Teheran University of Medical Sciences
International campus Vice-Dean for Educational Affairs

Number 25, Hojat Dost St., Felestin St.,
Keshavarz Blvd., Tehran
1416634793, Iran.
Tell: (+98) 21-88 89 36 78
Web: en.tums.ac.ir/en/content/6/students
Email: icedu@tums.ac.ir

International Campus
Handbook of BDS Program
Sept. 2019 entries

In the Name of God

Degree: Bachelor of Dental Sciences (B.D.S.)

Introduction

Dentistry program (Bachelor degree) as approximately 5.0-5.5 years' program is one of the high educational courses, being considered as a part of Dentistry education plan. The objectives of this program are training and teaching dental and oral specialists, having strong scientific bases for performing future researches in dentistry field, in addition to enjoying from educational-treating efficiency).

Also, they must cover qualitative and quantitative lack of needed human force, throughout the country; final Objectives of considered plan are as follows:

A) Establishing an oral health care/education system in coordination with general health (medical) care system;
B) Supplying preventive-treatment services dentistry services, being just and common, for all people of country. It is performed by qualitative and quantitative developing a desired servicing- educational system in field of health and treatment.

۞ Basic Sciences

In 1.5-2 years**, Basic Sciences** Courses cover the natural structure of the body at the molecular and cellular level (biochemistry, histology and anatomy) of development (embryology) and function (physiology) that all are presented in the form of integrated blocks. In addition to these, different subjects (microbiology, parasitology, mycology, virology, immunology, and pathology) are also provided for the students along with general courses.

At the end of basic science, **comprehensive exam** will be held.

۞ pre-Clinical and Clinical phase

In this part (3.5 - 4 years), students learn specialized lessons at university (class and clinical parts). Also, they pass this course in clinical parts of the faculty and related hospitals in city and centers of province healthcare services for the objectives of enjoying from more educational- treating efficiency.

Goals of the B.D.S Education Program

After completing the educational program for the B.D.S degree, our graduates will demonstrate:

- To prepare highly qualified dental hygiene healthcare professionals.
- Application of their knowledge and skills to the practice of dentistry, including formulating an appropriate problem list, a set of competing hypotheses, and a diagnostic and therapeutic plan;
- Progress in the development of self-directed life-long learning skills, including the recognition of personal educational needs, selection of appropriate learning resources and evaluation of progress;
- Professionalism through a commitment to professional responsibility, ethical principles, reflective practice, and self-improvement;
- Communication skills, including effective and humane interactions with patients, colleagues, health care personnel, and members of the community;
- Ability to function as a collaborative member of the healthcare team;
- incorporation of pedagogy that fosters problem solving and critical thinking skills as a basic feature of the curriculum
- flexibility to allow for enrichment, adaptability to learning styles, and developing alternate careers
- recognition of the role of technology in the educational process and access to information for the efficient and effective practice of dentistry
- continuous evaluation by appropriate outcome data to ensure quality and continuous improvement

.

Mission

The primary mission of Tehran University of Sciences, School of dentistry is to provide access to high quality, publicly-funded dental education to regions in order to develop dentists who will make a personal commitment to serving the needs of rural and underserved communities through outreach programs that are especially attentive to minority and underserved populations.

Students learn about the upstream factors that affect the health outcomes, such as personal behaviors, health care quality and access, social, cultural and economic factors, and the built and natural environment

The educational mission of TUMS is to graduate dentist with the ability and desire to improve the health of all populations by alleviating suffering and eliminating healthcare disparities through their leadership in patient care, research, education, health care administration and the community.

General Competencies It is essential for Dentistry students to have good written and oral communication skills. Students must be able to communicate effectively with patients, physicians and with other members of the health care team. The final applicant pool may be interviewed.

The Terms and Conditions of Admission to the Course All applicants must apply electronically on our website www.gsia.ac.ir. After an application is submitted, the applicant will receive a confirmation e-mail and an application code from the Office of Admissions indicating successful submissions of the application.

If any part of the application is incomplete, our admission coordinator will request the missing information and mark the application incomplete until the requested information is submitted. The completed application form is reviewed in the preliminary review council (PRC).

Once the initial preliminary review council (PRC) has made a decision, the application will be sent to the School and the related department, for an Admission Review.

If you have requested or applied for a scholarship, your application is also forwarded to the Scholarship Committee.

Student Assessment Students should take part in the end of term exams for each module separately. Some lectures may decide to take an additional exam in the mid-term. The pass criteria for most exams are 50% of the total mark. However, if the average mark for all exams taken in each term is less than 12 out of 20, the student's admission to the next term would be conditional in which a reduced number of modules (up to 14.0 credits) could be taken. Repetitive conditional admission may result in student being expelled from the Dentistry program.

Ethical issues

The graduates should,

- Observe the Patient's Bill of Rights1 when working with the patients.
- Strictly observe Biosafety and Patient Safety Rules* concerning the patients, personnel and workplace.
- Observe the Rulebook for Dress Code2.
- Strictly observe the Regulations of Working with the Laboratory Animals3.
- Carefully preserve resources and equipment.
- Truly respect faculty members, the staff, classmates and other students and work for creating an intimate and respectful atmosphere.
- Observe social and professional ethical considerations in criticism.

1, 2 and 3 are contained in the Enclosures.

* Biosafety and Patient Safety Rules will be set out by the Educational Departments and will be available to the students.

Number and Type of Credits and Tables of the Courses

Total Number of Credits: 198 (for International Students)
Basic Medical Sciences Phase: 67 (for International Students)
Clinical Medicine phase: 131

Row	SIPAD code	Subject	Number of credits			Total credits
			Credit (theory)	Credit (practical Clerkship Internship)	prerequisite	
1	997014-15	Anatomical Sciences I	2	1		3
2	997007	Biochemistry I	2			2
3	997009	Biochemistry practical		1		1
4	997008	Biochemistry II	1			1
5	997116	*Application of computer in dentistry	1			1
6	2111111	Devine ethics	2			2
7	1111112	Introduction to Religion I	2			2
8	1021002	General English Language	3			3
9	997016-17	Anatomical Sciences II	2	1	Anatomical Sciences I	3
10	997002	Parasitology & Medical Mycology	1			1
11	997020	Medical Physics	1			1
12	997012-13	Oral Health & Community Dentistry	1.5	0.5		2
13	1021165	Family Planning	2			2
14	997010	Psychology	2			2
15	1021003	Persian Language	3			3
16	997100	*Medical Terminology I	1		General English Language	1
17	8888888	Physical Training I		1		1
18	1111113	Introduction to Religion II	2		Introduction to Religion I	2
19	997018-19	Anatomical Sciences III	0.5	0.5	Anatomical Sciences II	1
20	997021	Physiology I	2		Biochemistry	2
21	997022	Physiology II	2		Physiology I	2
22	997023	Physiology practical		1		1
23	997003-04	Immunology	2.5	0.5	Physiology	3
24	997024	Virology	1			1
25	997005-06	Microbiology	3	1		4

26	997011	Medical Genetic	2			2
27	1111114	Divine texts	2			2
28	997000-01	Pathology	2.5	0.5		3
29	997093	*Dental & Maxillofacial Radiology 1	1			1
30	997046	*Tooth structure in health & disease	2			2
31	997028	*Dental Anatomy and Morphology	0.5	2.5		3
32	997101	*Advanced Terminology II	1			1
33	997084	*Nutrition in Oral Health	1		* Passing score is12.00 out of 20.00	1
34	1111111	Iran Revolution	2			2
35	9999999	Physical Training II		1	Physical Training I	1
36	1919191	Life Skills 1	1			1
37	1919192	Life Skills 2	1			1
38		General Pharmacology	2			2
39		Oral & Maxillofacial (OMF) Surgery 1	1			1
40		Fundamentals of Restorative Dentistry	1.5	0.5		2
41		Restorative Dentistry 1	1			1
42		Oral & Maxillofacial Pathology practical 1		1		1
43		Restorative Dentistry 2	1			1
44		Emergencies in Dentistry	0.5	0.5		1
45		Clinical Communication Skills	1			1
46		Fundamentals of Dental Materials	1			1
47		Infection control	1			1
48		Diagnostic Dentistry 1	0.5	0.5		1
49		Fundamentals of Complete Removable Denture	1.5	0.5		2
50		Oral & Maxillofacial Surgery practical 1		1		1
51		Oral & Maxillofacial Surgery practical 2		1		1
52		Restorative Dentistry practical 1		1		1
53		Oral & Maxillofacial Pathology practical 2		1		1
54		Pulp and Periodical complex	1			1
55		Fundamentals of Endodontics 1	0.5	0.5		1
56		Diagnostic Dentistry 2	2			2
57		Oral & Maxillofacial (OMF) Surgery 2	1			1
58		Systemic Diseases 1	2			2
59		Dental & Maxillofacial Radiology 2	1			1
60		Dental & Maxillofacial Radiology practical 2		1		1
61		Complete Removable Denture 1	1			1
62		Complete Removable Denture practical 1		2		2

63		Dental & Maxillofacial Radiology practical 3		1		1
64		Oral & Maxillofacial Diseases practical 1		2		2
65		Diagnostic Dentistry 3	2			2
66		Specialized English Terminology 3	1			1
67		Geriatrics	0.5	0.5		1
68		Fundamentals of Partial Removable Denture		1		1
69		Partial Removable Denture 1	1			1
70		Partial Removable Denture practical 1		2		2
71		Partial Removable Denture practical 2		2		2
72		Orthodontics 1	1			1
73		Periodontics 1	1			1
74		Dental Equipments & Ergonomy	1			1
75		Fundamentals of Fixed Prosthesis	0.5	1.5		2
		Fixed Prosthesis 1	1			1
76		Endodontics 1	1			1
77		Oral & Maxillofacial Surgery practical 3		2		2
78		Fixed Dental Prosthesis practical 1		2		2
79		Fundamentals of Endodontics 2	0.5	0.5		1
80		Restorative Dentistry practical 2		2		2
81		Orthodontics practical 1		1		1
82		Periodontics practical 1		1		1
83		Oral & Maxillofacial Traumatology	1			1
84		Oral Health & Social Dentistry 1	1			1
85		Diagnostic Dentistry 4	1			1
86		Orthodontics 2	1			1
87		Medical Ethics, Professionalism & Law	1			1
88		Advanced Dental Prosthesis 1	1			1
89		Endodontics practical 1		2		2
90		Pediatric Dentistry practical 1		2		2
91		Restorative Dentistry practical 3		1		1
92		Complete Removable Denture practical 2		2		2
93		Fixed Dental Prosthesis practical 2		2		2
94		Oral Health & Social Dentistry practical 1		1		1
95		Oral & Maxillofacial Diseases practical 2		1		1
96		Endodontics 2	1			1
97		Orthodontics practical 2		1		1
98		Periodontics practical 2		1		1
99		Orthodontics 3	1			1
100		Periodontics 2	1			1

101		Pediatric Dentistry 1	1			1
102		Diagnostic Dentistry 5	1			1
103		Diagnostic Dentistry 6	1			1
104		Thesis 1	1			1
105		Periodontics 3	1			1
106		Orthodontics practical 3		1		1
107		Periodontics practical 3		1		1
108		Pediatric Dentistry practical 2		2		2
109		Pediatric Dentistry 2	1			1
110		Oral Health & Social Dentistry 2	1			1
111		Oral & Maxillofacial Diseases practical 3		1		1
112		Oral & Maxillofacial Surgery practical 4		2		2
113		Oral & Maxillofacial Surgery practical 5		2		2
114		Orthodontics practical 4		1		1
115		Systemic Diseases 2	2			2
116		Endodontics practical 2		2		2
117		Thesis 2	1			1
118		Periodontics practical 4		1		1
119		Pediatric Dentistry practical 3		2		2
120		Oral Health & Social Dentistry practical 2		2		2
121		Advanced Dental Prosthesis 2	1			1
122		Systemic Diseases 3	0.5	0.5		1
123		Systemic Diseases 4		1		1
124		Endodontics practical 3		1		1
126		Comprehensive Dental Care 1		2		2
127		Comprehensive Dental Care 2		2		2
128		Oral Health & Social Dentistry 3	1			1
129		Oral Health & Social Dentistry 3 practical		1		1
130		Advanced Dental Prosthesis practical		2		2
131		Implantology	1	2		3
132		Dental & Maxillofacial Radiology practical 1		1		1
133		Prosthodontics Treatment of Edentulous Patients	1			1
134		Psychology in Dentistry	1			1
135		Forensic Dentistry	1			1
136		Periodontics practical 5		2		2

COURSE NAME: Introduction to Religion I & II
NUMBER OF CREDITS: 4.0 (theory) in to two courses
COURSE TYPE: Theoretical

GENERAL AIMS

The attempt to introduce the true and scientific knowledge of three great and divine religions: Judaism, Christianity and Islam, and the proof of the legitimacy of the religion of Islam as well as the religion of the Ahlul-Bayt (as).

COURSE DESCRIPTION

First reviewing the preliminary discussion of generalities and definitions such as religion and its definition or law and its definition, prophets and their holy books. In addition, history of religions such as Judaism, Christianity and Islam will be discussed. Finally, it provides a brief overview of the content of these religions, issues such as the concept of God, the Day of Judgment, the monotheism (توحید), justice (عدل), Prophecy (نبوت), divine leadership (امامت), and the Day of Judgment (معاد) holy books and predictions about the final prophet.

CONTENT

1. Definition of the lexical and terminology of religion
2. Why should he believe in religion? What are the benefits and functions of religion?
3. Psychological functions of religion / Cognitive functions of religion
4. Ethical and social functions of religion
5. What Prophets are the Prophets?
6. . Introducing divine religions (Christianity, Judaism, Islam)
7. The revelation of the first revelation
8. Non-public propaganda as well as public publicity of religion
9. The story of Hadith Yum Eldar According to the famous historian, Tabari
10. Immigration to Medina and the Adventures of the Layla Almabit and Fazilat (Text in Persian) Amir al-Momenin Ali (AS)
11. Which religion is true and right?
12. What is the meaning of religious pluralism? Is this thinking correct and correct?
13. What is the Quran's comment on religious pluralism?
14. Why do we say that the religion of Islam is the most complete religion and religion is right?
15. If everyone is required to follow the religion of Islam, what is the duty of followers of other religions? Are they rescued or not?
16. What is basically the criterion of a true religion? What indicators make us deny a religion and the other religion?

ASSESSMENT METHOD

1. Class Participation & Group work 50%
2. Final exam (written) 50%

COURSE NAME: Islamic Revolution of Iran
NUMBER OF CREDITS: 2.0 (theory)
COURSE TYPE: Theoretical

GENERAL AIMS
This course explores the making of the Iranian Revolution of 1978-79 and the subsequent establishment of the Islamic Republic. Framed in a comparative perspective, it explains the cultural and political peculiarities that shaped the Islamist outcome of the Revolution This course provides an in depth introduction to the modern history of Iran with a focus on the cultural and political factors that culminated in the 1979 revolution.

ASSESSMENT METHOD
1. Class Participation 30%
2. Assignment 20%
3. presentation 50%

COURSE NAME: Divine Texts
NUMBER OF CREDITS: 2.0 (theory)
COURSE TYPE: Theoretical

GENERAL AIMS
Acquaintance with ancient conceptions of the divine in various contexts. This course serves as an introduction to the revelation of God and our response of faith. We explore the transmission of revelation and the dynamism of the adventure of faith. This course promotes personal reflection and holistic formation in participants.

ASSESSMENT METHOD
1. Class Participation 50%
2. presentation 50%

COURSE NAME: Divine Ethics

NUMBER OF CREDITS: 2.0 (theory)

COURSE TYPE: Theoretical

GENERAL AIMS

The attempt to introduce the true and scientific knowledge of three great and divine religions: Judaism, Christianity and Islam, and the proof of the legitimacy of the religion of Islam as well as the religion of the Ahlul-Bayt (as).

COURSE DESCRIPTION

This course is designed to familiarize students with the principles and concepts of Divine ethics in the field of moral virtues and vices, virtues and in order to avoid Moral vices. The belief that what's moral and what's immoral is commanded by the divine the theory asserts that what is moral is determined by what God commands, and that for a person to be moral is to follow his commands. Followers of both monotheistic and polytheistic religions in ancient and modern times have often accepted the importance of God's commands in establishing morality.

The theory asserts that good actions are morally good as a result of their being commanded by God, and many religious believers subscribe to some form of divine command theory.

CONTENT

1- The issue of ethic.
2- The literal and technical meaning of ethic
3- Characteristics in our soul
4- The sciences of Ethics. What is the definition?
5- The importance of ethics implementation
6- The moral manners of learning/Teaching
7- The ethic of criticizing
8- Ethics of Life and Working
9- Caring about the affairs and problems of the people
10- Knowing the good and evil properly
11- What is the Quran's comment on Ethics?

ASSESSMENT METHOD

1. Class Participation & Group work 50%
2. Final exam (written) 50%

COURSE NAME: Physical Training I
NUMBER OF CREDITS: 1.0 (practical)
COURSE TYPE: Practical

GENERAL AIMS
Physical education is an important part of pedagogy which eases the growth process in all dimensions of human via movement and exercise (generally, the purposes of physical education are met in movement) and it helps developing the interested talents. Broadly speaking, training and developing the body is done through physical movement and watching moral characteristics.

CONTENT
1- physical fitness and its ingredients
2- How to develop some factors of physical fitness?
3- Chapter three: Understanding energy mechanism
4- Immunity and hygiene in sports
5- Knowing the correct daily movements

ASSESSMENT METHOD
1. Class Participation
2. Physical assessment test

COURSE NAME: Physical Training II
NUMBER OF CREDITS: 1.0 (practical)
COURSE TYPE: Practical
PREREQUISITES: Physical Training I

GENERAL AIMS
Teaching and practice in more advanced level one of the field of sport for International students

CONTENT (type of Sport)
1- Fixed Targets Shooting
2- Badminton
3- Futsal (Indoor Football)
4- Basketball

ASSESSMENT METHOD
1. Class Participation

Physical assessment test

COURSE NAME: General English Language

NUMBER OF CREDITS: 3.0 (theory)

COURSE TYPE: Theoretical

Those students who obtain an English proficiency test result such as IELTS or TOFEL can be exempt from taking this course based on their overall score and International College of TUMS decision. Otherwise, the students should cover English course at above- mentioned college.

COURSE NAME: General Persian Language

NUMBER OF CREDITS: 3.0 (theory)

COURSE TYPE: Theoretical

Those students who knew Farsi and pass the TUMS International college placement test can be exempt from taking this course based on their overall score and International College of TUMS decision. Otherwise, the students should cover Farsi course at above- mentioned college.

ASSESSMENT METHOD

Presenting Teamwork

COURSE NAME: Life Skills 1&2

NUMBER OF CREDITS: 2.0 (theory-practical)

COURSE TYPE: Theoretical and Practical

GENERAL AIMS

The Objectives of the Life Skills Curriculum is to help students and young people develop the skills needed to cope in the world. The main topics in this curriculum are heavily researched and accepted areas of need for development.

One of the goals of the Life Skills Curriculum is to provide instruction that supports the students' transition into commcredity and adult life. Every activity has opportcredities to make commcredity connections and life in the commcredity important and relevant.

- The activities listed below are designed to support all students in becoming successful contributing members of society on- and off-reserve.
- Respect: Self-esteem & Self-confidence
- Problem Solving
- Decision Making
- Looking Past Tomorrow and Today
- Telephone Skills

COURSE NAME: Biochemistry I

NUMBER OF CREDITS: 2.0 (theory) – 1.0 (practical)

COURSE TYPE: Theoretical and Practical

GENERAL AIMS and DESCRIPTION:

This is the first term of BDS program in Tehran University of Medical Sciences, the Biochemistry Program fosters interactions among students and faculty, helping to broaden the students' appreciation of diverse research opportunities and to encourage interdisciplinary thinking in a highly collaborative atmosphere. This program has been an integrative force that aims to tie together the various disciplines of genetics, biochemistry, microbiology, immunology, cell biology and others. The goal is to train our students to examine scientific problems from many perspectives through individualized, flexible programs of coursework and research. The biochemical pathways of living organisms are studied with a focus on metabolic processes. Topics include pathways linking nutritional intake and energy yielding processes as well as the application of underlying. Broad cont ent includes a study of the chemistry and reactions of constituents of living matter, including carbohydrates, lipids, proteins, nucleic acids, vitamins, coenzymes, and minerals. In addition, the chemistry and regulation of the reactions and processes of whole organisms will be examined including: endocrinology, enzymology, nutrition, intermediary metabolism and biochemical mechanisms involved in select disease states.

References

1. **Junqueira's Basic Histology**. McGraw-Hill Medical 2010; 12th edition, chapters 1, 2, 3
2. **Guyton and Hall Textbook of Medical Physiology**. Saunders 2011, 12th edition, chapters 4 & 5
3. Cohen B.J. **Medical terminology: an illustrated guide.** Walter Kluwer/Lippincott Williams & Wilkins 2008. 5th edition
4. Devlin T.M. **Textbook of Biochemistry with Clinical Correlation**. John Wiley & Sons 2010; 7th edition
5. Murray R. et al. **Harpers Illustrated Biochemistry**. McGraw-Hill Medical 2009; 28th edition
6. **Ganong's Review of Medical Physiology**. McGraw-Hill Medical 2009; 23rd edition

Biochemistry (theory) subjects

Session Title	*Hrs.*
Introduction to biochemistry	**2**
Water and buffer	**2**
Amino acid Structure & Classification	**1**
Amino acids & proteins classification	**1**
Amino acids & proteins functions	**1**
Amino acids & proteins Hemoglobin	**1**
Carbohydrates Mono- & Di- Saccharides	**2**
Carbohydrates Glycoconjugates	**2**
Lipids & Lipoproteins Structure	**4**
Enzymes	**4**
Vitamins & Coenzymes	**2**
Water Soluble Vitamins	**2**
Fat soluble vitamins	**2**
DNA Replication	**2**
Molecular biology Transcription	**1**
Molecular biology Translation	**1**
Molecular biology Repair mechanisms	**1**
Molecular biology Regulation of gene expression	**1**

Biochemistry (practical) subjects

Session Title	*Hrs.*
Titration	**2**
Carbohydrates	**2**
AminoAcides	**2**
Enzymes	**2**
Spectrophotometer	**2**
DNA Extraction	**2**
Chromatography	**2**
FlamePhotometery	**2**
Osmose	**2**

COURSE NAME: Biochemistry II

NUMBER OF CREDITS: 1.0 (theory)

COURSE TYPE: Theoretical

GENERAL AIMS and DESCRIPTION:

Topics include pathways linking nutritional intake and energy yielding processes as well as the application of underlying. Broad content includes a study of the chemistry and reactions of constituents of living matter, the chemistry and regulation of the reactions and processes of whole organisms will be examined including: endocrinology, enzymology, nutrition, intermediary metabolism and biochemical mechanisms involved in select disease states.

References

1. **Junqueira's Basic Histology**. McGraw-Hill Medical 2010; 12th edition, chapters 1, 2, 3
2. **Guyton and Hall Textbook of Medical Physiology**. Saunders 2011, 12th edition, chapters 4 & 5
3. Cohen B.J. **Medical terminology: an illustrated guide.** Walter Kluwer/Lippincott Williams & Wilkins 2008. 5th edition
4. Devlin T.M. **Textbook of Biochemistry with Clinical Correlation**. John Wiley & Sons 2010; 7th edition
5. Murray R. et al. **Harpers Illustrated Biochemistry**. McGraw-Hill Medical 2009; 28th edition
6. **Ganong's Review of Medical Physiology**. McGraw-Hill Medical 2009; 23rd edition

Clinical Biochemistry (theory) subjects

Session Title	*Hrs.*
Metabolism of carbohydrates	**3**
Metabolism of amino acids & other nitrogen compounds	**3**
Metabolism of non-protein nitrogen compounds	**3**
Clinical Enzymology	**3**
Metabolism of lipids & lipoproteins	**3**
Oxidative phosphorylation	**2**

COURSE NAME: Anatomical Sciences I

NUMBER OF CREDITS: 2.0 (theory) – 1.0 (practical)

COURSE TYPE: Theoretical and Practical

GENERAL AIMS and DESCRIPTION:

This is a lecture and laboratory course that examines the microanatomy of cells, tissues and organs. Lectures illustrate the microstructure of major tissues and organs in relation to their function. Laboratory exercises use the light microscope to study these components and make use of slides and electron micrographs for review and discussion. This lab-oriented program presents the molecular biology and histology of normal cells, tissues and organ systems at various developmental functional stages. Students learn how individual cell functions interact with one another and how such interactions are accomplished from the tissue levels to the organ levels. The course introduces molecular and control systems and prepares students for an understanding of normal (homeostasis) systems and pathological conditions. In addition, students learn how molecular building blocks are utilized for growth and differentiation, wound healing and tissue repair, defence mechanisms and transfer of hereditary characters.

References

1. **Junqueira's Basic Histology**. McGraw-Hill Medical 2010; 12th edition; chapters 4-10 and 12-13 and 18
2. **Langman's Medical Embryology**. Lippincott Williams & Wilkins 2012, 12th edition; chapters 2-9, pages 10-129
3. **Guyton and Hall Textbook of Medical Physiology**. Saunders 2011, 12th edition, chapters 6, 7, 8
4. **Ganong's Review of Medical Physiology**. McGraw-Hill Medical 2009; 23rd edition

Anatomical Sciences I (practical) subjects

Session Title	*Hrs.*
Microscopes	2
Epithelial Tissue	2
Connective & Osseous Tissue	2
Blood smears and cell differentiation	2
Cartilage Tissue	2
Muscular Tissue	2
Nervous Tissue	2
Skin	2
Respiratory system Tissue	2
Digestive system Tissue	2
Urogenital system Tissue	2
Endocrine system Tissue	1
Bones of the Vertebral Column ,Ribs & Sternum	2
Upper and Lower osteology & Limbs	4

Anatomical Sciences I (theory) subjects

Session Title	*Hrs.*
Introduction to Histology	**1**
Cell	**2**
Epithelial Tissue	**1**
Connective Tissue	**1**
Types of Connective & Adipose Tissue	**1**
Cartilage Tissue & Joints	**1**
Osseous Tissue & Ossification	**1**
Blood & Hematopoiesis	**1**
Muscular Tissue	**2**
Nervous Tissue	**2**
Skin	**1**
Introduction to Embryology	**1**
Gametogenesis	**1**
Ovulation & Fertilization	**1**
Embryonic Period	**1**
1st & 2nd Weeks of Embryonic Period	**1**
3rd Weeks of Embryonic Period	**1**
Fetal Period	**1**
Placenta & Fetal Membranes	**1**
Congenital Malformations	**1**
Osteology & Joints	**2**
Muscles	**2**
Circulatory System	**2**
Nervous System	**1**
Digestive System	**2**
Respiratory System	**2**
Urogenital System	**2**
Endocrine System	**2**

COURSE NAME: Anatomical Sciences II

NUMBER OF CREDITS: 2.0 (theory) – 1.0 (practical)

COURSE TYPE: Theoretical and Practical

GENERAL AIMS and DESCRIPTION:

Identify key events and stages in development of Head and Neck system structures (Anatomy, Histology and Embryology). Summarize the main structures and functions within the major divisions of the normal nervous system: the brain, spinal cord and peripheral nervous system along with Histology of Head and neck. Describe how regional nervous system structures interact to perform specific functions. Locate nervous system dysfunction based on common neurological syndromes. Synthesize vascular anatomy and neuroanatomy to locate dysfunction in ischemic stroke syndromes. Exhibit critical thinking, effective communication, problem solving and interpersonal skills to contribute to a high-performance team. Provide constructive feedback to peers and use peer feedback to identify and improve strengths and limitations in skills and attitudes.

References

1. **Langman's Medical Embryology**. Lippincott Williams & Wilkins 2021, 11th edition
   - chapter 17, pages 260-286
   - Chapter 10, pages 133-142
   - Chapter 19, pages 321-328
   - Chapter 20, pages 329-338

Anatomical Sciences II (theory) subjects

Session Title	*Hrs.*
Overview of Skull & Osteology	**8**
Sinuses & Fontanelles	**2**
Carotid Triangle	**2**
Posterior Triangle	**2**
Suprahyoid & Prevertebral Region	**2**
Infrahyoid Region	**2**
Face (Muscles, Parotid Gland)	**2**
Scalp, Temporal & Infratemporal Region	**2**
Oral & Nasal Cavity	**2**
Pharynx, Lymph Nodes of Head & Neck	**2**
Embryology of Head and Neck 7 Jaw & Tooth	**4**
Oral Mucosa & Special Mucosa & Salivary Glands	**4**
Tooth Enamel and Dentin & Cementum	**6**
Dental Pulp & Periodontal Ligament	**2**
Larynx & Pharynx Histology	**2**
Thyroid & Parathyroid Histology	**2**

Anatomical Sciences II (practical) subjects

Session Title	*Hrs.*
Skull Osteology	**6**
Carotid Triangle	**2**
Posterior Triangle	**2**
Face (Muscles, Parotid Gland)	**2**
Temporal & Infratemporal Region	**2**
Applied Anatomy of head and Neck	**4**
Histology of Anatomical Sciences II	**14**

COURSE NAME: Anatomical Sciences III

NUMBER OF CREDITS: 0.5 (theory) – 0.5 (practical)

COURSE TYPE: Theoretical and Practical

GENERAL AIMS and DESCRIPTION:

This required system-based block integrates the basic sciences into a study of neuroscience and behavior in both health and disease. Each of the basic science topics is incorporated into an integrated body of knowledge covering neuroanatomy, neurophysiology, neurological correlations, neuropharmacology, neuropathology, human behavior and psychiatry, utilizing both didactic and self-directed learning methods and clinical models.

References

1. **Snell Clinical neuroanatomy**
2. **Junqueira's Basic Histology**. McGraw-Hill Medical 2010; 12th edition,
3. • chapter 9, pages 152-158
4. **Langman's Medical Embryology**. Lippincott Williams & Wilkins 2012, 12th edition,
5. • chapter 18, pages 287-320
6. **Guyton and Hall Textbook of Medical Physiology**. Saunders 2011, 12th edition
   - Chapters 45-48
   - Chapters 54-60

Anatomical Sciences III (practical) subjects

Session Title	*Hrs.*
Anatomy of the vertebral canal and spinal cord	**2**
Spinal cord and spinal nerves	**2**
Autonomic nervous system and the body dermatome	**2**
Brainstem and cerebellum	**2**
Dyansfal and the cerebral hemispheres	**2**
Vessels and membranes of the brain and cranial nerves	**2**
Applied anatomy of the brain vessels, blinds and sinus Cranial venous	**2**
Histology of the spinal cord, cerebellum, cerebral cortex and nerve tissue	**2**
Investigating the neural reflex	**2**
Two-point discrimination	**2**

Anatomical Sciences III (theory) subjects

Session Title	*Hrs.*
Division of the nervous system & spinal cord appearance	**2**
The internal structure of the spinal cord	**2**
Medulla oblongata	**2**
Pons	**2**
Midbrain	**2**
Cerebellum	**2**
Diencephalon	**2**
Cerebral hemispheres	**2**
The cerebral hemispheres and basal Nuclei	**2**
Limbic system and reticular formation	**2**
Vessels and Meninges	**2**
The structure of cranial nerves	**2**
Embryology of Nervous system	**2**
Radiological and clinical anatomy of brain and spinal cord	**2**

COURSE NAME: Medical Microbiology
NUMBER OF CREDITS: 3.0 (theory) – 1.0 (practical)
COURSE TYPE: Theoretical and Practical

GENERAL AIMS

1. Learning the principles of microbiology, including the structural and physiological properties of microorganisms and their roles in diseases and the methods to control them.
2. Classification of pathogens
3. Treatment of bacterial diseases
4. Familiarizing students with the structure of microorganisms, staining, lam preparation

LEARNING OUTCOMES

Students must:

1. Know microbial and physiological principles
2. Know the methods and problems of microorganism classification
3. Know pathogenic and epidemiological mechanisms
4. Know antiseptic effect mechanisms
5. Know control methods the mechanisms of antibiotic effects
6. know the methods to determine the effect mechanisms of antibiotics
7. Be able to explain the relationship between dosage, parasite and the drug.
8. Know protection methods while working with microorganisms
9. Know methods to work with microorganisms, microscope use and microscopic and macroscopic identification of microorganisms
10. Be able to do cell culture and perform identification experiments
11. Perform antibiogram tests and know and examine antibiotic effects
12. Know microbiology lab equipment
13. Know staining methods
14. Be able to prepare culture medium
15. Know microorganism identification methods

References

1. **ZINSSER MICROBIOLOGY. 13th Edition. Reviewed by Ernest Jawetz.**
2. **Jawetz Medical Microbiology, Last Edition**
3. **Murray Medical Microbiology, Last Edition**

Microbiology (theory) subjects

Session Title	*Hrs.*
Laboratory Safety, Sterilization, and Culture media	*2*
Specimen Collection, Bacterial Identification and staining	*2*
Bacterial Cultivation	*2*
Antimicrobial Susceptibility Testing	*2*
laboratory identification of Staphylococci	*2*
laboratory identification of Neisseria and Moraxella catarrhalis	*2*
lab. identification of Streptococcus, Enterococcus, and Other Catalase Negative, Gram-Positive Cocci	*2*
lab. identification of Corynebacterium, and Similar Organisms	*2*
lab. identification of Bacillus and Similar Organisms	*2*
laboratory identification of Enterobacteriaceae and Pseudomonas	*2*
laboratory identification of Mycobacterium	*2*
laboratory identification of Vibrio	*2*
Review	*2*

Microbiology (theory) subjects

Session Title	*Hrs.*
Bacterial Classification, Microbial Cell Structure and Function	*2*
Commensal and Pathogenic Microbial Flora in Humans	*2*
Bacterial Metabolism and Microbial Growth	*2*
Microbial Growth, Environmental Effects on Microbial Growth	*2*
Bacterial Genetics	*2*
Antibiotics	*2*
Sterilization, Disinfection, and Antisepsis	*2*
Staphylococcus and Related Gram-Positive Cocci	*2*
Streptococcus, Enterococcus and Other Gram-Positive Cocci	*2*
Neisseria and Related Genera	*2*
Corynebacterium, Listeria and Erysipelothrix	*2*
Spore-forming Gram-Positive Bacteria (Bacillus)	*2*
Clostridium	*2*
Mycobacterium	*2*
Mycobacterium, Nocardia and Related Bacteria	*3*
Pseudomonas, Related Bacteria	*2*
Enterobacteriaceae (Klebsiella, Escherichia, Proteus)	*3*
Acinetobacter, Haemophilus and Related Bacteria	*2*
Enterobacteriaceae (Salmonella, Yersinia, Shigella)	*3*
Bordetella, Francisella, Brucella and Legionella	*2*
Vibrio, Campylobacter and Helicobacter	*2*
Treponema, Borrelia and Leptospira	*2*
Chlamydia, Mycoplasma	*2*
Rickettsia, Orientia, Chlamydia, Chlamydophila, Mycoplasma and Ureaplasma	*2*

COURSE NAME: Virology

NUMBER OF CREDITS: 1.0

COURSE TYPE: Theoretical

References

ZINSSER MICROBIOLOGY. 13th Edition. Reviewed by Ernest Jawetz.

Session Title	*Hrs.*
Significance of Viral diseases, History ،Structure of Viruses Classification of Viruses ،Replication of viruses, and viral pathogenesis	*2*
Control of Viral infections: Antiviral agents, interferon, Viral vaccines, Diagnosis of viral infections, and viral nosocomial infections	*2*
Parvoviridae, Papovaviruses, Adenoviridae, Poxviridae, and Herpesviridae family (HSV-1&2)	*2*
Herpesviridae family, (HHV-1 thru 8), Hepatitis viruses (B-D)	*2*
Hepatitis viruses (C), Hepatitis viruses (A-E)	*2*
Picornaviridae (polio ،coxsackie ،Echo & paraechoviruses) Caliciviruses (Norovirus), Togaviridae, (Rubella virus)	*2*
Flaviviridae (Dengue, Zika, and Yellow Fever viruses), Retroviridae (HIV-1 & 2 – HTLV)	*2*
Paramyxoviridae (Metapneumovirus, Parainfluenza ،Measles ، Respiratory Syncytial Virus Orthomyxoviridae (Influenza viruses (A. B)	*2*
Rabdoviridae (Rabies virus), Viruses and Human Cancer (HPV/ EBV/ HBV/HCV)	*2*

COURSE NAME: Immunology

NUMBER OF CREDITS: 2.5 (theory) – 0.5 (practical)

COURSE TYPE: Theoretical and Practical

GENERAL AIMS

Familiarizing students with the science of immunology and its use in understanding, preventing, diagnosis and treatment of disease.

The functions of the immune system and body defense mechanisms, different body organs which have significant roles in the functions of the immune system and the different types of immunity in body will be covered. Moreover, in practical the aim is familiarizing students with different lab equipment and diagnostic testing kits and their use.

LEARNING OUTCOMES

Students must:

1. Know pathogens and immunologic mechanism of diseases
2. Know resistance against diseases
3. Know lab diagnosis methods
4. Know immunologic substances used to cure diseases

Immunology (theory) subjects

Session Title	*Hrs.*
Introduction to Immunology	*2*
Cells and organs of the Immune system	*2*
Antigens	*2*
Antibodies	*2*
Complement System	*2*
Antigen-Antibody Interactions	*2*
Cytokines	*2*
Major Histocompatibility Complex(MHC) and Antigen presentation	*2*
Innate Immunity and Inflammation	*2*
Genetic basis of antigen receptors diversity	*2*
Development and activation of B lymphocytes (Humoral Immunity)	*2*
Development and activation of T lymphocytes (Cell mediated Immunity)	*2*
Mechanisms and Classification of Hypersensitivity	*2*
Immunology of Infectious diseases	*2*
Mucosal Immunity	*2*
Immunohematology	*2*
Immunodeficiency	*2*
Mechanisms of Autoimmunity	*2*
Immune responses to Tumors	*2*
Vaccines and Vaccination	*2*
Transplantation Immunology and Immunopharmarcology	*2*
Immunologic Tolerance	*2*

Immunology (practical) subjects

Session Title	*Hrs.*
Introduction (Check in, syllabus, preliminary session)	*2*
Hemagglutination Reactions	*2*
Agglutination Reactions	*2*
Neutralization Reactions	*2*
Immunoprecipitation- Reactions	*2*
Elisa, Radioimmunoassay	*2*
IF, Flowcytometery	*2*
Cell Isolation Techniques, Lymphocytotoxicity	*2*
Molecular Tests	*2*

COURSE NAME: Medical Genetics

NUMBER OF CREDITS: 2.0 (theory)

COURSE TYPE: Theoretical

GENERAL AIMS

The increasing impact of genetics in healthcare and the development of newer sophisticated technologies require close collaboration between research scientists, clinical laboratory scientists and clinicians to deliver a high quality service to patients. The Medical Genetics course covers basic concepts of genetically disorders and the clinical genetics service, including risk analysis and application of modern genetic and genomic technologies in medical genetics research and in diagnostics and population screening.

LEARNING OUTCOMES

Students must:

1. Know the History and Significance of Medical Genetics in the clinic.
2. Know the Genetics of Metabolic, Neurologic and Musculoskeletal Disorders.
3. Know Population Genetics and Medicine.
4. Know Modern Molecular Medicine- Gene Therapy.

References

1. ***Human Genetics from Molecules to Medicine. (1ed) 2012. Christian P Schaaf,Johannes Zschocke. Lorraine Potocki, Wolters Klumer, Lippincott Williams & Wikins, Baltimore, Maryland***
2. ***Elsevier's Integrated Review Genetics, (2ed), 2012, Linda R. Adkison, Elsevier Saunders Philadelphia, Pennsylvania***

Medical genetics (theory) subjects

Session Title	*Hrs.*
History and Introduction to Medical Genetics	*2*
Molecular Genetics, Gene Mutation and Applications	*2*
Modes of Monogenic Inheritance	*2*
Chromosomes in the Cell G-Banding and karyotyping	*2*
Genetics of Neurologic Disorders	*2*
Cancer Genetics	*2*
Genetics of Metabolic Disorder and Newborn Screening	*2*
Genetics of Hematologic Disorders	*2*
Genetics of Musculoskeletal & Cardiovascular Disorders	*2*
Principles of Genetic Counseling	*2*
Genetics of Renal, Gastrointestinal, and Hepatic Disorders	*2*
Genetic Engineering and its applications in Medicine	*2*
Disorders of sexual differentiation and development	*2*
Population Genetics and Medicine	*2*
Diagnostic approach for a child with multiple Anomalies or Dysmorphic features	*2*
Modern Molecular Medicine-Gene Therapy	*2*
Individualized Medicine	*2*

COURSE NAME: Psychology

NUMBER OF CREDITS: 2.0 (theory)

COURSE TYPE: Theoretical

GENERAL AIMS

Knowing the basic principles of psychology, different sense and thought processes is central to building a more effective relationship between the pharmacist and the patient and therefore this course will increase the knowledge of the pharmacist and familiarizing students with the principles of psychology and learning methods, thought process and perception

LEARNING OUTCOMES

Students must:

1. Know the relationship between psychology and human mind and soul.
2. Know the principles of psychology.
3. Be able to explain different sense stages.
4. Know learning methods and thought processes.
5. Know human motivation.
6. Know psychological health.
7. Know the physiological principles of psychology.

References

1. **Atkinson & Hilgard's Introduction to Psychology**-Last Edition

General Psychology(theory) subjects

Session Title	*Hrs.*
Nature of Psychology	*4*
Neurobiological basis of Psychology	*4*
Factors in Psychological Development	*2*
Perception	*2*
State of Consciousness	*2*
Learning	*2*
Motivation and Emotion	*2*
Personality	*2*
Conflict and Stress	*2*
Abnormal psychology	*4*
Methods of Therapy	*4*
Course review	*2*

COURSE NAME: Medical Physics

NUMBER OF CREDITS: 1.0 (theory)

COURSE TYPE: Theoretical

References

2. **Physics of Diagnostic Radiology (Harddbound)** Last Edition
3. **Authors Thomas S Curry, Patricia Ed Curry, Dowdey** Last Edition

Medical Physics (theory) subjects

Session Title	*Hrs.*
Ultrasound, Fundamentals of Physics, Production and properties of ultrasonic waves	*2*
Chemical and biological properties of ultrasonic waves and their collisions with tissues	*2*
Devices and Methods of Ultrasound wave imaging	*2*
Prophylactic flow in dentistry and related devices	*2*
Production of Radioactive materials and their properties	*2*
Radioisotopes Uses in Diagnosis and Treatment and knowing Radioactive material measurement equipment	*4*
Nuclear medicine devices and Measurement methods in Diagnosis	*4*
Fundamentals of Radiation Therapy and its Application in the Treatment of Cancer	*1*

COURSE NAME: Parasitology

NUMBER OF CREDITS: 1.0

COURSE TYPE: Theoretical

References

1. **Medical Mycology (Rippon)**
2. **Medical Parasitology Markell & Vogue** (last Edition)

Parasitology (theory) subjects

Session Title	*Hrs.*
Introduction to Protozoology- Malaria Parasites	*2*
Trichomonas species eps. T. tenax-Giardia- Cryptosporidium-Isospora-Toxoplasma	*2*
Leishmania & Leishmaniasis- Entamoeba species esp. E. gingivalis	*2*
Introduction to Helminthology- Trematoda: Schistosomiasis; Paragonimus-Nematoda: Hookworms	*2*
Trematoda:Fasciola-; Cestoda: Hymenolepis-Hydatidosis	*2*
Cestoda: Taeniasis; Nematoda (continue) esp. Strongyloides	*2*
Superficial & Cutaneous Mycoses	*2*
Subcutaneous Mycoses	*2*
Deep Mycoses	*2*

COURSE NAME: Terminology 1 & 2

NUMBER OF CREDITS: 2.0 (theory)

COURSE TYPE: Theoretical

GENERAL AIMS

The aim of teaching specialized language is enabling student to use scientific texts, being written into English language. In order to meeting above mentioned aim, selected text for students is oral and dental analytic- Jack Yung. Yet, this text can be selected from other medical or dentistry books, by related professor and approval of educational board of college.

COURSE NAME: Application of computer in dentistry

NUMBER OF CREDITS: 1.0

COURSE TYPE: Theoretical and Practical

GENERAL AIMS

Familiarity with practical software in dental education and research and working with search engines in the Internet.

Skill Description

Session Title	*Hrs.*
A review on computer hardware components	*1*
Knowing types of computers	*1*
Knowing types of operating systems	*1*
Word software	*2*
Power Point software	*2*
Excel software	*3*
Medical sciences search engines	*2*
Important and useful medical websites	*3*
A review on software and digital systems in dentistry	*2*

COURSE NAME: *Oral health and Community Health

NUMBER OF CREDITS: 1.5 (theory) – 0.5(practical)

***the two courses MUST take in a same semester**

COURSE TYPE: Theoretical and Practical

Oral health and Community Health (theory) subjects

Session Title	*Hrs.*
Primary health care	*2*
General terms in public health	*2*
Prevention and control of communicable and non- communicable disease	*2*
Basics of environmental health	*2*
International organizations, World Health Organization, main indexes	*2*
Health condition of world population, WHO perspective	*2*
Health system of Iran	*2*
Health centers and sub ordinal unite	*2*
Health system manpower in Iran	*2*
Dental manpower	*2*
Children oral health	*2*
Adult oral health	*2*
Introduction to dentistry, and educational needs	*4*
Visiting faculty; different departments	*4*

COURSE NAME: Nutrition

NUMBER OF CREDITS: 1.0 (theory)

COURSE TYPE: Theoretical

GENERAL AIMS:

Being familiarity with importance of oral health and nutrition, in order to preventing from oral and dental diseases.

Session Title	*Hrs.*
Introduction and philosophy of preventive dentistry and reasons of needing to it, microbial plaque -health habits and necessity of keeping oral hygiene, teeth brushing	*4*
Using related materials after teeth bushing nutrition and its effect in preventing from gingival diseases and decay of teeth -using fluoride in preventive pediatric dentistry and relation between preventive dentistry with other dentistry fields	*4*
Indicators and their concepts in preventive dentistry controlling patients, after treating and prevention.	*4*
Definition and history of nutrition -Nutrition in dentistry	*2*
Metabolism of energy and calories carbohydrates, fats and protein nutrition, H2O &electrolyte - minerals - metabolism of fluorine vitamins -nutritional disorders and their relation with jaw and oral parts.	*4*

COURSE NAME: Physiology I & II

NUMBER OF CREDITS: 2.0 & 3.0 (theory) – 1.0 (practical)

COURSE TYPE: Theoretical and Practical

References

- **Guyton and Hall textbook of Medical Physiology**

Physiology (theory) subjects

Session Title	*Hrs.*
Cell Physiology	*13*
Blood Physiology	*4*
Heart Physiology	*8*
Blood Circulation	*8*
Reproductive Physiology	*6*
Renal Physiology	*8*
Gastrointestinal System Physiology	*8*
Nervous system Physiology	*18*
Endocrine physiology	*12*

Physiology (Practical) subjects

Session Title	*Hrs.*
Introduction to Microscope and Neobar Slide	*2*
Osmoses	*2*
Cell Blood Counting	*2*
CT, BT and HCT	*2*
Leukocytes Test	*2*
Spirometry	*2*
Heart Sound and Blood Pressure	*2*
Electrocardiogram[ECG]	*2*
Nervous System	*2*
Ophthalmoscopy	*2*
Course review	*2*

COURSE NAME: General Pathology

NUMBER OF CREDITS: 2.5 (theory) – 0.5 (practical)

COURSE TYPE: Theoretical and Practical

References

Robbins Basic Pathology, By KUMAR, ABBAS and ASTER, Last Edition

General Pathology (Practical) Subjects

Session Title	*Hrs.*
Abnormal gatherings: cholesterol-xanthosomes accumulation, vascular calcification, amyloidosis	*2*
Reversible change: Changes in fat-liver), Sciatica metaplasia, Pre-cancerous lesion (dysplasia) *Irreversible change: fatty necrosis (Shallazion), necrosomal cavity*	*2*
Inflammation and repair: acute swelling (appendix), chronic inflammation (stomach), inflammation (nasal polyp), ear buds (granulation tissue), external object granulation *General tests on inflammatory effects and microscopic exposure to inflammatory cells*	*2*
Hemodynamic dysfunction: Hypertension (kidney, thrombosis, infarction (heart and soul) *Coagulation tests (PT, PTT, BT, CT)*	*2*
Hematoma (lung), benign neoplasm: lipoma - Hoggipoma (copper-cavernous) Neoplasm derived from three layers of the fetus: teratoma	*2*
Neoplasm benign epithelium (intestinal adenoma), Malignant epithelial neoplasms of varying degrees of differentiation, Benign Mesenchymal Neoplasms (Lyumium) *Malignant Mesenchymal Neoplasm (Lyomyosarcoma)*	*2*
Pathology (Practical) Revision	*2*

General Pathology (theory) subjects

Session Title	*Hrs.*
Cell as a unit of health and disease	*4*
Apoptosis	*6*
Cell regeneration, fibrosis, and wound healing	*4*
Acute and chronic inflammation	*6*
Hemodynamic disorders, thrombosis and shock and drooping	*6*
Neoplasia	*10*
Nutritional diseases	*4*
Diseases of Environmental Pollution	*2*

COURSE NAME: Dental Anatomy and Morphology

NUMBER OF CREDITS: 0.5 (theory) – 2.5 (practical)

COURSE TYPE: Theoretical & Practical

GENERAL AIMS

This course is designed to familiarize the students with anatomical characteristics of the human teeth, crown and root morphology of the primary and permanent dentition. Emphasis is placed on form and function as well as occluding tooth surfaces.

LEARNING OUTCOMES

Students must:

1. Demonstrate sufficient knowledge in and successfully communicate using appropriate dental terminology.
2. Describe the detailed morphology of the primary and permanent dentitions.
3. Describe the eruption sequences of both primary and permanent dentitions.
4. Describe the detailed relation of each tooth to adjacent and opposing teeth.
5. Describe the common tooth anomalies of human dentition.
6. 7. Be able to form different teeth with details from chalk.

***Reference**:*

1. **S.J. Nelson "Wheeler's Dental Anatomy, Physiology and Occlusion",** 10th edition. Elsevier, 2015.

Dental Anatomy and Morphology (Theory & Practical) Subjects

Session Title	*Hrs.*
Introduction to Dental Anatomy (chapter1)	*2*
Permanent maxillary central incisor and Maxillary lateral incisor (Wheeler chap 6)	*2*
Mandibular central incisor And Mandibular lateral incisor (Wheeler chap 7)	*2*
Mandibular and maxillary canine (Wheeler chap 8)	*2*
Maxillary first and second premolar (Wheeler chap 9)	*2*
Occlusion/chap 16	*2*
Mandibular first premolar and Mandibular second premolar (Wheeler chap 10)	*2*
Maxillary first molar and second molar (Wheeler chap 11)	*2*
Lecture: Dental anomalies	*2*
Mandibular first molar and Mandibular second molar (Wheeler chap 12)	*2*
Lecture: Primary dentition (Wheeler chap 3)	*2*

Dental Anatomy and Morphology (Practical demonstration) Subjects

Session Title	*Hrs.*
Permanent maxillary central incisor	*7*
Mandibular lateral incisor	*7*
Maxillary canine	*7*
Maxillary first premolar	*7*
Mandibular first premolar and Mandibular second premolar	*7*
Maxillary first molar	*7*
Mandibular first molar	*7*

COURSE NAME: Tooth structure in health and disease

NUMBER OF CREDITS: 2.0 (theory)

COURSE TYPE: Theoretical

References

Ten Cate's Oral Histology, Summitt's Fundamentals of Operative Dentistry_ A Contemporary Approach Sturdevant's Art and Science of Operative Dentistry

Cariology (theory) subjects

Session Title	*Hrs.*
Embryology of head and face and oral cavity *Mesenchymal tissue formation and cell junctions*	*2*
Tooth development	*2*
Histology of enamel and dentin	*2*
Dental Pulp / Periodontium	*2*
Bone / Cementum	*2*
Oral mucosa	*2*
Salivary glands histology	*2*
Enamel and dentine biology	*2*
Understanding dental caries and their mechanism *Histological aspects of dental caries*	*3*
Different methods for diagnosis of dental caries	*2*
Epidemiology of dental caries and its related factors	*2*
Radiographic diagnosis of caries *Radiographic feature of dental malformations*	*3*
ECC rampant caries and prevention *Role of nutrition in tooth decay*	*3*
-Developmental abnormalities and defects of tooth structure *Toot discolorations*	*3*

COURSE NAME: Radiology 1

NUMBER OF CREDITS: 1.0

COURSE TYPE: Theoretical

References:

- Oral Radiology (Principles and Interpretation) ،White – Pharaoh ,2019

Radiology 1 (theory) Subjects

Session Title	*Hrs.*
X-ray Physics/ Production	*4*
Interaction Of x rays With matter	*2*
Image Characteristics	*2*
Periapical Technique – Bisecting/ Localization	*4*
Anatomic Landmark	*2*
Radiographic Film & Film Processing	*4*
Infection Control	*2*
Effects of Radiation 1 & 2	*4*
Dosimetry-X ray Units	*2*
Patient and Personal Protection	*2*

COURSE NAME: Nutrition in oral Health

NUMBER OF CREDITS:1.0 (theory)

COURSE TYPE: Theoretical

GENERAL AIMS:

Being familiarity with importance of oral health and nutrition, in order to preventing from oral and dental diseases.

Session Title	*Hrs.*
Introduction and philosophy of preventive dentistry and reasons of needing to it, microbial plaque -health habits and necessity of keeping oral hygiene, teeth brushing	*4*
Using related materials after teeth bushing nutrition and its effect in preventing from gingival diseases and decay of teeth -using fluoride in preventive pediatric dentistry and relation between preventive dentistry with other dentistry fields	*4*
Indicators and their concepts in preventive dentistry controlling patients, after treating and prevention.	*4*
Definition and history of nutrition -Nutrition in dentistry	*2*
Metabolism of energy and calories carbohydrates, fats and protein nutrition, H2O &electrolyte - minerals - metabolism of fluorine vitamins -nutritional disorders and their relation with jaw and oral parts.	*4*