbiology*, 5th ed., Churchill Livingstone.
4. Murphy K & Weaver C. 2017. *Janeway's Immunobiology*, 5th ed., Garland Science.
5. Peakman & Vergani. 2009. *Basic and Clinical Immunology*, 2nd ed., Churchill Livingstone.

COURSE MODULE: YEAR 2 (DENT 2212 PHARMACOLOGY)

COURSE SYNOPSIS

It comprises lectures, tutorials, and laboratory practical sessions in order to learn the core topics in general and systematic pharmacology and the basis for therapeutics. General pharmacology covers two main topics: pharmacodynamics, which is the study of how drugs affect the body system and pharmacokinetics, which is the study of how drugs are handled in the body. An introduction to clinical pharmacology therapeutic monitoring is also involved in the latter. Core concepts of basic principles are to be learned. Systematic pharmacology is the study of individual group of drugs system-wise as well as disease-base. Prototype drugs and relevant differences with drugs in each area are to be discussed regarding efficacy and adverse reactions. Tutorials and laboratory practical sessions are designed to help the students understand the concepts covered in lectures and to acquire the basic skills of applying the knowledge. Prescription writing, problem solving for selected drugs and selected clinical conditions are incorporated. Important drug interactions between drugs used in dentistry and commonly used drugs in general medicines are to be discussed. Drug legislation and poisoning, relationship with drugs and society are also introduced.

LECTURER(S)

1. Assoc. Prof. Dr. Basma Ezzat Mustafa (Course Coordinator)
2. Assoc. Prof. Dr. Azlini Ismail

TEACHING METHOD(S)

Lecture, tutorial, practical, seminar, PBL.

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Explain the concept of pharmacokinetic and pharmacodynamics of the commonly used drugs.
2. Describe the major and common side effects associated with drugs commonly used in general practice of dentistry.
3. Compare the efficacy, side effects, and drug interactions between commonly used drugs in different groups.
4. Show knowledge in pharmacology laboratory investigations.
5. Relate the basic knowledge in pharmacology to dental practice.

ASSESSMENT

Methods	Percentage
Continuous assessment • Pre-Professional I Examination (20%) • Laboratory Practical (5%) • Quiz (5%)	30
Professional Examination	70
TOTAL	**100**

LIST OF LECTURES FOR 2023/2024

No	Topics	Face-to-face hours
	BLOCK 1	
1	Introduction to Pharmacology	1
2	Pharmacokinetics (I, II, III, IV)	4
3	Pharmacodynamics (I, II)	2
4	Tutorial: Pharmacodynamic & Pharmacokinetics	1
5	Practical: Different routes of drug administration: Strychnine effects on rats	3
6	Drugs Affecting the Parasympathetic System I,II	2
7	Drugs Affecting the Sympathetic System I, II	2
8	Neuromuscular Blocking Agents	1
9	Tutorial: Autonomic Nervous System	1
10	Quiz	1
	BLOCK 2	
1	Drugs Affecting the Respiratory System I,II	2
2	Drugs Affecting the Gastrointestinal System	1
3	Tutorial: Respiratory and Gastrointestinal Drugs	1
4	Practical: Drug metabolism and drug elimination: Plasma concentration-time curves in single dose kinetics	3
5	Drugs for Treatment of Heart Failure	1
6	Antianginal Drugs	1
7	Antihypertensive Agents I,II	2
8	Diuretics	1
9	Drugs Affecting Blood Coagulation	1
10	Practical: Drugs acting on sympathetic system: Effects on rat's blood pressure	3
11	Practical: Drugs acting on parasympathetic system: Effects on guinea pig ileum	3
12	Seminar	1

13	Tutorial: Cardiovascular System Drugs	1
14	Tutorial: Revision for Pre-professional Exam	1
15	Quiz	1
16	Revision for Pre-Professional II Examination	0
	BLOCK 3	
1	Opioids Agonists and Their Antagonists I,II	2
2	Antipyretics Analgesics	1
3	Anti-inflammatory Agents	2
4	Tutorial: Opioids, Antipyretics, Analgesics & Anti-inflammatory Drugs	1
5	Sedative and Hypnotic Agents	1
6	Antidepressants	1
7	Practical: Local actions of some vasoactive drugs on skin: Intradermal histamine related drug effects in volunteer subjects	3
8	Antipsychotics	1
9	Antiepileptics	1
10	Practical: Dose-response curves: Nicotinic receptor activation in cat's tibialis muscle	3
11	Practical: Drug actions on neuromuscular junction: Neuromuscular blockade effect on cat's tibialis muscle	3
12	Anaesthetic Agents & Principles of Anaesthesia	2
13	Local Anaesthetic Agents	1
14	Quiz	2
	BLOCK 4	
1	Antimicrobial Chemotherapy	4
2	Antiviral & Antifungal Drugs	2
3	Corticosteroids and Analogues	1
4	Glucose Lowering Drugs	1
5	Antithyroid Agents	1
6	Tutorial: Antimicrobial Drugs & Drugs Affecting Endocrine System	1
7	Chemotherapeutic Agents of Neoplastic Diseases I,II	2
8	Mercury Toxicity	1
9	Drugs of Abuse	1
10	Drugs Interaction in Dentistry	1

11	Dental pharmacology	2
12	Prescription Writing	1
13	Seminar	2
14	Tutorial: Drugs in Dentistry	1
15	Tutorial: Revision for Professional Exam	1
16	Quiz	1
17	Revision for Professional II Examination	0

REFERENCE BOOKS

Required:

1. Katzung B.G, Trevor A.J, 2016. *Basic & Clinical Pharmacology* - 13th Ed. The McGraw-Hill.
2. Harvey R.H, Champe P.C, 2014. *Lippincott's Illustrated Reviews: Pharmacology* - 6th Ed. Lippincott Williams & Wilkins.

Recommended:

1. Yagiele J.A, Neidle E.A, Dowd F.J, 2004. *Pharmacology and Therapeutics for Dentistry* - 5th Ed. Elsevier.
2. Pickett F.A, & Terezhalmy G.T, 2006. *Lippincott Williams & Wilkins' Dental Drug Reference with Clinical Implications.* Lippincott Williams & Wilkins.
3. Rang H.P, Dale M.M and Ritter J.M, 2011, *Pharmacology* - 7th Ed. Churchill Livingstone.

UNDERGRADUATE STUDENT HANDBOOK

ORAL BIOLOGY

DENS 1115

ORAL BIOLOGY

INTRODUCTION

Oral Biology is a significant subject area encompassing a range of basic and applied sciences that underpin the practice of dentistry. These subjects include: oral and dental anatomy; craniofacial and dental development; oral physiology; oral neuroscience; oral microbiology, biochemistry, biophysics, pharmacology. These subjects will be integrated with the relevant disease processes to manage, cure or prevent diseases and developmental defects.

GENERAL OBJECTIVES

1. To understand the nature of the oral and craniofacial tissues and with the application of basic scientific knowledge to oral tissue in health and diseases.
2. To produce graduates who are competent to integrate the knowledge on molecular biology and genetics, microbiology, immunology, biochemistry, biophysics, craniofacial biology and development, pharmacology and physiology.

TEACHING STAFF

Head of Unit
Assoc. Prof. Dr. Widya Lestari

Lecturers
1. Assoc. Prof. Dr. Widya Lestari
2. Assoc. Prof. Dr. Khairani Idah Mokhtar
3. Asst. Prof. Dr. Asmak Abdul Samat
4. Asst. Prof. Dr. Susi Sukmasari
5. Prof. Dr. Zainul Ahmad Rajion

METHODS OF DELIVERY

1. Lecture
2. Tutorial
3. Laboratory Practical
4. Others (PBL / Seminar / Small Group Discussion /Quiz)

COURSE MODULE: YEAR 1 (DENS 1115)

COURSE SYNOPSIS

Oral Biology is a significant subject area encompassing a range of basic and applied sciences that underpin the practice of dentistry. These subjects include: oral and dental anatomy; craniofacial and dental development; oral physiology; oral neuroscience; oral microbiology, biochemistry, biophysics, pharmacology. These subjects will be integrated with the relevant disease processes to manage, cure or prevent diseases and developmental defects.

LECTURER(S)

1. Assoc. Prof. Dr. Widya Lestari (Course Coordinator)
2. Assoc. Prof. Dr. Khairani Idah Mokhtar

TEACHING METHOD(S)

Lecture, tutorial, practical, seminar, field trip.

LEARNING OUTCOMES

Upon completion of this course, students should be able to:
1. Describe the structures, functions and development of normal dental and oral tissues.
2. Describe the metabolic pathways and environment associated with the healthy oral cavity
3. Distinguish the features of deciduous and permanent dentition.
4. Interpret the various international dental notations.

ASSESSMENT

Methods	Percentage
Continuous assessment • Pre-Professional I Examination (20%) • Quiz, Practical, Asssignment (20%)	40
Professional Examination	60
TOTAL	**100**

LIST OF LECTURES FOR 2023/2024

No	Topics	Face-to-face hours
	SEMESTER 1	
1	Introduction to Oral Biology	1
2	Introduction to Dental Anatomy and dental structures	2
3	Introduction to General and Craniofacial Embryology	1
4	Amelogenesis	2
5	Maxillary Incisors	1
6	Mandibular Incisors	1
7	Practical: Tooth drawing	3
9	Structure and Chemical Composition of Connective Fibres	2
10	Structure and Chemical Composition of Non-Collagen Organic Matrix	1
11	Practical: Tooth drawing	3
12	Structure of Epithelium and Ectomesenchyme and its Interaction	1
13	Role of Ectomesenchyme in Tooth Development	2
14	Initial Stages of Tooth Formation	2
15	Practical: Tooth drawing	3
16	Maxillary Canine	1
17	Mandibular Canine	1
18	Tutorial: Embryology	1
19	Practical: Tooth drawing	3
20	Structure and Chemical Composition of Enamel	1
21	Development of the Face and Its Anomalies	2
22	Development of Maxilla	1
23	Practical Tooth Carving – Maxillary Central Incisor	3
24	Development of Mandible	1
25	Development of the tongue	1
26	Tutorial: Facial Development	1
27	Practical Tooth Carving – Maxillary Central Incisor	3
28	Practical Tooth Carving – Maxillary Central Incisor	3
	SEMESTER 1	
1	Dentinogenesis	2

2	Structure and Chemical Composition of Dentine	1
3	Cementogenesis and Root Formation	2
4	Structure and Composition of Cementum	1
5	Structure and Chemical Composition of Pulp and Dentino Pulp Complex	2
6	Tutorial; Dentinogenesis and cementogenesis	1
7	Practical: Carving canine	3
8	Structure and Chemical Composition of Periodontal Membrane	2
9	Structure and Chemical Composition of Mucous Membrane	2
10	Salivary Glands	2
11	Practical: Carving canine	3
12	Eruption	2
13	Final Stages of Tooth Formation	1
14	Practical: Carving canine	3
15	Morphology of Upper Premolars	1
16	Morphology of Lower Premolars	1
17	Temporomandibular Joint	1
18	Practical: Carving upper first premolar	3
19	Tutorial: Tooth Morphology	1
20	Tutorial: Tooth Formation	1
21	Seminar: Repair and Regeneration of Oral Tissues	1
22	Practical: Carving upper first premolar	3
23	Practical: Carving upper first premolar	3
24	Revision for pre-Professional examination	2
25	Pre- professional examination	2
26	Dentinogenesis	2
27	Structure and Chemical Composition of Dentine	1
SEMESTER 2		
1	Permeability of Age Changes	1
2	Age Determination by Chronology of Tooth by Radiology	1
3	Comparison of Dentition in Different Races	1
4	Practical: Tooth Carving- Upper First Molar	3
5	Morphology of Permanent Dentition: Upper Molars	1
6	Morphology of Permanent Dentition: Lower Molars	1

7	Practical: Tooth Craving- Upper First Molar	3
8	Development of Occlusion	2
9	Tutorial: Development of occlusion	1
10	Muscle of Mastication	1
11	Practical: Tooth Craving- Upper First Molar	3
12	Morphology of Primary Dentition	2
13	Tutorial: Primary dentition	1
14	Tutorial: Tooth Identification	1
15	Tutorial: Quiz	1
SEMESTER 2		
1	Clinical Anatomy of the Mouth	1
2	Nerve and Blood Supply of the Teeth	1
3	Biochemical Composition and Properties of Saliva	1
4	Biochemistry of Teeth, Supporting Structures and Saliva	2
5	Tutorial: Biochemistry of saliva, teeth and supporting structures.	1
6	Practical: Tooth Identification	3
7	Dental Caries: Causation, Natural History and Clinical Appearance	2
8	Sugar and Nitrogen Metabolism and Plague pH (Stephan's Curve)	1
9	Practical: Oral Histology	3
10	Fluoride Metabolism	1
11	The Molecular Nature of Odontogenesis and Bio-Mineralization	1
12	Practical: Oral Histology	3
13	Taste and Smell	1
14	Speech and Neurophysiological Control	1
15	Visit: Comparative Dental Anatomy	8
16	Report/assignment comparative dental anatomy	10
17	Physiology of Deglutition	1
18	Hormone and Oral Tissues	1
19	Theories of Dentine Hypersensitivity	1
20	Tooth wear	1
21	Nutrition and Oral Tissue	1
22	Tutorial : Caries Formation	1

23	Seminar: Comparative Dental Anatomy	1
24	Revision for Professional Examination I	4
25	Professional I Examination	4

REFERENCE BOOKS

Required:

1. Berkovitz, Holland & Moxham, 2017, *Oral Anatomy, Histology and Embryology,* 5th edition, Mosby.
2. Ten Cate AR, 2018, *Oral Histology: Development, Structure and Function* 9th edition, Mosby.
3. Wheeler, 2014. *Dental Anatomy, physiology and Occlussion,* 10th edition. Elsevier

Recommended:

1. Bhaskar SN (ed) 2015 *Orban's Oral Histology and Embryology* 14th ed, Mosby.
2. Fehrenbach & Herring, 2020 *Illustrated Anatomy of the Head and Neck,* 6th ed, Saunders.

UNDERGRADUATE STUDENT HANDBOOK

DENTAL MATERIAL SCIENCE

DENT 2204

DENTAL MATERIAL SCIENCE

INTRODUCTION

The Dental Materials science unit conduct teachings on proper use of dental materials relative to Conservative and Prosthetic dentistry, comprise a series of lectures, provide an overview of materials science and how materials are developed, tested, selected and clinically manipulated to replace biological structures in dental tissues.

GENERAL OBJECTIVES

1. Explain the importance of study of dental materials for dental practitioner.
2. Differentiate between various types of dental materials and their respective properties and manipulate materials use in dentistry.

TEACHING STAFF

Head of Department
Asst. Prof. Dr. Mohd. Haidil Akmal Bin Mahdan

Head of Unit
Asst. Prof. Dr. Mohd. Haidil Akmal Bin Mahdan

Lecturer
1. Prof. Dr. Zainul Ahmad Rajion
2. Asst Prof Dr Mohd Haikal Muhamad Halil

Visiting (UMP)
1. Dr Syahrizan Suaiman
2. Dr Rashidi Maarof

METHODS OF DELIVERY

1. Lecture
2. Laboratory Practical
3. Quiz

COURSE MODULE: YEAR 2 (DENT 2204)

COURSE SYNOPSIS

This course highlights in proper use of dental materials relative to Conservative and Prosthetic dentistry, comprise a series of lectures, provide an overview of materials science and how materials are developed, tested, selected and clinically manipulated to replace biological structures in dental tissues. Lectures include an introduction to the nature, structure, properties and evaluation of metals, ceramics, polymers and composites. The biocompatibility requirements of materials are presented in terms of material properties, corrosion, tissue adhesion and reactions, chemical inertness and stability, allergenicity, systemic effects and toxicity. The unit also presents the applications of dental materials from a structure-property-application relationship perspective. Other dental materials for intra-oral restoration and prostheses, maxillofacial prostheses and dental implants are also included.

LECTURER(S)

1. Asst. Prof. Dr. Mohd. Haidil Akmal Bin Mahdan (Course Coordinator)
2. Prof. Dr. Zainul Ahmad Rajion
3. Asst Prof Dr Mohd Haikal Muhd Halil

TEACHING METHOD(S)

Lecture, tutorial, practical, seminar, field trip.

LEARNING OUTCOMES

Upon completion of this course, students should be able to:
1. Explain the general characteristics & composition of dental materials.
2. Distinguish clinical and laboratory applications of the dental materials.
3. Demonstrate the ability to manipulate dental materials correctly.

ASSESSMENT

Continuous assessment, formative assessment.
Formal written examination:

Methods	Percentage
Continuous assessment • Pre-Professional II Examination • Quiz	 20 10
Professional II Examination	70
TOTAL	**100**

LIST OF LECTURES FOR 2023/2024

YEAR 2	
Blocks	**Topics**
1	Introduction to Dental Material Science
	Basic Properties : Mechanical and Physical Properties
	Biological Properties of Dental Materials I
	Biological Properties of Dental Materials II
	Gypsum Products I
	Gypsum Products (II)
	Acrylic Resins I
	Acrylic Resin (II)
	Quiz 1
2	**Topics**
	Glass Ionomer Cement (I and II)
	Simulation : Glass Ionomer Cement (Practical)
	Composite Resin
	Simulation : Composite Resin (Practical)
	Amalgam (I and II)
	Simulation : Amalgam (Practical)
	Resin Modified Glass Ionomer Cement
	Dental Cements
	Dental Ceramics
	Dental Waxes
	Investing materials
	PRE PROFESSIONAL EXAMINATION
3	**Topics**
	Adhesive Materials in Dentistry
	Simulation: Adhesive Dentistry (Practical)
	Impression Materials (I and II)
	Casting and Investing Procedures
	Simulation : Casting Procedure (Practical)
	Casting Failures
	Dental Polymers
	Soldering and Welding Technique
	Quiz 2
4	**Topics**

	Dental Alloy I
	Dental Alloy II
	Pit and Fissure Sealant
	Soft Tissue Liners and Tissue Conditioners
	Implant Dental Materials
	Tarnish and Corrosion
	Abrasive and Polishing Dentifrices
	Denture Cleansers and Adhesive
	Revision
	FINAL PROFESSIONAL II EXAMINATION

REFERENCE BOOKS

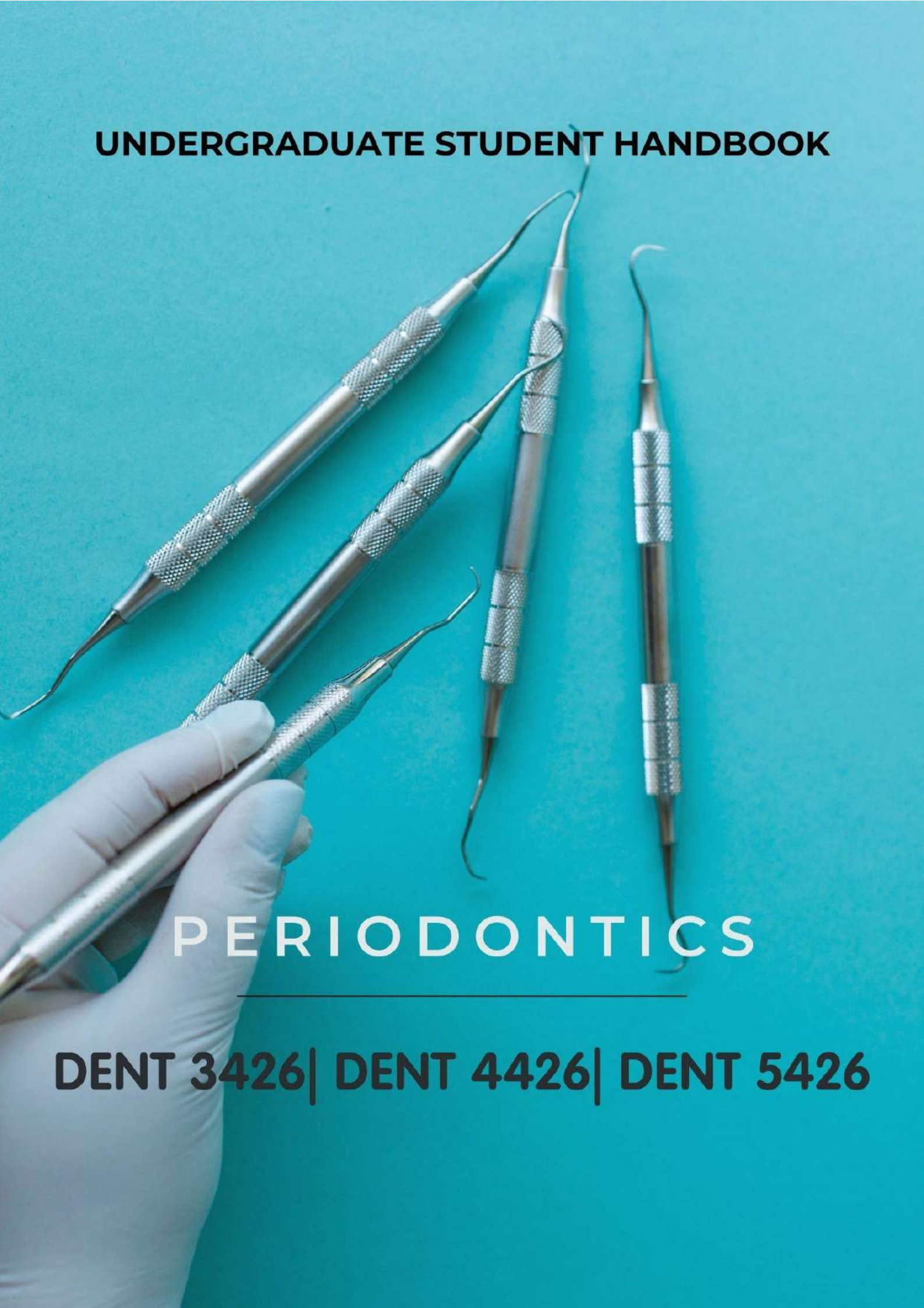
Required:

1. Anusavice, K.J. (2003). Philips' Science of Dental Materials. 11th Ed. Elsevier.
2. Craig, R.G., and Powers, J.M. (2002). Restorative Dental Materials. 11th Ed. Mosby.

Recommended:

1. Craig, R.G., Powers, J.M., and Wataha J.C. (2004). Dental Materials: Properties and Manipulation. 8th Ed. Elsevier.
2. Richard V Noort. Introduction to Dental Materials (2023).5th Ed.Mosby.

UNDERGRADUATE STUDENT HANDBOOK



PERIODONTICS

DENT 3426| DENT 4426| DENT 5426

PERIODONTICS

INTRODUCTION

Periodontology is one of the subjects that are designed by the periodontics department, school of dentistry, IIUM. Starting in year three the periodontology course is designed to give students a thorough knowledge in the normal anatomy of periodontium and the basic principles of the etiology and epidemiology, as well as the progression and pathogenesis of periodontal diseases. In this year the course provides relevant information about the initial therapy and oral hygiene instructions through demonstration sessions carried out to enable the dental students to learn the instrumentation in periodontics and the scaling procedures.

The practical sessions progress the students' skills to gain expertise in examining, charting the oral health status of patients and conduct the initial procedures (scaling, polishing and prophylaxis) in which the crown and root surfaces of the teeth are instrumented to remove the calculus, plaque, accumulated materials and stains.

In year four the knowledge learned on the previous year are applied in more complicated clinical cases. In particular, students are encouraged to formulate a sequenced treatment plan and maintaining a stable periodontium through the applied recall and reevaluation protocols. In the final year the students are required to carry out different treatment modalities and therapeutic and preventive measures in the field of periodontology under the supervision of periodontics senior members and must also be able to discuss the rationale behind surgical periodontal procedures by assisting during surgeries.

The assessment and evaluation of the students' cases and requirements achieved through the continuous assessment, clinical presentations and examinations. All clinical subjects supported by detailed theoretical lectures. Students are expected to maintain a high level of professionalism throughout their periodontal clinical experiences. This includes treatment of their patients in a timely and orderly manner. Students have responsibility for continual care and evaluation. Failure to follow through with timely care for patients may affect the student's periodontal clinical grade.

GENERAL OBJECTIVES

1. Providing fresh perceptions on clinical key topics, throughout this course that deals with the most up to date coverage of the comprehensive clinical periodontal field.
2. Guiding the dental students to understand how knowledge in various spectrums of this discipline was progressed and how it should be used in the practice of dentistry.
3. To gain clinical competency in diagnosis, treatment plan, and the principles of prognosis of the periodontally involved patient, gathering the skills required to effectively perform a patient assessment.
4. Utilizing broad knowledge in treating and preventing periodontal pathologies by reducing microbial challenge to the host through closed or opened techniques using manual and powered instrumentation, preceded by performing a thorough dental prophylaxis.
5. Learning ethical practice and the communication abilities, through respecting patient's rights.
6. Learning basic concepts of implant dentistry.

TEACHING STAFF

Head of Department/Unit
Asst Prof Dr Munirah Yaacob

Lecturers
1. Asst Prof Dr Munirah Yaacob
2. Asst Prof Dr Suhaila Muhammad Ali
3. Asst Prof Dr Juzaily Husain
4. Asst Prof Dr Mohd Nor Hafizi Mohd Ali
5. Asst Prof Dr Nur Zety Mohd Noh

METHODS OF DELIVERY
1. Lecture
2. Tutorial
3. Laboratory Simulation
4. Clinical
5. Others (PBL / Seminar / Small Group Discussion /Quiz)

COURSE MODULE: YEAR 3 (DENT 3426)

COURSE SYNOPSIS

This year course presents diverse parts of periodontal discipline, part I comprises a functional anatomy of the periodontium and related structures and its impact on the systemic health, part II includes comprehensive lectures of the epidemiology of periodontal diseases and its implications on determining the public need for periodontal care, while the third part deals with the role of the bacteria in different periodontal diseases. Part IV involves detailed knowledge of periodontal pathology and the last part includes the principles of periodontal examination, radiographic interpretation to achieve proper diagnosis and predict the outcome of the proposed treatment plan.

Students in this course are exposed to clinical practice in examination, diagnosis, prevention and treatment of reversible gingival inflamed cases through non-surgical manual and ultrasonic instrumentation of the gingivitis cases based on scientific clinical periodontal scoring and indices supported with the oral hygiene instruction.

TEACHING METHOD(S)

Didactic and clinical

LECTURER(S)

Dr Mohd Nor Hafizi, Dr Juzaily, Dr Munirah, Dr Suhaila, Dr Nur Zety

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. Explain the clinical significance of the structures and functions of the periodontium.
2. Explain the epidemiology, etiology, pathogenesis, diagnosis, prognosis and treatment plan of periodontal diseases.
3. Explain the impact of periodontal conditions on the systemic health.
4. Display appropriate skills for periodontal clinical examination and therapy/scaling.

ASSESSMENT

Continuous clinical assessment at clinics, formative assessment
Formal written examination:
Mid-Year Exam & Quizzes during block 4

CLINICAL REQUIREMENTS FOR YEAR 3

Please find the Appendix.

ELIGIBILITY FOR YEAR 4

Completed Y3 clinical requirements and pass the Examination & Diagnosis test (E&D test).

COURSE MODULE: YEAR 4 (DENT 4426)

COURSE SYNOPSIS

This course deals with factors and procedures that are related to periodontal therapy and the principles learned earlier are applied in more advanced clinical cases including chronic and aggressive periodontitis. A detailed lecture course of the principal of periodontal surgery is introduced to the students in this periodontics course.

The clinical part of this course includes reinforcement of clinical skills introduced in the previous year 3 course with the emphasis of the non-surgical debridement (scaling and root planning) of mild to moderate periodontitis, observation of periodontal surgeries is also projected.

TEACHING METHOD(S)

Didactic and clinical

LECTURER(S)

Dr Mohd Nor Hafizi, Dr Juzaily, Dr Munirah, Dr Suhaila, Dr Nur Zety

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. Explain the basic principles of periodontal surgery.
2. Demonstrate non-surgical therapy for mild to moderate periodontal disease.
3. Infer the results of periodontal treatment.
4. Describe the basic principles of dental implant and the associated peri-implant diseases.

ASSESSMENT

Continuous clinical assessment at clinics, case presentation and formative assessment.
Formal written examination:
Mid-Year exam & Year-End Exam

CLINICAL REQUIREMENTS FOR YEAR 4

Please find the Appendix.

ELIGIBILITY FOR YEAR 5

Completed Y3 & Y4 clinical requirements and pass the Examination & Diagnosis test (E&D test).

COURSE MODULE: YEAR 5 (DENT 5426)

COURSE SYNOPSIS

Students are required to get comprehensive knowledge in periodontics and other disciplines of restorative and orthodontic treatment in the form of problem-based learning and seminars including evidence-based therapy.

In addition to the requirement of recruiting advanced periodontitis cases, the students are required to follow the outcome of those periodontal compromised patients' treatment through a positive program that is directed at improving their results during the supportive phase.

TEACHING METHOD(S)

Didactic and clinical

LECTURER(S)

Dr Mohd Nor Hafizi, Dr Juzaily, Dr Munirah, Dr Suhaila, Dr Nur Zety

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. Perform supragingival and subgingival scaling and root surface debridement, using both powered and manual instrumentation.
2. Explain the need for the indications and contraindications for the advanced surgical technique.
3. Construct patients' supportive program.
4. Display skills in managing the periodontal conditions according to the risk assessment.
5. Organize the appropriate referral based on the assessment.

ASSESSMENT

Continuous clinical assessment at clinics, case presentation and formative assessment.

Formal written examination:

Pre-Professional exam (Pre-PRO) and Professional exam IV

CLINICAL REQUIREMENTS FOR YEAR 5:

Please find the Appendix

ELIGIBILITY FOR PROFESSIONAL EXAM IV:

Completed the clinical requirements for Y3, Y4 and Y5 and pass the scaling competency test.

ASSESSMENT SYSTEM

Marking scale for clinical works (Clinical assessment book)	
Marks	**Description**
1 to 4	Below average skills, professional attitude, patient management and personal organization.
5 to 6	Average or marginal performance skills, professional attitude, patient management and personal organization.
7 to 8	Good skills, attitude, patient management and personal organization
9 to 10	Outstanding/excellent skills, professional attitude, patient management skills and personal organization.
Year	**Summative Exams for Periodontics**
Y3	Mid-Year examination Quizzes
Y4	Mid-Year examination Year End examination
Y5	Mid-Year Examination Professional Examination IV

Professional Examination IV weightage	
Continuous Assessment from Year 3 till Year 5 *(EOB's, clinical performance, case presentations, quizzes, and seminars)*	40%
**Professional Examination: Theory and OSCE	60 %
Total	**100%**

***Students have to pass the Professional Exam components in order to be considered pass the subject*

LIST OF LECTURES FOR 2023/2024

YEAR 3	
Blocks	**Topics**
1	Introduction to Basic Periodontology
	Theme: Functional anatomy of the periodontium:
	A. Gingiva
	B. Cementum and periodontal ligament
	C. Bone
	Classification and epidemiology of the periodontal diseases
	Theme: Aetiology of the periodontal diseases
	A. Periodontal Microbiology
	B. Periodontal pathogenesis i. Clinical and histopathological features of the periodontal diseases ii. Host parasite interaction
2	**Theme: Modifying factors**
	A. Local contributing factors
	B. Systemic contributing factors
	C. Smoking and periodontal diseases
	D. Genetic factors and periodontal diseases
3	**Theme: Periodontal pathology**
	A. Healthy periodontium and plaque-induced gingival disease
	B. Non-Plaque-induced gingival disease
	C. Periodontitis-1
	D. Periodontitis-2
	E. Others condition affecting periodontium
4	**Theme: Examination**
	A. Examination, investigation and periodontal recording of patients with periodontal disease
	B. Radiographic interpretation in the diagnosis of periodontal disease
	C. Determination of treatment planning, periodontal diagnosis, prognosis & risk assessment
	Tutorial

YEAR 4	
Blocks	**Topics**
1	Theme: Initial periodontal therapy
	A. Non-surgical periodontal therapy (NSPT)
	B. Motivation
	C. Mechanical plaque control
	D. Manual versus ultrasonic instrumentation
	E. Chemical plaque control
	F. Antibiotics in periodontal therapy
	G. Periodontal treatment of the medically compromised patients
	Tutorial 1: Initial Periodontal therapy
2	Theme: Periodontal surgical therapy
	A. Principles of periodontal surgery I
	B. Principles of periodontal surgery II
	Theme: Advanced surgical techniques
	A. Resective osseus Surgery
	B. Periodontal regeneration
	C. Mucogingival Surgery
	Tutorial 2: Periodontal Surgical Therapy & Advanced Surgical Techniques
3	Tutorial 3: Mid Year Examination Feedback
	Supportive periodontal therapy
	Periodontics and implantology
	Peri-implant diseases
	New advance in periodontics
4	Case presentation
	Tutorial 4: Supportive periodontal therapy & Implantology

YEAR 5	
Blocks	**Topics**
1	PBL 1: Periodontal-Endodontic Lesions
	Seminar 1: Miswak: The Forgotten Sunnah
	Seminar 2: Success Vs Survival: Outcomes of Implant Therapy
2	PBL 2: Trauma from Occlusion
	Seminar 1: Furcation Involvement and its management
	Seminar 2: Crown Lengthening Revisited
3	PBL 3: Periodontics and Restorative Procedures
	Seminar 5: Gingival Recession 101

	Seminar 6: Success of Non-Surgical Periodontal Therapy: An Evidence Based discussion
4	PBL 4: Periodontics and Orthodontic Treatment
	Seminar 7: Drug influenced gingival enlargement (DIGE)
	Seminar 8

OUTLINE OF COMPETENCIES AFTER COMPLETION OF PERIODONTOLOGY COURSE:

1. **Examination of periodontal compromised patients**

   Students should be able to interpret patient data regarding his medical and dental history to accurately assess and treat the patients.

   - A thorough periodontal examination is a critically important data-collection activity that is necessary to arrive at a diagnosis and develop a treatment plan. Prior to conducting the hands-on examination, the information gathering process beings with taking medical and dental histories from the patients.
     - Medical history
     - Dental history
     - Periodontal charting

2. **Radiographic evaluation of the periodontium**

   Students should recognize and identify the radiographic findings.

   - The radiograph is a valuable aid in the diagnosis of periodontal disease, determination of the prognosis, and evaluation of the outcome of treatment. However, it is an adjunct to the clinical examination, not a substitute for it.

3. **Determination of prognosis**

   Students should achieve the ability to predict the outcome of periodontal therapy.

   - The term prognosis has been used to indicate the prediction of the future course of a disease in terms of disease outcomes following its onset and /or treatment. That's including evaluating the short- and long-term prognosis of both the individual tooth and the overall dentition.

4. **Determination of periodontal diagnosis**

   The students will formulate a comprehensive diagnosis using the current terminology and 2017 classification of periodontal diseases

   - To diagnose periodontal disease, one must have a classification system with which to work. In 2017 the World Workshop on the Classification of Periodontal and Peri-implant Diseases and Condition coordinated by American Academy of Periodontology (AAP) and the European Federation of Periodontology (EFP) had proposed a new classification scheme for periodontal and peri-implant diseases and conditions that is necessary for clinicians to properly diagnose and treat patients as well as for scientists to investigate the etiology, pathogenesis, natural history, and treatment of diseases and conditions. The new 2017 classification should be applied in the making of diagnosis for new periodontal patients.

- Other non-periodontal diagnosis should also be included in the diagnoses according to priority of treatment.

5. **Treatment Planning**

Students should be able to outline comprehensive periodontal treatment plan as the blueprint for case management. The aims of treatment plan to achieve healthy periodontal foundation for the future rather than simply to salvage those teeth that were affected in the past.

- The treatment plan is the road map for case management. It includes all procedures required for the establishment and maintenance of oral health. Treatment planning should include all phases of periodontal therapy and other dental treatment required by patients.
- Each diagnosis (es) requires treatment must be outlined in the treatment plan.

6. **Prevention of periodontal disease**

Students should be able to evaluate the patient's oral hygiene status during all phases of periodontal therapy and give proper oral hygiene regimes and develop an environment that the patient and the dentist can maintain in a stable status with ease.

- It is quite clear that dental plaque is the cause of the problem and its elimination will prevent periodontal disease. The key to prevention is regular and thorough plaque removal, therefore oral hygiene instructions is probably the most useful advice you can give to your patients.
- Smoking exacerbates periodontal disease and adversely affects treatment outcome. Smoking cessation advice should be given to patient.

7. **Treatment of periodontal emergencies**

Students should be able to assess and treat the periodontal emergencies. The periodontal emergencies include the treatment for acute periodontal abscess.

8. **Phase 1 therapy: Non-surgical periodontal therapy (NSPT)**

Students should understand the aims, be to plan and deliver the NSPT for periodontally compromised patients. The NSPT phase is principally designed to control and prevention of periodontal infection. The treatments may include; supra and subgingival scaling and root surface debridement (RSD).

They are also expected to be able to identify and refer medically compromised patients to respective medical personnel if deemed necessary prior to periodontal treatment.

9. **Phase 2 therapy: Corrective phase of periodontal therapy (surgical)**

Students should be able to identify and describe the periodontal disease cases that require different surgical intervention for the management of the disease.

They need to be able to describe the surgical methods and evaluate them based on their potential to facilitate removal of subgingival deposits and self-performed plaque control and thereby enhance the long-term preservation of the periodontium. The corrective phase is designed principally to restore function and, where relevant, aesthetics.

10. **Phase 3 therapy: Maintenance phase of periodontal therapy (Supportive Periodontal Therapy)**

Students should be able to outline the necessary follow-up time based on the assessment of the risk factors and outcome after Phase 1 or Phase 2 therapy.

The maintenance (supportive) phase aims to reinforce patient motivation so that their oral hygiene is adequate to prevent recurrence of disease. This phase is receiving increased attention due to the relative ease with which disease activity can be monitored by probing and chair side diagnostic assays.

11. **Review visits post NSPT**

Students require to show ability to analyze the patient's current OHI practice, relates with the plaque control record achievement to motivates and prescribe proper OH regime to suit the patient's needs. They should be able to identify the necessity for regular review visit(s) based on the above information and assessment.

Review visit should be done at least 2 – 4 weeks after completed scaling or RSD. Review visits aims to having patient's feedback regarding:

- Latest oral hygiene practice and compliance after OH advised given by a student.
- Complication after previous dental visits (especially after scaling and RSD)
- To review the improvement by reviewing patient's plaque control using an O'Leary plaque score
- To reinforce the OHI
- If needed to deliver necessary treatment: re-scaling

12. **Re-evaluation/Re-assessment visits**

Student should be able to assess patient's treatment outcomes by comparing the re-evaluation data with the baseline data to formulate the need for further treatment or re-treatment or maintenance visits, or the need for referral to a periodontist (for corrective therapy/periodontal surgery) and other specialties or discharged patient from periodontal clinic (for example in gingivitis cases).

During re-assessment, student is expected to update patient's current complaint/periodontal & oral health status, including noting any changes in the medical history since treatment was started in comparison with the previous history. An O'Leary plaque score must be accurately recorded. Student has to re-chart patient's probing depths, furcation involvements, mobility index and areas of recession as well as re-assess the prognosis and diagnosis of patient.

Revaluation/reassessment visit can be done the earliest at 6 to 8 weeks after completed scaling or RSD.

CLINICAL REQUIREMENTS FOR PERIODONTOLOGY

The New Clinical Requirement for Year Three (3)
1. The following requirements must be completed prior to undertaking any scaling competencies, and students will be trained to carry out manual scaling on models: ● Introduction to the periodontal examination and charting ● Examination & Charting on each student ● Explanation on the way and content of Oral Hygiene Instructions ● Manual supragingival Scaling Demonstration ● Manual supragingival Scaling on models (ant. teeth) ● Manual supragingival Scaling on models (post. teeth) ● Manual subgingival Scaling Demonstration ● Ultrasonic scaling Demonstration ● Ultrasonic scaling on each student 2. To give successful and correct examination and charting on patients supported by thorough oral hygiene instruction minimum **THREE (3) cases (3 cases = 2 non test cases + 1 test case)** 3. To perform manual scaling (supra- gingival) and prophylaxis procedures on patients for minimum **THREE (3) cases** 4. To perform ultrasonic scaling (subgingival) on patients for minimum **THREE (3) cases** 5. To accomplish **TWO (2)** successful case evaluation. 6. To sit & pass the **Examination and diagnosis test.** If the student's fail this test, the student's is not allowed to start treating periodontitis cases in Y4.

**Patient must undergo a review of oral hygiene visit at 2 to 4 weeks before called for re-evaluation.*

The New Clinical Requirements For Year Four (4)
1. Students will be trained to carry out manual root surface debridement on models prior to undertaking any root surface debridement competencies. 2. To give successful and correct examination, diagnosis and treatment plan on patients supported by thorough oral hygiene instruction minimum FOUR **(4**) cases. 3. To perform ultrasonic scaling and prophylaxis on patients for minimum **FOUR (4**) cases. 4. To perform root surface debridement on patients for minimum TEN **(10)** sites. 5. To accomplish TWO **(2)** complete phase I therapy (Periodontitis/gingivitis case). 6. To represent **ONE (1)** successful case presentation. 7. To pass the Y3 Examination and diagnosis test 8. To sit for & pass the **Competency test for scaling** after completion of 10 scaling cases before sitting the fourth professional exam – either in year 4 or 5. Those who obtained FAIL are not allowed to present their oral case of Periodontitis in which may affect them to undertake the FINAL PRO IV examination.

The New Clinical Requirements for Year Five (5)
1. To give successful and correct examination, diagnosis and treatment plan on patients supported by thorough oral hygiene instruction minimum **FOUR (4)** cases. 2. To perform ultrasonic scaling and prophylaxis on patients for minimum **FOUR (4)** cases. 3. To perform root surface debridement on patients for minimum **FIFTEEN (15)** sites. 4. Under the supervision of periodontics senior members students have extra marks for participating in periodontal surgeries as assistant during surgeries. 5. To accomplish **TWO (2)** complete phase I therapy (at least 1 Periodontitis case). 6. To present **TWO (2)** successful case presentation.

**Patient must undergo a review of oral hygiene visit at 2 to 4 weeks before called for re-evaluation.*

Rubrics for periodontics clinic:

Rubric 1: Clinical supervisors will be using the following evaluation criteria for the assessment of student's work.

Evaluation Criteria	G / A / I / R
G	**Good** achievement as set by criteria
A	**Acceptable** achievement with minor error
I	**Improvement** of work required to reach acceptable level
R	**Redo required** (work is not accepted and it should be repeated)

Rubric 2: Assessment of calculus removal post scaling (for Year 3)

Criteria examined for calculus post scaling	Good (10 -7)	Acceptable (6 – 5)	Improvement (4 and less)
Calculus removal ● **No calculus detected visually** ● **No supragingival calculus detected on probe examination** ● **No subgingival calculus detected on probe examination**	No remaining calculus can be seen No supragingival calculus detected No subgingival calculus detected	Very minimal calculus seen at deep fissured teeth that cannot be removed even with the finest tip No supragingival calculus achieved after 2 or more time being reviewed by clinic supervisor No subragingival calculus achieved after 2 or more time being reviewed by clinic supervisor	Significant amount of calculus can be seen found at the any of teeth surfaces except fissures Significant Supragingival calculus detected on some surfaces or roughness remaining in a few areas Subgingival calculus detected on probing of some surfaces or roughness remaining subgingivally
Smooth teeth surfaces	Smooth all teeth surfaces	Smooth all teeth surfaces achieved after few time being reviewed by clinic supervisor	Some teeth with rough surfaces.

Rubrics 3: Assessment of root surface debridement (for Year 4)

Criteria examined for root surface debridement	Good (10 -7)	Acceptable (6 – 5)	Improvement (4 and less)
Instruments selection ● **Correct Gracey's curretes selection**	Correct gracey's selection with ability to recognize dull or excessively worn instruments & demonstrate proper instrument use, the correct methods for insertion of gracey's	Correct gracey's selection with ability to recognize dull or excessively worn instruments however only able to demonstrate proper instrument use & correct methods for insertion of gracey's after being corrected by clinic supervisor	Incorrect gracey's use and inability to recognize dull or excessively worn instruments & demonstrate proper instrument use, the correct methods for insertion of gracey's
Calculus removal ● **No calculus detected visually** ● **No supragingival calculus detected** ● **No subgingival calculus detected on examination**	No remaining calculus can be seen No supragingival calculus detected No subgingival calculus detected	Very minimal calculus seen at deep fissured teeth that cannot be removed even with the finest tip No supragingival calculus achieved after 2 or more time being reviewed by clinic supervisor No subragingival calculus achieved after 2 or more time being reviewed by clinic supervisor	Significant amount of calculus can be seen found at the any of teeth surfaces except fissures Significant Supragingival calculus detected on some surfaces or roughness remaining in a few areas Subgingival calculus detected on probing of some surfaces or roughness remaining subgingivally
Smooth teeth and root surfaces	Smooth all teeth and root surfaces	Smooth all teeth surfaces but present of roughness at root with morphologic variant or deformities	Some teeth and root with rough surfaces.
No Tissue trauma	No tissue trauma noticed	Minor tissue trauma noticed	Repeat/Failed: Excessive tissue injury indicative of careless instrumentation

EXAMINATION AND DIAGNOSIS TEST FOR YEAR 3

1. OBJECTIVES of Examination & Diagnosis test is **to assess the students' ability to:**
   a) perform satisfactory history taking of medical and dental
   b) conduct a thorough clinical and radiographic examination
   c) evaluate extraoral and intraoral findings
   d) list the patient's problems and established the correct diagnosis and prognosis.
   e) outline appropriate treatment plan based on the information obtained

2. ELIGIBILITY requirement to sit competency test:
   1.1 The students must have experience performing **TWO (2)** complete examination and diagnosis (E&D) of gingivitis cases prior to the commencement of the test.

3. EXAMINATION procedures
   3.1. Student's has to find a NEW gingivitis cases for the test.
   3.2. Student's is responsible to arrange the test time/session with the respective supervisor.
   3.3. Supervisor should be called for evaluation after student has completed the E&D of the gingivitis case attended.
   3.4. Those who obtained PASS are allowed to see Periodontitis at Y4 at Block 1.
   3.5. Those who obtained FAIL are not allowed to see Periodontitis cases at Y4 at Block 1.
   3.6. The FAILED student must find a new gingivitis case at Y3 (if has ample time) OR a new case at early YEAR 4 BLOCK 1 for the next test.

4. RESULT of the test
   4.1. Students must obtain PASS for the test before they can start clerking Periodontitis cases at Year 4. They are not allowed to see periodontitis cases until the student earn a PASS in the Y3 competency test.
   4.2. PASS is given to student who earns SATISFACTORY grades on all skills assessed in the test.
   4.3. FAIL is given to student who earns 1 or more UNSATISFACTORY grade on all skills assessed in the test.

Rubrics 4: Examination and Diagnosis (E&D) test

Procedure	Evaluation criteria	
	Unsatisfactory	Satisfactory
CHIEF COMPLAINT/ CONCERNS	1. Failure to address patient's main complaint and the explore the main complaint.	1. Adequate assessment of the patient's main complaint.
MEDICAL/DENTAL HISTORY	1. Failure to give an appropriate consideration to medical problems which affect the delivery of dental care. 2. Inadequate knowledge of patient's systemic problems, medications, etc., which did not affect the delivery of dental care.	1. Adequate assessment of the patient's medical conditions and its implications for dental management
SMOKING HISTORY	1. Failure to explore patient's smoking history & habits: no. of cigarette smoke, attempt to stop smoking	1. Adequate assessment of patient's smoking history and relates with intraoral presentation/findings
GINGIVAL INFLAMMATION	1. Failure to detect gingival inflammation. 2. Failure to properly classify gingival inflammation correctly.	1. Adequate assessment of the gingival inflammation present.
FREE GINGIVAL MARGIN & MUCOGINGIVAL JUNCTION (if required)	1. Failure to indicate the location of free-gingival margin and/or mucogingival junction or inaccurate by greater than 2mm. 2. Failure to recognize mucogingival problems.	1. Location of the mucogingival junction within 1 mm

Procedure	Evaluation criteria	
	Unsatisfactory	Satisfactory
	3. Inaccurate location of free-gingival margin or mucogingival junction by 1-2 mm.	
BASIC PERIODONTAL EXAMINATION (BPE)	1. Inaccurate detection of codes at more than 1 sextant 2. Inability to remember the BPE codes criterion and explain the treatment needs	1. Accurate periodontal probing measurements and explaination of BPE
MOBILITY (If required)	1. Failure to detect Class 2 or 3 mobility on 2 or more teeth OR failure to detect mobility on 3 or more teeth. 2. Under or over-assessment of mobility on 2 or more teeth.	1. Correct assessment of the mobility of all teeth
RADIOGRAPHIC ANALYSIS (if available)	1. Major errors in radiographic analysis: e.g. failure to observe obvious pathology or interpretation of normal anatomy as pathology. 2. Incomplete radiographic analysis of minor consequence (no effect on therapy).	1. Accurate assessment of the radiographic surveys
PLAQUE SCORE ASSESSMENT (O'leary PS)	1. Failure to detect plaque on greater than 25% of surfaces.	1. Adequate assessment of the patient's plaque control
OTHER DIAGNOSTIC MEASURES	1. Failure to conduct pulpal sensitivity tests where clearly indicated 2. Failure to detect lesions involving oral soft and hard tissues (caries, fistulous tract, etc.)	1. Satisfactory

Procedure	Evaluation criteria	
	Unsatisfactory	Satisfactory
DIAGNOSIS	1. Incorrect or omitted diagnosis (e.g. gingivitis vs. periodontitis). 2. Non-specific diagnosis (e.g. periodontal disease).	1. Correct diagnosis of the periodontal diseases
PROBLEM LIST	1. Failure in recognition of significant problems 2. Failure to individualize problem list to patient's needs. 3. Failure in distinguishing problems from findings.	1. Correct problem list formulated
TREATMENT PLAN	1. Inability to formulate an adequate treatment plan. 2. Treatment plan formulated with minor inaccuracies.	1. Correct treatment plan formulated

SCALING COMPETENCY TEST FOR YEAR 5

1. OBJECTIVES to assess the students' ability to:
   a) show a good knowledge of basic principle of patient management.
   b) perform an efficient scaling skill.
   c) demonstrate a good understanding of scaling procedures.

2. ELIGIBILITY requirement to sit competency test:
   1.1. The students must have experience performing TEN (10) scaling procedures before the commencement of the test.

3. CASE SELECTION
   3.1 The eligibility of the patient's criteria as follows:
   - Minimum of 6 teeth for both anterior and posterior teeth with calculus.
   - Detectable subgingival calculus present on anterior AND posterior tooth.

   3.2 Determination of the suitable case for scaling test and evaluation will be done only by designated Periodontics supervisor.

4. EXAMINATION procedures:
   4.1 Student is responsible to arrange the test time/session with the respective supervisor.
   4.2 The suitable cases can be approved by any Periodontics supervisor. However, only the allocated supervisor is allowed to evaluate the test on the day of examination.
   4.3 All surfaces of teeth presence with calculus must be treated and evaluated.
   4.4 The procedure must be completed and assessed in a single clinical session.
   4.5 Student must PASS the scaling test prior to their oral case presentation (Periodontitis Case).
   4.6 Those who obtained FAIL are not allowed to present their oral case of Periodontitis in which may affect them to undertake the FINAL PRO IV examination.
   4.7 The FAILED student must find a new case and no restriction in number of repeating tests.

5. RESULT of the test
   5.1. PASS is given to student who earns COMPETENT performance criteria in the test.
   5.2. FAIL is given to student who earns the NOT COMPETENT performance criteria in the test.
   5.3. The marks for this test will be included as part of student clinical requirement.

Rubric 5: Scaling Competency Test

Examination procedures	Evaluation criteria		
	Good (7-10)	**Acceptable (5-6)**	**Improvement (4 and less)**
Infection control and pre-operative preparation.	Execute a good conduct of infection control throughout the procedure. Instruments are clean and sharp, and tray is organized with correct instruments for proper assessment of procedures.	Minor malpractice of infection control protocol.	Breach of barrier technique or other violation of infection control protocol. Failure to maintain a neat and organized work area.
Position of the patient and the operator.	Demonstrate a proper position of the patient and the operator	Required assistance to demonstrate a proper position between patient and operator.	Failure to demonstrate a good position after assistance has given.
Visibility, illumination and retraction.	Good position of lighting and easy to reach. Good vision either direct or indirect or both illuminations is desirable.	One or two errors occurs.	Errors occur in most of the steps.
Instrument stabilisation	Demonstrate an adequate instrument grasp and provide a finger rest for instrument stabilization.	Require assistance to demonstrate a correct technique for instrument stabilization.	Failure to demonstrate a good instrument control and stabilization.
Instrument activation	Correct activation of the instrument throughout the procedure.	Required assistance in some steps.	Failure to demonstrate a correct instrument activation.

Efficiency of scaling skill	No remain supra and sub gingiva calculus detected visually and on probe examination. Clear evidence of soft tissue trauma inconsistent with the procedure.	Minimal calculus found at deep fissure of teeth without any remaining left for both supra and sub gingiva calculus after **TWO (2)** time being reviewed by supervisor. Clear evidence of soft tissue trauma inconsistent with the procedure.	Significant amount of supra and sub gingiva calculus detected visually and on probe examination after being more than **TWO (2)** time being reviewed by supervisor. Evidence of soft tissue trauma related to procedure.
Professionalism	Be maintain professional appearance. Maintain a good communication with patient and control patient discomfort appropriately.	Require assistance to control patient discomfort and maintain a good communication with patient.	Failure to notice patient discomfort and lacking the communication skill with patient.
Understanding and completion of treatment visit.	Demonstrate a good understanding of procedures performed. Record and document clinical activities, procedures and discussions accurately and legible. Manage to complete case in one visit	Demonstrate an adequate understanding of procedures performed but assistance require to provide a legible documentation. Manage to complete case in one visit	Failure to complete the treatment in one visit. Lack of understanding regarding the procedure.

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UNDERGRADUATE STUDENT HANDBOOK

RESTORATIVE& ENDODONCTICS

DENT 2413| DENT 3413| DENT 4413 |DENT 5413

RESTORATIVE / CONSERVATIVE (OPERATIVE AND ENDODONTICS)

INTRODUCTION

Conservative dentistry is a branch of dental specialty dealing with restoring diseased tooth structure through a different forms of treatment modalities. It comprises of 2 important components namely operative dentistry and endodontology. The course runs through the majority of an undergraduate dental student training period from 2nd year of study until graduation.

GENERAL OBJECTIVES

1. To expose the students to the biomedical sciences, emphasize basic science-endodontic interrelationships, and encourage synthesis, correlation and application of this knowledge to endodontic clinical practice.
2. Provide students with sufficient knowledge and clinical experiences to become proficient in diagnostic data collection, pulpal and periradicular diagnosis, treatment planning and treatment sequencing for simple to moderate level of difficulty of endodontic cases.
3. To provide clinical experience in performing endodontic procedures on different types of cases with different range of difficulties from examination to review post-treatment.
4. To promote knowledge synthesis through diagnosis and management of operative and endodontics cases.
5. To have a strong and sound evidence-based dentistry as foundation of delivering restorative treatment.
6. To train the students to be able to provide treatment to patients independently while adhering to the law, ethics and professional code of conduct.
7. To show good qualities and skills in communication and working circle.
8. To instil continuous and independent life-long learning culture for self-professional development.

TEACHING STAFF

Head of Department/Unit

1. Asst. Prof. Dr Rostam Iffendi Idris (Operative Dentistry)
2. Asst. Prof. Dr Sobrina Mohamed Khazin (Endodontics)

Lecturers

3. Capt. (R) Assoc. Prof. Dr. Mohd Haikal Bin Muhamad Halil
4. Asst Prof Dr Imran Bin Zainal Abidin
5. Asst Prof Dr Musliana Binti Mustaffa
6. Asst Prof Dr Sobrina Binti Mohamed Khazin
7. Asst Prof Dr Rostam Iffendi Bin Idris
8. Asst Prof Dr Syuwari Azhar Bin Azman
9. Asst Prof Dr Dinie Qurratuaini Binti Zulkifly
10. Asst Prof Dr Dara Khorsyiah Binti Yaakob

METHODS OF DELIVERY

1. Lecture
2. Tutorial
3. Laboratory Simulation
4. Clinical
5. Others (PBL / Seminar / Small Group Discussion /Quiz)

COURSE MODULE: YEAR 2 (DENT 2413)

COURSE SYNOPSIS

Operative dentistry
This course covers an introduction to operative dentistry; classification and nomenclature of cavity preparation; principles of cavity preparation and design in relation to the histological structure of the teeth, and occlusal forces; composition; properties, uses and manipulation of restorative materials; investing and casting techniques. In addition, it also covers practical operative dentistry inside simulation lab covering rubberdam placement, cavity preparations, abrasion cavity preparation, and other restorative procedures.

Endodontics
A series of lecture in endodontics for the introduction of the course to the students followed by the practical sessions to allow the students to apply the knowledge.

TEACHING METHOD(S)

Didactic and Simulation laboratory

LEARNING OUTCOMES

Operative Dentistry
On successful completion of this module, students should be able to:

1. Describe the etiology and preventive aspects of dental caries.
2. Describe the principles of dental restoration procedures.
3. Display adequate skills of cavity preparation.

Endodontics
On successful completion of this module, students should be able to:

1. Recognize the manual dexterity for endodontic instrumentation techniques.
2. Display the technique for root canal treatment on resin block.

ASSESSMENT

Logbook, Written Group Assignment, Quiz, PBL, Presentation

Formal written examination:
Written Group Assignment, Quiz

SIMULATION LABORATORY REQUIREMENTS FOR YEAR 2

Students are required to perform operative and endodontic exercises in simulation laboratory. They will be taught on how to handle dental handpieces, place rubberdam on phantom head, and perform different forms of exercises to produce amalgam and composite restorations. They will also have a competency test on rubberdam and class II cavity preparation. These exercises will be performed during block 1 to block 3 year 2.

During block 4 year 2, the students will have an endodontic module including practical session performed on resin model and extracted maxillary anterior teeth.

Operative Dentistry:

1. Rubberdam:
    a. Anterior:
        i. Single tooth isolation on 11
        ii. Extensive teeth isolation on 13-23
    b. Posterior:
        i. Single tooth isolation on 16
        ii. Multiple teeth isolation on 47-45
2. Perspex training on low speed and high speed
3. Amalgam exercise:
    a. Class I: 47 (with lining)
    b. Class II: 26 (MO)
        i. 46 (MOD) (with lining)
4. Fissure sealant/ PRR: 2 exercises on natural teeth
5. Composite exercise:
    a. Class I: 15
    b. Class III: 12 (M) palatal approach (with lining)
    c. 22 (D) labial approach
    d. Class IV: 11 (M) (with lining)
    e. Class V: 35 (close sandwich)
    f. 36 (open sandwich)
    g. Class II: 14 (MO)
    h. 36 (MOD) (with lining)

**Competency test on: rubberdam placement (block 1) and cavity prep class II (block III)*

Endodontics

Over the course of the whole block 4, the students will be taught the basics of endodontics. There will be 8 lectures, and practical module done on resin block model and extracted maxillary anterior teeth.The list of lectures are as follows:

1. Pulp: Biology, pathology and protection.
2. Root canal morphology.
3. Armamentarium in endodontics.
4. Access cavity.
5. Preparation of root canal (Part 1)
6. Preparation of root canal (Part 2)
7. Intracanal medication and temporary seal.
8. Obturation of root canal system.

The practical part of endodontics will include a full root canal treatment performed on a resin block model, maxillary central incisor, maxillary canine.

The treatment performed will utilize modified double flare technique as root canal preparation technique and lateral condensation technique.

ELIGIBILITY FOR YEAR 3

Operative Dentistry

Completed Y2 simulation requirements and pass the examinations, with minimal attendance not less than 90%.

Endodontics

Completed Y2 practical requirements and pass the examinations, with minimal attendance not less than 90%.

COURSE MODULE: YEAR 3 (DENT 3413)

COURSE SYNOPSIS

Operative Dentistry
This course covers more advance operative dentistry procedure such as examination and diagnosis in real patient, infection control, instruments, and materials handling. In addition, it also introduces more complex operative treatment covering bleaching treatment and aesthetic dentistry.

Endodontics
A series of lecture comprising aspects that are related to endodontics, continuation of the practical sessions on the slightly more complex teeth and the clinical practice on patients.

TEACHING METHOD(S)

Didactic and clinical

LEARNING OUTCOMES

Operative Dentistry
On successful completion of this module, students should be able to:
1. Explain the aetiology and preventive aspects of dental caries.
2. Explain the principles of dental restoration procedures.
3. Display adequate skills of cavity preparation on patient.

Endodontics
On successful completion of this module, students should be able to:
1. Explain the aetiology and pathophysiology of pulpal and periradicular diseases.
2. Distinguish the diagnosis of pulpal and periradicular disease.
3. Explain indications and contraindications of endodontic treatment.
4. Display manual endodontic treatment on extracted teeth.

ASSESSMENT

Mid-Year Examination, Logbook, Quiz

Formal written examination:

Mid-Year Exam, Quiz

CLINICAL REQUIREMENTS FOR YEAR 3

Operative Dentistry

Students will perform their clinical training on operative in Polyclinic KOD, during year 3 to year 5. Their cumulative requirements from year 3 to year 5 are:-

- Initial Caries (small/medium) ICDAS 3 or 4 : 10 cases
- Advanced/deep caries (medium/large) ICDAS 5 or 6 : 5 cases
- Complete Case : 2 cases

Competency test on ICDAS 5/6 will be performed during year 4 and year 5.

Endodontics

1. The following requirements must be completed prior to commencement of performing treatment on a patient:
   - Root canal treatment on an upper 1st premolar extracted tooth using hand Pro Taper files, lateral condensation technique obturation and permanent direct restoration.
   - Root canal treatment on a lower 1st premolar extracted tooth using hand Pro Taper files, lateral condensation technique obturation and permanent direct restoration.
2. Upon completion of requirement at item (1), the students will be eligible to commence treatment on patient.

ELIGIBILITY FOR YEAR 4

Operative Dentistry

Completed Y3 clinical requirements and pass the examination, with minimal attendance not less than 90%.

Endodontics

Completed Y3 clinical requirements and pass the examination, with minimal attendance not less than 90%.

COURSE MODULE: YEAR 4 (DENT 4413)

COURSE SYNOPSIS

Operative Dentistry
This course covers an introduction to operative dentistry; classification and nomenclature of cavity preparation; principles of cavity preparation and design in relation to the histological structure of the teeth, and occlusal forces; composition; properties, uses and manipulation of restorative materials; investing and casting techniques. In addition, it also covers practical operative dentistry covering cavity preparations, abrasion cavity restoration, glass ionomer cement, inlays, onlays, and ceramic restorations.

Endodontics
A series of lecture comprising aspects that are complex and related to endodontics, continuation of the practical sessions on the more complex teeth and the clinical practice on patients.

TEACHING METHOD(S)

Didactic and clinical

LEARNING OUTCOMES

Operative Dentistry
On successful completion of this module, students should be able to:
1. Justify treatment plan based on diagnosis, risk assessment, and patient needs.
2. Demonstrate skills for safe operative procedures.
3. Organize the appropriate restorative materials to comply with the principles of cavity preparation.

Endodontics
On successful completion of this module, students should be able to:
1. Demonstrate the ability to perform endodontic treatment on anterior teeth on patients using manual instrumentations.
2. Demonstrate knowledge on endodontic rotary instrumentation.
3. Demonstrate the ability to use rotary instrumentation for root canal treatment in extracted teeth with various canal configurations.

ASSESSMENT

Mid-Year Examination, Year-End Examination, Logbook, Quiz, PBL.

Formal written examination: Mid-Year exam & Year-End Exam

CLINICAL REQUIREMENTS FOR YEAR 4

Operative Dentistry

Students will perform their clinical training on operative in Polyclinic KOD, during year 3 to year 5. Their cumulative requirements from year 3 to year 5 are:

- Initial Caries (small/medium) ICDAS 3 or 4 : 10 cases
- Advanced/deep caries (medium/large) ICDAS 5 or 6 : 5 cases
- Complete Case : 2 cases

Competency test on ICDAS 5/6will be performed during year 4 and year 5.

Endodontics

1. Students will continue performing endodontic treatment limited to anterior and premolar teeth until the end of block 3.
2. Students will be taught to perform endodontic treatment on extracted molar teeth using hand Pro Taper system during block 4.

ELIGIBILITY FOR YEAR 5

Operative Dentistry

Completed Y3 & Y4 clinical requirements and pass the examination, with minimal attendance not less than 90%.

Endodontics

Completed Y3 clinical requirements and pass the Examination.

COURSE MODULE: YEAR 5 (DENT 5413)

COURSE SYNOPSIS

Operative Dentistry
This course covers an introduction to operative dentistry; classification and nomenclature of cavity preparation; principles of cavity preparation and design in relation to the histological structure of the teeth, and occlusal forces; composition; properties, uses and manipulation of restorative materials; investing and casting techniques. In addition, it also covers practical operative dentistry covering cavity preparations, abrasion cavity restoration, glass ionomer cement, inlays, onlays, and ceramic restorations.

Endodontics
An introduction to more advanced device as an alternative method in canal preparation technique, continuation of the practical sessions on the more complex teeth and the clinical practice on patients.

TEACHING METHOD(S)

Didactic and clinical

LEARNING OUTCOMES

Operative Dentistry
On successful completion of this module, students should be able to:
1. Develop treatment plan based on diagnosis, risk assessment, and patient needs.
2. Display skills for complex operative procedures.
3. Organize referral made based on appropriate clinical judgment.

Endodontics
On successful completion of this module, students should be able to:
1. Perform endodontic treatment of non-complicated single and multirooted teeth.
2. Analyze the success of endodontic treatments.
3. Explain endodontic surgery procedures.

ASSESSMENT

Continuous clinical assessment at clinics, competency test, and seminar presentation.

Formal written examination:
Pre-Professional IV Examination and Professional IV examination.

CLINICAL REQUIREMENTS FOR YEAR 5

Operative Dentistry

Students will perform their clinical training on operative in Polyclinic KOD, during year 3 to year 5. Their cumulative requirements from year 3 to year 5 are:

- Initial Caries (small/medium) ICDAS 3 or 4 : 10 cases
- Advanced/deep caries (medium/large) ICDAS 5 or 6 : 5 cases
- Complete Case : 2 cases

Competency test on ICDAS 5/6will be performed during year 4 and year 5.

Endodontics

1. To specify, that endodontics is interrelated with biomedical science.
2. To provide undergraduate dental students with basic knowledge in endodontics.
3. To obtain knowledge and skills for preventive, diagnosis and treatment planning for pulpal and periradicular pathoses.
4. To provide more practical approach when describing the current techniques and materials used in the treatment of endodontics in patients.
5. To discuss the dental assistant role in an endodontic procedure.

ELIGIBILITY FOR PROFESSIONAL EXAM IV

Operative Dentistry

Completed Y3, Y4 & Y5 clinical requirements and pass the competency test, with minimal attendance not less than 90%.

Endodontics

Completed the clinical requirements for Y3, Y4 and Y5.

ASSESSMENT SYSTEM

Marking scale for Competency test Year 2	
Marks	**Description**
0 to 4	Below average skills, professional attitude, and personal organization.
5 to 6	Average or marginal performance skills, professional attitude, and personal organization.
7 to 8	Good skills, attitude, and personal organization
9 to 10	Outstanding/excellent skills, professional attitude, and personal organization.
Marking scale for Competency test Year 4/ Year 5	
Marks	**Description**
0 to 49	Below average skills, professional attitude, patient management and personal organization.
50 to 59	Average or marginal performance skills, professional attitude, patient management and personal organization.
60 to 89	Good skills, attitude, patient management and personal organization
90 to 100	Outstanding/excellent skills, professional attitude, patient management skills and personal organization.
Year	**Summative Exams for Conservative Dentistry (DENT 3413, DENT 4413, DENT 5413)**
Y2	Written Group Assignment Quiz
Y3	Mid-Year examination Quiz
Y4	Mid-Year examination Year End examination
Y5	Pre-Professional Examination IV Professional Examination IV

Professional Examination IV weightage	
Continuous Assessment from Year 3 till Year 5 Examinations (Mid-year, year-end examination and Pre-Pro IV) clinical performance, competency test, written assignment, quizzes, PBL and seminars)	40%
Professional Examination: Theory and OSCE	60 %
Total	**100%**

***Students must pass the Professional Exam components in order to be considered pass the subject.*

LIST OF LECTURES FOR 2023/2024

YEAR 2 (DENT 2413)		
No	**Block 1**	
1	Introduction to Operative Technique	**Operative**
2	Instrumentation and Operator's Position	
3	Rubber Dam Technique	
4	Dental Caries	
5	Dental Physiology Related to Dental Procedures	
6	High Speed Technique	
7	Principles of Cavity Preparation	
8	Seminar 1	
No	**Block 2**	
1	Amalgam Restorations: Class I & V	**Operative**
2	Amalgam Restoration: Class II	
3	Acid-etch Technique and Abrasion Cavity Restoration	
4	Fissure Sealant and Preventive Resin Restorations	
5	Tooth-Coloured Restoration: Class III & V	
6	Seminar 2	
No	**Block 3**	
1	Cavity Preparation for Ceramic Inlay	**Operative**
2	Onlay	
3	Laminated Veneer	
4	Cast Restoration	
5	Tutorial	
6	Seminar 3	
No	**Block 4**	
1	PBL session 1	**Operative**
2	PBL session 2	
3	Pulp: Biology, Pathology and Protection	**Endodontics**
4	Root Canal Morphology	
5	Armamentarium in Endodontics	
6	Access Cavity	
7	Preparation of Root Canal	

8	Intracanal Medication and Temporary Seal	
9	Obturation of Root Canal System	
10	Tutorial 3	
11	Tutorial 4	

YEAR 3 (DENT 3413)		
No	Block 1	
1	Diagnosis and examination	**Operative**
	Dental Caries (ICDAS)	
	Infection Control in Operating Environment	
	Rotary and Hand Instrument	
	Human Pulp and Gingival/Periodontal Tissues Responses to Operative Dental Procedures	**Operative**
	Seminar 1 - Operative Dentistry	
2	Management of deep carious lesions	**Endodontics**
	Endodontic microbiology	
	Diagnosis and treatment planning for endodontics	
	Tutorial 1 - Endodontics	
No	**Block 2**	
1	Isolation of Operating Field	**Operative**
	Cavity Preparation and Restoration for Complex Amalgam Restorations	
	Liners and Cement (Bases and Luting Materials)	
	Interim Restorations for Prepared Teeth	
	Seminar 2 - Operative dentistry	
2	Determination of success or failure of endodontic treatment	**Endodontics**
	Periodontal-endodontic lesions	
	Endodontic surgery	
	Tutorial 2 – Endodontics	
No	**Block 3**	
1	Dental Radiography in relation to Operative Dentistry	
	Management of Early Carious Lesions	

	Management of Secondary Caries	**Operative**
	Seminar 3- Operative dentistry	
2	Endodontic emergencies	**Endodontics**
	Endodontic mishaps	
	Tutorial 3 - Endodontics	
No	**Block 4**	
1	Management of Abfraction/Abrasion/Erosion Lesions and Root Caries	**Operative**
	Management of Crack Tooth Syndrome	
	Diagnosis and Management of Pain and Dentine Hypersensitivity	
	Aesthetic Dentistry	
	Vital Bleaching Technique	
	Seminar 4 - Operative dentistry	
2	Restoration of the endodontically treated teeth	**Endodontics**
	Bleaching of the endodontically treated teeth	
	Tutorial 4 - Endodontics	

YEAR 4 (DENT 4413)		
No	**Block 1**	
1	Tooth Resorption	**Endodontics**
	Tutorial 1	
2	Tutorial 1	**Operative**
No	**Block 2**	
1	Endodontic-Orthodontic Interface	**Endodontics**
	Tutorial 2	
2	PBL Session 1	**Operative**
	PBL Session 2	
	Tutorial 2	
No	**Block 3**	
1	PBL Session 1	**Endodontics**
	PBL Session 2	
	Non-surgical endodontic re-treatment	
	Tutorial 3	
2	Tutorial 3	**Operative**
No	**Block 4**	
1	Association Between Systemic Disease and Endodontics	**Endodontics**
	Tutorial 4	
2	Tutorial 4	**Operative**
	Seminar	

YEAR 5 (DENT 5413)		
No	**Block 1**	
1	Seminar 1	**Operative**
2	Seminar 1	**Endodontics**
No	**Block 2**	
1	Seminar 2	**Operative**
2	Seminar 2	**Endodontics**
No	**Block 3**	
1	Seminar 3	**Operative**
2	Seminar 3	**Endodontics**
No	**Block 4**	
1	Seminar 4	**Operative**
2	Seminar 4	**Endodontics**

**Students are required to COMPLETE all the above-mentioned requirements by end of the academic year2, 3, 4, & 5 as illustrated in their own logbook. Student who fails to achieve the provided requirement, they are NOT ELIGIBLE to sit for the Professional IV Examination.*

REFERENCE BOOKS

1. Sturdevant's Art And Science Of Operative Dentistry, 6th edition, 2012. Heymann H, Swift E, Ritter A. Jr.
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4. Endodontics; Problem-Solving In Clinical Practice, page 79-109, 121- 136, 2003. Pitt Ford TR, Rhodes JS, Pitt Ford HE.
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7. Fundamentals Of Operative Dentistry: A Contemporary Approach, 4th edition, Quintessence. Summitt, J. B., Robbins, W. J., Hilton, T. J., and Schwartz, R. S.
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9. Problem Solving In Endodontics, 5th edition, 2013. Gutmann JL, Dumsha TC, Lovdahl PE, and Hovland EJ.
10. Textbook Of Endodontology, 2nd edition, 2010. Bergenholtz G, Horsted-Bindslev P and Reit C.

UNDERGRADUATE STUDENT HANDBOOK

INTEGRATED DENTAL PRACTICE

DENT 5434

INTEGRATED DENTAL PRACTICE

INTRODUCTION

The fundamental aim of Bachelor in Dentistry training to produce graduates which can work competently as general dentist. Therefore, the Integrated Dental Practice course during final year will be the best platform for students to integrate their knowledge, clinical diagnostic, management, communication, and decision-making skills acquired from different specialties for the comprehensive total patients' oral care.

GENERAL OBJECTIVES

1. Simulate the workplace environment in general dental practice.
2. Providing the students the opportunity to manage a patient total oral health need interdependent from different specialties.
3. Develop and adopt a philosophy of striving for total oral health care for each patient and ensuring that the patient has both the desire and ability to maintain oral health.

TEACHING STAFF

IDP coordinator
Asst. Prof. Dr Dinie Qurratuaini Zulkifly

Lecturers
1. Asst. Prof. Dr Farah Natashah Bt Mohd
2. Assoc. Prof. Dr Widya Lestari
3. Asst. Prof. Dr Sulhi Abidin
4. Asst. Prof. Dr Haidil Akmal
5. Asst. Prof. Dr Syuwari Azhar b Azman
6. Asst. Prof. Dr Yunita Dewi Ardini
7. Asst. Prof. Dr Sobrina Bt Mohamed Khazin
8. Asst. Prof. Dr Musliana Bt Mustafa
9. Asst. Prof. Dr Badruddin Ghazali
10. Asst. Prof. Dr Dara Khorsyiah Yakob
11. Asst. Prof. Dr Asmak Abdul Samat
12. Asst. Prof. Dr Rafiq Khalid

METHODS OF DELIVERY

1. Lecture
2. Clinical
3. Visit to private dental clinic.
4. Case report
5. Seminar

COURSE MODULE: YEAR 5 (DENT 5434)

COURSE SYNOPSIS

Integrated dental practice is one of the courses for the final year undergraduate programme. The students are expected to take up and responsibilities of the general dental practitioners in the provision of comprehensive total patient care. In situations where the treatment cannot be successfully managed in general dental practice clinic, students should refer the case to the appropriate consultant clinics.

TEACHING METHOD(S)

Didactic and clinical

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Integrate the principles of oral health promotion and practice management in dental practice.
2. Display effective communication and psychomotor skills necessary for total patient care in dental practice
3. Develop sound diagnostic and competency in clinical skills, in managing patients as a general practitioner.
4. Organize the appropriate referral based on the assessment.
5. Explain concepts in planning and management of general practice in compliance with relevant regulations, policies and protocols.

ASSESSMENT

Continuous clinical assessment at clinics, logbook assessment, seminar presentation and case report.

Formal written examination: Pro IV Examination

CLINICAL REQUIREMENTS FOR YEAR 5

1. To perform and present examination and diagnosis on **TEN (10)** patients
2. To perform and interpret oral radiographic imaging for minimum **FIVE (5)** cases.
3. To practice proper infection control on every clinical procedures which will be assessed individually by clinical supervisors.
4. To successfully attend and complete basic life support course with certificate.
5. To perform a minimum of **FIVE (5)** local anaesthesia infiltration clinically.
6. To perform a minimum of **FIVE (5)** local anaesthesia on inferior alveolar nerve block clinically.
7. To prescribe common drugs on **FIVE (5)** cases under supervision.
8. To complete **THREE (3**) cases comprising of at least 2 different disciplines.
9. To submit **ONE (1)** case report (Must include at least 2 disciplines).

**Review of oral hygiene must be less than 25% plaque score on 2 separate visits.*

ELIGIBILITY FOR PROFESSIONAL EXAM IV

- Completed a minimum of 5 cases,
- Pass seminar presentation, pass logbook assessment, complete 1 case report.

ASSESSMENT SYSTEM

Marking scale for clinical works (Clinical assessment book)	
Marks	**Description**
1 to 4	Below average skills, professional attitude, patient management and personal organization.
5 to 6	Average or marginal performance skills, professional attitude, patient management and personal organization.
7 to 8	Good skills, attitude, patient management and personal organization
9 to 10	Outstanding/excellent skills, professional attitude, patient management skills and personal organization.

Marking on seminar presentation (based on visit to private dental clinic) – soft skill

Criteria	Description
A	Apply/Explain the concepts in planning and management of general dental practice in compliance with relevant regulations, policies and protocols
B	Apply/Explain the principles of managing oral health care programmes
C	Able to identify patients' needs and the barriers for dental treatment
D	Able to identify appropriate solutions to address patients' needs and the barriers for dental treatment
Marks	**Description**
1	Very poor
2	Unsatisfactory / need corrections
3	Satisfactory / average
4	Good
5	Excellent

Case report assessment

Marks	Description
0-5	Explain briefly on the diagnosis and differential diagnosis • How did he/she came out with the diagnosis, sign and symptoms • Briefly explain the reasons for the stated differential diagnosis • Additional investigations (EPT, cold test, xrays etc.)
0-10	Reflection of treatments provided • Why provide the proposed treatment? • Any other treatment option? (list from least invasive procedure to more complex, i.e: RPD, bridge, implant) • The pros and cons of each treatment options
0-8	Reflection of the outcome of treatment • Discuss findings during review visits. • What the operator may have done differently if given another chances. • What did they learn from the case (reflect own case)
0-7	Problems that the operator faced during treatment • Patient's factors • Operator's factor • Technician's factor • Social factor – briefly discuss the difficulty of patient turning up for appointment or dependant on others to visit dental clinic) • Determinants of health • Other factors
0-3	Recommendation for future patient's management Examples: • Use of rubber dam for direct restoration, post preparation etc. • Proper positioning of xray film and xray tube (paralleling technique/ bisecting angle technique) • Proper shade matching, use of different types of composite for different position of tooth in the arch. • Design of porcelain coverage on metal substructure in PFM, design of pontics.
0-8	Structure of writing: • Coherent structure and clarity of grammar and spelling • Evidence-based (the evidences on the treatment provided) • Examples: survival of prostheses, caries management
Total marks = 40 marks	

Professional Examination IV weightage	
Seminar presentation (Entrepreneurship)	10 %
Logbook	25%
Case report	50%
Professional Examination: OSCE	15 %
Total	**100%**

***Students must pass the Professional Exam components to be considered pass the subject.*

List of Lectures, Seminar and Teaching Activities For 2023/2024

YEAR 5	
Blocks	**Topics**
1	Dental Treatments and Management of People with Disabilities: Part I (bleeding disorders)
	Dental Treatments and Management of People with Disabilities: Part II (patients on chemotherapy and transplant)
	Dental Treatments and Management of People with Disabilities: Part III (inhalation sedation demo video)
	Medical Emergencies among People with Disabilities
	Observations at Special Need Specialist Clinic/Care Homes
2	Planning and Developing a Dental Practice
	Effective Management Skills
	Legal Issue and Enforcement of Private Dental Practitioner
	Financial Management and Assessment of Staff Performance
3	Visit to private dental clinic
	Seminar Presentation of the Visit to Private Clinic
	Observation at Special Need Specialist Clinic/Care Homes

** Students are required to COMPLETE all the above-mentioned requirements by end of the academic year 5 as illustrated in their own logbook. Student who fails to achieve the provided requirement, they are NOT ELIGIBLE to sit for the Professional IV Examination.*

REFERENCE BOOKS

1. Keith HF, David JL (1995). Primary and Emergency dental Care. 1st Ed. Elsevier
2. Mitchell, L. Mitchell, DA. (2009). Oxford Handbook of Clinical Dentistry. 5th Edition. Oxford University Press. New York.
3. Murray, JJN, June H. Steele,JG. (2003). Prevention of Oral Disease. 4th Edition. Oxford University Press. New York
4. Shearer AC, Mellor AC. Treatment Planning in Primary Dental Care. 1st Edition. Oxford University Press, New York
5. Stephan S, Samuel N (2006). Treatment Planning in Dentistry. 2nd Ed. Mosby

UNDERGRADUATE STUDENT HANDBOOK

DENTAL PUBLIC HEALTH

DENT 2432| DENT 3432| DENT 4432 |DENT 5432

DENTAL PUBLIC HEALTH

INTRODUCTION

Dental public health emphasizes on the development of a holistic dentist in fulfilling his/her role as a health professional in the community. The main concern of dental public health is prevention of oral diseases and promotion of oral health of the population. The aim is to promote oral health in a holistic and comprehensive manner which would ultimately leads towards the attainment of self-care by the community.

GENERAL OBJECTIVES

1. To demonstrate understanding of relevant public health components such as social and behavioral science, preventive dentistry, oral health promotion, epidemiology, the delivery system as well as common public health issues.
2. To demonstrate skill in total patient care of the dental patient in the clinic by appropriate management of cases.
3. To demonstrate skill in communication and development of interpersonal relationship within the dental team as well as with the public.

TEACHING STAFF

Head of Department/Unit

• *Associate Prof. Dr Noorhazayti Ab. Halim*

Lecturers

1. Associate Prof. Dr Zurainie Abllah
2. Assistant Prof Dr Syarifah Haizan Sayed Kamar
3. Assistant Prof Dr Salwana Supaat
4. Assistant Prof Dr Syarifah Haizan Sayed Kamar
5. Assistant Prof Dr Muhd Firdaus Che Musa
6. Assistant Prof Dr Mohamad Shafiq Mohd Ibrahim

METHODS OF DELIVERY

1. Lecture
2. Tutorial
3. Practical
4. Clinical
5. Seminar
6. Small Group Discussion
7. Quit Smoking Clinic Visit
8. Home Visit
9. Community Project
10. Ministry of Health Placement

COURSE MODULE: YEAR 2 (DENT 2432)

COURSE SYNOPSIS

This course prepares the student with foundation knowledge and skills in Oral Epidemiology and Social Behavioural science. The student will be exposed to general concepts and principles relevant to dentistry. Practical classes will give the student opportunities to learn the application of epidemiological principles and methods in monitoring oral health and research. The student also learns about the social context of oral health and its implication in the delivery of care.

TEACHING METHODS

Lecture, Tutorial and Seminar

LECTURERS

Dr Salwana Supaat, Dr Syarifah Haizan Sayed Kamar, Assoc. Prof. Dr Noorhazayti Ab. Halim, Assoc. Prof. Dr Zurainie Abllah, Dr Muhd Firdaus Che Musa

LEARNING OUTCOMES

1. Explain concept of health, disease and oral health impacts, and relevance to health behavior, disease control and prevention of oral diseases.
2. Describe epidemiology of common oral diseases and conditions in Malaysia.
3. Describe general health beliefs and practices of the major ethnic groups in Malaysia in relation to dentistry.
4. Explain the principles and methods of oral epidemiology in relation to oral health and oral disease.
5. Explain the interaction between social context, culture, environment, lifestyle and healthcare services which contribute to general health and illness.
6. Explain the role and management of pain, fear, anxiety and stress relevant to dentistry.
7. Explain concept of need and demand for oral health services, and barriers to utilization.

ASSESSMENT

Project report and Seminar Presentation

COURSE MODULE: YEAR 3 (DENT 3432)

COURSE SYNOPSIS

This course enhances the student with foundation knowledge that learnt in year 2 and skills in Preventive Dentistry to facilitate decision making at the chair side and when managing community oral health. Particularly individual strategies will be discussed. It covers topics on the natural history of common oral diseases and risk factors (plaque, diet, lifestyle, fluoride).

To further enhance the student's understanding of the social context of oral health (theories learned in Year 2), small group discussion and case studies ensue in Year 3. Each student will visit a patient (or a selected person in the community) at home to observe the effects of the patient's lifestyle, environment and social issues that possibly influence his/her health. The student is expected to discuss the case using reported evidence.

TEACHING METHODS

Lecture, Tutorial, Demonstration, Seminar, Clinical preventive, and field visit (Tobacco and Home Visit)

LECTURERS

Dr Syarifah Haizan Sayed Kamar, Dr Salwana Supaat, Assoc. Prof. Dr Noorhazayti Ab. Halim, Assoc. Prof. Dr Zurainie Abllah, Dr Muhd Firdaus Che Musa

LEARNING OUTCOMES

1. Explain patients' socio-behavioural factors in their environment which influence their health and health status.
2. Explain the aetiology of common oral diseases (diet, plaque, smoking) including the evidence, public health issues and challenges of these factors in prevention in oral health at community and individual levels.
3. Explain the mode of fluoride delivery including evidence, history, public heal issues and challenges of water fluoridation as a preventive measure in oral health at community and individual levels.
4. Apply the philosophy and concept of prevention, Total Patient Care (TPC) and Minimal Intervention Dentistry (MID) in patient management and community prevention program.

ASSESSMENT

Home Visit Report, Logbook and Midyear examination

CLINICAL REQUIREMENT

In year 3, students are required to complete a minimum requirement as below:

REQUIREMENTS	
Caries Risk Assessment	2
OHI/OHE	2
Plaque Monitoring Case (at least 3 visits for each case)	1
Dietary Advice	1
Tobacco Cessation	0
Fissure Sealant	1
Topical Fluoride	1

COURSE MODULE: YEAR 4 (DENT 4432)

COURSE SYNOPSIS

In this course the student undertakes a group project to plan a community project. The student will consolidate knowledge in Year 3 and put into practice a health promotion project. Students will work in teams and build partnership among themselves. The planning of the community project is in Year 4 and the implementation and evaluation of the project in Year 5. Overall, this course will provide a general understanding of the relationship between oral health of the population and oral healthcare services; and the role of healthcare providers. The focus of learning is centred on managing oral health projects and proposal writing.

TEACHING METHODS

Lecture, Tutorial, Small Group Discussion, Seminar, Clinical Preventive and Field Visit (Situational Analysis)

LECTURERS

Assoc. Prof. Dr Zurainie Abllah, Assoc. Prof. Dr Noorhazayti Ab. Halim, Dr Salwana Supaat, Dr Syarifah Haizan Sayed Kamar, Dr Muhd Firdaus Che Musa, Dr Mohamad Shafiq Mohd Ibrahim

LEARNING OUTCOMES

1. Show the public health importance of oral health diseases; and the implications to the health of the population (including the disadvantaged group) and oral health care services.
2. Identify appropriate strategies in managing common oral health diseases and conditions.
3. Interpret epidemiological data for planning of health services.
4. Apply the concept and principles of planning and evaluation, Primary Health Care Approach (PHCA), Oral Health Promotion (OHP) and Oral Health Education (OHE) in dental practice, oral health programme and promotion.
5. Manage (plan, implement and evaluate) as part of a health team, an oral health education program appropriate for a selected community.

ASSESSMENT

Logbook, Competency Assessment, Mid-Year Examination and Year-End Examination

CLINICAL REQUIREMENT

In year 4, students are required to complete a minimum requirement as below:

REQUIREMENTS	
Caries Risk Assessment	3
OHI/OHE	3
Plaque Monitoring Case (at least 3 visits for each case)	1
Dietary Advice	2
Tobacco Cessation	1
Fissure Sealant	1
Topical Flouride	1

Criteria for Case Complete:
1) Patient successfully achieved plaque score of at least 25% in 2 subsequent visits after baseline assessment.
2) All preventive managements have been carried out.

COURSE MODULE: YEAR 5 (DENT 5432)

COURSE SYNOPSIS

In this course, the students are exposed to the oral healthcare system by the Ministry of Health (MOH) Malaysia. They are assigned to oral healthcare facilities to observe and appraise the Malaysian oral healthcare delivery system. Students are also going to present in seminars related to dental public health by performing evidence-based dentistry in improving oral health of the community. A community oral health project is implemented in Year 5, as a continuity from planning carried out in year 4. Furthermore, they are expected to perform a total patient care in oral health promotion and disease prevention adhering to ethical values and professionalism.

TEACHING METHODS

Lecture, Seminar, Tutorial, Small Group Discussion, Clinical Session, Community Oral Health Project and MOH Posting

LECTURERS

Assoc. Prof. Dr Noorhazayti Ab. Halim, Assoc. Prof. Dr Zurainie Abllah, Dr Salwana Supaat, Dr Syarifah Haizan Sayed Kamar, Dr Muhd Firdaus Che Musa, Dr Mohamad Shafiq Mohd Ibrahim.

LEARNING OUTCOMES

1. Describe the structure, organization, implementation and resource management of the health and oral health care delivery system in Malaysia at national, state and district levels.
2. Integrate all the knowledge & skills learned in Year 2-5 in total care of the patient and community as a general dental practitioner in the public healthcare sector.
3. Adhere to safe and ethical practices in managing the health of the community.
4. Analyze information according to evidence-based dentistry in managing oral health of the community.
5. Describe the basic concepts of health financing relevant for the practice of dentistry.

ASSESSMENT

MOH Posting Logbook, Community Project report, Clinical Logbook, Mid-Year Examination and Professional IV Examination

In year 5, students are required to complete a minimum requirement as below:

REQUIREMENTS	TOTAL YEAR 3+4+5 (Prequisite for fourth professional examination)
Caries Risk Assessment	10
OHI/OHE	5
Plaque Monitoring Case (at least 3 visits for each case)	3
Dietary Advice	3
Tobacco Cessation	2
Topical Fluoride	2 patients
Fissure Sealant	2 patients

BONUS MARK will be given to students who have more than 3 patients with significant plaque score reduction.

***STUDENTS WHO FAIL TO ACHIEVE MINIMUM REQUIREMENTS WILL BE SUBJECTED TO BARRING FROM PROFESSIONAL IV EXAMINATION.**

CLINICAL ASSESSMENT

Logbook assessment will be based on these criteria:

GRADE	CRITERIA	DESCRIPTION
A+ A	EXCELLENT	Able to complete the task without any assistance and direct guidance from the supervisors and has excellent knowledge about the procedure.
B+ B	GOOD	Require minimal help to complete the task and able to show evidence of understanding the concept/procedure.
C+ C	SATISFACTORY	Require repetitive guidance to complete the task and further explanation about the given concept/procedure
D	UNACCEPTABLE	Unable to complete the task and no knowledge about the procedure.

ASSESSMENT METHODS AND WEIGHTAGE

Methods	Percentage
Professional IV Examination	60

Continuous ASSESSMENT
• Assignments/Reports/Presentation
  ○ Year 1 (DENT 1432) – Group Report (1%)
  ○ Year 2 (DENT 2432) – Seminar (1%)
  ○ Year 3 (DENT 3432) – Home Visit Report (1%)
  ○ Year 5 (DENT 5432) - MOH Posting Logbook (0.5%)
  ○ Community Project Report (1%)
  ○ OHE Materials (0.5%)
• Clinical Logbook Year 3,4,5 (15%)
• Mid-Years and Year-End Examinations
  ○ Mid-Year Examination-Year 3,4,5 (15%)
  ○ Year-End Examination – Year 4 (5%)
	40

TOTAL	**100**

Table 8. List Of Lectures For 2023/2024

YEAR 1	
Block	**Topics**
2	Dentistry & Society
	Oral Health Care
3	Group Discussion 1
	Group Discussion 2
	Targeted Community Oral Health Education

YEAR 2	
Block	**Topics**
2	Introduction To Dental Public Health
	Introduction To General Epidemiology
	General Epidemiology (Measurement Of Disease)
	Dental Indices
	Tutorial - Epidemiology
	Seminar – Epidemiology
3	Socio-Demographic and Social Stratification
	Socio-Cultural Practices in a Multi-Ethnic Society
	Concept Of Health, Illness and Disease
	Social Factors in Disease Aetiology
	Internal & External Modifying Factors Involved in Dental Caries
	Psychosocial Impacts of Oral Conditions
	Access to Health and Dental Care
4	Nature & Causes of Fear and Anxiety
	Sociology and Psychology of Pain
	Communication Skills

	Ethics and Professionalism in Dental Practice
	Tutorial- Socio-Behavioural Science
	Seminar- Socio-Behavioural Science

YEAR 3	
Block	**Topics**
1	Philosophy and Concept of Prevention
	Prevention Strategies: Plaque Control
	Plaque Score Demonstration
	OHI & OHE
	Caries Risk Assessment
	OHI & OHE/CRA Demonstration
	Fluorides – History & Mode of Action
	Fluoride Usage in Dentistry
	Water Floridation
2	Fissure Sealants
	TF and FS Demonstration
	Behaviour Change in Dentistry
	Nutrition, Diet and Oral Health
	Sugar and Dental Caries
	Diet Counselling
	Diet Counselling Demonstration
	ICDAS & ICCMS- DPH Perspectives
3	The Tobacco Use Epidemic
	Understanding Tobacco Use
	Tobacco Use Cessation in Dental Clinic
	Aids to Tobacco Use Cessation
	Tobacco Cessation Demonstration
	Minimal Intervention Dentistry
	Field Trip to Stop Smoking Clinic
	Tutorial- Home Visit Guideline
	Home Visit
	Clinical Preventive/ DHE
4	Seminar – Home Visit Presentation
	Clinical Preventive/ DHE

YEAR 4	
Block	**Topics**
1	Type of Epidemiological Studies (Quantitative and Qualitative)
	Measurement of Diseases
	Dental Indices
	Sampling
	Planning an Epidemiological Study
	Association & Causation (Applied epidemiology)

	Tutorial: Tobacco Cessation 1
	Tutorial: Tobacco Cessation 2
	Clinical Preventive/DHE
2	Introduction to Biostatistics in Dentistry
	Data Collection and Management
	Measures of Central Tendencies
	Measures of Distribution
	Probability and Hypothesis
	Tests of Significance
	Paired t-test, Independent t-test, ANOVA Chi-square test & correlation
	Tutorial: Minimal Intervention Dentistry
	Clinical Preventive/ DHE
3	Health Education: Principles
	Health Promotion: Principles
	Health Promotion: Application
	Community Project: Planning
	Community Project: Evaluation
	Dental Public Health Strategies
	Small Group Discussion 1: (Community Project: Group Organization and Brainstorming)
	Small Group Discussion 2: (Community Project: Consolidation of ideas)
	Clinical Preventive/DHE
	Small Group Discussion 3: (Community project: Planning)
	Tutorial: Introduction to SPSS
	Community Project: Field Visit
	Tutorial: SPSS (Descriptive Statistics)
	Small Group Discussion 4: (Community Project: Discussion of Field Visit)
	Tutorial: Parametric Test
	Trends of Dental Caries
	Tutorial: Non-Parametric Test
	Trends of Periodontal Disease
	Tutorial: Categorical Data Analysis
	Trends of Other Oral Conditions
	Tutorial: Correlation and Regression
	Tutorial: Ethics and Professionalism
	Tutorial: Reliability Analysis
	Seminar-Community Project: Proposal Presentation
	Clinical Preventive/DHE
	Competency test

Year 5	
Block	**Topics**
1	SGD - Community Project Preparation
	SGD – OHE material Presentation
	Seminar- CRA/ Psychosocial Impacts in Dentistry
	Seminar- Ethics and Professionalism in Dentistry I
	Seminar- Fluoride – Myths and Facts
	Seminar- Aetiology and prevention of dental caries
	Seminar- NRT –types, usage, and side effects
	Clinical Preventive/ DHE
2	Lecture- History and Development of Dental Services in Malaysia
	Lecture- Ministry of Health: Organization, Structure, Function and Role of Dental Division
	Lecture- National Oral Health Plan of Malaysia
	Lecture- Dental Act & Regulation
	Lecture- Ethics & Jurisprudence
	Lecture- Health Management and Information System (HMIS)- General Principles
	Lecture- Quality Assurance in Dental care
	Lecture- Monitoring of Oral Health Programs
	DPH Y5 Community Oral Health Promotion Project: (Saturday)
	Seminar- Communication Skill/Behaviour Change
	Seminar- Sugar and Dental Caries
	Seminar-Access to Dental Care
	Seminar-Vape: Friend or foe?
	Seminar- Community Project Presentation
	Clinical Preventive/ DHE
	Ministry of Health Posting
3	Tutorial 3-Mid Term Evaluation
	Seminar-MOH Posting Presentation
	Seminar-Epidemiology (Type of Studies)
	Seminar-Community Project/ Dental Public Health Strategies
	Seminar-Clinical Prevention – TF and Fissure Sealants in Adults
	Seminar-Social Determinants of Health /Health Promotion
	Seminar-MID
	Clinical Preventive/ DHE
4	Lecture- Principles of Health Economics
	Seminar- Dental Public Health Strategies
	Seminar-Trends in Oral Diseases
	Seminar-Biostatistics
	Seminar-Ethics and Professionalism in Dentistry
	Tutorial-Dental Public Health (Closing)
	Clinical Preventive/ DHE

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UNDERGRADUATE STUDENT HANDBOOK

PAEDIATRIC DENTISTRY

DENT 3423| DENT 4423| DENT 5423

PAEDIATRIC DENTISTRY

INTRODUCTION

The unit of Paediatric Dentistry is established with the principle aim to achieve maintenance oral health with a non-pharmacologic behavior management in children and adolescent patients. The core of the course emphasizes the basic concepts and principles of paediatric dentistry patients including diagnosis and treatment planning, recognize growth and development that leads to dental health problem in children and adolescents. The course also provides students to be confident to prevent and treat oral health problems in children and adolescent patients with non-pharmacological behavior management or able to refer to appropriate specialist.

GENERAL OBJECTIVES

1. To understand behaviour management in children and adolescent patients.
2. To understand examination and diagnose of oral health problem in children and adolescent patients.
3. To understand the evidence-based oral health problems and treatments in children and adolescent patients.
4. To interpret treatment plans for children and adolescent patients.
5. To analyze early prevention of oral health problems in children and adolescent patients.
6. To apply dental clinical procedure for children and adolescent patients.
7. To apply non-pharmacological behavior during the treatment of patient.

TEACHING STAFF

Head of Department/Unit

1. Asst. Prof. Dr. Nor Asilah Harun

Lecturers

1. Assoc. Prof. Dr. Ahmad Faisal Ismail
2. Asst. Prof. Dr. Nor Asilah Harun
3. Asst. Prof. Dr. Susi Sukmasari
4. Asst. Prof. Dr. Norzaiti Mohd Kenali
5. Asst. Prof. Dr. Yunita Dewi Ardini
6. Asst. Prof. Dr. Khairunnisa Ahmad Bustami

COURSE MODULE: YEAR 3 (DENT 3423)

COURSE SYNOPSIS

A clinical course that would focus on dental management of the children include growth, non-pharmacological behaviour management to be dealing with the most common dental related problems include dental caries and its preventive management.

TEACHING METHOD(S)

Didactic and clinical

LECTURER(S)

1. Assoc. Prof. Dr. Ahmad Faisal Ismail
2. Asst. Prof. Dr. Nor Asilah Harun
3. Asst. Prof. Dr. Susi Sukmasari
4. Asst. Prof. Dr. Norzaiti Mohd Kenali
5. Asst. Prof. Dr. Yunita Dewi Ardini
6. Asst. Prof. Dr. Khairunnisa Ahmad Bustami

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. Select the basic principles of oral health disease prevention in paediatric patient treatment.
2. Analyze the psychological development of paediatric patient.
3. Demonstrate the process of tooth formation and eruption, including related abnormalities.
4. Perform the basic principles of dental paediatric clinical procedures.

ASSESSMENT

Continuous clinical assessment at clinics (logbook), formative assessment

Formal written examination: Mid-Year Exam

COURSE MODULE: YEAR 4 (DENT 4423)

COURSE SYNOPSIS

This course offers a higher skill of managing tooth with pulp involvement of primary teeth with and also the principal of managing young permanent tooth. Dental trauma will be introduced in this course together with the principle of management and also managing facial & oral lesion associated with systemic diseases.

TEACHING METHOD(S)

Didactic and clinical

LECTURER(S)

1. Assoc. Prof. Dr. Ahmad Faisal Ismail
2. Asst. Prof. Dr. Nor Asilah Harun
3. Asst. Prof. Dr. Susi Sukmasari
4. Asst. Prof. Dr. Norzaiti Mohd Kenali
5. Asst. Prof. Dr. Yunita Dewi Ardini
6. Asst. Prof. Dr. Khairunnisa Ahmad Bustami

LEARNING OUTCOMES

On successful completion of this module,students should be able to:

1. Analyse the signs and symptoms of orofacial diseases and related systemic conditions.
2. Formulate an appropriate treatment plan based on examinations and investigations.
3. Perform administration of local and topical anaesthesia and management of their potential complications.
4. Perform basic principles of exodontia in paediatric patient.
5. Apply the principle of management of dental traumatic injuries.

ASSESSMENT

Continuous clinical assessment at clinics (logbook), competency test and formative assessment.
Formal written examination: Mid-Year exam & Year-End Exam

COURSE MODULE: YEAR 5 (DENT 5423)

COURSE SYNOPSIS

This course offers an introduction to comprehensive management of paediatric patients including emergency, oral surgery, multidisciplinary and hospital-based paediatric dentistry.

TEACHING METHOD(S)

Didactic and clinical

LECTURER(S)

1. Asst. Prof. Dr. Ahmad Faisal Ismail
2. Asst. Prof. Dr. Nor Asilah Harun
3. Asst. Prof. Dr. Susi Sukmasari
4. Asst. Prof. Dr. Norzaiti Mohd Kenali
5. Asst. Prof. Dr. Yunita Dewi Ardini
6. Asst. Prof. Dr. Khairunnisa Ahmad Bustami

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. Justify sedation and general anaesthesia procedures for behaviour management of paediatric patient.
2. Perform complex procedures for paediatric patients.
3. Recognize management for patient with medical, mental and physical disabilities.
4. Organise referrals based on appropriate clinical judgement.

ASSESSMENT

Continuous clinical assessment at clinics (logbook), case report and formative assessment.

Formal written examination: Pre-Professional IV exam (Pre-PRO) and Professional exam IV

ELIGIBILITY FOR PROFESSIONAL EXAM IV

Completed the clinical requirements.

ASSESSMENT SYSTEM

GRADE		CRITERIA	Points
A	Excellent	A student is able to complete the task without any assistance and direct guidance from the supervisors and has excellent knowledge on the procedure.	3
B	Good	Needs minimal amount of help to complete the task and is able to show evidence of understanding the concept/procedure.	2
C	Satisfactory	Needs to be repetitively guided to complete the task and needs further explanation about the given concept/procedure.	1
F	Fail	There has been an irretrievable damage to the tooth structure and the student is lack of the knowledge of the concept/procedure. The supervisor has to complete the stage of treatment for the student.	0

Professional Examination IV weightage	
Continuous Assessment from Year 3 till Year 5 ***20%*** i. *Pre-Professional IV Examination* ii. *Year-end Examination Year 4 (DENT 4423)* iii. *Mid-Year Examination Year 4 (DENT 4423)* iv. *Mid-year Examination Year 3 (DENT 3423)* ***20%*** i. *Logbook* ii. *Case Report*	40%
Professional IV Examination	60 %
Total	100%

***Students have to pass the Professional Exam components in order to be considered pass the subject.*

Leadership skill rubrics (Soft Skills)

1 = Very Poor	3 = Satisfactory / Average	5 = Excellent
2 = Unsatisfactory	4 = Good	NA = Not Applicable

		1	2	3	4	5	NA
Role Model							
	Maintains appropriate behaviour as a Muslim leader						
	Understands the role he/she has to assume in order to successfully complete assigned task						
Lead Project							
	Identifies clear and realistic goals relevant to task						
	Able to plan and coordinate for successful completion of task and attainment of set goals						
	Works with team members in decision making and takes the lead when necessary						
	Takes action and accepts responsibility for consequences of actions taken						
Supervise team member							
	Engages team members in ways that facilitate their involvement in the group's efforts						
	Able to motivate others						
	Able to direct and organize team members to accomplish set goals						
	Able to resolve conflicts directly and constructively in a way that strengthens the team's cohesiveness						

Contexts for ASSESSMENT

Students will be assessed in the following settings.

- Clinical training (Operator & Assistant)
- PBL Sessions / Seminars

The rubric is designed to function across all of these different settings.

Rubrics use:

Two characteristics define the ways in which the rubric is to be used.

- First, the rubric is meant to assess the teamwork of an individual student, not the team as a whole. Therefore, it is possible for a student to receive high ratings, even if the team as a whole does not work well together. Similarly, a student could receive low ratings, even if the team as a whole works fairly well.
- Second, the rubric is designed to measure the quality of a process, rather than the quality of an end product. Hence, teamwork skills are assessed in the process of working in a team. The end product will not be evaluated as part of team work skills, as it is insufficient as an indicator of team work.
- It is possible that some aspects of the rubrics may not be suitable for certain contexts, hence the category 'Not Applicable' (NA) has been included for these instances.

Assessors:

The following three sources can be used in the ASSESSMENT.

1. Students' own assessment of their contribution to a team's functioning.
2. Evaluation or feedback from fellow team members about other students' contribution to the team's functioning.
3. Evaluation by lecturers/instructor regarding students' contributions to a team's functioning

LIST OF LECTURES, TUTORIALS AND SEMINARS FOR 2023/2024

YEAR 3	
Blocks	**Topics**
1	Lecture 1: Introduction to Paediatric Dentistry
	Lecture 2: Tooth Development & Eruption
	Lecture 4: Anomalies of Tooth Formation and Development II
	Tutorial: Dental Development and Anomalies
	Lecture 5: Disturbance of Tooth Eruption and Exfoliation
	Tutorial: Disturbance of Tooth Eruption & Exfoliation
	Lecture 6: Caries, Clinical Characteristics in Children and Preschool Programme and Target
	Lecture 7: History Taking, Clinical Examination, Investigation
	Pre-clinical: Operative Dentistry
2	Lecture 8: Radiograph, Diagnosis and Treatment Plan
	Lecture 9: Risk Assessments in Children
	Tutorial: History Taking, Examination, Diagnosis, Treatment Planning and Risk Assessment
	Lecture 10: Prevention of Dental Caries I – OHI, Diet Advice, Oral Prophylaxis and Topical Fluoride Application
	Lecture 11: Prevention of Dental Caries II - Principal of Minimal Invasion, Pit and Fissure Sealant, and Preventive Resin Restoration
	Tutorial: Prevention of Dental Caries
	Lecture 12: Management of Pain in Paediatric Dentistry - LA and Pain Control
	Lecture 13: Isolation Techniques during Clinical Procedures
	Lecture 14: Extraction Technique in Primary Teeth
	Practical: E&D I

	Practical: E&D II
	Demonstration I: Preventive, LA, Isolation Techniques
	Demonstration II: Armamentarium for Extraction & Extraction Technique
	Revision
3	Tutorial: Mid-Year Examination Feedback & Discussion
	Lecture 15. Dental Materials in Paediatric Dentistry
	Lecture 16. Operative Treatment in Paediatric Patient - ART and GIC
	Lecture 17. Operative Treatment in Paediatric Patient - Amalgam and Resin Base Composite
	Tutorial: Restorative in Paediatric Dentistry
	Lecture 18. Behaviour Management Technique in Children and Adolescent: Non-Pharmacological Behaviour Management
	Seminar- case discussion on Dentofacial development
	Seminar– case discussion on examination, diagnosis, treatment plan
4	Tutorial: diet analysis and plaque score
	Lecture 19: Antimicrobial and Analgesia for Children
	Lecture 20: Psychology of Child Development
	Lecture 21: Space Maintainer
	Tutorial: Extraction, Medication & Space Maintainer
	Seminar – case discussion on restorative in paediatric dentistry
	Seminar - behavior management and pain management
	Clinic

YEAR 4	
Blocks	**Topics**
1	Lecture 1: Pulp Management in Carious Deciduous Teeth - Pulp Capping and Pulpotomy in Primary Teeth
	Demonstration simulation I: pulpotomy
	Lecture 2: Pulp Management in Carious Deciduous Teeth - Pulpectomy in Primary Teeth
	Demonstration and Simulation II: Pulpectomy
	Lecture 3: Full Coronal Restoration: Primary & Permanent Teeth
	Demonstration and Simulation III: SSC Placement & Restoration
	Tutorial 1: Pulp Therapy & Restoration
	Lecture 4: Management of Advanced Caries and Pulpal Involvement in Young Permanent Teeth I
	Lecture 5: Management of Advanced Caries and Pulpal Involvement in Young Permanent Teeth II
	Tutorial 2: Pulp Therapy in Young Permanent Tooth & Advanced Caries Management
	Lecture 6: periodontal disease in children
	Clinic
2	lecture 7: Paedodontic/orthodontic interface
	Seminar 1 Pulp Therapy and restoration
	Seminar 2: Periodontal disease and Paeds/ortho Interface
	Lecture 8: Traumatic Injuries – Classification and Examination
	Lecture 9: Traumatic Injuries to Teeth and Supporting Tissues – Management and Treatment
	Lecture 10: Prevention of Traumatic Injuries to Paediatric Patients
	Lecture 11: Sequelae of Traumatic Injuries to The Primary and Permanent Dentition
	Tutorial 3: Traumatic Injuries in Children & its Prevention
	Seminar 2: Dental Trauma
	Clinic
	clinic: dental trauma demonstration
	Competency Test
3	Tutorial – Mid-Year Exam Feedback
	Lecture 12: Paediatric Oral Medicine and Pathology

	Lecture 13: Medically Compromised Patients I A. Gastroenterology, Cvs and Respiratory
	Lecture 14: Medically Compromised Patients II B. Bleeding Disorder, Oncology and Organ Transplant
	Lecture 15: Manifestation of Systemic Disease in Children Oral Mucosa
	Tutorial: systemic disease
	Seminar : OMOP and Medically Compromised Children
	Clinic
4	Lecture 16: Advanced Restorative Dentistry in Paediatric Patients – Tooth Discoloration
	Lecture 17: Advanced Restorative Dentistry in Paediatric Patients – Tooth Surface Loss
	Lecture 18: Advanced Restorative Dentistry in Paediatric Patients – Tooth Surface Loss
	Tutorial : Advanced Restorative Procedures
	Lecture 19: Neglect and Child Abuse
	Lecture 20: Inherited Disorders and Syndromes Associated with Oral Problems
	Lecture 21: Management of Children with Physical and Mental Disabilities
	Tutorial: Dental Management of Special Needs Children
	Seminar: Advanced Restorative Dentistry and children with disabilities
	Clinic /competency test

YEAR 5	
Blocks	**Topics**
1	Tutorial 1: Exam end year 4 feedback
	Lecture 1: Pharmacological Behaviour Management
	Tutorial 2: Pharmacological Behaviour Management
	Seminar 1: Psychology, Non-Pharmacological & Pharmacological Behavior Management
	Lecture 2: Complex Dental Treatment I: Delay Eruption/Unerupted Permanent Tooth
	Lecture 3: Complex Dental Treatment II: Hypodontia

	Tutorial 3: Delayed, unerupted, hypodontia
	Seminar 2: Complex Dental Treatment in Paediatric Dentistry
	Clinic
2	Lecture 4: Paediatric Oral Surgery
	Lecture 5: Facial Trauma in Children
	Seminar 3: Oral Surgery and Facial Trauma In Children
	Lecture 6: Severe Oro-Facial Infection
	Tutorial 4: Odontogenic and facial infection in children
	Lecture 7: Management of Medical & Dental Emergencies In Paediatric Patients
	Lecture 8: Hospital Services in Paediatric Dentistry
	Seminar 4: Hospital Management of Paediatric Patient
	Lecture 9: cleft lip and palate
	Clinic
	Specialist Clinic/OT Observation
3	Tutorial 5: Pre-Professional Examination feedback and discussion
	Case Presentation
	Clinic
4	Seminar 5: How to Answer exam questions
	Seminar 6: Patient management and referral

PRACTICAL SESSION

Table 9. Practical session 1-9

Practical	Task	Session	Tooth
Practical 1	Glass Ionomer restoration Class V Anterior primary tooth	Year 3	53 /63 (Nissin tooth)
Practical 2	Composite restoration Class III Anterior primary tooth	Year 3	51 /61 (Nissin tooth)
Practical 3	Composite restoration Class II Posterior primary tooth	Year 3	74 /84 (Nissin tooth)
Practical 4	Amalgam restoration. Class II Posterior primary tooth	Year 3	75 /85 (Nissin tooth)
Practical 5	Pulpotomy Access cavity Posterior primary tooth	Year 4	54 /55 /64 /65 /74 /75 /84 /85 (Extracted human tooth)
Practical 6	Pulpectomy - Canal preparation - Working length estimation - Radiograph Posterior primary tooth	Year 4	54 /55 /64 /65 /74 /75 /84 /85 (Extracted human tooth)
Practical 7	Pulpectomy - Obturation - restoration Posterior primary tooth	Year 4	54 /55 /64 /65 /74 /75 /84 /85 (Extracted human tooth)
Practical 8	Stainless steel crown - tooth preparation Posterior primary tooth	Year 4	54 /55 /64 /65 /74 /75 /84 /85 (Extracted human tooth)
Practical 9	Stainless steel crown - cementation Posterior primary tooth	Year 4	54 /55 /64 /65 /74 /75 /84 /85 (Extracted human tooth)

 # Demo will be given by the lecturers for pulpotomy, pulpectomy, stainless steel crown preparation and cementation at the beginning of the sessions.
 # For Practical 5 – tooth need to be mounted in cube size 2 cm x 2 cm of a mixture of plaster of paris (POP) and saw dust. The apex of the tooth should be covered in wax prior to mounting.
 # The same extracted human tooth will be used for pulpotomy, pulpectomy and stainless-steel crown practical procedures.

Clinical Requirements (Age Limit Is 14 Years and Below)

	PROCEDURES	REQUIREMENTS	NOTES
	Examination and diagnosis	5 patients	Requirement for competency test – approved at least 2 **E&D**
	Complete case	2 patients	
	Prevention		
1.	• OHI & OHE	3 patients	Presented to Paediatric Dentistry lecturer
2.	• 3-day Diet Diary	3 patients	Presented to Paediatric Dentistry lecturer
3.	• Oral Prophylaxis	3 patients	
4.	• Topical Fluoride Application	3 patients	
5.	• Pit and Fissure Sealant	5 teeth	
6.	• Preventive Resin Restoration	2 teeth	
	Restoration		
1.	• Amalgam restoration	1 tooth	
2.	• Glass Ionomer Cement restoration	3 teeth	
3.	• Composite restoration	4 teeth	
4.	• Stainless Steel Crown	1 tooth	+ Recall 1
	Pulp therapy		
1.	Pulpotomy/pulpectomy	1 tooth	+ Recall 1
	Surgical		
1.	Extraction	5 teeth	At least 2 extraction with local anaesthesia

 # Year 3 – examination and diagnosis, and preventive procedures.
 # Year 4 – restoration and extraction procedures
 # Year 5 – pulp therapy, SSC, case completion, consultation clinic or OT (observation)

REFERENCE BOOKS

1. Richard Welbury, MS Duggal, MT Hosey (2018). Paediatric Dentistry 4th edition. Oxford University Press.
2. Cameron, A. C., & Widmer, R. P. (2013). Handbook of Paediatric Dentistry E-Book. Elsevier Health Scieces.

UNDERGRADUATE STUDENT HANDBOOK

ORTHODONTICS

DENT 3424| DENT 4424| DENT 5424

ORTHODONTICS

INTRODUCTION

Orthodontics is a branch of dentistry that is concerned with facial growth, with development of the dentition and occlusion, and with the diagnosis, interception and treatment of occlusal anomalies. Orthodontic undergraduate course emphasizes on the basic concepts and principles of orthodontics including diagnosis and treatment planning that enable the student to recognize a developing malocclusion and be confident to deal with the problem or refer for appropriate specialist treatment at the correct timing.

This document provides brief outline of undergraduate orthodontics programme for Bachelor of Dental Surgery (BDS) IIUM and should be read together with Course Outline of DENT 3424, DENT 4424 and DENT 5424..

OBJECTIVES

The course aims to produce safe and effective general practitioners who are able to assess and manage limited occlusal abnormalities. You should be able to:

1. Understand the role of orthodontics in overall patient care.
2. Recognize the developing malocclusion.
3. Understand the appropriate timing of interventions and the treatment to be rendered.
4. Justify and rationalize orthodontic treatment plans.
5. Understand the designs of removable appliances and its treatment procedures and limitations.
6. Be updated with treatment techniques and its limitations.

TEACHING STAFF

Head of Department
Asst Prof Dr Siti Hajjar Nasir

Lecturers

1. Assoc Prof Dr Noraini Abu Bakar
2. Asst Prof Dr Cheong Joo Ming
3. Asst Prof Dr Azrul Safuan Mohd Ali
4. Asst Prof Dr Christopher Lawrence Tan Soon Lee
5. Asst Prof Dr Kumeran Mohan

METHODS OF DELIVERY

1. Lecture
2. Tutorial
3. Laboratory Practical
4. Clinical (Interceptive and Diagnostic Clinic)
5. Others (PBL and Seminar)

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Evaluate the orthodontic treatment needs of a patient.
2. Provide an initial orthodontic diagnosis.
3. Describe and discuss the nature of orthodontic treatment to patients.
4. Devise, insert and adjust removable appliances.
5. Make the appropriate referrals based on the assessment.

**Please refer to updated course outline to know the specific learning outcome according to year.*

CLINICAL REQUIREMENT

No	Year	Assessment	%
1	3	Free form wire bending	2
2		Upper Removable Appliance to correct anterior crossbite	2
3		Examination and diagnosis (Full orthodontic examination, complete with orthodontic study model, cephalometric analysis, and interpretation of radiographs)	4
4	4	Construction of functional appliance (Clark's Twin Block)	2
5		Construction and Activation of Hawley Retainer	2
6	5	Examination and Diagnosis	4
7		PBL of Cleft Lip and Palate	4
		Total	20

COURSE MODULE: YEAR 3 (DENT 3424)

COURSE SYNOPSIS

The undergraduate orthodontic course emphasizes the basic concepts and principles of orthodontics including diagnosis and treatment planning to enable the student to recognize a developing malocclusion and be confident to deal with the problem or refer for appropriate specialist treatment at the correct time.

**Please refer to updated course outline and Year 3 Orthodontics Logbook to know the detail of the teaching and requirement for the year.*

TEACHING METHOD(S)

Didactic and clinical

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. Explain cranio-facial form and relationships, including evidence of deviation from the norm.
2. Explain the principles of normal occlusion and its significance in the management of various malocclusion.
3. Perform clinical examinations, radiographic and other necessary investigations relevant to the practise of orthodontics

ASSESSMENT

Clinical requirement (wire bending, URA construction and case presentation).

Formal written examination: Mid-Year exam

COURSE MODULE: YEAR 4 (DENT 4424)

COURSE SYNOPSIS

The undergraduate orthodontic course emphasizes the basic concepts and principles of orthodontics including diagnosis and treatment planning to enable the student to recognize a developing malocclusion and be confident to deal with the problem or refer for appropriate specialist treatment at the correct time.

**Please refer to updated course outline and Year 4 Orthodontics Logbook to know the detail of the teaching and requirement for the year.*

TEACHING METHOD(S)

Didactic and clinical

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. Relate the basic orthodontic knowledge to the presenting cases.
2. Illustrate understanding of intervention timing and the appropriate treatment to be rendered.
3. Perform simple orthodontic treatment using removable appliances..

ASSESSMENT

Clinical requirement (construction of Clark's Twin Blocks and Hawley retainer)

Formal written examination: Mid-Year and Year End exam

COURSE MODULE: YEAR 5 (DENT 5424)

COURSE SYNOPSIS

The undergraduate orthodontic course emphasizes the basic concepts and principles of orthodontics including diagnosis and treatment planning to enable the student to recognize a developing malocclusion and be confident to deal with the problem or refer for appropriate specialist treatment at the correct time.

**Please refer to updated course outline and Year 5 Orthodontics Logbook to know the detail of the teaching and requirement for the year.*

TEACHING METHOD(S)

Didactic and clinical

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. Justify the orthodontic treatment needs and demand of a patient.
2. Formulate an appropriate orthodontic diagnosis based on clinical examination
3. Organize referral made based on appropriate clinical judgment.
4. Relate Islamic revealed knowledge and values to the practice of dentistry.

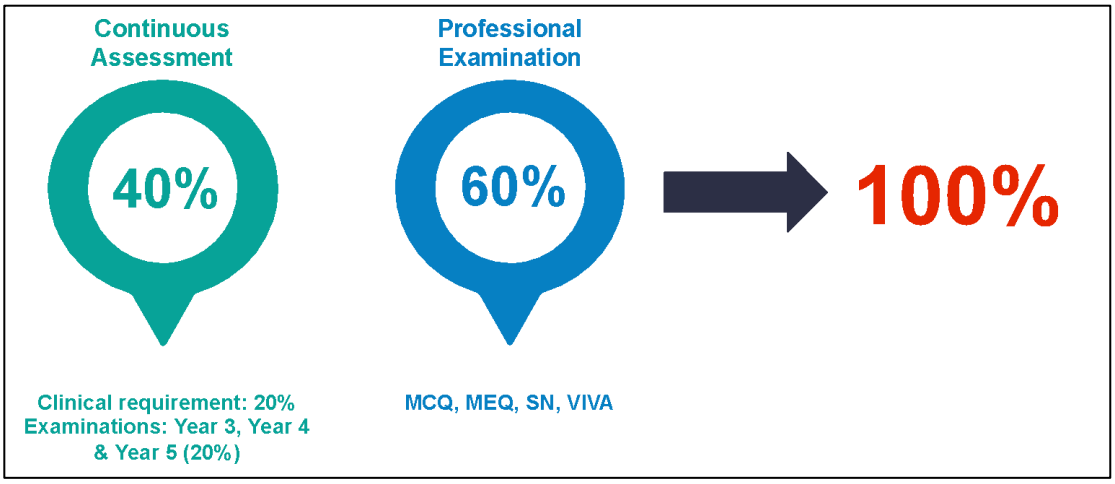
ASSESSMENT

Clinical requirement (examination and diagnosis, PBL)

Formal written examination: Pre-Professional IV Examination and Professional IV examination.

ELIGIBILITY FOR PROFESSIONAL EXAM IV: Achieve attendance of 90%

ASSESSMENT SYSTEM:



Formal written examination: Mid-Year Exam, Year-End & Pre-Pro IV and Professional IV Exam

List of Examinations

Year	Summative Exams for BDS Orthodontics
Y3	Mid-Year examination (5%)
Y4	Mid-Year examination (5%) Year End examination (5%)
Y5	Pre-Pro IV (5%) Professional Examination IV (60%)

Marking weightage

Weightage	
Continuous Assessment (Clinical and laboratory requirements) from Year 3 until Year 5	20%
Examinations (Mid-year, Year-end examination and Pre-Pro IV)	20%
Professional Examination: Theory and VIVA	60 %
Total	**100%**

***Students must pass the Professional Exam components in order to be considered pass.*

List of Lectures for 2023/2024

Year 3	Year 4	Year 5
Introduction to Orthodontics	Functional Appliance	Impacted Teeth
Dentofacial Growth and Development	Clark Twin Blocks	Interdisciplinary Treatment: Orthodontics and Restorative & Islamic Perspective
Development of Normal Occlusion	Fixed appliance	Interdisciplinary Treatment: Orthodontics and Periodontic
Aetiology of Malocclusion	Tissue changes with tooth movement	Interdisciplinary Treatment: Orthodontics and Maxillofacial Surgery
Class I Malocclusion	Material in Orthodontics	Orthodontic Management of Cleft Lip and Palate
Class II Malocclusion	IOTN	Medicolegal, Ethics in Practicing Orthodontics & Fake Braces/Dentist Phenomenon
Class III Malocclusion	Interceptive Orthodontics	
Examination and Diagnosis		
Orthodontics Records		

REFERENCE BOOKS

1. Simon J Littewood & Laura Mitchell (2019) An Introduction to Orthodontics, 5th Edition Oxford University
2. Cobourne M, DiBiase A (2016) Handbook of Orthodontics, 2nd ed Elsevier

UNDERGRADUATE STUDENT HANDBOOK

ORAL & MAXILLOFACIAL SURGERY

DENT 3427| DENT 4427| DENT 5427

ORAL AND MAXILLOFACIAL SURGERY

INTRODUCTION

The course is structured to provide students with good basic surgical theory background. This will help them to fully understand the need for skills required for extraoral and intraoral diagnosis of oral surgical related diseases. It also aims to develop professional ethics in patient's management and oral surgical treatment planning including pre-and post-operative care. It is intended for the students to perfectly understand the principles of efficient infection control and to fully comprehend the use of oral & maxillofacial imaging in radio-diagnosis in oral & maxillofacial surgery. The course work is planned for students to master surgical skills in every minor oral surgical procedure and to eventually introduce them to the much higher level of learning in oral & maxillofacial surgery.
Four main teaching themes are vertically and horizontally integrated throughout this course.
These include:

- *Application of dental and medical sciences knowledge.*
- *Demonstration and clinical practice.*
- *Clinical attachment and case discussions.*
- *Application of knowledge imbued with Islamic perspectives.*

The course is carefully structured to ensure that, as a dental graduate, you will possess the knowledge, skills and attitude required for safe practice of oral surgery in dentistry.

GENERAL OBJECTIVES

1. Possess scientific knowledge to support the practice of dentistry.
2. Demonstrate clinical skills to practice dentistry independently.
3. Demonstrate teamwork skills in managing oral health care for individuals and community.
4. Display ethical values and professionalism in practicing dentistry within the confines of the laws governing the profession.
5. Communicate effectively with peers in the dental and other health professions, patients, and community.
6. Appraise and apply current scientific information and techniques in the practice of dentistry.
7. Display skills for lifelong learning and continuing professional development.
8. Relate Islamic Revealed Knowledge and Values to the practice of dentistry.

TEACHING STAFF

Head of Unit/ Department:
Assistant Professor Dr Pram Kumar Subramaniam

Lecturers/Specialists

1. Associate Professor Dr Naziyah Shaban Mustafa
2. Assistant Professor Dr Haszelini Hassan
3. Assitant Professor Dr Khairul Bariah Chi Adam
4. Assistant Professor Dr Nor Adilah Harun
5. Assistant Professor Dr Izzati Nabilah Ismail
6. Professor Dr Zainul Ahmad Rajion (Oral Radiology)
7. Assistant Professor Dr Badruddin Ghazali (Oral Radiology)

METHODS OF DELIVERY

1. Lecture
2. Clinical
3. Hospital attachment (consultation clinic, operation theatre, oncall)
4. Others- Seminar and Small Group Discussion (SGD)

TEACHING VENUES

1. Kulliyyah of Dentistry, IIUM Kuantan Campus.
2. Sultan Ahmad Shah Medical Centre, IIUM Kuantan.

COURSE MODULE: YEAR 3 (DENT 3427)

TEACHING METHOD(S)

- Lectures
- Seminars
- Small Group Discussion (SGD)
- Tutorials
- Clinic

LECTURERS

Assoc Prof Dr Nazih Shaaban Mustafa, Dr Haszelini Hasssan, Dr Khairul Bariah Chi Adam, Dr Nur Adilah Harun, Dr Pram Kumar Subramaniam, Dr Izzati Nabilah Ismail, Prof Zainul Ahmad Rajion, Asst Prof Dr Ahmad Badruddin Ghazali

LEARNING OUTCOMES

Upon completion of this module, students should be able to:

1. Demonstrate infection control procedures in oral surgical procedure.
2. Demonstrate effective LA administration and management of their potential complications.
3. Display simple exodontia procedure under local anaesthesia and postoperative care.
4. Justify the usage of common pharmaceutical agents related to oral surgery.

ASSESSMENT

Outcomes	Teaching-Learning Methods	Assessment Methods
LO1	Lecture and clinical	Mid-Year Examination, Logbook
LO2	Lecture, Tutorial and Clinical	Mid-Year Examination, Logbook
LO3	Clinical	Logbook
LO4	Lecture and Tutorial	Mid-Year Examination

ASSESSMENT DISTRIBUTION

Assessment Methods	Percentage
Mid-Year 3 examination	100%
Logbook	
Must-pass Assessment Method(s)	**Percentage**
BLS examination	
Total	**100%**

REFERENCES

Required

1. David A. Mitchell (2017). An Introduction to Oral and Maxillofacial Surgery. 2nd New ed. Taylor & Francis Ltd.
2. James W. Little, Donald Falace, Craig Miller, Nelson L. Rhodus (2017). *Little and Falace's Dental Management of the Medically Compromised Patient*. 9th ed. Mosby Elsevier.
3. Crispian M. Scully (2014). Scully's Medical Problems in Dentistry. Churchill Livingstone
4. American Heart Association (AHA) (2021). *Guidelines on Antibiotic Prophylaxis*.
5. CLINICAL PRACTICE GUIDELINES MOH (2015): *Antibiotic Prophylaxis in Oral Surgery for Prevention of Surgical Site Infection* (2nd Edition).
6. *Prophylaxis against infective endocarditis: antimicrobial prophylaxis against infective endocarditis in adults and children undergoing interventional procedures.* National Institute for Health and Care Excellence (NICE). https://www.nice.org.uk/guidance/CG64 (Accessed on October 03, 2018).

Recommended

1. James R. Hupp, Edward Ellis III, Myron R. Tucker (2019). Contemporary Oral and Maxillofacial Surgery .8th ed. Mosby Elsevier.

COURSE MODULE: YEAR 4 (DENT 4427)

TEACHING METHOD(S)

Didactic and clinical

- Lectures
- Seminars
- Small Group Discussion (SGD)
- Tutorials
- Clinic

LECTURERS

Assoc Prof Dr Nazih Shaaban Mustafa, Dr Haszelini Hasssan, Dr Khairul Bariah Chi Adam, Dr Nur Adilah Harun, Dr Pram Kumar Subramaniam, Dr Izzati Nabilah Ismail, Prof Zainul Ahmad Rajion, Asst Prof Dr Ahmad Badruddin Ghazali

LEARNING OUTCOMES

Upon completion of this module, students should be able to:

1. Perform exodontia procedure for single rooted teeth and multi-rooted teeth with simple root configuration and postoperative care.
2. Demonstrate knowledge and skills in basic minor oral surgery procedure and postoperative care.
3. Apply the principles of medical emergency management in the clinic.
4. Apply the principles of management of oral maxillofacial trauma.

ASSESSMENT

Outcomes	Teaching-Learning Methods	Assessment Methods
LO1	Clinical	Competency Test, Logbook
LO2	Lecture, Small Group Discussion (SGD) and Clinical	Mid-Year Examination, Year-End Examination, Logbook, MOS report
LO3	Seminar	Mid-Year Examination, Year-End Examination
LO4	Lecture and Tutorial	Mid-Year Examination, Year-End Examination

ASSESSMENT DISTRIBUTION

Assessment Methods	Percentage
• Mid-Year 4 examination • Year-End 4 examination • Logbook • Competency test • Minor Oral Surgery (MOS) report	100%
Must-pass Assessment Method(s)	**Percentage**
Competency test	-
Total	**100**

REFERENCES

Required:

1. Michael Miloro, G.E. Ghali, Peter E. Larsen, Peter Waite (2022). *Peterson's Principles of Oral and Maxillofacial Surgery*. 4th Edition. Springer International Publishing.
2. U J Moore (2011). *Principles of Oral and Maxillofacial Surgery*. 6th ed. Wiley-Blackwell Science.
3. Clinical Practice Guidelines MOH (2012): *Orthodontic Management of Developmentally Missing Incisors.*
4. Clinical Practice Guidelines MOH (2019): *Management of Avulsed Permanent Anterior Teeth in Children* (3rd Edition).
5. Clinical Practice Guidelines MOH (2019): *Management of Mandibular Condyle Fracture*
6. Clinical Practice Guidelines MOH (2021) : *Management of Unerupted and Impacted Third Molar Teeth (2nd Edition)*
7. Clinical Practice Guidelines MOH (2016) : *Management of the Palatally Ectopic Canine (2nd Edition)*

COURSE MODULE: YEAR 5 (DENT 5427)

TEACHING METHOD(S)

- Lectures
- Seminars
- Small Group Discussion (SGD)
- Tutorials
- Clinic

LECTURERS

Assoc Prof Dr Nazih Shaaban Mustafa, Dr Haszelini Hasssan, Dr Khairul Bariah Chi Adam, Dr Nur Adilah Harun, Dr Pram Kumar Subramaniam, Dr Izzati Nabilah Ismail, Prof Zainul Ahmad Rajion, Asst Prof Dr Ahmad Badruddin Ghazali

LEARNING OUTCOMES

Upon completion of this module, students should be able to:

1. Perform simple oral surgical procedures and postoperative care including exodontia.
2. Distinguish the need for surgical interventions for the oro-facial lesions and developmental disorders of teeth and jaws.
3. Differentiate types of oro-facial infections, its spread and management.
4. Apply the principles of management of oral maxillofacial trauma.
5. Organize referrals made based on appropriate clinical judgment.
6. Relate Islamic revealed knowledge and values to the practice of dentistry.

ASSESSMENT

Outcomes	Teaching-Learning Methods	Assessment Methods
LO1	Clinical	Continuous Assessment Professional IV Examination
LO2	Lecture	Continuous Assessment Professional IV Examination
LO3	Lecture and Small Group Discussion (SGD)	Continuous Assessment Professional IV Examination
LO4	Lecture and Small Group Discussion (SGD)	Continuous Assessment Professional IV Examination
LO5	Lecture and Clinical	Continuous Assessment Professional IV Examination
LO6	Lecture and Clinical	Continuous Assessment Professional IV Examination

ASSESSMENT DISTRIBUTION

Assessment Methods	Percentage
Continuous Assessment: • 50%: i.Mid-Year Examination - Year 3 (DENT 3427) and Year 4 (DENT 4427) i.Year-End Examination – Year 4 (DENT 4427) iii.Pre-Professional IV Examination – Year 5 (DENT 5427) • 50%: i.Logbook i.MOS report	40 %
Professional IV Examination	60 %
Must-pass Assessment Method(s)	**Percentage**
Competency test	-
Total	**100**

REFERENCES

Required

1. David A. Mitchell (2017). *An Introduction to Oral and Maxillofacial Surgery*. 2nd New ed. Taylor & Francis Ltd.
2. James R. Hupp, Edward Ellis III, Myron R. Tucker (2018). *Contemporary Oral and Maxillofacial Surgery* .7th ed. Mosby Elsevier.
3. Michael Miloro, G.E. Ghali, Peter E. Larsen, Peter Waite (2022). *Peterson's Principles of Oral and Maxillofacial Surgery*. 4th Edition. Springer International Publishing.
4. Jonathan Pedlar, John W. Frame (2007). *Oral and Maxillofacial Surgery. An objective –based text book*. 2nd Revised ed. Churchill Livingstone.
5. Clinical Practice Guidelines MOH (2015) : *Management of Ameloblastoma.*

Recommended

1. Raymond J. Fonseca (2017). *Oral and Maxillofacial Surgery 3-Volume set*: 3rd ed. Saunders.

ORAL & MAXILLOFACIAL SURGERY
SUMMARY OF CLINICAL REQUIREMENT
CLINICAL REQUIREMENT PROTOCOL

A. CASE PRESENTATION

i. cases must be presented to the lecturers and recorded in the logbook. The lecturers will give evaluation mark for continuous assessment.
ii. During case presentation, students are required to obtain relevant information from the patient. It is an essential first step in diagnosis as well as to develop rapport with the patient. The students are expected to get detailed history and perform thorough examination of the patients. The important points to be included in the case presentation are:

1. ***History taking***
   History taking should include history of present complaint, dental history, social and medical history – to assist in the overall management and treatment plan.
2. ***Clinical examination***
   Clinical examination is performed after history taking and this should include extra -oral and intra -oral examination, appropriate investigations and formulate a proper diagnosis.
3. ***Treatment plan and the sequence***
   Students must develop comprehensive and integrated treatment plan and considering diagnosis, social, medical and psychological influencing factors for the patient.

Standards
The student should:
1. appreciate the differences between taking a **history** and planning treatment for patients.
2. demonstrate the ability to perform a thorough **examination** of the patient that encompasses where necessary intra-oral, extra-oral, general, and behavioral aspects.
3. be competent to formulate an appropriate **treatment plan** for the patient.
4. be competent at obtaining informed **consent** for the proposed treatment.

iii. The students will be taught to fill in medical and dental records using both computerized data system and hard copy patients' folder.
iv. Charting of the patient will be using the FDI system
v. Treatment plan should be discussed and approved by the lecturers.

B. CLINICAL

i. Each step of treatment must **be seen and approved by the supervisors**.
ii. There is no limitation for the requirement. However, students are required to complete a minimum of
   a. **3 extractions under LA** (minimum Bondy score is 3) in **Year 3** to be eligible for Professional III examination.
   b. **9 extractions under LA** (7 extraction with Bondy score 4, 2 extraction with Bondy score 5) in **Year 4** and **5**
   c. Surgical cases in **Operating Theatre** – Assist or Observe **ONE** case
   d. Oral diagnosis in **OMFS Consultation Clinic** – Assist or Observe **TWO** sessions

Note:

- The students must complete 3 extractions to be eligible to sit for Professional III examination.
- The students must complete minimum 5 extractions (cumulative total in year 3 & year 4) or 1 MOS case for eligibility to sit for Competency exam.
- Each task performed will be graded using Bondy rating scale (maximum 5 points) according to the time taken to complete the task, complexity of the treatment done and students' competency to complete the procedure.

Note: The case will be cancelled immediately if the students fail to comply with standard infection control protocol and professional conduct in the clinic.

Underpinning knowledge
Upon completion of the training, students should be competent in the following:

- Proper history taking, clinical examination, investigations, diagnosis and treatment plan on the cases attended
- Methods to control pain and anxiety in relation to oral surgery.
- Possess thorough knowledge on local anaesthesia (pharmacology, complications and the types and techniques of its administration).
- Minor Oral Surgery procedure.
- The diagnosis and referral of malignant and premalignant condition in head & neck region.
- Management of oral and maxillofacial trauma.
- Diagnosis of dentofacial deformities.

COMPETENCY ASSESSMENT

- The competency test must be passed within the stipulated period given.
- Only two attempts of the test are allowed. Students must passed all components of assessment be it clinical or theory.
- The assessment must be carried out by any exam calibrated specialists/examiners.
- The test comprises of the following:
    i. Inferior Dental Nerve block technique.
    ii. Lower posterior tooth extraction.
    iii. Viva voce.
- Students must be able to:
    i. demonstrate thorough knowledge on extraction forceps, materials and instruments used in basic oral surgical procedure.
    ii. apply knowledge and skills in exodontia procedure.
    iii. perform intra and post-operative management.

Competency assessment will be based on the following criteria:

Table 10

Details on each criterion	
1	**Clinical history**
	- Able to enquire and acquire relevant history from the patient
	- Able to present patient history in a comprehensive and fluent manner
2	**Clinical Examination**
	- Able to elicit both extra and intra oral signs along with findings following investigation
	- Able to present the findings in a systematic manner

3	**Diagnosis and Treatment Planning**
	- Provide a definitive diagnosis or preliminary diagnosis(s) backed by supporting data
	- Devise a comprehensive treatment that approach patient's complaint holistically
4	**Anaesthesia and Extraction**
	- Ability to decide type of local anaesthesia method and carry it out effectively
	- Ability to perform extraction (instruments selection, patient positioning & handling)
5	**Intra & Post-Operative management**
	- Ability to manage minor complication (pain, infection, bleeding, retained fractured root etc)
	- Ability to provide proper postoperative care including; postoperative advice , drug prescription and patient reassurance)

Table 11. The five-point Bondy rating scale

Scale label	Bondy Score	Standard of procedure	Quality of performance	Level of assistance required
Independent	5	Safe Accurate Achieved intended outcome Behavior is appropriate to context.	Proficient Confident Expedient	No supporting cues required
Supervised	4	Safe Accurate Achieved intended outcome Behavior is appropriate to context	Proficient Confident Reasonably expedient	Required occasional supportive cues
Assisted	3	Safe Accurate Achieved most objectives for intended outcome Behavior generally appropriate to context	Proficient throughout most of performance when assisted	Required frequent verbal and occasional physical directives in addition to supporting cues
Marginal	2	Safe only with guidance Not completely accurate Incomplete achievement of intended outcome	Unskilled Inefficient	Required continuous verbal and frequent physical directives cues
Dependent	1	Unsafe Unable to demonstrate behavior Lack of insight into behavior appropriate to context	Unskilled Unable to demonstrate procedure/ behavior	Required continuous verbal and physical directives cues
X	0	Not observed	-	-

HOSPITAL ATTACHMENT (SASMEC)

RULES AND REGULATIONS

OMFS CLINICAL ATTACHMENT AT SASMEC@IIUM KUANTAN.

1. Students are required to display their matrix cards.
2. Students are required to don scrub-suit and proper PPE while attending clinical/OT/oncall sessions in SASMEC@IIUM.
3. Students are required to practice code of ethics for medical professions during the training.
4. Students are governed by the hospital's rules and regulations.
5. Students are not allowed to attend to patients of opposite sex without the presence of a chaperone.
6. Students must have sound knowledge on cross infection protocol and observe good level of infection control practice in the hospital.
7. All student activities at the SASMEC facility must be done under the supervision of the appointed supervisor.
8. Students are not allowed to manage, perform investigations or treat any patients. They are only allowed to observe for learning purposes under the supervision of the appointed supervisor.
9. All information, statistical data and medical records obtained during the training are CONFIDENTIAL and cannot be taken out from the facility and cannot be used for other purposes except for learning purposes.
10. SASMEC is not responsible for any diseases, accidents, or injuries that might occur during the training.
11. The Head of Department at SASMEC facility has the right to terminate the placement/training at any period of time if the students failed to follow the hospital's rules and regulation. A report will be sent to Kulliyyah of Dentistry IIUM, and the Director of SASMEC.

Clinical requirements:

Category	No of cases
Surgical case in operating theatre	1
Oral diagnosis in consultation clinic	2 (in separate sessions)

Case report write-up:

Category	No of cases
Surgical case in operating theatre	1
Oral diagnosis in consultation clinic	1

Note:
All reports must be submitted within **2 WEEKS** after the hospital visit.
Submission of the report is **compulsory** to be eligible to sit for 4th Professional examination.

OMFS ON-CALL TAGGING

Student's duty and responsibilities

1. All the students must **alert with on-call tagging rotation** and make sure **mobile phone is fully charged 24 hours.**
2. The appointed group leader should inform all members of their on-call case and ensure they **arrive at the location as instructed within 20 minutes.**
3. Students are required to display their matrix cards at all times.
4. **Dress code**: Students are required to don scrub suit and appropriate PPE (as stipulated when attending oncall cases in Emergency and Trauma Department.
5. **Observe** the trauma cases managed by the oncall dental officer/specialist on duty.
6. The students may assist during the clinical procedure if they are allowed to do so by the clinical officer on duty.
7. **Follow the instruction** given by clinical officer on duty.
8. Comply with all the **rules and regulations** imposed by SASMEC.
9. Fill up the log book.

Any enquiries: Please refer to OMFS Unit, IIUM.

SUMMARY OF CLINICAL REQUIREMENT

<table>
<tr><th rowspan="2">Year</th><th colspan="3">Procedure</th><th rowspan="2">COMPETENCY ASSESSMENT</th><th rowspan="2">HOSPITAL ATTACHMENT</th></tr>
<tr><th>Extraction</th><th>MOS (Perform)</th><th>MOS (Assist)</th></tr>
<tr><td>Y3</td><td>3
(Bondy 3)</td><td>-</td><td>-</td><td></td><td></td></tr>
<tr><td>Y4</td><td>4
(Bondy 4)</td><td rowspan="3">1</td><td rowspan="3">2</td><td>/</td><td></td></tr>
<tr><td rowspan="3">Y5</td><td rowspan="3">5
(Bondy 4 and above)</td><td rowspan="3">/</td><td>ONCALL</td></tr>
<tr><td>CLINIC</td></tr>
<tr><td>OT</td></tr>
<tr><td>Total</td><td>12
(Bondy 3=3;
Bondy 4=7;
Bondy 5=2)</td><td>1</td><td>2</td><td>1</td><td></td></tr>
</table>

ELIGIBILITY FOR PROFESSIONAL EXAM IV

Completed the clinical requirements for Y3, Y4 and Y5 and pass competency test (clinical and viva).

ASSESSMENT SYSTEM

Table 12. Marking scale for clinical works

Marking scale for clinical works (Clinical assessment book)	
Year	**Summative Exams for 5427**
Y3	Mid-Year examination Quizzes
Y4	Mid-Year examination Year End examination
Y5	Mid-Year Examination Professional Examination IV

Table 13. Professional IV Examination weightages

Professional Examination IV weightage	
Continuous Assessment from Year 3 till Year 5 Examinations (Mid-year, year-end examination and Pre-Pro IV) clinical performance, case presentations, quizzes and seminars)	40%
Professional Examination: Theory and OSCE	60 %
Total	**100%**

***Students must pass the Professional Exam component in order to be considered pass the subject.*

LIST OF LECTURES FOR 2023/2024

Table 14. List of Lectures- Year 3, Year 4 and Year 5

YEAR 3	
Blocks	**Topics**
1	Introduction to Oral Surgery
	Practice of Good Infection Control Protocol in Oral Surgical Procedure
	Local Anaesthesia: Pharmacology, Indications and Contraindications
	Local Anaesthesia: Techniques in Maxilla
	Local Anaesthesia: Techniques in Mandible
	Failures and Complications of Local Anaesthesia
	Tutorial: Failures and Complications of Local Anaesthesia
	Dental Forceps & Hand Instruments
	Failures and Complications of Local Anaesthesia
2	Technique of Exodontia
	Examination & Diagnosis
	Consent & Ethics in Oral Surgery
	Complication of Extraction
	Hemorrhage and Haemostasis
	Analgesics in Dentistry
	Antibiotics in Dentistry
	Tutorial: Antibiotic & Analgesics
	Basic Life Support
3	Management of Dental Patients with Medical Complications: Pregnancy
	Management of Dental Patients with Medical Complications: Infectious Diseases (HIV, Hep B)
	Management of Dental Patients with Medical Complications: CVS and Ab Prophylaxis
	Management of Dental Patients with Medical Complications: Respiratory
	Management of Dental Patients with Medical Complications: Haematology
	Management of Dental Patients with Medical Complications: Endocrine disorders (I) & (II)
	Small Group Discussion: Medically Compromised Dental Patients - DM, CVS & Renal
4	Management of Complicated Extraction
	The Maxillary Antrum Disorder and Oro-Antral Communication / Fistula
	Tutorial: The Maxillary Antrum Disorder and Oro-Antral Communication / Fistula
	Suturing: Materials & Technique
	Biopsy – Types and Techniques

	Small Group Discussion: Medically Compromised Dental Patients- Liver, Drug Interactions, Haematology

YEAR 4	
Blocks	**Topics**
1	Minor Oral Surgery: Basic Principles, Flap Design, Bone Removal and Suturing
	Impacted Wisdom Teeth: Assessment, Indication and Surgical Procedure
	Impacted Teeth
	Complications of Minor Oral Surgery
	Preprosthetic Surgery
	Tutorial: Preprosthetic Surgery
	Small Group Discussion: Management of Impacted Teeth
2	**Seminars** Medical Emergencies in Oral Surgery; 1.Allergies 2.TIA 3.Bleeding 4.Asthma 5.Hypoglycaemia 6.Syncope 7.DKA 8.Epilepsy 9.Thyroid Crisis 10.Ischemic Heart Disease 11.Adrenal Crisis 12.Anaphylactic Shock 13.Hypovolemic Shock 14.Cardiac Arrest

3	Odontogenic Infections
	Principle of Management of Oro-Facial Infections
	Odontogenic & Non-odontogenic Tumours of the Jaws
	Oral Cancer
	Cysts of the Jaw: Surgical Management
	Endodontic Surgery
	Small Group Discussion: Odontogenic cyst
4	Surgical Aids to Orthodontics
	Basic Principles in Management of Patients with Maxillofacial Injuries
	Soft Tissue & Dentoalveolar Injuries
	Fractures of Mandible
	Tutorial: Fractures of Mandible
	Fractures of Middle Third of Facial Skeleton (I) and (II)

YEAR 5	
Blocks	**Topics**
1	General Anaesthesia
	Conscious Sedation in Dentistry
	Introduction to Training and Performance Appraisal at Dental Specialist Clinic (OMFS) for Dental Officer at Ministry of Health, Malaysia
2	Craniofacial Deformities: Introduction and Principles of Management
	Orthognathic Surgery
	Management of Cleft Lip and Palate
	Small Group Discussion: Management of Cleft Lip & Palate
3	Implant Surgery
	Bone Grafting & Reconstruction
	Recent Advances in OMFS
	Small Group Discussion: Odontogenic/Orofacial Infection
4	Management of Salivary Gland Disorders
	Surgical management of TMJ Diseases
	Small Group Discussion: Maxillofacial Trauma
	Seminar: Oral Cancer Calibration

Clinical Hours

Total clinical hours allotted in Y3, Y4 and Y5

	Block	Total Clinical Session
Year 3	1	48 hours
	2	
	3	30 hours
	4	
Year 4	1	24 hours
	2	
	3	48 hours
	4	
Year 5	1	48 hours
	2	
	3	24 hours
	4	

UNDERGRADUATE STUDENT HANDBOOK

ORAL MEDICINE & ORAL PATHOLOGY

DENT 3431| DENT 4431| DENT 5431

ORAL MEDICINE AND ORAL PATHOLOGY

INTRODUCTION

Oral Medicine and Oral Pathology (OMOP) is a course that emphasises on achieving the diagnosis of oral and perioral diseases and its management. OMOP is mainly comprises of two components, in which oral medicine (OM) is more on the clinical aspect concerned mainly with diseases involving the oral and perioral structures, especially the oral mucosa, and the oral manifestations of systemic diseases, meanwhile oral pathology (OP) is more focused on providing diagnosis based on the histopathological findings under the laboratory setting. Oral radiology (OR) is also embedded and thought together within this subject. OR emphasizes various radiographic techniques and interpretation as an essential component to reaching diagnosis and formulating treatment plans.

GENERAL OBJECTIVES

Upon completion of this course, students should be able to:

1. To describe oral and maxillofacial diseases and their relevance to prevention, diagnosis, and treatment
2. To explain general and systemic disease of particular relevance to oral health
3. To explain the aetiology and pathogenesis of orofacial disease
4. To obtain, record and interpret a comprehensive patient history, followed by a thorough clinical examinations and appropriate investigations to achieve an accurate diagnosis.
5. To formulate an appropriate treatment plan based on the patient assessment and diagnosis.
6. To manage common oral diseases and refer when and where appropriate.

TEACHING STAFF

Head of Unit
Asst. Prof Dr Rafiq Khalid
Lecturers

1. Prof. Dr Zainul Ahmad Rajion
2. Asst. Prof Dr Nurul Ruziantee Ibrahim
3. Asst. Prof Dr Nor Aszlitah Borhanudin
4. Asst. Prof Dr Badruddin Ghazali
5. Asst. Prof Dr Lukman Md Auzair

METHODS OF DELIVERY

1. Lecture
2. Tutorial
3. Laboratory Practical
4. Problem Based Learning (PBL)
5. Case presentations
6. Seminar
7. Clinical

COURSE MODULE: YEAR 3 (DENT 3431)

COURSE SYNOPSIS

Oral Pathology
Oral pathology deals with the nature, identification and management of diseases affecting the oral and maxillofacial regions, as well as providing the knowledge and the understanding of aetiology and pathogenesis of these diseases.

Oral Radiology
The course involves lectures and demonstration/seminars to teach physical, biological, technical and diagnostic aspects of dental imaging procedures. It emphasizes various radiographic techniques and interpretation as an essential component for diagnosis and treatment.

TEACHING METHOD(S)

Lectures, laboratory practical, oral radiography demonstrations, tutorials.

LECTURERS

Prof. Dr Zainul Ahmad Rajion, Asst. Prof Dr Nurul Ruziantee Ibrahim, Asst. Prof Dr Nor Aszlitah Borhanudin, Asst. Prof Dr Rafiq Khalid, Asst. Prof Dr Badruddin Ghazali, Asst. Prof Dr Lukman Md Auzair

LEARNING OUTCOMES

Oral Pathology

1. Identify the Pathological conditions affecting the oral and maxillofacial area.
2. Distinguish the oral manifestations and presentations of the systemic disease.
3. Infer basic principles of pathology and histopathology of diseases and conditions of the oral and maxillofacial region.
4. Identify malignant and potentially malignant oral lesions and conditions.

Oral Radiology

1. Explain the principle of dental radiography including radiation physics and its biological effects.
2. Explain radiographic technique and radiation safety in the practice of dentistry.
3. Demonstrate the capability to undertake protection during x-ray exposure.
4. Apply appropriate infection control protocol during radiographic procedure.
5. Interpret the images found in radiographs.
6. Explain the principle and usage of advanced imaging modalities used in dentistry.

REQUIREMENTS

Oral Pathology

Completion of drawings as per in OP year 3 logbook.

Oral Radiology

3 bitewings, 5 periapical views and 2 panoramic views

ASSESSMENTS

Continuous assessments: Logbooks, Mid-Year Year 3 examination

COURSE MODULE: YEAR 4 (DENT 4431)

COURSE SYNOPSIS

Oral Medicine

Oral medicine is concerned with the diagnosis and management of oral and perioral diseases and interrelationship between oral and systemic diseases.

Oral Radiology

Oral radiology is concerned with the radiographical interpretation of intraoral and extraoral structures to have a proper diagnosis and management of the oral and maxillofacial cases.

TEACHING METHOD(S)

Lectures, clinical sessions, tutorials, seminars & PBL.

LECTURERS

Prof. Dr Zainul Ahmad Rajion, Asst. Prof Dr Nurul Ruziantee Ibrahim, Asst. Prof Dr Nor Aszlitah Borhanudin, Asst. Prof Dr Rafiq Khalid, Asst. Prof Dr Badruddin Ghazali, Asst. Prof Dr Lukman Md Auzair

LEARNING OUTCOMES

Oral Medicine

1. Demonstrate understanding of common medical disorders manifested in the oral facial region and their treatment.
2. Interfinding of comprehensive head and neck examination to make a diagnosis

Oral Radiology

1. Justify the prescription of radiographs for diagnostic purposes.
2. Perform intraoral and other relevant radiographic investigations.
3. Integrate the radiographic findings to the treatment plan.
4. Organise referral made based on appropriate clinical judgement.

REQUIREMENTS

Clinical logbooks: Present 8 different cases (which must include one case of TMJ disorder) with the follow-up of each case. Observed at least TWENTY (20) cases.

ASSESSMENTS

Continuous assessments: Clinical Logbooks, OR seminar, Mid-Year Year 4 Examination and Year-End Year 4 Examination

COURSE MODULE: YEAR 5 (DENT 5431)

COURSE SYNOPSIS

Oral Medicine gives a thorough scientific background as well as knowledge to permit student to examine the patient, evaluate the various findings, and draw a definite diagnostic conclusion and treatment plan

TEACHING METHOD(S)

Clinical sessions, case presentations & PBL.

LECTURERS

Asst. Prof Dr Nurul Ruziantee Ibrahim, Asst. Prof Dr Nor Aszlitah Borhanudin, Asst. Prof Dr Rafiq Khalid, Asst. Prof Dr Lukman Md Auzair

LEARNING OUTCOMES

1. Infer the drugs to be used in oral medicine, their side effects and interaction
2. Infer finding of comprehensive head and neck examination to make a diagnosis
3. Organise referral based on appropriate clinical judgment

REQUIREMENTS

Clinical logbooks: Continuing the logbook from year 4- to present 8 different cases (which must include one case of TMJ disorder) with the follow-up of each case. Observed at least TWENTY (20) cases.

ASSESSMENTS

1. Continuous assessments: Clinical logbooks, case presentations, Pre-Professional IV Examination.
2. Professional IV examination.

ASSESSMENT SYSTEM

Table 15: Grading criteria for clinical logbooks

GRADE		CRITERIA
9-10	EXCELLENT	Student is able to perform full examination, recognition of problem and achieving a final diagnosis and treatment plan without any assistance from the lecturer
7-8	GOOD	Student is able to perform full examination, recognition of problem and achieving a final diagnosis and treatment plan with minimum assistance from the lecturer
5-6	SATISFACTORY	Need continuous help and supervision in order to perform proper examination and reach a final diagnosis with a proper treatment plan.
<5	UNSATISFACTORY	Unable to perform the basic examination and diagnostic procedures even with the guidance of the lecturer.

Table 16: Marking weightage

METHODS	PERCENTAGE
Continuous assessment • 50%: Mid-Year Exam Year 3, Mid-Year Exam Year 4, Year-End Year 4 Exam, Pre-professional IV examination. • 50%: Logbooks, Seminars, PBL	40%
Professional exam • Professional IV exam	60%
TOTAL	**100**

**Students must pass the Professional IV Exam components in order to be considered pass the subject.*

Table 17. List of Lectures/Seminars for 2023/2024

YEAR 3- DENT 3431		
BLOCK	**TOPICS**	**CONTACT HOUR**
1	Introduction to Oral Pathology	1
	Diseases of the Pulp	1
	Diseases of the Periapical Tissues	1
	Healing of Oral wounds and tooth extraction socket	2
	Bone Infections and Spread of Oral Infections	2
	Cysts of the Oral Region -Non-odontogenic	1
	The Physics of Ionizing Radiation	1
	Biologic Effects of Radiation	1
	Radiation Safety and Protection	1
	Imaging Principles and Techniques	1
	Radiographic anatomical landmark	1
	Intra-oral Radiography	1
2	Cysts of the Oral Region- odontogenic	2
	Odontogenic Tumours	3
	Oral Pigmented/Melanotic Lesions	1
	Diseases of Salivary glands	1
	Tumours and tumour-like lesions of Salivary glands	2
	Extra-oral Radiography	1
	Infection Control in Radiology	1
	Principles of Image Interpretation	1
	The quality of radiographic image and quality assurances	1
	Specialized Imaging Techniques	1
3	Odontogenic cyst and tumour	1
	Diseases of Jawbones-Tumor and tumor like lesions	1
	Diseases of Jawbones-fibro-osseous lesions	2
	Developmental Disturbances of the Teeth, Jaws and related oral and Paraoral Structures	2
	Ulcerative lesions of the oral mucosa.	1
	Vesiculo-bullous lesions.	2
4	Oral potentially malignant disorders	2
	Oral Cancer	1
	OPMD and oral cancer	2
	Lesions of the oral mucosa and submucosa	1
	Metastatic Tumours to the Jaws and Oral Soft Tissues	1

YEAR 4- DENT 4431		
BLOCK	**TOPICS**	**CONTACT HOUR**
1	Introduction to Oral Medicine	1
	Examination & diagnosis of the patient	1
	Oral Ulceration	2
	Disorders of the TMJ	2
	Oral potentially malignant lesions	2
	Laboratory investigations and Biopsy	1
	Dental Caries and Periapical pathology	1
	Developmental abnormalities and Regressive Changes	1
	Infection and Inflammation of the Jaws and Facial Bones	1
	Cysts of the oral region	1
	Benign Tumours of the Jaws	1
	Malignant Diseases of the Jaws	1
	Bone Diseases	1
	Systemic Diseases manifested in the Jaws	1
2	Oral potentially malignant lesion	1
	Vesiculo–Bullous lesions	2
	Facial Pain	2
	Neurological disorders and Neuropathies	2
	Infectious disease of the oral mucosa i. Bacterial ii. Viral iii. Fungal	2
	Maxillofacial Radiology	1
	Temporomandibular Joint	1
	Paranasal Sinuses	1
	Trauma to the Teeth and Facial skeleton	1
	Development Disturbances of Face and Jaws	1
	Salivary Gland Radiology	1
	Implant Radiology	1
	Forensic Dental Imaging	1

3	Oral Manifestations of Systemic Diseases	1
	Sex related oral diseases	1
	Human immunodeficiency virus and Acquired immunodeficiency syndrome	2
	Medically compromised patients and related problems	2
	Endocrine diseases: a- Diabetes.	1
	CT Scan: Newer imaging Technique/ MRI	1
	Protective measure used in dental radiology	1
	Effects of ionizing radiation on oral and maxillofacial region	1
4	Endocrine diseases: b- Thyroid and parathyroid hormones. c- Adrenal insufficiency.	2
	Disorders of Salivary Gland	2
	Drugs used in dentistry	1
	Oral Mucosal and submucosal lesions.	1

YEAR 5- DENT 5431		
BLOCK	**TOPICS**	**CONTACT HOUR**
1	Case Presentations	6
	PBL	2
2	Case Presentations	6
	PBL	2
3	Case Presentations	6
	PBL	2
4	Case Presentations	6
	PBL	2

REFERENCES BOOKS

1. Odell E.W.(2017). Cawson's Essentials of Oral Pathology and Oral Medicine, 9th edition.
2. Neville, B. W., Damm, D. D., Chi, A. C., & Allen, C. M (2015). Oral and maxillofacial Pathology. Elsevier Health Sciences.
3. Mallya, S. and Lam, E., White and Pharoah's (2018). Oral Radiology Principles and Interpretations. 8th edition, Elselvier.
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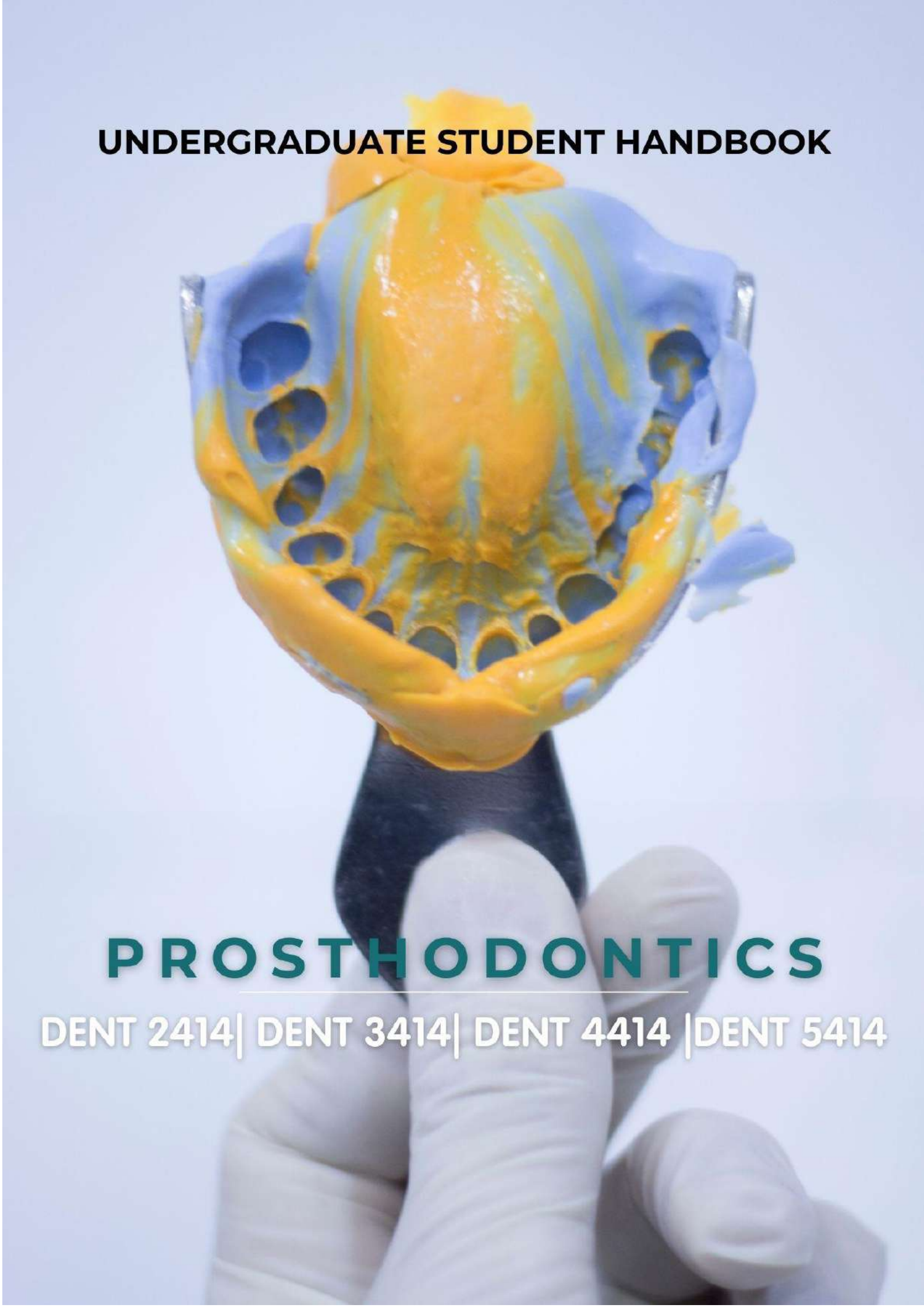
UNDERGRADUATE STUDENT HANDBOOK



PROSTHODONTICS

DENT 2414| DENT 3414| DENT 4414 |DENT 5414

PROSTHODONTICS

INTRODUCTION

Prosthodontics is one of the specialties in dentistry that deals with the replacement of missing teeth and associated soft and hard tissues using fixed or removable prostheses (crowns, bridges, dentures) and they may be supported or retained by implants. A Prosthodontist is a specialist who deals with the replacement of missing teeth and related mouth or jaw structures by bridges, dentures or prostheses.

The components of prosthodontics are removable prosthodontics, fixed prosthodontics, maxillofacial prosthodontics and implant prosthodontics. For the undergraduate syllabus, this subject gives focus to the removable prosthodontics, fixed prosthodontics, and introduction to implant prosthodontics and maxillofacial prosthodontics.

The prosthodontics subject will be taught for the period of four years during the Bachelor of Dental Student (BDS) programme of International Islamic University Malaysia (IIUM). It commences in the pre-clinical year (Year 2) and continues throughout the clinical years (Year 3, 4 and 5). Throughout the four years, there will be assessments on the students' performance through tutorials, competency tests, written examinations and practical. This is to ensure that the students have excellent understandings of the subject both theoretically and practical. By the end of the BDS programme, the students are required to complete the Prosthodontics requirements for the undergraduate students that have been set by the Malaysian Dental Council (MDC), a professional body that governs the practice of dentistry in Malaysia.

GENERAL OBJECTIVES

1. To develop the necessary core skills for gathering diagnostics information, adoption of evidence-based dentistry in producing good treatment plans, based on the established prosthodontic principles.
2. To produce knowledgeable and skilled future dental surgeons who are able to provide removable and fixed prosthodontics treatments independently.
3. To instil the practice of holistic patient management including the integration of treatment concept with other dental specialties and able to identify and provide referrals for complex cases to relevant specialists.

TEACHING STAFF

Head of Unit/ Department:
Asst Prof Dr Karimah Wahida Binti Zulkifli

Lecturers
1. Asst. Prof. Dr. Wan Noor Nazayan Binti Wan Nik
2. Asst. Prof. Dr. Hikmah Binti Mohd. Nor
3. Asst. Prof. Dr. Wan Azila Binti Wan Hamat
4. Asst. Prof. Dr. Anis Zafirah Binti Mustapa
5. Asst. Prof. Dr. NorFaezah Binti AHmad
6. Asst Prof. Dr. Wan Nor Hayati Binti Wan Abd. Manan
7. Asst. Prof. Dr. Chu Seng Boon
8. Asst. Prof. Dr. Sulhi Bin Bidin

METHODS OF DELIVERY

- Lecture
- Tutorial
- Laboratory
- Practical
- Others (PBL / Seminar / Small Group Discussion /Quiz)

COURSE MODULES: YEAR 2 (DENT 2414)

COURSE SYNOPSIS

The course provides the student with a series of coordinated lectures, demonstrations and comprehensive hands-on techniques in the area of complete and removable partial dentures. This includes setting teeth, waxing and casting. It is designed to prepare the students for clinical interaction with their patients, which they will begin in Year 3. It incorporates material science, allowing the students experience in handling many types of dental materials including wax, acrylic, dental stones and metals. It also includes practical work producing dentures.

TEACHING METHOD(S)

Lecture, Demonstration, Practical

LECTURER(S)

Dr Anis Zafirah, Dr Karimah Wahida, Dr Chu Seng Boon, Dr Sulhi

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. Apply the basic theories of denture construction using simulated cases.
2. Distinguish the appropriate materials and equipment for relevant laboratory procedure.
3. Show proper handling of various dental materials.
4. Display the ability to construct removable complete and partial dentures in the laboratory.
5. Perform denture relining, rebasing, and repair in simulated cases.

ASSESSMENTS

Tutorial at the end of each block, logbook.

Formal written examinations: None.

Table 18. List of Lectures for Year 2 2023/2024

Week	Course Content	Guided Learning SLT	Independent Learning SLT
	Block 1		
1	Lecture: Introduction to Removable Prosthodontics.	1	2
1	Lecture: Anatomy of Denture Bearing Areas	1	2
1	Lab Demo: Preparing of study models	3	1
1	Lab: Preparing of study models	2	1
2	Lecture: Impressions, Types of Tray, Primary Impression, Final Impression	1	2
2	Lab Demo: Custom/special tray construction	3	1
2	Lab: Custom/special tray construction	2	1
3	Lecture: Record Base, Bite Rim and Registration of Jaw Relations	1	2
3	Evaluation: Custom/special tray construction	3	1
3	Demo: Beading and boxing	2	1
4	Lecture: Articulators and Mounting	1	2
4	Lab: Beading and boxing	3	1
4	Lab Demo: Occlusion rims and record bases	2	1
5	Lecture: Selection of Teeth and Arrangement of Anterior and Posterior Teeth	1	2
5	Lab Demo: Occlusion rims and record bases	3	1
5	Evaluation: Occlusion rims and record bases	2	1
6	Lecture: Occlusion and Teeth Setting, Working and Balancing Sides	1	2
6	Lab Demo: Setting of teeth	3	1
6	Setting of teeth	2	1
7	Setting of teeth	3	1
7	Lab Demo: Carving and gum work	2	1
8	Lab: Carving and gum work	3	1
8	Evaluation: Teeth setting & Carving, gum work	2	1
8	Tutorial on Topics Block 1	1	1
1-8	Laboratory	6	2
	Block 2		
1	Lecture: Trial denture	1	2
1	Lab Demo: Flasking	3	1

1	Lab: Flasking	2	1
2	Lecture: Denture Processing, Finishing and Polishing.	1	2
2	Lab: Flasking	3	1
2	Lab Demo: Deflasking and packing	2	1
3	Lab Demo: Deflasking and packing.	3	1
3	Lab: Deflasking and packing.	2	1
4	Lab Demo: Finishing and polishing.	3	1
4	Lab: Finishing and polishing.	2	1
5	Lab Demo: Selective grinding.	3	1
5	Lab: Selective grinding.	2	1
6	Lab Evaluation: Completed denture.	3	1
6	Lab Demo: Denture repair and rebase.	2	1
7	Lab: Denture repair.	3	1
7	Lab Evaluation: Denture repair.	2	1
7	Tutorial on Topics Block 2	1	1
8	Lecture: Types of RPD (Metal & Acrylic RPD)	1	2
8	Lab Demo: Preparation of partially edentulous models.	3	1
1-8	Laboratory	9	3
Block 3			
1	Lecture: Classification of Partially Edentulous Arches.	1	2
1	Lab Demo: Surveying and its details.	3	1
1	Lab: Surveying and its details.	2	1
2	Lecture: Dental Surveyor and Surveying	1	2
2	Lab Demo: Wire bending	3	1
2	Lab: Wire bending	2	1
3	Lecture: Components of RPD: Maxillary and Mandibular Major Connectors.	1	2
3	Lab Demo: Wax up and mounting	3	1
3	Lab: Wax up and mounting	2	1
4	Lecture: Minor connectors and Denture Base	1	2
4	Lab Demo: Setting of teeth	3	1
4	Lab: Setting of teeth	2	1
5	Lecture: Occlusal Rest Types and Seat Preparation.	1	2
5	Lab Evaluation: Wire bending and setting of teeth	3	1
5	Lab Demo: Flasking	2	1
6	Lab: Flasking	3	1

6	Lab Demo: Deflasking and Packing	2	1
7	Lab: Deflasking and Packing	3	1
7	Lab Demo: Finishing and Polishing	2	1
8	Lab: Finishing and Polishing	3	1
8	Lab Evaluation: Completed Partial Acrylic Denture	2	1
9	Tutorial on Topics Block 3	1	1
1-9	Laboratory	9	3
	Block 4		
1	Lecture: Direct Retainers	1	2
1	Lab Demo: Creating of partially edentulous four arches	3	1
1	Lab: Creating of partially edentulous four arches	2	1
2	Lecture: Indirect Retainers and Other Auxiliary Components.	1	2
2	Lab Demo: Surveying and its details	3	1
2	Lab: Surveying and its details	2	1
3	Lecture: Occlusion in RPD.	1	2
3	Lab Demo: Designing of RPD (2D)	3	1
3	Lab: Designing of RPD (2D)	2	1
4	Lab: Evaluation Designing of RPD (2D)	3	1
4	Lab Demo: Designing of RPD (3D)	2	1
5	Designing of RPD (3D)	1	2
5	Evaluation: Designing of RPD (3D)	3	1
6	Block out & relief, Impression for master cast-refractory cast	2	1
6	Wax pattern on refractory cast	3	1
7	Casting of metal	2	1
7	Finishing and Polishing	2	1
7	Tutorial on Topics Block 4	1	1
1-7	Laboratory	6	2
	TOTAL	**202**	**100**

Eligibility for Year 3:

Completed Removable Dentures practical

- Complete acrylic dentures
- Removable acrylic partial denture
- Demo on chrome cobalt denture

COURSE MODULES: YEAR 3 (DENT 3414)

COURSE SYNOPSIS

The course provides the students with a series of coordinated lectures, demonstrations, clinical and laboratory sessions. It involves the application of basic principles in the management of complete and partial edentulous patients in the polyclinic under clinical supervision of the lecturers. The first patient will be a complete dentures case, shared between a student and his/her clinical partner. The course is designed to ensure the students are able to demonstrate adequate skills in managing removable prosthodontics patients.

The discipline of fixed prosthodontics involves a series of lectures, demonstrations and practical sessions. It provides technical and hands-on experiences in carrying out tooth preparations and provisional restorations of various crown designs, veneer and onlay/ inlay during simulation sessions. It is designed to prepare the students for planning of fixed prosthodontics cases in Year 4.

TEACHING METHOD(S)

Didactic and clinical

LECTURER(S)

Dr Norfaezah, Dr Wan Noor Nazayan, Dr Hikmah, Dr Wan Azila, Dr Anis Zafirah, Dr Karimah Wahida, Dr Wan Nor Hayati, Dr Chu Seng Boon, Dr Sulhi

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. A Apply the basic principles in the management of complete and partially edentulous patients.
2. Demonstrate adequate skills in managing patients with removable prostheses.
3. Describe the indications for various types of crown, onlay and inlay.
4. Describe appropriate materials to be used for indirect restorations.
5. Display the skills in tooth preparation for indirect restorations.

ASSESSMENTS

Continuous clinical assessment at clinics, competency test of crown preparation with impression making, clinical logbook.

Formal written examinations: Mid-year examination.

CLINICAL REQUIREMENTS FOR YEAR 3

Please refer to Clinical Requirements.

Table 19. List of Lectures for Year 3 2023/2024

Week	Course Content	Guided Learning SLT	Independent Learning SLT
Block 1			
1	Lecture: Introduction to Clinic	1	2
	Lecture: Retention, Support and Stability of Complete Denture	1	2
	Lecture: Examination and Diagnosis	1	2
	Clinic: Observation of Year 4 Removable Prosthodontic Clinic	3	1
	Lecture: Principles of Tooth Preparation	1	2
2	Lecture: Pre-prosthetic treatment for complete denture	1	2
	Lecture: Primary and secondary impression for complete dentures	1	2
	Demonstration: Examination and diagnosis, primary impression for complete dentures	3	1
	Lecture: Veneer and Full Ceramic Crown	1	2
	Practical: Waxing up	3	1
3	Lecture: Recording Maxillo-Mandibular Relationships	1	2
	Demonstration: Secondary Impression for Complete Dentures	3	1
	Practical: Waxing up	3	1
4	Lecture: Try-In Stage of Complete Denture; Checklist.	1	2
	Demonstration: Recording Maxillo-Mandibular Relationship	3	1
	Practical: Ceramic Veneer	3	1
5	Lecture: Fitting and Check Record of Complete Denture	1	2
	Demonstration: Try-In of Complete Dentures	3	1
	Lecture: Full Metal Crown Preparation	1	2
	Practical: Full Ceramic Crown Anterior	3	1
6	Lecture: Post-Insertion Problems and Management.	1	2
	Demonstration: Fitting of Complete Dentures	3	1
	Practical: Full Ceramic Crown Anterior	3	1
7	Tutorial on Topics Block 1	1	1
	Demonstration: Review of Complete Dentures	3	1

	Lecture: Metal Ceramic Crown Preparation	1	2
	Practical: Full Metal Crown Posterior	3	1
8	Lecture: Soft Tissue Management and Impression Making	1	2
	Practical: Full Metal Crown Posterior	3	1
	Clinic	3	1
Block 2			
1	Lecture: Immediate Denture and Management	1	2
	Practical: Metal Ceramic Crown Anterior (with temporary crown and secondary impression)	3	1
2	Lecture: Overdenture and its Management	1	2
	Practical: Metal Ceramic Crown Anterior (with temporary crown and secondary impression)	3	1
3	Lecture: Management of Atrophic and Fibrous Ridges.	1	2
	Lecture: Onlay and Inlay	1	2
	Practical: Metal Ceramic Crown Anterior (with temporary crown and secondary impression)	3	1
4	Practical: Metal Ceramic Crown Anterior (with temporary crown and secondary impression)	3	1
5	Practical: Metal Ceramic Crown Posterior	3	1
6	Practical: Metal Ceramic Crown Posterior	3	1
7	Practical: Metal Ceramic Crown Posterior	3	1
8	Practical: Onlay	3	1
1-8	Clinic	24	8
1-8	Laboratory	24	8
10	Revision	0	1
Block 3			
1	Tutorial – Feedback Mid-Year Exam	1	1
	Lecture: Principles of Partial Denture Design and its Components.	1	2
	Practical: Preparation for Competency Test	3	1
2	Lecture: Examination and Diagnosis	1	2
	Competency Test: Tooth Preparation Metal Ceramic Crown	3	1
3	Lecture: Mouth Preparation for Partial Denture	1	2
	Competency Test: Secondary Impression	3	1

4	Lecture: Primary and Secondary Impression of Partial Denture	1	2
	Practical: Remedial session 1	3	1
5	Tutorial on Topics Block 3	1	1
	Practical: Remedial session 2	3	1
1-8	Clinic	24	8
1-8	Laboratory	24	8
Block 4			
1	Lecture: Recording Maxillo-Mandibular Relationship for Partial Denture.	1	2
2	Lecture: Try-in Partial Denture.	1	2
3	Lecture: Fitting of Partial Denture.	1	2
4	Lecture: Problems of Free-end Saddle and its Management	1	2
5	Tutorial on Topics Block 4	1	1
1-8	Clinic	24	8
1-8	Laboratory	24	8
Final Assessment (if applicable) - Mid-Year Exam		2	0
	Total	**260**	**133**

Eligibility for Year 4: Pass Professional II Examination

COURSE MODULES: YEAR 4 (DENT 4414)

COURSE SYNOPSIS

The course provides the student with a series of lectures, tutorials, clinical and laboratory sessions. It involves application of the basic principle in the management of completely and partially edentulous patients in the polyclinic under clinical supervision of the lecturers. The course is designed to prepare the students for the ability to demonstrate adequate skills in managing patients who require removable Prosthodontics prostheses.

The discipline of fixed prosthodontics is to be taught in detail with lectures, demonstrations and practical sessions. Clinical experience is provided in tooth preparation, provisional restoration and fabrication of various crown designs. The course also covers the restoration of endodontically treated teeth, preparation of multiple abutments for fixed prostheses, selection of bridge design and general fundamentals in treatment planning for fixed prosthodontics cases.

TEACHING METHOD(S)

Didactic and clinical

LECTURER(S)

Dr Norfaezah, Dr Wan Noor Nazayan, Dr Hikmah, Dr Wan Azila, Dr Anis Zafirah, Dr Karimah Wahida, Dr Wan Nor Hayati, Dr Chu Seng Boon, Dr Sulhi

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. Apply the basic principles in the management of complete and partially edentulous patients.
2. Demonstrate adequate skills in managing patients with removable prostheses.
3. Explain the indications, principles and procedures for fixed prosthesis in the restoration of missing /endodontically treated tooth.
4. Demonstrate the ability to manipulate various materials and devices used in fixed prosthodontics.

ASSESSMENTS

Continuous clinical assessment at clinics, tutorials, competency test, logbook.

Formal written examinations: Mid-year examination & Year-end examination

CLINICAL REQUIREMENTS FOR YEAR 4

Please refer to Clinical Requirements.

Table 20. List of Lectures for Year 4 2023/2024

Week	Course Content	Guided Learning SLT	Independent Learning SLT
Block 1			
1	Lecture RP: Post extraction bone remodelling	1	2
2	Lecture FP: Post and core system	1	2
3	Lecture RP: Phonetic in relation to denture construction	1	2
4	Lecture RP: Single complete denture	1	2
5	Lecture FP: Occlusion	1	2
5	Tutorial 1: (Topic lecture 1-5)	1	1
2	**Practical FP:** Post & core on resin block (1)	3	1
3	**Practical FP:** Post & core on resin block (2)	3	1
4	**Demo (Ceramic lab):** Pour impression with die stone & model preparation	3	1
5	**Demo (Ceramic lab):** Wax metal coping, invest & casting	3	1
6	**Demo (Ceramic lab):** Preparation of metal coping	3	1
7	**Demo (Ceramic lab):** Build-up porcelain & glazing	3	1
8	**Demo (Ceramic lab):** Finishing & polishing	3	1
1 - 9	Clinical/Competency test (removable)	48	16
1 - 9	Laboratory prosthodontics	33	11
Block 2			
1	Lecture RP: Shortened dental arch	1	2
2	Lecture FP: Occlusal Analysis	1	2
3	Lecture RP: Copy denture	1	2
3	Lecture FP: Bridges	1	2
4	Lecture RP: Biometric Guides	1	2
5	Tutorial 2: (Topic lecture 1-5)	1	1
1	**Demo:** Fixed-fixed conventional bridge preparation	3	1
2	**Practical:** Fixed-fixed conventional bridge preparation (1)	3	1
3	**Practical:** Fixed-fixed conventional bridge preparation (2)	3	1

4	**Demo & practical:** Facebow transfer	3	1
5	**Demo:** Use of semi-adjustable Arcon type articulator & demo on mounting	3	1
1 - 9	Clinical/Competency test (removable)	48	16
1 - 9	Clinical session for fixed prosthodontics	9	3
1 - 9	Laboratory prosthodontics	33	11
10	Revision	0	1
11	Mid-Year Examination	1	0
Block 3			
1	Tutorial 3: Feedback of mid-year exam	1	1
2	Lecture RP: Management of cleft palate patient	1	2
3	Lecture RP: Maxillofacial prostheses and techniques	1	2
4	Lecture FP: Provisional crown and bridge restorations	1	2
5	Tutorial 4: (Topic lecture 1 and 2)	1	1
1 - 9	Clinical/Competency test (removable)	48	16
1 - 9	Clinical session for fixed prosthodontics	24	8
1 - 9	Laboratory prosthodontics	33	11
Block 4			
1	Lecture RP: Advanced dental material	1	2
2	Lecture RP: Dental implantology	1	2
3	Lecture FP: Crown and bridges failure	1	2
4	Lecture FP: Self evaluation	1	2
5	Tutorial 5: (Topic lecture 1-4)	1	1
1-9	Clinical/Competency test (removable)	48	16
1-9	Clinical session for fixed prosthodontics	24	8
1-9	Laboratory prosthodontics	33	11
10	Revision	0	1
11	Year End Examination	1	0
Final Assessment (if applicable)			
	Total	**444**	**181**

COURSE MODULES: YEAR 5 (DENT 5414)

COURSE SYNOPSIS

The course provides the student with a series of lectures, seminar, clinical and laboratory sessions. It involves application of the basic principle in the management of completely and partially edentulous patients as well student's ability to integrate treatment concept with other dental specialties under clinical supervision of the lecturers. The course is designed to prepare the students for ability to display skills in managing patients who require removable prosthodontics prostheses.

The discipline of fixed prosthodontics is to be taught in details with lectures, seminars, demonstration and clinical sessions. It includes application of principles of fixed prosthodontics in managing patients who require crown and bridge. Clinical experience is gained by treating various simple fixed prosthodontics cases under clinical supervision in the polyclinic. The course also integrates treatment planning with other dental specialties such as Orthodontics and Periodontics. The course includes a seminar on implant retained/ supported prostheses.

TEACHING METHOD(S)

Didactic and clinical

LECTURER(S)

Dr Norfaezah, Dr Wan Noor Nazayan, Dr Hikmah, Dr Wan Azila, Dr Anis Zafirah, Dr Karimah Wahida, Dr Wan Nor Hayati, Dr Chu Seng Boon, Dr Sulhi

LEARNING OUTCOMES

On successful completion of this module, students should be able to:

1. Apply the principles of prosthodontics in patient management.
2. Display skills in managing patients with removable and fixed prostheses.
3. Integrate treatment concepts and techniques with other dental specialties to render total patient care.
4. Organize referral made based on appropriate clinical judgment.

ASSESSMENTS

Continuous clinical assessment at clinics, tutorials, logbook

Formal written examinations: Pre-professional IV Examination & Professional IV Examination

CLINICAL REQUIREMENTS FOR YEAR 5

Please refer to Clinical Requirements.

Table 21. List of Lectures for Year 5 2023/2024

Week	Course Content	Guided Learning SLT	Independent Learning SLT
Block 1			
1	Lecture: Combination Syndrome	1	2
	Lecture: Problem Solving in Fixed Prosthodontic	1	2
2	Lecture: Prosthetic Management of Radiated Patient	1	2
3&4	Seminar: Occlusion	2	6
1-8	Clinic	24	8
1-8	Laboratory for Fixed Prosthodontics	16	5
Block 2			
1	Lecture: Prosthetic Rehabilitation of Hypodontia Patients	1	2
	Lecture: Fixed Prosthodontics-Orthodontic Relationship	1	2
2	Lecture: Prosthodontics Management for Geriatric Patients	1	2
3&4	Seminar: Implant in the Rehabilitation of Partially and Completely Edentulous Patients	2	6
1-8	Clinic	24	8
1-8	Laboratory for Fixed Prosthodontics	16	5
10	Revision	0	2
11	Pre-Professional IV Examination	2	0
Block 3			
1	Tutorial: Feedback of Pre-Professional Examination	1	1
	Lecture: Fixed Prosthodontics-Periodontic Relationship	1	2
1 - 8	Clinic	24	8
1 - 8	Laboratory for Fixed Prosthodontics	16	6
Block 4			
1 - 3	Seminar: Full Mouth Rehabilitation	3	9
1 - 8	Clinic	24	8

1 - 8	Laboratory for Fixed Prosthodontics	16	6
12-13	Revision	0	3
14-16	**Final Assessment:** Professional IV Examination	3	0
	Total	**180**	**95**

CLINICAL REQUIREMENTS

Clinical requirements in removable and fixed prosthodontics are the number of clinical cases and competency tests that are **compulsory** to be completed by the students as one of the prerequisites to sit the Pro-IV examination in Year 5.

The requirements set are in accordance with the standards that were set by the professional body, the Malaysian Dental Council.

Removable Prosthodontics

• 1 set of F/F dentures or F/P denture or P/F dentures in one patient.
• 3 units of partial dentures, at least 1 Co-Cr.
• Competency test
  ○ Pre-operative assessment & partial denture design.
  ○ Secondary impression (either for complete or partial denture).
Note:
• The student can sit the competency test in year 4.
• The 3rd unit of partial denture is the competency test.
• Unlimited trial until passed the test.
• Requirement for preoperative assessment & partial denture design test:
  ○ Minimum four (4) missing teeth.
  ○ Minimum 5+1 remaining teeth.
  ○ Case subject to supervisor approval

Fixed Prosthodontics

• 3 indirect restorations
  i. Crown/onlay (Minimum 2 units)
  ii. Post and core (Minimum 1 unit)
• Bridge
  i. At least one (1) bridge with two (2) abutments preparation.
  ii. In the event where cases are not available, 1 bridge preparation on mannequin and 1 clinical resin bonded bridge/ cantilever bridge/ implant prosthetic are acceptable.
• Competency test:
  i. Procedural crown preparation (PFM crown) and secondary impression

This requirement is set based on Minimum Clinical Experience (MCE)/Competency 2018

Eligibility for Examination

The eligibility to sit the Professional IV Examination at the end of Year 5 requires fulfilment of the prerequisites, as below:

- Completed the clinical requirements for fixed and removable prosthodontics, and passed all competency tests in Year 3, Year 4 and Year 5.
- The attendance record of more than 90% for lectures, tutorials, seminars, practical, clinical and demonstration sessions in every academic year; Year 2, Year 3, Year 4 and Year 5.

Assessment system

Assessment for Year 2

Assessment Methods	Percentage
Logbook Tutorial (Quiz)	100%
Total	**100**

Assessment for Year 3

Assessment Methods	Percentage
Mid-Year Examination Logbook	100
Total	**100**

Assessment for Year 4

Assessment Methods	Percentage
Mid year examination	10
Year end examination	10
Clinical logbook	10
Tutorial	10
Total	**100**

Assessment for Year 5

Assessment Methods	Percentage
Professional IV Examination	60
Continuous Assessment: • 50%: i.Mid-Year Examination – Year 3 (DENT 3414) and Year 4 (4414) ii. Year-End Examination – Year 4 (DENT 4414) iii. Pre-Professional IV Examination- Year 5 (DENT 5414) • 50%: 20% Clinical Logbook RP 10% Clinical Logbook FP 10% Seminar presentation FP 10% Tutorials *RP: Removable Prosthodontics FP: Fixed Prosthodontics	40
Total	**100**

* Students are required to COMPLETE all the above-mentioned requirements by end of the academic year3, 4, & 5 as illustrated in their own logbook. Student who fails to achieve the provided requirement, they are NOT ELIGIBILITY to sit for the Professional IV Examination (or the Promotional Exam if it is conducted).

REFERENCE BOOKS

Removable Prosthodontics

1. Basker, R. M., Davenport, J. C., Thomason J. M. (2011) *Prosthetic treatment of the edentulous patient.* Fifth Edition. Wiley-Blackwell.
2. Carr, A. B., McGivney, G. P., Brown, D. T. (2013) *McCracken's Removable Partial Denture Prosthodontics.* Twelfth Edition. Mosby.
3. Holm-Pedersen, P., Loe, H. (1997) *Textbook of geriatric dentistry.* 2nd ed. London. Wiley.
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Fixed Prosthodontics

1. Bartlett, D. W. (2003) *Clinical Problem Solving in Prosthodontics.* Churchill Livingstone.
2. Drago, C. (2014) Implant Restorations A step-by-step guide. 3rd Edition. Blackwell Munksgaard.
3. Misch, C. E. (2008) *Contemporary Implant Dentistry.* 3rd Edition. Mosby Elsevier.
4. Shillingburg, H. T. (2012) *Fundamentals of Fixed Prosthodontics.* 4th Edition. Quintessence.
5. Wiskott, H. W. (2011) *Fixed Prosthodontics: Principles and Clinics.* Quintessence Publishing.

Appendices

Appendix A: Assessments

Workstation : RPR
Version no : 3.1
Revision no : 1.
Effective date : 1st Nov 2014

CLINICAL ASSESSMENT FORM FOR PARTIAL AND COMPLETE DENTURE

PROSTHETIC DENTISTRY UNIT, KULLIYYAH OF DENTISTRY, INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

PATIENT'S NAME: _____ R/N: _____

STUDENT'S NAME: _____ YEAR / ACADEMIC YEAR: _____

TYPE OF PROSTHESIS:

☐ C/C ☐ P/P ☐ C/P ☐ P/C ☐ P/- ☐ /P ☐ C/- ☐ / C

☐ Definitive ☐ Provisional/ Interim ☐ Immediate ☐ Overdenture

MATERIAL:

Acrylic: ☐ axilla ☐ Mandible Co-Cr: ☐ Maxilla ☐ Mandible

PROCEDURE		APPT DATE	SUPERVISOR'S NAME AND SIGNATURE / DATE	TECHNICIAN'S NAME AND SIGNATURE / DATE		MARKS (1-10)	REMARKS
Examination and diagnosis							
Primary Impression	Maxilla						
	Mandible						
Surveying (partial denture)							
Denture design (partial denture)							On paper and cast
Special tray							
Toth preparation (partial denture)							
Border moulding and secondary impression	Maxilla						
	Mandible						
Wax rims for MMR							
Framework construction (Co-Cr)							2 weeks follow-up by student
Framework try in (Co-Cr)							
MMR							
Teeth set-up/ Balanced occlusion/ Wax-up							
Try -in denture and post dam							
Denture processing, finishing and polishing				Before	After		
Selective grinding (laboratory)							
Fitting of denture							
Review of denture							
Final review							
TOTAL MARKS (Supervisor)							Completed case
AVERAGE MARKS ((Total marks/ stages) x 100%)							Completed case

*Grading system: 1 to 4 - Below average; 5 or 6 - Average; 7 or 8 - Good; 9 or 10 - Excellent

* Overdenture cases will be given 2 additional marks.

Appendix B: Rubrics for Temporary Crown

Workstation: FPR
Version no: 3.8
Revision no: 0
Effective date: 19 August 2020

RUBRIC FOR TEMPORARY CROWN

Student's name:
Matric No:
Date:

CRITERIA	OUTSTANDING	SATISFACTORY	IMPROVEMENT	UNSATISFACTORY
Surface details	Well polished surface	Minor voids (< 2.0 mm) at non critical areas eg; fitting surface	Minor voids (< 2.0 mm) at critical areas eg; margin	Major voids (> 2.0 mm) present
Adaptation	Stable and well fitted Cover all the margins	Stable but under/ overextended (up to 0.5 mm) from the margins of the prepared tooth	Stable but under/ overextended (> 0.5 - 1.0mm) from the margins of the prepared tooth	Unstable temporary crown Under/ overextended (> 1.0mm) from the margins of the prepared tooth
Occlusion	N/A	Occlusion evenly distributed No high spots Contact points with adjacent teeth are preserved.	N/A	Presence of high spots No contact with the opposing teeth or adjacent teeth
FINAL EVALUATION				

OUTSTANDING
SATISFACTORY (minor error accepted)
IMPROVEMENT (minor error corrected)
UNSATISFACTORY (major error. Work is not accepted and should be repeated)

SUPERVISOR'S NAME: **SIGNATURE & DATE:**

Workstation: FPR
Version: 3.6
Revision No: 0
Effective date: 2nd January 2019

RUBRIC COMPETENCY TEST YEAR 3
Fixed Prosthodontics Tooth Preparation Test
Full Ceramic Crown Anterior (tooth 21)

Student's name:
Matric No:
Date:
Verification of adjacent teeth:

CRITERIA	OUTSTANDING	SATISFACTORY	UNSATISFACTORY
Axial wall reduction	Uniform removal of 1.0-1.5mm tooth structure circumferentially following original crown contour.	Uniform removal of 1.5 – 2.0mm tooth structure circumferentially and/ or slight deviation from original crown contour.	Reduction of <1mm or > 2mm axial wall tooth structure and/ or excessive deviation from original crown contour.
Incisal reduction	Incisal reduction 1.5 - 2.0mm.	Incisal reduction 1.0 – 1.5mm or 2.0 – 2.5mm.	Incisal reduction <1mm or > 2.5mm.
Axial wall taper	Taper of 10^0-15^0 total convergence angle	Not >20^0 total convergence angle.	Preparation is severely over-tapered (> 20^0) or obvious undercut is present.
Margin finish	Shoulder/ heavy chamfer (1.2 - 1.5mm) finishing line is smooth and continuous.	Shoulder/ heavy chamfer (1.2 - 1.5mm) finishing line is continuous but slightly irregular.	Shoulder/ heavy chamfer <1.2 mm or > 1.5 mm. Finishing line other than shoulder and heavy chamfer is prepared. Shoulder/ heavy chamfer finishing line is

			interrupted and irregular.
Gingival margin placement	Equal, 0.5mm sub or supragingiva.	Equal, 1.0mm sub or supragingiva.	> 1.0mm subgingiva or supragingiva.
Adjacent teeth	No damage	Minimal damage eg: crazing , scratching	Obvious damage eg: depression.
OVERALL/ FINAL EVALUATION			

Examiner's Name:
Signature:
Date:

Appendix D: Rubric for Post Preparation Practical

FIXED PROSTHODONTICS PRACTICAL
POST PREPARATION

Workstation: FPR
Version: 3.3
Revision No: 0
Effective date: 21st September 2015

STUDENT'S NAME:
YEAR:
ACADEMIC SESSION:

Details	Supervisor's signature	Date
Estimated post preparation working length		
Criteria		
Post working length • Apical seal 4-5 mm of GP • Length of the post equal or more than crown length		
Canal enlargement • Minimum canal enlargement • Not more than 1/3 of the diameter of the root at CEJ • Minimum 1mm of the tooth structure around the post & beyond		
Points: **Comments:**		

Appendix E: Rubric for Competency Test

RUBRIC COMPETENCY TEST
EXAMINATION & DIAGNOSIS

CRITERIA	GOOD(G)	ACCEPTABLE(A)	IMPROVEMENT(I)	POOR(P)
Chief complaint	-Outstanding knowledge regarding case presented.	-An adequate knowledge regarding case presented.	-Inadequate knowledge regarding case presented.	-Fails to apply basic scientific knowledge. -Irrelevant medical and history taking.
Medical and dental history	-Outstanding knowledge regarding case presented.	-An adequate knowledge regarding case presented.	-Inadequate knowledge regarding case presented.	-Fails to apply basic scientific knowledge. -Irrelevant medical and history taking.
Extraoral / intraoral examination	-Thorough examination in an orderly sequence.	-Complete examination in an inorderly sequence.	-Incomplete examination.	-Inaccurate examination.
Investigation	-Thorough and relevant Investigation. -Able to interprete the findings.	-Complete and appropriate investigation. -Less ability to interprete the findings.	-Incomplete investigation -Unable to interprete the findings.	-No investigation done
Diagnosis	-Accurate diagnosis. -Orderly approach to differential diagnosis (if applicable).	-Accurate diagnosis, without any differential diagnosis (if applicable).	-Incomplete diagnosis.	-Fails to diagnose. -Incorrect diagnosis.

Treatment option/treatment plan	-Thorough treatment plan and in an orderly sequence.	-NA	-Inadequate treatment plan. - in an inorderly sequence.	-Incorrect treatment plan. -No treatment options provided.
Overall/ final evaluation				

Appendix F: Rubric for Denture Design

DENTURE DESIGN

CRITERIA	GOOD (G)	ACCEPTABLE (A)	IMPROVEMENT (I)	POOR (P)
Saddle area	-able to identify the saddle area.	NA	NA	-Unable to identify the saddle area.
Selection of abutment teeth - Number / location. - Periodontal health. - Crown root ratio. - Bone support. - Restoration status. - Survey line.	-Good selection of abutment teeth.	NA	-Inappropriate selection of tooth abutment	-Incorrect selection of abutment teeth.
Rest	-Correct rest position. -Sufficient number of rest.	NA	-Corrrect rest position. -Insufficient/ excess number of rest.	-Incorrect rest position. -No rest.
Clasps: 1. Number. 2. Positioning. 3. Type	-Correct clasp design and number.	NA	-Correct clasp design. -Insufficient/ excess number of clasp.	-Incorrect clasp design. -No clasp.
Indirect retainer (if applicable)	-Correct indirect retainer design and number.	NA	-Correct indirect retainer design. -Insufficient/ excess number of indirect retainer	-Incorrect position of indirect retainer.
Minor/ major connector	-Correct selection of major connector.	NA	-Correct major connector type. -Insufficient extension.	-Incorrect selection of major connector.
Overall/ final evaluation				

DEPARTMENT OF PROSTHODONTICS
RUBRIC COMPETENCY TEST SECONDARY IMPRESSION MAKING

CRITERIA	ASPECTS	GOOD	ACCEPTABLE	IMPROVEMENT	REDO
SPECIAL TRAY	Extension	• 2mm away from the vestibule • Notches to relieve labial and buccal frenae • Cover all the anatomical landmarks • Cover 1/2 - 2/3 of retromolar pad region	N/A	<u>Underextension</u> • >2until 4 mm away from the vestibule • Cover less than 1/2 of retromolar pad <u>Overextension</u> • No sufficient relieve on the labial and buccal frenae • Cover more than 2/3 of retromolar pad	• More than 4mm away from the vestibule • Does not cover retromolar pad
	Adaptation	• Stable and good adaptation to the underlying structures	• Slightly unstable but good adaptation to the underlying structures	• Slightly unstable with adequate adaptation to	• Severe rocking/unstable of special tray

			• No correction required	the underlying structures • Require correction	
	Position of the handle	• Correct angulation • Position in the middle • Appropriate size	• Acceptable angulation, position and size that do not require correction	• Inappropriate angulation, position and size that can be corrected	• Inappropriate angulation, position and size that cannot be corrected
BORDER SEAL (Border moulding)	Surface finish	• Smooth and rounded edges at all periphery	• The edges are slightly sharp or irregular at one area • No correction required	• The edges are sharp or irregular at more than one critical area that can be corrected	• Sharp, irregular edges or missing greenstick material at most of the periphery
	Retention	• Good retention posteriorly and anteriorly during removal	• Acceptable retention during removal	• Unretentive but work can be improved	• Retention is poor
	Extension	• Record all the frenae, extended to the retromolar pad areas and buccal shelves	• Slightly under or overextension of the critical landmarks (frenum/ retromolar pad/ buccal shelf)	• Under or overextension of the critical landmarks (frenum/ retromolar	• Severely under or overextension of the critical landmarks

			• No correction required	pad/ buccal shelf) that require correction	(frenum/ retromolar pad/ buccal shelf)
FINAL IMPRESSION	Impression mixing	• The final impression material is homogenous by representing one colour	• Homogenous impression with minimum area of improper mixing	N/A	• Prominent presence of two colours that indicate improper mixing •
	Anatomical landmarks registered	• Impression covers all the anatomical landmarks (at least half of retromolar pad, residual alveolar ridge, labial and buccal frenum and vestibules)	• Does not record all anatomical landmarks completely however impression is acceptable • No correction required	• Does not record all anatomical landmarks completely and require correction	• Impression does not cover all the appropriate anatomical landmarks
	Surface details	• No voids and tearing of impression present on the impression surface	• Minimal voids (less than 2 mm) on the impression surface • No correction required	• Multiple small voids (2-5mm) which can be repaired by adding the impression material	• Presence of voids (more than 5mm) and tearing of impression material

TIME MANAGEMENT		• Treatment completed within stipulated time AM session: 10.00 AM – 12.30 PM PM session: 2.00 PM – 4.30 PM	N/A	N/A	• Treatment not completed within stipulated time
OVERALL/ FINAL EVALUATION					

YEAR 4 PROMOTIONAL EXAM ASSESSMENT FORM
PROSTHETIC DENTISTRY

NAME: MATRIC NO:
PATIENT'S NAME: DENTAL CHAIR NO:
PATIENT'S REGISTRATION NO: DATE:
START TIME: FINISH TIME:

CRITERIA		EVALUATION
SPECIAL TRAY	Extension	
	Adaptation	
	Position of the handle	
BORDER SEAL (BORDER MOULDING)	Surface finish	
	Retention	
	Extension	
FINAL IMPRESSION	Impression mixing	
	Anatomical landmark registered	
	Surface details	
TIME MANAGEMENT	-	
Overall/ final evaluation		

Evaluation criteria: G/A/I/R
EVALUATION CRITERIA

G	**Good**
A	**Acceptable (minor error accepted)**
I	**Improvement (work can be improved)**
R	**Repeat (major error)** **(Work is not accepted and should be repeated)**

EXAMINER'S NAME:
SIGNATURE:

Appendix G: Assessment form for Denture Design

DEPARTMENT OF PROSTHODONTICS
COMPETENCY TEST PREOPERATIVE ASSESSMENT & PARTIAL DENTURE DESIGN

NAME: MATRIC NO:
PATIENT'S NAME: DENTAL CHAIR NO:
PATIENT'S REGISTRATION NO: DATE:
START TIME: FINISH TIME:

EXAMINATION AND DIAGNOSIS

CRITERIA	EVALUATION
CHIEF COMPLAINT	
MEDICAL AND DENTAL HISTORY	
EXRAORAL / INTRAORAL EXAMINATION	
INVESTIGATION	
DIAGNOSIS	
TREATMENT PLAN / TREATMENT OPTION	
TIME MANAGEMENT	-
Overall/ final evaluation	

DENTURE DESIGN

CRITERIA	EVALUATION
SADDLE AREA	
SELECTION OF ABUTMENT TEETH • NUMBER • LOCATION PERIODONTAL HEALTH • CROWN ROOT RATIO • BONE SUPPORT • RESTORATION STATUS • SURVEY LINE	
REST	
CLASPS • NUMBER • POSITION	

• TYPE	
INDIRECT RETAINER (IF APPLICABLE)	
MAJOR / MINOR CONNECTOR	
TIME MANAGEMENT	
Overall/ final evaluation	

Evaluation criteria: G/A/I/R
EVALUATION CRITERIA

G	**Good**
A	**Acceptable (minor error accepted)**
I	**Improvement (work can be improved)**
R	**Repeat (major error)** **(Work is not accepted and should be repeated)**

EXAMINER'S NAME:
SIGNATURE:

EXAMINER'S NAME:
SIGNATURE:

RUBRIC FOR FIXED – FIXED BRIDGE PREPARATION PRACTICAL
YEAR 5

NAME: MATRIC NO:

START DATE: FINISH DATE:

CRITERIA		TOOTH	OUTSTANDING	SATISFACTORY	IMPROVEMENT	UNSATISFACTORY
Tooth Preparation	Axial wall reduction		• Uniform removal of 1.2 -1.5 mm tooth structures on the labial/ buccal surface following original crown contour	• Uniform removal >1.5 - 2.0 mm tooth structures on the labial/ buccal surfaces and/ or slight deviation from original crown contour	• Uniform removal >0.5 - <1.2mm tooth structures on the labial/ buccal surfaces and/ or slight deviation from original crown contour	• Reduction of > 2.0 mm or <0.5 mm axial wall tooth structure on the labial/ buccal surface and/ or excessive deviation from original crown contour.
		13				
		15				
	Incisal/ occlusal reduction		• N/A	• Incisal reduction 1.5 - 2.0 mm • Functional cusp reduction 1.5 - 2.0 mm • Non functional cusp reduction 1.0 -1.5 mm • 1.5 mm functional cusp bevel on tooth 15	• Functional cusp reduction 1mm – <1.5mm • Non functional cusp reduction 0.5 mm - <1mm	• Incisal reduction <1.5 mm or >2.0 mm • Functional cusp reduction <1.0 mm or >2.0 mm • Non functional cusp reduction <0.5 or >1.5 mm • <1 mm or >1.5 mm functional cusp bevel on tooth15
		13				
		15				

	Axial wall taper		• Taper of 10 -15 degrees total convergence angle	• Not more than 20 degrees total convergence angle • No undercut is present	• Not more than 20 degrees total convergence angle • Slight undercut is present	• Preparation is severely over-tapered (> 20 degrees) or obvious undercut is present
		13				
		15				

	Margin finish		• Shoulder on the labial (1.2 - 1.5 mm)
			• Chamfer on the palatal (0.5 – 0.7 mm)
			• Finishing line is smooth and continuous
				• Shoulder on the labial (>1.5 – 2.0 mm)
				• Chamfer on the palatal (>0.7 – 1.0 mm)
				• Finishing line is smooth and continuous
					• Shoulder on the labial
					  ○ (>0.5 - <1.2mm)
					• Chamfer on the palatal
					  ○ (0.5 – 1.0 mm)
					• Finishing line is slightly irregular
						• Shoulder on the labial <1.2 mm or > 2.0 mm
						• Chamfer on the palatal <0.5 mm or >1.0 mm
						• Finishing line other than shoulder (labial) and chamfer (palatal) is prepared.
						• Finishing line is interrupted and irregular

		13				
		15				
	Gingival margin placement		• Equal or 0.5 mm sub or supragingiva	• > 0.5 - 1.0mm sub or supragingiva	• Supragingiva 1-1.5mm	• > 1.0mm sub or >1.5mm supragingiva
		13				
		15				
	Adjacent teeth		• No damage	• Minimal damage (eg; crazing/ scratching)	• N/A	• Obvious damage (eg; depression)

	Parallelism		• N/A	• Path of insertions of the abutment teeth parallel to each other	• Slight undercut is present	• Path of insertions of the abutment teeth not parallel to each other
Temporary bridge	Surface details		• Well polished surface	• Minor voids (< 2.0 mm) at non critical areas eg; fitting surface	• Minor voids (< 2.0 mm) at critical areas eg; margin	• Major voids (> 2.0 mm) present
	Adaptation		• Stable and well fitted to both abutment teeth • Cover all the margins	• Stable but under/overextended (up to 0.5 mm) from the margins of the abutment tooth/teeth	• Stable but under/ overextended (> 0.5 - 1.0mm) from the margins of the abutment teeth	• Unstable temporary bridge • Under/ overextended (> 1.0mm) from the margins of the abutment teeth
	Occlusion		• N/A	• Occlusion evenly distributed • No high spots • Contact points with adjacent teeth are preserved.	• N/A	• Presence of high spots • No contact with the opposing teeth or adjacent teeth
	Pontic design		• N/A	• Modified ridge lap	• Ridge lap	• Other pontic design

OVERAL/ FINAL EVALUATION						

EVALUATION CRITERIA

OUTSTANDING
SATISFACTORY (minor error accepted)
IMPROVEMENT (minor error corrected)
UNSATISFACTORY (major error. Work is not accepted and should be repeated)

SUPERVISOR'S NAME:

SIGNATURE:

UNDERGRADUATE STUDENT HANDBOOK

RESEARCH

DENT 4438|DENT 5438

RESEARCH

INTRODUCTION

Research Project Year 4 and Research Project Year 5

GENERAL OBJECTIVES

1. To introduce and inculcate research interest among the dental undergraduate student.
2. To introduce the basic research methodology such as research proposal preparation, literature review, sample size calculation and perform data analysis according to the appropriate guideline.
3. To produce undergraduate student who are able to present research finding through scientific evidence by oral presentation and manuscript writing.

TEACHING STAFF

Coordinator Research Year 4
Asst Prof Dr Mohamad Shafiq Mohd Ibrahim

Lecturers
1. Assoc Prof Dr Khairani Idah Mokthar
2. Assoc Prof Dr Basma Ezzat Mustaffa
3. Assoc Prof Dr Widya Lestari

Coordinator Research Year 5
Assoc Prof Dr Khairani Idah Mokthar

Lecturers
1. Assoc Prof Dr Basma Ezzat Mustaffa
2. Asst Prof Dr Mohamad Shafiq Mohd Ibrahim

METHODS OF DELIVERY

- Lecture
- Group Discussion
- Research Project

COURSE MODULE: RESEARCH YEAR 4 (DENT 4438)

COURSE SYNOPSIS

This course starts in Year 4 and continues to Year 5, focusing on research project. Year 4 consists of the first part of the course. Each student will be assigned the project topic and the supervisor (with/without co-supervisor/s). The students will discuss the topic with the supervisor and will be introduced to the laboratory or clinical work by the supervisor. The students will also be taught on how to do the literature survey, write their research proposal, design the experiment and to work on their research projects, guided or supervised by respective supervisor. The students are required to present their research proposals to be commented and evaluated. Throughout the course, students will gain the knowledge on how to conduct research that will improve their ability to analyze, synthesize, and independently problem-solve in the basic, applied and clinical dental sciences as well as in the areas of health services, health policy and health education.

TEACHING METHOD(S)

Lecture, group discussion and research project

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Select relevant resources in conducting research.
2. Demonstrate the ability to conduct a research project.
3. Adhere to ethical guidelines and policies in research.
4. Produce a research proposal based on predetermined guidelines.

ASSESSMENT

Methods	Percentage
• Presentation of research project proposal • Writing of project proposal • Research logbook	100

COURSE MODULE: RESEARCH YEAR 5 (DENT 5438)

COURSE SYNOPSIS

Year 5 consists of the second part of the research project. The students are required to work on their research projects guided or supervised by their respective supervisors. At the end of the Block II (Semester 1, Year 5), the student is required to submit a research project report and orally present their research findings. Throughout this course, students will gain the knowledge how to conduct research that will improve their ability to analyze, synthesize, and independently problem-solve in the basic, applied and clinical dental sciences as well as in the areas of health services, health policy and health education.

TEACHING METHOD(S)

Group discussion and Research project

LEARNING OUTCOMES

Upon completion of this course, students should be able to:

1. Select relevant resources in conducting research.
2. Demonstrate the ability to conduct a research project.
3. Adhere to ethical guidelines and policies in research.
4. Produce a research proposal based on predetermined guidelines.

ASSESSMENT

Methods	Percentage
• Presentation of research project • Research logbook. • Comprehensive Presentation of Research report write-up-MANUSCRIPT • Delivery and Communication Skills-Research presentation (ORAL)	100

LIST OF LECTURES FOR 2023/2024

YEAR 4	
Blocks	**Topics**
1	Lecture: Guideline for Research
	Lecture: Measurement Issues (1)
	Lecture: Measurement Issues (2)
	Lecture: Proposal Writing
	Lecture: Oral and Poster Presentation
	Lecture: Biorisk and Biosecurity
	Lecture: Introduction to Reference Manager Tool and Database Searching
	Proposal Preparation
2	Proposal Preparation
	Proposal Write Up
	Research Project
3	Research Project
4	Research Project
YEAR 5	
Blocks	**Topics**
1	Lecture: Research Project Manuscript Writing
	Lecture: Writing Review Article
	Research Project
	Research Progress Presentation
2	Research Project
	Research Mock Presentation
	Research Project Report Write-Up
	Research Project Presentation

REFERENCE BOOKS

All books or Articles in Journals Related to the Chosen/Assigned Topics

NOTES

الجامعة الإسلامية العالمية ماليزيا
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
يونيۏرسيتي إسلام انتارابڠسا مليسيا
Garden of Knowledge and Virtue

LEADING THE WAY

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