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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

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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	Subject	Number of credits			
		Credit (theory)	Credit (practical / Clerkship / Internship)	prerequisite	Total credits
1	Anatomical Sciences I	2	1		3
2	Biochemistry I	2			2
3	Biochemistry practical		1		1
4	Biochemistry II	1			1
5	*Application of computer in dentistry	1			1
6	Devine ethics	2			2
7	Introduction to Religion I	2			2
8	General English Language	3			3
9	Anatomical Sciences II	2	1	Anatomical Sciences I	3
10	Parasitology & Medical Mycology	1			1
11	Medical Physics	1			1
12	Oral Health & Community Dentistry	1.5	0.5		2
13	Family Planning	2			2
14	Psychology	2			2
15	Persian Language	3			3
16	*Medical Terminology I	1		General English Language	1
17	Physical Training I		1		1
18	Introduction to Religion II	2		Introduction to Religion I	2
19	Anatomical Sciences III	0.5	0.5	Anatomical Sciences II	1
20	Physiology I	2		Biochemistry	2
21	Physiology II	2		Physiology I	2
22	Physiology practical		1		1
23	Immunology	2.5	0.5	Physiology	3
24	Virology	1			1
25	Microbiology	3	1		4

26	Medical Genetic	2			2
27	Divine texts	2			2
28	Pathology	2.5	0.5		3
29	*Dental & Maxillofacial Radiology 1	1			1
30	*Tooth structure in health & disease	2			2
31	*Dental Anatomy and Morphology	0.5	1.5		2
32	*Advanced Terminology II	1			1
33	*Nutrition in Oral Health	1		* Passing score is12.00 out of 20.00	1
34	Iran Revolution	2			2
35	Physical Training II		1	Physical Training I	1
36	Life Skills 1	1			1
37	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) – ۰.5 (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*

Specific and clinical subheadings (theoretical, practical)

Pharmacology

Number and type of credit: (2 theoretical credit, 34 hours)

Objectives: Defining mechanisms toxicity and method of using drugs in human

-Prerequisite: Biochemistry- physiology -anatomy

Subtitles:

Generosity of pharmacology -references -absorption and distributing medicines in body -metabolism-removing and manner of drug effects in their complications during pregnancy- increasing sensitivity against drugs- histamine -Bradykinins generalities of autonomous nervous system- Cholinergic nervous transmission and sympathetic stimulants -sympathetic alpha &beta ,receiving medications-anti-increasing blood pressure medications- nervous / muscular medications -generality of general anesthesia-general anesthesia and pre- anesthesia medications- Local anesthesia medication-relaxing , antipsychotic and anti-depression medications, soporific - anticonvulsant and anti-pathogenic medicines opioid and non-opioid analgesics-blooding in dentistry and it's treating generalities of antibiotics and sulfanamids-anti biotic - local anti-infective drugs-pharmacology of endocrines vitamins and minerals- pharmacology of some diseases ,being related into dentistry.

Forensic Dentistry

Number and type of credit: (1 theoretical credit, 17 hours)

-Objectives: Being familiarity with history of forensic, medical system rules, governing relation between doctor and society

Subtitles:

History of establishing forensic in Iran its related rules and regulations -History of dentistry, since pre-history to now gin accordance with rose and effect of culture and civilization of Iran &Islam

-Being familiarity with forensic and identification methods in deaths, being resulted from dentistry treating accidents and events (these kind of accidents shall be resulted in death of patient inside or outside of office-manner of making relation with patient.

Specialized English

Specialized English 3 (1 credit, 17 hours)

Objectives: The aim of this stage is enabling students to use foreign scientific texts.

-Text of lessons:

Text of this lesson, being necessarily most difficult, in comparison to language 1- shall be selected from medical or dentistry books, by related professor and approval of educational board of college.

Basic Principles of Dental Materials

Number and type of credit: (1 theoretical credit, 17 hours)

Objectives: Acquainting with chemical structure and physical properties of used materials in dentistry and their using cases

Subtitles:

Introduction -Crystalline structure and different states of matters and their biophysical applyang-used materials in dentistry -Properties of materials and way of using them-molding materials -Acryl and using them-plastics , used for restoring natural teeth restructure of teeth, used restoring natural teeth - structure

of teeth used for partial and complete denture and their different kinds tooth filler materials-wax -metals -golden alloys - gold solders and soldering -flux and using them in dentistry -different alloys, being used in partial dentures -casting defects -chemical and physical consistency of materials and way of using them.

Oral Pathology

Number and type of credit:

Practical Oral Pathology 1: (1 practical credit, 34 hours)

Prerequisite: General pathology, Anatomical Sciences 1

Practical Oral Pathology 2: (1 practical credit, 34 hours)

Prerequisite: Practical Oral Pathology 1

Practical Oral Pathology 1

Practical teaching of oral pathology (1-2) includes 40 microscopic slides of oral an a maxillary / mandibular lesions, being taught in laboratory

Headlines:

Epithelial malignant &benign tumors

Benign: Papilloma

Malignant:

1. Carcinoma in-situ
2. Squamous cell carcinoma
3- Verrucous carcinoma
4. Basal cell carcinoma

Mesenchyme malignant &benign tumors

-Benign:

1. Fibroma
2. Lipoma

3-Mycoplasma

4.Schwannoma

5. Neurofibroma
6. Traumatic neuroma
7. hemangioma

8-Hereditary hemangioma

9-Sturge weber syndrome

10-lymphangioma

11-leiomyosarcoma & rhabdomyosarcoma

Malignant:

1-Fibrosarcoma

2-osteosarcoma

Lesions of salivary gland

1-Histology of salivary gland

2-Disorder in saliva secretion

3-Sialadenitis (sialolithiasis)

4-Microbial& viral saliva infection

5-Cysts of saliva glands, such as mucocele & ranula

6-Salivary glands syndrome (mucocele & Sjogren)

Salivary gland tumors:

Benign:

1-Pleomorphic Adenoma

Malignant:

1-Pleomorphic malignant adenoma

2-Mucoepidermoid carcinoma

3. Adenoid cystic carcinoma

Metastatic lesions

-Epithelial mesenchymal tumors

-Mesenchymal metastatic tumors.

Metabolic &hormonal diseases signs

1-Mineral disorder: calcium / phosphorus- phosphorus- Sodium, potassium, zinc

2. Proteins disorder (amine acids), amyloidosis

3- Carbohydrates metabolism disorder including metabolism disorder , including metabolism disorder in Mucopolysaccharidosis syndrome

4. Fat metabolism disorder

5. Disorder of vitamins A, B, C, D

6. Hormonal metabolism disorders (pituitary- thyroid- parathyroid - adrenal)

7. Pancreas, Diabetes

Bone lesions:

1-Central giant-cell and fibroses lesions

2-hyperparathyroidism

3. Cherubim

4. Fibrous dysplasia

5. Central ossifying fibroma

G-Bone pagets disease

Oral salivary disorders

1. Physiologic pigmentation

2-pigmated dots (epidermal, functional, compound)

3. Malignant melanoma

4. Addison disease

5. Pott's Syndrome

Pseudo- Tumors of oral cavity

1-Irritable fibroids

2. Epulis fibroma

3. Pyogenic granuloma

4. Peripheral giant cell

5. Peripheral fibroma

6. Granulomatous Epulis

- Oral biology

-Biopsy and its related techniques

-Seminar and considering necessary slides.

Oral pathology 2 practical (1 practical credit, 34 hours)

Number and type of credit: (1 practical credit, 34 hours)

Practical teaching of oral pathology (1-2) includes 40 microscopic slides of oral an a maxillary /mandibular lesions, being taught in laboratory

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International Campus

Orthodontics

Theoretical Orthodontics 1 (1 credit, 17 hours)

Prerequisite: none

Theoretical Orthodontics 2 (1 credit, 17 hours)

Prerequisite: Theoretical Orthodontics 1

Theoretical Orthodontics 3 (1 credit, 17 hours)

Prerequisite: Theoretical Orthodontics 2

Practical Orthodontics 1 (1 credit, 34 hours)

Prerequisite: Theoretical Orthodontics 1

Practical Orthodontics 2 (1 credit, 34 hours)

Prerequisite: Theoretical Orthodontics 2- Practical Orthodontics 1

Practical Orthodontics 3 (1 credit, 34 hours)

Prerequisite: Theoretical Orthodontics 3- Practical Orthodontics 2

Practical Orthodontics 4 (1 credit, 34 hours)

Prerequisite: Practical Orthodontics 3

Theoretical Orthodontics 1

Objectives: Teaching and considering jaws, dental, and muscular anomalies, both theoretical and practical- Determining normal and abnormal occlusion- manner of-growing facial and jaws bones- physiology and morphology of muscles and their relation with malocclusion -mechanism and physiology of maxillary joint and their relation with muscles.

Prerequisite: Histology &embryology –osteology- anatomy of head and neck - dental materials- oral pathology

Subtitles:

1. Introduction, definition and orthodontic services

2. Making normal occlusion and those factors, being effective in producing normal occlusion.

They are as followed

A- Anatomy, physiology and morphology of oral cavity and its related structures.

B. Different stage of producing occlusion (milky-mixed- permanent)

C. Condition of normal occlusion in 3 dimensions

3. Growing skull, including

A- Importance of considering skull growth.

B- Stage of growing bones-different kinds of bone making system.

C- Considering skull growth- forming initial oral parts.

D- Growing head and face, before and after birth

4. Congenital anomalies, including:

A-All kinds of oral and facial clefts.

B. classification

C) Morphology and way of forming

5. Dental-jaw bones anomalies, including:

A. defining mal-occlusions

B. ways of classifying dental-jaws mal occlusions

C, Individual mal-occlusions

D. Group mal-occlusions

E. Different types of face

Practical Orthodontics 1

Practical orthodontics (1), includes:

A) Determining practical tools and materials of orthodontia

C- Tooth wiring, manner of using simple movable, blocks- functional devices.

Theoretical Orthodontics 2

Headline

Ethnology of malocclusion, including:

A-systems of classifying etiology

B. General causes (inherited- congenital -general diseases- mixed disorder

C. Local causes (number of teeth, Formand size of teeth, time and order of outing teeth, falling milk teeth –decay of soft tissue –habits)

7. Diagnosis, including:

A. principles of diagnosing

B. clinical examination

C-Molding and considering orthodontic models.

D- Providing homographic and radiographies inside and outside of mouth

E -Values of all obtained standards and planning of all obtained and planning of treatment.

8. Biomechanical principles, including:

A) Physiological movement

B. Orthodontic force

C. Dental changes in orthodontic movements

Practical Orthodontics 2 (1 practical credit , 34 hours)

Theoretical Orthodontics 3

Subtitles:

- Treatment, including:

A) Philosophy, aim and treating time

p) Planning treatment in different stage of outing teeth

a) Eruption of teeth in orthodontic treatments (different-permanent)

D- Treating simple anomalies

- Orthodontic devices, including:

A-grouping

B. Principles of movable devices (blocks, functional sets).

-Preventive orthodontia and tasks of general dentistry.

-Prognosis and attentions, after treatment.

- Maxillary, frontal joint disorders, being related into occlusion.

Practical Orthodontics 3 (1 practical credits, 34 hours)

practical Orthodontics 4 (1 practical credits, 34 hours)

Orthodontics 2, 3, 4 (clinical) include:

A) Becoming familiar with these diagnosing stage.

B. Molding and providing gypsies molds and performing necessary estimations.

C- Introducing patient, by observing all estimated criteria (diagnose, planning and treatment way)

D) Making necessary devices, for orthodontia, fitting them and necessary therapeutic follow up.

G- Providing final documents of patient and considering results.

Endodontics

Number and type of credit:

Theoretical Endodontics 1 (1 credit, 17 hours)

Prerequisite: Basic principles of Endodontics1

Practical Endodontics 1 (2 credit, 68 hours)

Prerequisite: Basic principles of Endodontics2- Theoretical Endodontics 1

Theoretical Endodontics 2 (1 credit, 17 hours)

Prerequisite: Theoretical Endodontics 1

Practical Endodontics 2 (2 credits, 68 hours)

Prerequisite: Theoretical Endodontics 2- Practical Endodontics1

Practical Endodontics 3 (1 credits, 34 hours)

Prerequisite: Practical Endodontics2

Objectives: Teaching a collection of Theoretical and practical textbooks into students; so that, they shall be able to diagnose and treat lesions, being related into pulp and its infective complications.

Theoretical Endodontics 1 (1 credit, 17 hours):

Subtitles:

1. Definition and history of endodontics
2. Familiarity with the internal anatomy of the teeth
3. Principles of access cavity preparation
4. Familiarity with the endodontic instruments and materials
5. Biological principles and Objectives of canal cleaning and rinsing
6. Cleaning and shaping of the straight canals
7. Cleaning and shaping of the curved canals
8. Treatment accidents
9. Sterilization on Endodontics
10. Radiography in Endodontics

Practical Endodontics 1 (2 credit, 68 hours):

Training mean: phantom

Objectives: access cavity preparation, cleaning and shaping and obturation of upper and lower incisors, premolars, and molars

Theoretical Endodontics 2 (1 credit, 17 hours):

Subtitles:

1. Histology and embryology of the pulp, dentine and periapical tissues

2. Pulpal inflammation and stimulating factors
3. Microbiology and immunology in Endodontics
4. Pulpal diseases
5. Prevention of pulpal diseases
6. Periapical diseases
7. Principles of diagnosis and vital tests in Endodontics
8. Treatment plan in Endodontics
9. Case selection in Endodontics
10. Local anesthesia in Endodontics
11. Isolation in Endodontics and use of rubber dam
12. Endodontics emergencies
13. Endodontic pharmacology

Practical Endodontics 2 (2 credits, 68 hours):

Requirements:

Performing the thorough treatment of at least 10 canals in the clinic including the single and double canal teeth.

Practical Endodontics 3 (2 credits, 68hours):

Requirements:

Performing the thorough treatment of at least 15 canals in the clinic including the single and double canal teeth and must include at least 3 molar teeth.

Oral and Maxillofacial Diseases

Practical OMF diseases 1 (2 credit, 68 hours)

Practical OMF diseases 2(1 credit, 34 hours)

Prerequisite: Practical OMF diseases 1- Systemic Diseases 1&2

Practical OMF diseases 3(1 credit, 34 hours)

Prerequisite: Practical OMF diseases 2

Practical OMF Diseases 1

1. Practical methods of intra and extra oral examinations in the clinic and preparing minimum of 6 full documents (complete examination)
2. Seminar presentation according the determined subject by the corresponding attending
3. Performing the screening examination of at least 50 patients and preparing referring documents and guiding the patient to the treatment process to the other departments

Practical Oral diseases 2

1. Attendance to the seminars of oral lesions (minimum 6 sessions) and active participation at the daily clinical pathology discussion
2. Two presentations according the determined subject by the corresponding attending and being
3. Performing complete examination of at least 10 patients
4. Performing the screening examination of al least 50 patients and preparing referring documents and guiding the patient to the treatment process to the other departments

Practical Oral diseases 3

1. Participation in the treatment of complicated cases (cases treated by master students) including: taking history and document preparation, differential diagnosis and definitive diagnosis after the required tests, preparing a presentation about the case and reporting as a case report, at least one case
2. Familiarity with the appropriate communication with the other health care professionals and consultation
3. Familiarity with the para-clinical tests (i.e. radiographs, CT-Scan, laboratory tests) capability to interpret the results
4. Sampling methods; biopsy, cytology, bacteriological smears
5. Prescription and providing the patient with the sufficient information

Periodontics

Number and type of credit: 7 credits

Objectives: familiarity with the gingival diseases and being able to diagnose, plan and perform the treatment

Theoretical Periodontics 1 (1 credit, 17 hours)

Prerequisite: none

Theoretical Periodontics 2 (1 credit, 17 hours)

Prerequisite: Theoretical periodontics1

Theoretical Periodontics 3 (1 credit, 17 hours)

Prerequisite: Theoretical periodontics2

Practical Periodontics 1 (1 credit, 34 hours)

Prerequisite: Theoretical periodontics1

Practical Periodontics 2 (1 credit, 34 hours)

Prerequisite: Practical periodontics1

Practical Periodontics 3 (1 credit, 34 hours)

Prerequisite: Practical periodontics2

Practical Periodontics 4 (1 credit, 34 hours)

Prerequisite: Practical periodontics3

Theoretical Periodontics 1 (1 credit, 17 hours):

Subtitles:

1. Introduction and history 2. Anatomy and histology of the periodontium; gingiva, root cement, periodontal ligament, alveolar bone, epithelial attachment
3. Etiology of the periodontal diseases; local and systemic
4. Microbiology of the periodontal diseases; microbial plaque and its formation mechanism
5. Occlusal trauma
6. Pathology of periodontal diseases; tissue destruction mechanism and immunology
7. Epidemiology of periodontal diseases
8. Prevention from periodontal diseases and its methods

- Brushing methods and how to teach them to the patient
- Accessory tools for plaque removal
- Fluoride and its preventive role; local and systemic application
- Information about the toothpastes and mouth washes and polish materials

Practical Periodontics 1(1 credit, 34 hours):

Requirement:

1. Oral health education
2. Familiarity with periodontal instruments
3. Normal periodontium`s characteristics
4. Sterilization and disinfection in periodontal clinic
5. The application of periodontal instruments and how to work with them
6. Sharpening the instruments
7. Scaling on model

Theoretical Periodontics 2(1 credit, 17 hours):

Subtitles:

1. Signs and symptoms of periodontal diseases and their classification
2. Gingival hyperplastic diseases
3. Examination, history taking and document completion
4. Prognosis of the diseases
5. Diagnosis; radiologic interpretation in periodontics
6. How to work with the instruments; scaling and curettage and periodontal surgeries
7. Scaling methods:

- Supra-gingival scaling
- Sub-gingival scaling
- Root planning
- Scaling with ultrasonic methods

8. Emergencies in periodontics

- Periodontal abscess
- Acute necrotizing ulcerative gingivitis (ANUG)
- Pericoronitis
- Acute gingivitis

Practical Periodontics 3(1 credit):

Requirement:

1. History taking, examinations and document completion
2. Diagnosis and periodontal treatment plan, performing the treatment and follow up of the patient for at least 3 sessions
3. Supra and infra gingival scaling with manual instruments for at least 3 patients
4. Root planning with manual instruments for at least 1 patient

Theoretical Periodontics 3(1 credit):

Subtitles:

1. Periodontal surgeries; principles and process
- Gingivectomy, gingivoplasty
- Simple flap surgery
2. Classification and application of mucogingival graft
3. Types of gingival grafts
4. Surgical method in mucogingival surgeries
5. Osseous surgeries
6. Principles of root furcation regions
7. Types of sutures and their methods
8. Wound dressing in periodontics and follow up sessions
9. Tooth sensitivity and its treatment
10. Occlusion in relation with periodontal diseases
11. Periodontal lesions and their relation with endodontics, prosthodontics and orthodontics
12. Classification of splints and their role
13. Principles of dental implants

Practical Periodontics 3(1 credit):

Requirements:

1. Diagnosis and treatment planning of periodontal diseases
2. Working with ultrasonic instruments
3. Supra and sub gingival scaling and root planning with ultrasonic instruments of at least 4 patients, follow up of the patient for at least 3 sessions
4. Curettage or Enap for at least 1 patient

Practical Periodontics 4 (1 credit, 34 hours):

Requirements:

1. Diagnosis of periodontal diseases
2. Treatment of periodontal emergencies, at least 2 patients
3. Supra and infra gingival scaling and root planning, at least 2 patients
4. Gingival curettage, at least 1 patient
5. Assisting in the periodontal surgeries, at least 2 surgeries
6. Performing the periodontal surgeries, at least 1 patient

Practical Periodontics 5 (2 credits, 68 hours):

Requirements:

1. Diagnosis of periodontal diseases
2. Treatment of periodontal emergencies, at least 2 patients
3. Supra and infra gingival scaling and root planning, at least 2 patients
4. Gingival curettage, at least 1 patient
5. Assisting in the periodontal surgeries, at least 2 surgeries
6. Performing the periodontal surgeries, at least 1 patient

Restorative Dentistry

Number and type of credit: 6 credits

Objectives: Teaching theoretical and practical credits into students; so that, they can be able to diagnose different degrees of decay and treating them.

Basic principles of Restorative Dentistry: Theoretical (1 credit) , Practical (2 credits)

Prerequisite: Dental anatomy and morphology- Basic principles of Dental Materials

Theoretical Restorative Dentistry 1 (1 credit, 17 hours)

Prerequisite: Basic Principles of Restorative Dentistry

Practical Restorative Dentistry1 (1 credit, 34 hours)

Prerequisite: Infection Control- Basic principles of Restorative Dentistry-Basic Principles of Dental Material

Theoretical Restorative Dentistry 2 (1 credit, 17 hours)

Prerequisite: Theoretical Restorative Dentistry 1

Practical Restorative Dentistry 2 (2 credits, 68 hours)

Prerequisite: Practical Restorative Dentistry 1

Practical Restorative Dentistry 3 (1credit, 34 hours)

Prerequisite: Practical Restorative Dentistry 2

Theoretical Restorative Dentistry 1(1 credit, 17 hours)

Subtitles:

1. Introduction to restorative dentistry
2. Dental caries; types, redisposing factors, clinical characteristic, diagnosis and development theories
3. Manual and rotary instruments
4. Cavity preparation for different types of amalgam fillings
5. Cavity preparation for composite fillings

Practical Restorative dentistry1 (1 credit, 34 hours)

This course would be held in the laboratory

Requirements:

1. Amalgam cavity preparation

- Class 1, 2,3,4,5
- Buccal pit
- Distolingual groove
- Pin amalgam

2. Composite cavity preparation; Class 3,4,5
3. Filling of the prepared cavities

Theoretical Restorative dentistry 2 (1 credit, 17 hours)

Subtitles:

1. Clinical and radiographic examination, treatment plan
2. Isolation in restorative dentistry
3. Pulp protection material (liner, base)
4. Pulp capping
5. Periodontal considerations of restorative treatments

6. Biologic principles of cavity preparation
7. Amalgam; characteristic, techniques
8. Polishing of amalgam and its effect on durability of the treatment
9. Infection control
10. Pins; types, characteristics and application

Practical Restorative dentistry 2 (2 credits, 68 hours)

Requirement:

1. Treatment of at least 6 patients needing class 1 amalgam filling
2. Treatment of at least 3 patients needing class 2 amalgam filling

Practical Restorative dentistry 3 (1credit, 34 hours)

Requirements:

1. Class 1 amalgam treatment: at least 3 cases
2. Class 2 amalgam treatment: at least 2 cases
3. Class 5 amalgam treatment: at least 3 cases
4. Complex amalgam filling treatment; at least 5 cases
5. Class 3 composite filling treatment: at least 4 cases

Practical restorative dentistry (2, 3) is presented in clinic and according to following plans:

1. Providing file and of general and dental / oral diseases of patient.
2. Diagnosis and plan of treatment
3. Isolation of operated tooth
4. Filling tooth, by amalgam.

A. Cavities of class I, in buccal level

B-Cavities of class I, in occlusal level

C. Pulp cover

D. Method of filling tooth, by amalgam

5. Filling cavities of class II, by amalgam

A. Preparing cavity

B. Pulp cover

C. Method of using matrix

D. Filling

6. Filling cavities of class II and U, by amalgam

A- Providing cavity.

B. Cover of pulp

C. way of filling tooth

7. Fining three-Layer and compound cavities and using forceps.

8. Method of treating those teeth, their root has been treated

9. Filling by composite

A. method of providing cavities of class II, for upper and Lower jaws.

B- Method of providing cavities of class II &v.

c. Pulp cap

10. Method of using casting gold, in dentistry

A. Method of preparing cavities of class I &II

B. Method of preparing cavities of class I &II and prescribing cases.

11. Using sticky gold, as demonstration

Removable partial prosthesis

Number and type of credit: 5 credits

Objectives: familiarity with preparation of the mouth for the removable partial prosthesis, treatment plan, prosthesis fabrication and performing the treatment

Basic principles of partial Prosthodontics: Practical (1 credit, 34 hours)

Prerequisite: Basic principles of complete prosthetic Denture, Basic principles of Restorative Dentistry, Basic principles of Dental Materials

Theoretical Removable partial prosthesis 1 (1 credit, 17 hours)

Practical Removable partial prosthesis 1 (2 credits, 68 hours)

Prerequisite: Basic principles of partial Prosthodontics

Practical Removable partial prosthesis 2 (2 credit,68 hours)

Prerequisite: Practical Removable partial prosthesis 1- Theoretical Advanced Prosthodontics1

Theoretical Removable partial prosthesis 2 (1 credit, 17 hours)

Subtitles:

1. A valid classification of partially edentulous arches; kennedy-applegate, krodock, classifications of partial prosthesis

2. Elements of a partial prosthesis

- Major connectors of the upper jaw
- Major connectors of the lower jaw

3. Support:

- Definition, types of support
- Rest, definition, major role, auxiliary roles, it`s location and types

4. Surveying

- The surveyor device
- Why should survey?
- Influencing factors on surveying

5. Retention:

- Definition
- Factors affecting on retention
- Types of mechanical retention (direct retainers)
- Clasps; definition, types of clasps, characteristics of a clasp (support, retention, stabilization, reciprocation, encirclement, passivity

6. Indirect retainers:

- Factors prohibiting rotational movements of partial prosthesis
- Rotational movements and their axis
- Types of reciprocation

7. Base:

- Definition
- Types, advantages and disadvantages
- Roles; in tooth retained prosthesis, in tooth and tissues retained prosthesis
- Characteristics of an ideal base

8. Minor connector:

- Definition
- Roles, types and location

9. Impression:

- Impression materials
- Primary impression and primary gypsum model
- Workflow of process undertaken with the primary gypsum model; survey, metal frame design, special tray, definitive impression and definitive gypsum model preparation, relief and block out

10. Duplication and waxing

- Sprue
- Cylindering
- Casting
- polishing

Practical Removable partial prosthesis 1(2 credits, 68 hours)

Requirements:

Design and fabrication of metal framework on the model

Practical Removable partial prosthesis 2(2 credit, 68 hours)

Requirements:

Performing diagnosis, treatment plan and the treatment of at least one patient in need of partial prosthesis with metal framework and follow up of the patient for at least three sessions

Fixed prosthesis

Number and type of credit: 5 credits

Objectives:

- Learning the theoretical basis of fixed prosthesis and bring the knowledge to the clinical practice
- Acquiring the necessary skills to replaced the missed teeth
- Acquiring the necessary skills to maintain and repair the patients` existing fixed prosthesis
- Esthetic and functional rehabilitation of the mouth

Basic Principles of Fixed Prosthesis: Practical (2 credits, 68 hours)

Prerequisite: Dental Anatomy and Morphology, Basic principles of Endodontics1, Basic principles of Dental Materials

Theoretical Fixed prosthesis 1 (1 credit, 17 hours)

Practical Fixed prosthesis 1 (2 credits, 68 hours)

Prerequisite: Basic Principles of Fixed Prosthesis- Practical Restorative Dentistry 1

Practical Fixed prosthesis 2 (2 credits, 68 hours)

Prerequisite: Practical Fixed prosthesis 1 - Practical Restorative Dentistry 2-Theoretical Advanced Prosthodontics 2- Practical Endodontics2

Theoretical Fixed prosthesis 1 (1 credit, 17 hours)

Subtitles:

1. Principles of fixed prosthesis; introduction, history and terminology
2. Biomechanical principles of tooth preparation; types of preparations and finish lines (pros and cons); location of the finish line
3. Preparation of tooth for a full crown; casting full metal, porcelain fused to metal (PFM) and porcelain jacket crown
4. Temporary crown fabrication
5. Impression taking; tissue preparation for impression, gingival retraction and fluid control, impression materials, impression techniques
6. Cast and die preparation; different techniques of pinning and die preparation, types of dies (gypsum, plastic, epoxy resin), trimming and ditching
7. Registration of jaw relations and transferrin to articulator; transferring the upper jaw relations using face bow, transferring the lower jaw relations (central relation, central occlusion), bite registration material
8. Wax up; die preparation for wax up, wax up for full crown and facing crowns and porcelain fused to metal
9. Pontic types and its wax up
10. Investment; investment material and their characteristics, sprues, vacuum mixture machine
11. Casting techniques; ovens, wax burn out, casting machines, melting alloys, proper temperature, fixing casting failures, finishing and polishing
12. Tooth preparation for partial veneer crowns; advantages and disadvantages, anterior ¾ crowns, posterior ¾ crowns, 7/8 crowns
13. Tooth preparation for inlay and onlay; definition, advantages and disadvantages, preparation techniques
14. Biologic principles of tooth preparation; effect of preparation on the dental tissues, speed, temperature, sharpness of the burrs, cooling during preparation, under and excessive preparation, employment of varnishes and linear, impression taking, temporary crown materials, cements, biocompatibility of the material, infra gingival cords for gingival retraction

Practical Fixed prosthesis 1 (2 credits, 68 hours)

Requirements:

1. Preparation of second premolar for porcelain fused to metal (PFM) crown; on the model
2. Preparation of second molar for full casting metal crow; on the model

3. Impression taking
4. Die preparation and working cast; articulation
5. Wax up of retainer and pontic between two prepared teeth (first molar)
6. Investment and casting
7. Finishing and polishing, delivery
8. Preparation of upper incisor tooth for post and core
9. Fabricating the post and core of the prepared upper incisor tooth
10. The student must deliver a three credits bridge and a casting post and core at the end of the course

33-4: Practical Fixed prosthesis 2 (2 credits, 68 hours)

Requirements:

Treating a patient needing a single crown or 3 credits posterior bridge with the post and core (all the laboratory process must be performed by the student

1. Familiarity with the instruments and their application in the clinic
2. Being able to fill the documents and explaining the treatment options to the patient
3. Preparation of the canals for the post and core
4. Preparation of post and core (direct and indirect methods)
5. Cementation of post and core
6. Fabrication of the prosthesis
7. Delivery to the patient and follow up

Complete Prosthetic Denture

Number and type of credit: 5 credits
Objectives: acquiring skill for how to treat the fully edentulous patients
Basic principles of Complete Prosthetic Denture: Practical (2 credits, 68 hours)
Prerequisite: Dental Anatomy & Morphology- Basic Principles of Dental Material
Theoretical Complete Prosthetic Denture 1 (1 credit, 17 hours)
Practical Complete Prosthetic Denture 1 (2 credits, 68 hours)
Prerequisite: Basic principles of Complete Prosthetic Denture
Practical Complete Prosthetic Denture 2(2 credits, 68 hours)
Prerequisite: Practical Complete Prosthetic Denture 1
Theoretical Complete Prosthetic Denture 1 (1 credit, 17 hours)
Subtitles:

1. Introduction

- Terminology of removable complete prosthesis
- Indications
- Limitations, advantages and disadvantages

2. Functional anatomy in relation with complete prosthesis
    - Bone morphology
    - Anatomy of the muscles affecting the removable complete prosthesis
    - Oral mucosa
    - Surfaces of removable complete prosthesis
    - Anatomy of the lower 1/3 of the face
3. Impression taking
    - Definition and Objectives; tissue preservation, support, stability, retention, esthetics, impression materials
    - Types of impressions; primary impression, primary model preparation, special tray, definitive impression, border molding, boxing, definitive model preparation
4. Lower jaw movements
    - Anatomy of temporomandibular joint (TMJ)
    - Functional anatomy of the muscles and effective ligaments
    - Condylar movements, rotational movements, dispositional movements
    - Border movements
5. Jaw relations
    - Vertical relations
    - Horizontal relations
    - Orientation relations
    - Record base
    - Practical workflow of bite registration
6. Tooth selection
    - Anterior teeth; size, shape, color, material
    - Posterior teeth; size, shape, color, material
    - Advantages and disadvantages of acrylic and porcelain teeth
7. Articulators
    - Classifications
    - Simple
    - Pre adjusted; free plan
    - Adjustable
    - Semi adjustable; dentatus, hanau H2
8. Transferring the relations to the articulator
    - Transferring the upper jaw model with the mounting gij
    - Transferring the upper jaw model with face bow
    - Transferring the lower jaw model
9. Try in of the arranges teeth
    - Re-registration of the jaw relations in case of any incompatibility
10. Laboratory process
    - Wax up, investment, processing, remounting, occlusal adjustment, finishing and polishing
11. Delivery to the patient
    - Evaluation of the surfaces
    - Evaluation of the occlusion
    - Instruction and hygiene control
    - Follow up sessions

Practical removable complete prosthesis 1 (2 credits, 68 hours):

Requirement:

Performing the total workflow of fabrication o removable complete prosthesis in the laboratory and delivering a set on complete denture (upper and lower jaw)

Practical removable complete prosthesis 2(2 credits, 68 hours)

Requirements:

Performing the treatment on an edentulous patient regarding all the clinical and laboratory procedures and delivering the prosthesis (upper and lower jaw) to the patient and follow up of the patient at least for three sessions.

Oral and Maxillofacial Surgery

Number and type of credit: 10 credits

Objectives: theoretical and practical training in order to familiarize the student with the principles of oral and maxillofacial surgery so that the student would be skilled enough to perform minor oral surgeries and provide enough information for the patients in need of major maxillofacial surgeries and refer the patient to the specialist.

Theoretical Oral and Maxillofacial Surgery 1 (1 credit, 17 hours)

Practical Oral and Maxillofacial Surgery 1 (1 credits, 34 hours)

Prerequisite: Theoretical OMF Surgery 1

Theoretical Oral and Maxillofacial Surgery 2 (1 credits, 17 hours)

Prerequisite: Theoretical OMF Surgery 1

Practical Oral and Maxillofacial Surgery 2 (1 credits, 34 hours)

Prerequisite: Practical OMF Surgery 1

Practical Oral and Maxillofacial Surgery 3 (2 credits, 68 hours)

Prerequisite: Practical OMF Surgery 2

Practical Oral and Maxillofacial Surgery 4 (2 credits, 68 hours)

Prerequisite: Practical OMF Surgery 3

Practical Oral and Maxillofacial Surgery 5 (2 credit, 68 hours)

Prerequisite: Practical OMF Surgery 4

Theoretical Oral and Maxillofacial Surgery 1 (1 credit, 17 hours)

Subtitles:

1. Principles of surgery, systemic diseases, examinations
- Introduction to the oral and maxillofacial surgery specialty
- Preparing patient history
- Mental evaluation of the patient

- Communication with the patient
- Laboratory tests
- Systemic diseases; precautions and management of the complications in detail (cardiovascular, renal, cerebral, hematologic, metabolic, etc.)

2. Infection control
- Principles of asepsis
- Sterilization methods
- Bacteriology of surgery

3. Local anesthesia; principles, effects, complications
- Neuroanatomy in relation with local anesthesia
- Pain management in the field of oral and maxillofacial surgery
- Pharmacology of anesthetic drugs
- Vasoconstrictors
- Local anesthesia techniques
- Local and systemic complications of local anesthesia and how to remedy them
- Principles of sedation

4. Principles of surgery
- Familiarity with surgical instruments
- Sutures; types and characteristics
- Surgical blade
- Application of the instrument
- Prep and drep of the patient prior to the surgery

5. Wound healing

6. Surgical pharmacology and prescription

Practical Oral and Maxillofacial Surgery 1 (1 credit, 34 hours)

Requirements:

1. Familiarity with the surgical instruments and the workflow of the oral and maxillofacial surgery department

2. History taking and filling the document (at least 10 patients)

3. Intra and extra oral examinations under the tutor`s supervision (at least 5 patients)

4. Acquiring skill in local anesthesia techniques and performing on the patients (10 cases of infiltration and 5 cases of nerve block)

Theoretical Oral and Maxillofacial Surgery 2 (1 credit, 17 hours)

Subtitles:

1. Exodontia and its complications
- Familiarity with the instruments
- Principles of extraction of primary and definitive teeth
- Indications and contraindications of surgery
- Hemorrhage
- Dry socket
- Pain and inflammation
- Dental alveolar bone fracture subsequent to the extraction
- Damage to temporomandibular joint (TMJ)
- Extraction of teeth with anatomic anomalies and remaining root
- Impacted teeth surgery
2. Oroantral fistula (O.A.F); its surgical managements
3. Emergencies
- Syncope and shock
- Cerebrovascular accident
- Metabolic diseases and their complications
- Cardiovascular diseases and their complications
- Emergency medications and their application
- Cardiopulmonary resuscitation (CPR)
- Injections (IV, IM, etc.)

Practical Oral and Maxillofacial Surgery 2 (1 credits, 34 hours)

Requirements:

1. Practicing local anesthesia techniques and performing on the patients (10 cases of infiltration and 5 cases of nerve block)
2. Familiarity with management of emergency situations in dental practice
3. Suture extraction
4. Extraction of upper and lower uni-root teeth (at least 5 cases)

Practical Oral and Maxillofacial Surgery 3 (2 credits, 68 hours)

Requirements:

1. Extraction of upper and lower anterior and premolar teeth (at least 4 cases)
2. Extraction of upper and lower molar teeth (at least 4 cases)
3. Nonsurgical extraction of remained root (at least one case)
4. Suturing (at least 4 cases)

Practical Oral and Maxillofacial Surgery 4 (2 credits, 68 hours)

Requirements:

1. Extraction of upper and lower single root teeth (at least 15 cases)
2. Surgical extraction of remained root (at least one case)
3. Surgical extraction of semi erupted wisdom tooth
4. Assisting in oral surgeries performed in the oral and maxillofacial surgery department (at least 5 cases)

Practical Oral and Maxillofacial Surgery 5 (1 credit, 34 hours)

Requirement:

1. Tooth extraction; all cases (at least 15 cases)
2. At least 2 of these options;

- Surgical extraction of complicated teeth
- Impacted tooth surgery
- Alveolectomy, excision of small tumors and cysts
- Frenectomy
- Arch bar application
- Surgery of abscess

3. Acquiring skill in this fields:

- Evaluation of vital signs; blood pressure, pulse, temperature, aspiration
- Cardiac normal sounds
- Laboratory test; prescription, interpretation
- Cardiopulmonary resuscitation (CPR); practical
- CT-Scan and MRI interpretation
- Intramuscular and intravenous injections
- Management of emergencies

Pediatric dentistry

Number and type of credit: 8 credits

Objectives: acquiring preventive and therapeutic skills for treatment of oral diseases of pediatric patients.

Theoretical Pediatric dentistry 1(1 credit, 17 hours)

Prerequisite: Theoretical restorative dentistry1, Theoretical Radiology1, Periodontology1, Theoretical Endodontics1, Theoretical OMF Surgery1

Practical Pediatric dentistry 1(2 credits, 68 hours)

Prerequisite: Infection Control- Practical Radiology1- Practical Restorative Dentistry1- Practical Endodontics1- Theoretical Pediatric dentistry 1

Theoretical Pediatric dentistry 2(1 credit, 17 hours)

Prerequisite: Theoretical Pediatric dentistry 1- Pharmacology

Practical Pediatric dentistry 2 (2 credits, 68 hours)

Prerequisite: Practical Pediatric dentistry 1- Practical Restorative Dentistry 2

Practical Pediatric dentistry 3(2 credit, 68 hours)

Prerequisite: Practical Pediatric dentistry 2

Theoretical Pediatric dentistry 1

Subtitles:

1. Principles of pediatric dentistry:
- Importance of oral and general health of children
- Importance of primary dentition and periodontal maintenance in children
- Importance of attention to children`s permanent teeth
- The development of face and jaws along with the general development of the child
2. Behavior management of the child:
- A brief introduction of pediatric psychology
- Case selection
- Chief complaint, medical and dental history, epidemiology
- Preparing the patient for accepting the treatment (psychological methods, drugs, sedation)
3. Clinical examination and documentation
- Examination methods of newborns, children between 1 to 3 years old, older than 3

- Interviewing the child and the parents for filing the documents, child`s previous encounter with medical ambit
- Clinical and para clinical examinations
- Differences between primary and permanent teeth

4. Caries, its characteristics and diagnosis

- Pellicle and dental plaque
- Cariogenic microorganisms, carbohydrates and their role in caries, Stephen curve, PH changes
- Types of caries; baby bottle syndrome, rampant caries
- Caries prevention; hygiene, diet control, vaccination, immunology, fluoride, sealants, antiplaque, preventive resin restoration

5. Restorations in pediatric patients

- Anesthesia; types and administration
- Rubber dam and other isolation methods
- Cavity types in primary and permanent teeth of children
- Restorative materials employed in pediatric dentistry

Practical Pediatric dentistry 1(2 credits, 68 hours)

Requirement:

1. Laboratory tasks:

- Cavity preparation on extracted primary teeth: at least 4 cases
- Preparation on Stainless Steel Crown (SSC) on the model: 1 case
- Fabricating removable and foxed Space Maintainer: 1 case

2. Clinical tasks:

- Examination and diagnosis and documentation of incoming patients: at least 4 patients
- Oral hygiene education and fluoride therapy: at least 3 patients
- Fissure sealant therapy and preventive resin restoration (PRR): at least 2 patients of each
- Class 1 and 2 restorations of primary and permanent teeth: at least 5 cases of each
- Extraction of primary teeth: at least 5 case

Theoretical Pediatric dentistry 2(1 credit, 17 hours)

Subtitles:

1. Pulp capping in pediatric dentistry

- Direct and indirect pulp capping

- Pulpotomy and pulpectomy
- Pulp therapy for open apex permanent teeth; apexogenesis and apexification

2. Management of traumatic teeth in pediatric teeth
- Examination and emergency treatments
- Diagnosis of fractures and subsequent treatment
- Types of splint
- Re-plantation of avulsed teeth

3. Prevention and management of oral disorders in children
- Evaluation of occlusion and growth and development of jaw
- Types of disorders
- Appliances for prevention and stopping the progression of the disorder

4. Space management appliances:
- Removable and fixed space management
- Functional appliances
- Extra and intra oral appliances for treatment of maxillofacial discrepancies

Practical Pediatric dentistry 2(2 credits, 68 hours)

Requirements:

1. Examination and diagnosis and documentation of incoming patients: at least 6 patients
2. Oral hygiene education, fluoride therapy and preventive resin restoration (PRR): at least 2 patients of each
3. Class 1 and 2 restorations of primary and permanent teeth: at least 5 cases of each
4. Extraction: at least 4 cases
5. Composite restoration of anterior teeth: at least 5cases
6. Treatment of traumatized anterior teeth: at least 2 cases
7. Stainless Steel Crown (SSC) treatment: at least 2 cases
8. Pulpotomy of primary teeth: at least 7 cases
9. Pulpectomy of primary teeth: at least 1 cases

Practical Pediatric dentistry 3 (2 credit, 68 hours)

Requirements:

1. Documentation, examination and diagnosis: at least 3 cases
2. Fluoride therapy, fissure sealant therapy and preventive resin restoration: at least 4 cases of each

3. Restoration of posterior teeth for primary and permanent teeth: at least 3 cases
4. Composite restoration of anterior teeth: at least 3 cases
5. Extraction: at least 4 cases
6. Treatment of traumatized teeth with splint: at least 2 cases
7. Stainless Steel Crown (SSC) treatment: at least 2 cases
8. Pulp therapy of primary teeth: at least 5 cases
9. Apexogenesis and apexification: at least 1 case of each
10. Preparation of removable and fixed space maintainer: at least 1 case of each

Oral Radiology

Number and type of credit: 5 credits

Objectives: acquiring skill in various radiological techniques and interpretation of results and its application in diagnosis and treatment plan of oral and maxillofacial diseases.

Theoretical Oral radiology 1 (1 credit, 17 hours)

Prerequisite: Medical physics, Dental Anatomy and Morphology

Practical Oral radiology 1 (1 credit, 34 hours)

Prerequisite: Theoretical Oral radiology 1

Theoretical Oral radiology 2 (1 credit, 17 hours)

Prerequisite: Theoretical Oral radiology 1

Practical Oral radiology 2 (1 credit, 34 hours)

Prerequisite: Theoretical Oral radiology 2- Practical Oral radiology 1

Practical Oral radiology 3 (1 credit, 34 hours)

Prerequisite: Practical Oral radiology 2

Theoretical Oral radiology 1

Subtitles:

1. Physical principles of radiology
2. Determinants factors in the quality of radiologic results
3. Side effects of radiation on vital organs
4. Side effects of radiation on the site of radiation

5. Radiation health and protection
6. Darkroom and its appropriate conditions
7. Technical errors in the darkroom

Practical Oral radiology 1

Content:

1. Demonstration of intra oral radiographic techniques
2. Practicing on the model
3. Discussion about the common error between student with the tutor

Theoretical Oral radiology 2

Subtitles:

1. Examination and determining the necessary radiographs in order to achieve the proper diagnosis
2. Patient and his/her positioning for the radiation
3. Technique selection
4. Film positioning inside the mouth according to the employed technique and available holders
5. Radiographic elements setting; tube position, time, radiation
6. Different intra oral techniques:

- Periapical; Bisecting angle, Parallel
- Bite wing
- Occlusal
- Tomography
- Cross section

7. Extra oral techniques:

- Temporomandibular joint (TMJ) radiographs
- Mandibular angle, body and ramus
- Sinuses
- Upper jaw
- Cephalometry (anterior, posterior, lateral and profile)

8. Advantages and disadvantages of each technique

Practical Oral radiology 2

Content:

1. Performing intraoral (periapical and bite wing) radiographs at the faculty radiology service
2. Performing occlusal radiographs at the faculty radiology service

Practical Oral radiology 3

Content:

1. Performing radiographs at the faculty radiology service
2. Participation in the morning radiograph interpretation seminars

Medical Ethics, Professional Commitment and Law

Number and type of credit: 1 theoretical credit, 17 hours

Objectives: familiarity with the dental instruments, their application and maintenance

Subtitles:

- General and practical ethics and professionalism
- Altruism, respect, job sublimity and justice
- Honor and honesty, conscientiousness
- History and moral philosophy, and the four principles of bioethics
- Ideologies and moral theories
- Diagnostic tools in ethical decision making
- Informed consent, acquittal and determination of substitute decision-making capacity
- Confidentiality and speaking the truth
- The relationship of dentist with other members of the health
- Principles of office management, medical documentation, communication of dentists with patients
- Familiarity with the medical council, dental regulations, responsibility, medical malpractice and errors, atonement

- Understanding the implications of certification, and the rules of court proceedings
- Conflict of interest
- Ethics in educational environments
- Islamic jurisprudence traditions and its relation to ethics in dentistry
- Challenges in medical ethics
- Integrated case presentation

Dental Equipment and Ergonomics

Number and type of credit: 1 theoretical credit, 17 hours

Objectives: familiarity with the dental instruments, their application and maintenance

Subtitles:

1. Principles:
2. Familiarity with the electric and pneumatic dental credits and then ones having micro motor board, Iranian dental credits and their parts
3. Familiarity with the water, portable, air and central suctions and their parts
4. Familiarity with electric and pneumatic pedals and their parts
5. Calculating the electricity consumption of every chair and credit and credits` acronyms, calculating bar foot point and Fahrenheit to centigrade for the heating equipment, familiarity with credit light and the light volume to Lux
6. Chairs:
7. Familiarity with electric, hydraulic and pneumatic chairs and their parts
8. Familiarity with central compressor and dryers, dehumanizers and tank compressors and dry non-oil compressors
9. Familiarity with the hydraulic and gas dentist chair and their problems
10. Instruments:
11. Air born and ball bearing and light turbines
12. Blade air motors
13. Different air motors and familiarity with their internal structure
14. Low speed and high speed rotary instruments
15. Laboratory and surgical hand pieces
16. Apex finder and pulp tester, scaling instrument, light cure, radiography device

Psychology in Dentistry

Number and type of credit: Theoretical (1 credit, 17 hours)
Subtitles:
-Evolution of behavioral Science in Dentistry
-Behavioral therapy and its interventions
-Pain control management strategies
-Fear and Stress in Dentistry and their effect on provision of services
-Measurement, source and evolution of Fear and Stress
-Factors affecting Fear and Stress and management of them
-Serious oral habits in children and psychological management
-Psychological analysis types and learning theories
-The dentist's patient's relationship, types and dimensions
-Dentist's characteristics and its therapeutic effects
-Satisfaction of patient and dentist
-Stress in Dentistry
-Family quarrels, effects on provision of services and management of them
-Behavioral change in passing to old age
-Geriatric psychology
-Hypnotism
-Hypnotism in children

Medical Emergencies in Dentistry

Number and type of credit: Theoretical (0.5 credit, 8.5 hours) practical (0.5credit , 17 hours)
Objectives: Understanding emergency cases and gaining the skill for these situations
Minimum expected practical skills:
-Perform clinical examinations correctly, Check and record vital signs of the patient
- Assess the awareness level of patient as soon as possible
-Can do IV injections correctly
-Identify the equipment foropening patient's airway
-Perform ventilating process on moulage via bag valve mask
-Can open patient's airway with Jaw Trust maneuver
-Perform Tracheal Intubation on adult moulage
-Practicing Cardio-Pulmonary Resuscitation Solo
-Practicing Cardio-Pulmonary Resuscitation Dual
Subtitles:

-Principles of Sign's recognition and changes of awareness level
-Opening airway
-IV and IM injections
-Cardio-pulmonary emergencies and allergic reactions
- Examination principles and vital sign control
-Familiarity with equipment and facilities for opening the airway with surgery
-Participating in internal diseases department

Infection Control

Number and type of credit: Workshop (1 credit, 34 hours)

Objectives: Familiarity of students with theoretical and practical principles of infection control, in such a way that by establishing the correct attitude , apply the scientific principles of infection control in the dental environment in all areas of education , treatment of patient and other cases well and skillfully with a high sense of responsibility.

Minimum expected practical skills:

-Be able to wash, clean and pack the instruments properly before sterilization

-Can work properly with sterilizing devices (autoclave, Dry heat, chemicals…)

-Perform at least two sterilization tests

-Perform at least one method of disinfection (floating, spraying …) correctly and supervised

-Sterilize and disinfect high and low speed hand pieces based on international recommendations

-Use at least two common disinfectant properly

-Dispose of at least two sharp instruments properly and transfer to contaminated waste in the dental office

-Take the necessary considerations according to infection control measures for at least one case of contaminated personnel referral

-Perform personal protection steps in at least one simple process (restoration) and a complex process (surgery), respectively.

Subtitles:

-Microbiology and general principles of the transmission of infectious diseases

- Infection transmission ways in Dentistry

-Infection control and some serious diseases in dentistry such as hepatitis, AIDS, Tuberculosis,HSV, and their Epidemiology

-Infection control methods in dentistry and personal protection steps

-Washing, cleaning and packing of instruments. Sterilization and maintenance methods

-Steps, mechanism, materials and methods of disinfection

-Infection control in Restorative Dentistry

-Infection control in Endodontics

- Infection control in prosthodontics and dental laboratory

-Infection control in Radiology
-Infection control in Orthodontics
-Hospital Infection Control
-Monitoring of Infection Control measures, personal protection and waste disposal

Oral and Maxillofacial Traumatology

Number and type of credit: Theoretical (1 credit, 17 hours)

Objectives: Recognition of oral and maxillofacial injuries and therapeutic methods and special considerations in patient treatment and education. Also students become acquainted with post-treatment follow-up and preventive methods and strategies for injury based on the latest scientific evidence.

Minimum expected practical skills:

-Design a strategic plan for primary prevention and treatment and referral for dentofacial injuries

-Recognize simple dental injuries and cure them and refer more difficult cases

Subtitles:

-Familiarity with oral and maxillofacial traumas and management of them
-Classification. Epidemiology and Etiology of dental traumas
-Principles of Dental trauma examination and diagnosis
-Principles of Diagnosing and treating of injured primary teeth
-Side effects of primary teeth's injuries on the permanent teeth
-Radiographic techniques in Traumatology
-Diagnosis, treating and Prognosis of crown fractures
- Diagnosis, treating and Prognosis of crown-root fractures and root fractures
- Diagnosis, treating and Prognosis of Luxation injuries
- Diagnosis, treating and Prognosis of Avulsion. Splinting process
-Complication of injured mature and immature permanent teeth
-Injuries made by traumas to soft tissues
-Injuries made by traumas to bone
-Principles of diagnosing and treatment of maxillofacial fractures
-Possible complications after maxillofacial and TMJ fractures
-Documenting and familiarity with legal issues following dental trauma

Implantology

Number and type of credit:

Theoretical (1credit, 17 hours)

Prerequisite: Theoretical Radiology 2- Basic Principles of Partial Prosthodontics- Theoretical Periodontics3- Theoretical OMF Surgery2- Practical Periodontics3- Practical Fixed Prosthodontics 1 - Practical OMF Surgery3

Practical (2 credit, 68 hours)

Prerequisite: Theoretical Implantology

Objectives: The Objectives of this course is student's familiarity with general concepts of implant therapy and case selection and referral cases to specialist based on the degree of difficulty

Theoretical subtitles:

-Evolution and familiarity with the types of implants and their components
-Anatomical considerations for implant therapy
-Implant designing (Micro and Macro design)
-Biological consideration of hard and soft tissue around the implant
-Case selection and treatment plan from the perspective of surgery
-Case selection and treatment plan from the perspective of prosthodontics
-Methods and techniques for diagnostic imaging
-Diagnostic casts and surgical tips
-Principles of implant surgery and procedures
-Treatment method of implant-based over dentures
-Treatment of implant-based fixed prosthesis (screwed and cemented)
-Advanced surgery methods, hard tissue reconstruction surgery and sinus lifting
-Advanced surgery methods, soft tissue reconstruction
-Complications and failures of implant from the perspective of surgery
- Complications and failures of implant from the perspective of prosthodontics
-Pre-implantitis
-Indexes, hygiene education and following sessions

Practical (2 credits, 68 hours)

Minimum expected practical skills:

-Proper case selection for implant therapy
-Evaluation of patient's tests and images
-Be able to put implant on the model in different areas
-Can prepare the patient for implant surgery
-Work as an assistant in an implant surgery
-Prosthetic treatment on the model
-Participating in cast preparation and preparing the patient for prosthetic treatment
-Visiting the patient in following sessions after surgery and performing the required things for pat

-Visiting the patient in follow-up sessions after giving him the denture and performing the required treatments

-Diagnose the iatrogenic complications and refer the patient

Practical Subtitles:

-Reviewing the records of treated patients

-Documenting, examination and the order of para clinical tests and analyzing them for treatment. Analyzing of CBCT and OPG radiographies

- Participation in evaluating the patient from the perspective of prosthetics and surgery. Cast preparation. Patient preparation for treatment

-Surgery on the model

-Observing process of a surgery

-Participating in surgery

-Follow-up sessions after surgery and assessment of iatrogenic complications

-Report an evidence-based treatment

Clinical communication skills

Number and type of credit: Workshop (1credit, 34 hours)

Objectives: The Objectives of this course is to empower dental students with regard to how to deal with and oral examinations and also clinical skill of communication between patient and dentist.

Minimum expected practical skills:

- The students can apply and provide principles of the communication skills mentioned, in a role playing maneuver

Subtitles:

- Importance of effective communication between patient and dentist

-1st part of communication: Begin a conversation

-2nd part of communication: Data collection

-3rd part of communication: Understanding patient's view

- 4th part of communication: Exchange of information

- 5th part of communication: Agreement on diagnosis and therapeutic approaches

-6th part of communication: Ending conversation

-Role play sessions

Geriatric Dentistry

Number and type of credit: Theoretical (0.5 credit, 8.5 hours)Practical (0.5 credit, 17 hours)

Objectives: Familiarity with general Geriatrics, Social aspects, physiological changes, Basics of mental health and communicating with old people, syndromes and prevalent diseases and paying attention to importance of maintaining and improving oral health in this era.

Minimum expected practical skills:
-Ability to communicate properly with old people
-Be able to properly evaluate oral health of old people via appropriate tools and methods
-Can provide a good program for improving their oral health based on evaluations

Subtitles:
-General principles of Geriatric dentistry
-Social aspects of Geriatric
-Physiological changes of elders
-Physiological health and communicating with old people
-Evaluation and improvement of oral health in elders
-Prevalent oral diseases syndromes in elders
-Pharmacology and oral health of elders

Pulp and Periapical Complex

Number and type of credit: Theoretical (1credit, 17 hours)
Objectives: Familiarity with pulp tissue in a healthy and unhealthy states and Recognizing the stimulant factors and trends of pulp and Peri radicular diseases with respect to the microbiology and immunology of the relevant tissues.
Minimum expected practical skills:
-Be able to observe and interpret clinical cases of pulp and peri radicular diseases

Subtitles:
-Embryology and histology of pulp
-Embryology and histology of peri radicular
- Pulp's stimulant factors (microbial, chemical, physical)
-Histopathology of pulp diseases
-Histopathology of peri radicular diseases
-Clinical symptoms of pulp diseases
-Clinical symptoms of peri radicular diseases
-Diagnosis and treatment plan in Endodontics
-Case presentation of pulp and peri radicular diseases
-Microbiology in Endodontics
-Immunology in Endodontics
-The process of histopathologic restoration in pulp and periapical diseases

Treatment of Complete Edentulous Patients

Number and type of credit: Theoretical (1 credit, 17 hours)
Subtitles:
-Diagnosis and treatment plan in edentulous patients
-Preparation before complete prosthetic denture treatment
-Methods of taking impression in complete prosthetic denture
-Jaw movements and occlusion in complete prosthetic denture
-Articulators (understanding the components) and familiarity with different types of face bows
-Midterm exam
-Artificial tooth types and tooth selection,putting teeth in order, in abnormal jaw relations
-Checking occlusion, remounting, Denture delivery
-Complications after denture delivery
-Reline and rebase and tissue conditioning materials
-Immediate Denture

Diagnostic dentistry

Number and type of credit:
Diagnostic Dentistry 1: Theoretical (1credit, 17 hours)
Prerequisite: Psychology
Diagnostic Dentistry 2: Theoretical (1credit, 17 hours)
Diagnostic Dentistry 3: Theoretical (1credit, 17 hours)
Prerequisite: Diagnostic Dentistry 2- Practical OMF Diseases1
Diagnostic Dentistry 4: Theoretical (1credit, 17 hours)
Prerequisite: Diagnostic Dentistry 2 & 3
Diagnostic Dentistry 5: Theoretical (1credit, 17 hours)
Prerequisite: Diagnostic Dentistry 4
Diagnostic Dentistry 6: Theoretical (1credit, 17 hours)
Prerequisite: Diagnostic Dentistry 5

Objectives: Introduction to different types of oral soft and hard tissue lesions, clinical view, para clinical and pathologic changes. Also the student gets to know the ways of prevention from prevalence or reduction of soft and hard tissue damages.

Diagnostic Dentistry 1
Subtitles:

-Scientific sequence in patient encounter (from medical history to treatment & follow up) total patient approach

- Principles of examination & different methods (two-finger, four-finger…) signs & symptoms
- Natural oral landmarks
- Examination of cranial nerves, lymph, salivary, thyroid & TMJ
- Types of cervical tumors & principles of differentiation
- Examination & taking medical history

Diagnostic dentistry 2

Subtitles:

- Clinical category of common oral & jaw lesions
- Histopathologic category of oral & jaw lesions
- Common ulcerative oral lesions: bacterial (ANUG), recurrent aphthous stomatitis & relative syndromes, traumatic & eosinophilic ulcer, SCC …
- Common Mucocutaneous lesions (vesiculobullous): viral – immunologic: recurrent, chronic & acute herpes, multiform erythema, lichen plan, pemphigus, types of pemphigoid linear, IgA …
- Microscopic appearance of common ulcerative & mucocutaneous lesions, immunologic lesions …

Diagnostic dentistry 3

Subtitles:

- Pigmented lesions: melanin pigmented lesions: melanotic macule, melanoacanthoma, nevus & melanoma, related to drugs & smoking& related to systemic & hereditary diseases, so on.
- Microscopic features of pigmented lesions
- Vesiculobullous lesions: infectious, reactive, inflammatory – immunologic: candidiasis, hairy leukoplakia, frictional keratosis, habitary cheek mastication, lichen planus, lichenoid reactions…
- Microscopic features of benign epithelial & soft tissue lesions: papilloma, warts, condyloma, heck disease, seborrheic keratosis
- Pre malignant & malignant epithelial Vesiculobullous lesions: leukoplakia, erythroplakia, submucosal fibrosis, actinic keratosis, tobacco white lesions, SCC, verrucous carcinoma, side effects of tobacco & alcohol
- Microscopic features of pre malignant &malignant epithelial vesiculobullous lesions
- Exophytic lesions
- Microscopic features of non-epithelial benign soft tissue lesions: fibroma, giant cell fibroma, epulisfissuratum, pyogenic granuloma, peripheral giant cell granuloma, peripheral ossifying fibroma
- Microscopic features of common benign & malignant soft tissue tumors: lipoma, hemangioma, traumatic neuroma, rhabdomyosarcoma, neural malignancies, oral soft tissue metastasis
- How to treat pathologic lesions – Types of biopsy

Diagnostic dentistry 4

Subtitles:

-Odontogenic& non odontogenic cysts: inflammatory cysts(radicular cyst, residual cyst & buccal bifurcation cyst)developmental (dentigerous, OKC, COC, LPC, infant gingival cyst, adult gingival cyst, glandular odontogenic cyst, epidermoid cyst, nasopalatin cyst, duct cyst, nasolabialcyst, lymphoepithelial cyst)

- Odontogenic tumors: ectodermal, mixed, ectomesanchymal tumors
- Hard tissue lesions pathology: osteomyelitis, giant cell lesions, fibro osseous lesions, developmental lesions, bone tumors
- Clinical appearances of endo-osseous lesions
- Principles of radiograph analysis & differential diagnosis
- Periapical radiolucent lesions
- Pericoronal radiolucent lesions
- Inter radicular radiolucent lesions
- Non odontogenic cyst like radiolucent lesions
- Multilocular radiolucent lesions
- Ill defined border single radiolucent lesions
- Well defined border multiple radiolucent lesions
- Diffused bone rarefaction lesions
- Odontogenic mixed opalescent lesions
- Non Odontogenic mixed opalescent lesions
- Periapical radio opaque lesions
- Single, multiple & generalized radio opaque lesions

Diagnostic dentistry 5

Subtitles:

- Practical anatomy for salivary glands & ducts
- Saliva, components & use
- Xerostomia & burning
- Halitosis
- Salivary gland diseases: developmental, mucocele, ranula, reactive or edematous, systemic, viral & bacterial sialadenitis, sjogren syndrome, sialosis
- Salivary lesions (benign & malignant cysts & tumors): mixed tumor, warthin tumor, basal cell adenoma, canalicular adenoma, mucoepidermoid carcinoma, adenoid cystic carcinoma, acinic cell carcinoma
- Salivary gland radiography and lesions
- Cytology & biopsy steps in pathology

Advanced Dental prosthesis

Number and type of credit:

Theoretical Advanced Dental prosthesis 1: (1 credit, 17 hours)

Prerequisite: Basic Principles of Partial and Fixed Prosthetic Dentures- Treatment of Complete Edentulous Patients

Theoretical Advanced Dental prosthesis 2: (1 credit , 17 hours)

Prerequisite: Theoretical Advanced Dental prosthesis 1

Practical Advanced Dental prosthesis: (2 credits, 68 hours)

Prerequisite: Theoretical Advanced Dental prosthesis 2

Minimum Practical skills required:

To be able to diagnose and design a treatment plan for patients with teeth and uncomplicated toothless areas (with master's diagnosis)

Subtitles:

-Diagnosis and treatment plan in patients with partial toothless areas

- Designing principles in partial dentures
- Tissue preparation levels, Base teeth recontouring and reshaping methods
- Impression methods in removable partial dentures (functional impression, altered cast)
- Jaw relationship record in types of toothless kenedy classification and record bases importance
- Laboratory levels and Delivery and post-delivery problems management
- Combination syndrome and Single denture
- Reline and repair in removable partial denture

Mid-term exam

- Acrylic and Provisional Prostheses
- Over denture
- Aesthetic in removable partial dentures and attachments application in partial dentures
- Case Presentation

Theoretical Advanced Dental prosthodontics 2

Minimum Practical skills required:

To be able to diagnose and design a treatment plan for patients with teeth and uncomplicated toothless areas.

Subtitles:

- Diagnosis and treatment plan and prognosis in patients with teeth

- Diagnosis and treatment plan and prognosis in patients with teeth and partial toothless (Multi-disciplinary treatment plans)
- Treatment plan in root treated teeth
- Treatment plan and … in teeth received periodontal therapy, electro surgery
- Casting Alloys (characteristics and clinical applications)
- Biomechanics and Advanced framework design+ types of connections

- Framework examination and troubleshooting+ soldering

Mid-term exam

- Porcelain and porcelain placement and porcelain examination
- Advanced ceramics- full ceramic crowns- CAD/CAM
- Cement and Bonding restorations
- Fixed-partial and partial base crown replacement
- Aesthetic in patients with teeth and partial toothless
- Color and color selection
- Treatment for cases with abrasion and vertical dimension reconstruction- Post-treatment cares- success and failure in treating patients with teeth and partial toothless

Practical Advanced Dental Prosthodontics

Minimum Practical skills required:

1. To choose patients with multi-disciplinary treatment plans for treating
2. To write down an optimal treatment plan due to the characteristics of a proper base tooth for a fixed prosthesis or a removable partial prosthesis and discuss it with her/his master and defend it
3. To communicate the patient properly and prepare a complete file due to all of the patient's problems with the help of an exact examination
4. To refer the patient to the specialist if necessary
5. To accomplish the working levels used to construct the intended dental prosthesis
6. To deliver the dental prosthesis acceptable aesthetically and coordinated in terms of biologic and occlusion to the patient
7. To evaluate the prosthesis quality and be able to change and adjust and repair it skillfully
8. To educate the patient and follow him/her and manage his/her post-delivery problems skillfully
9. To evaluate the effective reasons of the success and failure of the treatments in patient follow ups and discuss them with her/him master
10. To examine the patient's periodontium and its health in treatment and next follow up sessions and do necessary actions with periodontics team cooperation
11. To do one or some of the treatments below according to the master's opinion:
    - Remove the carries to control and design treatment plan
    - Cutting off and taking out the crown and bridge and making temp
    - Reline and rebase and repair
    - Provisional acrylic prostheses
    - Single-denture
    - Crowns based for partial dentures
    - Over denture
    - Full or partial denture treatment
    - Adding tooth or root wire clasp to the current patient prosthesis
    - Repair prosthesis fracture
    - Prepare surgery stent

Systemic Diseases

Number and type of credit:

Systemic Diseases 1: Theoretical (2 credits, 34 hours)

Systemic Diseases 2: Theoretical (2 credits, 34 hours)

Systemic Diseases 3: Theoretical (0.5 credit, 8.5 hours) Practical (0.5credit, 17 hours)

Systemic Diseases 4: Practical (1 credits, 34 hours)

Objectives: Becoming familiar with history taking method and controlling patient's vital signs, also to cardiovascular diseases cognition, venereal and infectious diseases, fungal and viral diseases, nutritional and metabolic diseases and types of diabetes, nutritional and metabolic diseases and the disorders of the endocrine glands and liver, water and electrolyte imbalance, disorders of the gastrointestinal tract and poisonings, blood diseases, hematologic and allergic diseases, oropharyngeal and neuromuscular cancers and oral symptoms related to each one, related tests and managements.

Course Management:

Faculty Educational Council is responsible for presenting the courses of systemic diseases.

Systemic Diseases 1

Subtitles:

-Taking History and Patient Evaluation of the Vital Signs and Controlling them

- Cardiovascular Diseases and Dental Management

- Bleeding and Clotting Disorders and Dental Management

- Hematologic and Lymphoid Lesions: Hodgkin and non-Hodgkin Lymphoma, Burkitt Lymphoma and likely lesions.

- Gastrointestinal Diseases and Poisonings, Oral Manifestations, and Dental Management

- Liver diseases and Hepatitis and Dental Management

Systemic Diseases 2

Subtitles:

-Disorders of the Endocrine system (Diabetes, Thyroid, Adrenal) Oral Manifestations, and Dental Management

- Renal Diseases and Dental Management

- Allergy and Immunology, Oral Manifestations, and Dental Management

- Venereal and Infectious Diseases, Oral Manifestations, and Dental Management

- AIDS

- Neuromuscular Diseases and Dental Management

- Diseases of the Respiratory System, Oral Manifestations, and Dental Management

- Pregnancy and Lactation Dental Management

- Nutritional Disorders (Calcium and Vitamin Imbalance) , Oral Manifestations, and Dental Management

Systemic Diseases 3:

Subtitles:

Minimum Practical skills required:

1. To analyze and evaluate the patient's reception and hospitalization and clearance process in hospital
2. To supervise and evaluate systemic patients in hospital dentistry clinics
3. To request advice under supervision of masters and seniors for hospitalized dental patients

Learn-teach methods:

The diseases and surgery teams' partnership in this lesson presentation. The priority presentation of this lesson is in the hospital. In the case of hospital absence the systemic patients are examined and treated in outpatient surgery clinic and otherwise in dentistry clinic.

Subtitles:

-Surgery plans in systemic patients

- Acquaintance with biography taking and examination and hospital file recording

- The patient reception and hospitalization process and clearance in hospital principles

- Acquaintance with systemic patients' management method in hospital dentistry clinics

- Laboratory tests interpretation

Systemic diseases 4

Suggested Learn-teach methods:

Presence at the patient's bedside as an observer- examination and treatment plan and offer service under the supervision of masters

The diseases and surgery teams' masters have partnership in this lesson presentation. The priority presentation of this lesson is in the hospital. In the case of hospital absence the systemic patients are examined and treated in outpatient surgery clinic and otherwise in dentistry clinic.

Minimum Practical skills required:

1. To examine the patient and complete his/her medical file with the help of biography taking
2. To present the systemic patients' dental diagnosis and treatment plan to the master
3. To present the required dentistry therapeutic services to the systemic patients
4. To request advice for dentistry services of the hospitalized patients

Subtitles:

- Acquaintance with dentistry advices of the hospitalized patients
- Dentistry under anesthesia
- Acquaintance with extensive jaws and face surgeries
- Dentistry diagnosis and treatment plan of systemic patients
- Health education and dentistry therapeutic services presentation to the systemic patients if features available
- Dentistry advice for hospitalized patients

Oral Health and Community Dentistry

Number and type of credit:

Theoretical Oral Health and Community Dentistry 1: (1 credit, 17 hours)

Prerequisite: Community Oral Health- Psychology

Theoretical Oral Health and Community Dentistry 2: (1 credit, 17 hours)

Prerequisite: Theoretical Oral Health and Community Dentistry 1

Theoretical Oral Health and Community Dentistry 3: (1 credit, 17 hours)

Prerequisite: Theoretical Oral Health and Community Dentistry 2

Practical Oral Health and Community Dentistry 1 (1 credit, 34 hours)

Prerequisite: Theoretical Oral Health and Community Dentistry 1

Practical Oral Health and Community Dentistry 2 (1 credit, 34 hours)

Prerequisite: Theoretical Oral Health and Community Dentistry 2- Practical Oral Health and Community Dentistry 1

Practical Oral Health and Community Dentistry 3 (1 credit, 34 hours)

Prerequisite: Practical Oral Health and Community Dentistry 2

Objectives: The Objectives of this study is to enhance knowledge, change attitude and improve function of the students about supplying, preservation, improvement, prevention of the oral and dental diseases principles and improve people's lives quality through social activities and the last valid scientific evidences. Also he/she should be committed to the community members' oral health improvement while completely observing infection control program and proper communication with people and perform related responsibilities.

Lesson management:

The responsible team for presenting these lessons is oral health and social dentistry educational group or oral health specialist (a member of the scientific board or an invited one) and otherwise the teacher supply responsibility is on educational council of the faculty.

Theoretical Oral Health and Community Dentistry 1

Subtitles:

- Introductions and social dentistry principles
- Social factors effective on health
- Proposed approaches in health
- Health and disease patterns
- Demographics
- Mouth and teeth health indicators
- Need assessment and needs in target groups (children, students ,mothers ,middle-ages,…)
- Health improvement and society benefit improvement
- Health education and behavioral change
- Acquaintance with health management basics
- Acquaintance with quality improvement basics and clinical governance

Theoretical Oral Health and Community Dentistry 2

Subtitles:

- Community assessment

- Risk assessment
- Conservative Dentistry
- Preventive strategic programs (decay, periodontal disease, cancer, mal occlusion, tooth coverage loss, trauma, fluorosis and quit smoking)
- Health sociology
- Health economy and offer and demand system in dentistry services
- Health system in Iran and the world
- Planning in health system

Practical Oral Health and Community Dentistry 1

Minimum Practical skills required:

1. To propose the clinical and social problems in the form of a specific question
2. To search the databases efficiently and targeted
3. To enumerate an article positive and negative points by reading it
4. To be able to use learning assist tools to present educational concepts to the target groups
5. To know the principles of the oral and teeth health education to the target groups
6. To be able to teach the oral and teeth health principles and methods effectively to the target groups

Subtitles:

- To educate the evidence-based dentistry principles(search method and articles classification, EBD usage in responsiveness to the society oral health problems)
- Prepare educational media for the target groups
- Health education demonstration to the target groups(Health education)
- Health education to the target groups by the students
- Health education in the target community

Practical Oral Health and Community Dentistry 2

Minimum Practical skills required:

1. To numerate at least 3 high carries risk signs in persons by diagnostic criterias
2. To measure periodontal, decay and malocclusion indicators in the field
3. To perform fluoride therapy under supervision in the field
4. To perform sealant therapy under supervision in the field
5. To perform carries risk assessment under supervision in the field
6. To record personal nutritional information in the standard forms
7. To present nutritional advice to at least one patient

Subtitles:

-Risk Based Prevention and Risk assessment

- All together preventive methods education including fluoride therapy (specially varnish fluoride), Fissure sealant for the target groups according to WHO criteria
- Calibration and carries, periodontal and malocclusion indicators recording method
- Fissure sealant and fluoride therapy
- Nutritional advice
- Patient risk assessment

- Target groups examination and carries, periodontal and malocclusion indicators recording.

Practical Oral Health and Community Dentistry 3

Minimum required practical skills:

1. Capability to define and recognize a suitable target group for necessity metrics.
2. Identify and provide the variables and tools for gathering information from target groups.
3. Collect suitable primary or secondary data about the specified target group.
4. Know the way of summarization and analysis of collected data and prioritization of target group issues and interventional planning.
5. Capability to design a preventive protocol for high-risk groups in situation.

Subtitles:

- Introduction to the health and hygiene network system, city hygiene and medical centers and rural hygiene homes.

- Attendance in situation and performing necessity evaluation, planning, health development, health education and service

- Final report presentation