



UNIVERSITY OF SARAJEVO, SCHOOL OF DENTISTRY

ADEE SCHOOL VISITATION

NOVEMBER 27 TO DECEMBER 1, 2004

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The Visitors wish to extend their gratitude to the Dean, staff and students of the school for their welcome and cooperation



PART A

INFORMATION FOR ADEE VISITORS

The school is asked answer the following questions using the reference number for each section. Explanations and description of courses and structures from the host school are essential pieces of information for the visitors before the visit.

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Section 1 – Introduction and General Description

1. Introduction and general information

The contemporary history of Sarajevo University begins with the opening of the first higher education institutions in the period immediately before the Second World War and in the war period. The Faculty of Agriculture and Forestry was opened in 1940, Medical Faculty in 1944/45 to be followed by the opening of the Faculty of Law and other higher education establishments of learning.

Sarajevo University began its official work by appointment of its first Chancellor in 1949.

The Academic Council of Medical Faculty passed a decision about opening the Dentistry Department in 1960. The department worked successfully until 1973. It was then that the Dentistry Department evolved into Dentistry Faculty with its own building encompassing 11.523 m2 with 120 dental units, amphitheatre, laboratory, classrooms, seminar rooms, library, three operating theatres, 60 hospital beds, students' club, refractory, the Dean's office and other facilities that ranked it among respectable establishments of higher learning. In that period the Faculty had the sophisticated equipment, optimal number of the teaching staff, associates and medical workers. It had over 300 employees at that time.

In the war period (1992-1995) the Faculty of Dentistry was going through the worst and most tragic period since it's founding. It suffered enormous destruction both of the faculty premises and the expensive dental equipment. The teaching staff had been significantly reduced as well as the number of associates and medical workers in general. The number of students in war years had plummeted. Thanks to a small number of committed teachers, medical workers and students the continuity of the teaching process was preserved at the faculty even in the period of the worst war destruction in B&H.

The overall war damage on the faculty building was assessed around 5,133.812,45 KM.

Out of 120 installed dental units only 30 apparatuses were kept in function. Significant damage was inflicted on the laboratory equipment, especially for preclinical courses and in the laboratories themselves.

In the year 2000 the reconstruction process on the faculty building was initiated. It was in the first half of 2004 that the following facilities were put back into their original function: amphitheatre with the multimedia system, premises for preclinical and fixed prosthetics, orthodontics, paedodontics, student classrooms, laboratories, locker facilities, student services office, the Dean's office, oral surgery, periodontology, dental implantology etc. 113 dental units have been installed in different departments of the faculty and this is the place where students can have practical instruction and work with patients as envisaged by the curriculum of clinical courses. The Faculty employees can also work there.

Dentistry Faculty is a state property. Until the war it was the only dentistry faculty in B&H. Nowadays, it is the only such faculty in the Federation of B&H.



2. Primary aims and objectives of the Dentistry Faculty

As a registered higher establishment of learning this faculty is authorized to organize and implement:

- Undergraduate course of study upon completion of this course of study the student obtains the title of doctor of dentistry. The undergraduate course of study lasts for five years (10 semesters). The undergraduate instruction is held in different departments, institutions and clinics of Dentistry Faculty, Medical Faculty and the University Clinical centre. There are 15 teaching weeks in one semester. The number of lectures, practical classes and seminars in the course of one week cannot be less than 20 hours nor can it exceed 30 hours.
- **The postgraduate studies for M.S. degree in the field of dentistry.** The postgraduate studies last for 4 semesters (total hours in the curriculum..... theoretical instruction.....) practical instruction.....). The candidate for M.S. has to defend in public his/her research project in front of the Postgraduate Academic Council. The Commission (appointed by the Academic Council of the Faculty) assesses the candidate's research project. The promotion of candidates and the graduation ceremony is held in the premises of the Faculty.
- **Procedures for Ph. Degree in the field of dentistry.** Writing of doctoral thesis passes through several phases: defence of the thesis, assessment of the thesis by the Commission appointed by the Academic Council of the Faculty and defence in public of the thesis itself. Promotion of candidates into doctors of sciences is organised by the University. Postgraduate study of medical specialist education to obtain the title of specialist in a particular area of dentistry lasts for 3 years. The final exam is taken in front of the Commission appointed by the Federal Ministry of Health which also issues the diploma of the completed specialisation.
- **Scientific-research work** through various scientific projects undertaken by the Faculty or in cooperation with other faculties.
- **Publishing** publication of bulletins, journals, manuals, textbooks etc.
- Library.

3. Organizational Chart of the Faculty with specific characteristics of the Curriculum

Instruction for students of the Faculty of Dentistry is held in the premises of Medical Faculty (medical pre-clinic), University Clinical Centre (medical clinic) and at the Faculty of Dentistry where dental pre-clinic courses are distinguished from dental clinic courses and general courses.

Courses in medical pre-clinic are as follows: Biophysics, Chemistry for students of dentistry, Human biology with Genetics, Histology with Embryology, Biochemistry, and Microbiology with parasitic diseases and immunology, Anatomy, Pathology, Pathophysiology, Pharmacology with Toxicology- total of 1395 hours or 35% of the hours in the Curriculum.

Courses in medical clinic are as follows: Internal medicine, Infectious diseases, Otorhinolaryngology, Dermatology with venereal Diseases, Ophthamology, General and War Surgery with Anaesthesiology, Neurology with Psychiatry, Hygiene and Social medicine, Forensic medicine, Epidemiology – total of 495 hours or12% of hours in the Curriculum.



Courses in dental pre-clinic are as follows: Introduction into Dentistry with History and Ethics, Morphology of the Teeth with Dental Anthropology and Forensics, Materials in Dentistry, Dental Propaedeutics, Dental Radiology - total: 225 hours or 6% of the hours in the Curriculum.

Courses in dental clinic are as follows: Dental pathology and Endodontics, Fixed Prosthetics, Mobile Prosthetics, Periodontology, Dental health medicine, Preventive Dentistry, Paedodontics, Orthodontics, Oral Surgery, Maxillary-facial Surgery and Dental Implantology – Total:1695 hours or 42% of the hours in the Curriculum.

General courses include Physical education and sport, a foreign language, Sociology of dentistry, informatics and computer science - Total: 225hours or 6%.of the hours in the Curriculum.

During ten semesters a student of dentistry attends 4.035 hours of instruction as proscribed by the incumbent Curriculum. After graduating every doctor of dentistry is obliged to have a year of internship. After that he sits up the state exam from all disciplines related to public health and jurisprudence in B&H. Only upon completion of the state exam can a dentist perform his/her work independently.

Today there are 670 students who are studying at the Faculty of Dentistry in Sarajevo. Since its founding and up to now, 2.305 students have graduated at this faculty. On average, around 40 students graduate at this faculty while 70 students are admitted into the first semester.

The average duration of this course of study is 7 years.

The number of the newly- admitted students into the new academic year is regulated by Sarajevo Canton Government but in accordance with the available teaching staff/ professors, assistant lecturers, technical staff but also with the available facilities and equipment at the Faculty. The Curriculum and syllabus is approved by the University Senate and the Ministry of Education of Sarajevo Canton.

Upon graduation doctors of dentistry join the Dentists' Association of B&H and the Dentists' Chamber of the Federation of B&H. The above associations oblige all dentists for commitment to lifelong education.

After graduation, the state exam and two years of work in practice, doctors of dentistry can specialise in one of the following areas: Oral surgery, Prosthetics, Orthodontics, Paedodontics, Dental Pathology or Endodontics, Periodontology with Dental Health Medicine. The specialisation is approved by the Federal Ministry of Health and it lasts for 3 years.

4. General Data on Assets - Staffing, administration, facilities and equipment

Faculty of Dentistry has signed the agreement with Medical Faculty for the implementation of instruction in pre-clinical and clinical medical courses. Dentistry students are allowed to use all the facilities of the Medical faculty as medical students and the facilities include amphitheatres, classrooms, laboratories, seminar rooms and the clinics of the Clinical Centre of Sarajevo University. The Medical Faculty and its pre-clinic facilities are located in the immediate vicinity of our faculty while the Clinical Centre is 200 to 300 meters away from our faculty.

The Faculty of Dentistry disposes of one amphitheatre with the capacity of 140 seats and a multi-purpose lecture hall with the capacity of 50-70 seats. The latter is used for postgraduate studies and smaller student groups. There are also 7 smaller lecture halls (seminar rooms), one student classroom the size of 105 m2, two student locker-type rooms for students of the 4th and 5th year, library, the informatics room,

the student restaurant (refractory) the size of 180 m2 / technical services, laundry room, student services rooms, four clinics with the accompanying laboratories, the cabinet for dental implantology and X-ray cabinet, the administration offices and the Dean's office.

In the faculty clinics and the halls designed for students' work with patients 113 dental units have been installed. The faculty clinics have the accompanying labs such as the laboratory for orthodontics, fixes prosthetics, mobile prosthetics and practical instruction classrooms where students can gain pre-clinical experiences working on dummies which are equipped with the turbine, micro-motor, puster and water /KAWO/.

There are 213 employees at the Faculty: 16 professors, 8 senior assistant lecturers, 22 junior assistant lecturers, 24 specialists, 7 dentists; the remaining staffs are technicians, dental nurses, administrative clerks and manual workers.

5. Overview of research work

The Institute for research and development of dental materials was in function until the beginning of the war (1992. It was completely devastated during war. Our teachers and assistant lecturers conduct their research work in the laboratories of the Medical Faculty, Clinical Centre of Sarajevo University, B&H Institute for Transfusion and Haematology, in the labs of the Faculty of Veterinary Medicine, Faculty of Mechanical Engineering, the Natural Sciences and Math Faculty and other establishments of higher learning.

6. Quality of instruction, research and treatment of patients

The curriculum/syllabus was updated 4 years ago and it is the legal responsibility of the faculty to introduce innovations every four years but also to train junior assistant lecturers. We have introduced the new teaching aids, the multimedia system and we have placed a strong focus on practical instruction. Our students can work independently under supervision of assistant lecturers. The Faculty of Dentistry in Sarajevo has signed the agreement of cooperation with the Dentistry Faculty of Zagreb University and at the moment signing of similar agreements with Ankara and Hacetepe Universities in Ankara and Dentistry Faculty in Malmö is being prepared. This will facilitate fluctuation of our students and assistant lecturers abroad but also joint work on different projects.



Visitors Comments:

The visitors were impressed to see the commitment and achievements of the staff and students of the Faculty of Dentistry of Sarajevo. We recognise that this, our sister European School has endured a greater trauma than any other European school in these past decade. The visitors would like to express their sincere admiration for the staff and the students, who with heroic devotion sustained dental education throughout the war years and who have done so much to restore and rehabilitate the dental school of Sarajevo. It is clear that a great deal of hard work and sacrifice has gone into this achievement. We also note the beneficial impact of substantial donations and international collaboration from the European family, the UN, UNESCO and the USA.

The visitors where amazed by the commitment of the staff towards further development and their eagerness to continue their education so as to reclaim their rightful position in modern Europe. Further support from the international community is now required, not as much in the form of donations but rather in the form of collaborations, support for the staff and exchange opportunities, so that the remarkable progress achieved so far will continue and bear fruit.

It was clear to the visitors that the staff of all ranks are aspiring to achieve the highest standards of education and they are eager to incorporate best practices from European institutions such as Dented and ADEE.

The faculty's efforts to reform the curriculum is handicapped by the lack of a legal frame for higher education in the state level. Nevertheless, the staff is committed to pursue the necessary reforms, even at the absence of the supporting law, and that is something to be commended upon.

The first impression of the visitors is that the curriculum is wide, covering a large variety of subjects and disciplines. The visitors were happy to see that the curriculum is expected to be revised every 4 years. As a 4 year period of reassessment is now concluded the faculty will be soon revising the curriculum.

The upcoming revision of the curriculum presents an ideal opportunity to take a fresh look at :

- what is taught, why and how it is taught, and its relevance to the newly qualified dentist
- the balance of the curriculum (eg. between medical and dental subjects, between theoretical and clinical education)
- opportunities for integration and how to avoid replication of teaching
- ways to ensure the quality of teaching and learning in the new curriculum
- how to integrate research and evidence based dentistry and comprehensive care in the curriculum.
- secure that the assessment procedures are consequent to the learning outcomes and competencies needed.

The visitors would recommend the adoption of the newly approved competencies of the Dentist within Europe, as a guideline for the revision of the curriculum.



Section 2 - Facilities (including Library, Lecture Theatres, Seminar Rooms etc.)

The Faculty of Dentistry in Sarajevo was designed and built purposefully, so as to meet the requirements of such institution in respect of facilities it provides. In accordance with our financial resources the equipment has been renovated and put into use in a satisfactory manner. At the moment the installing of the new equipment on the top floor, designated for instruction, is under way.

2.1 Clinical Facilities

General Explanation

The building of the Faculty consists of the central part and two wings, height 2 + 5 floors in the left wing, 2 + 3 floors in the right wing and 2+3 floors in the central part.

Instruction for all dentistry-related subjects is conducted in Departments and clinics located in the building premises. The big Amphitheatre (with the capacity of 140 seats), lecture room (50-70 seats), seven seminar premises comprise the facilities for theoretical instruction. The Library and classrooms provide additional space to facilitate the learning process.

Preclinical practical classes are held in seven classrooms.

- Morphology and histology of teeth with indispensable teaching aids.
- Conservation .preclinical- for work on plaster and wax models.
- Conservation-preclinical- work with dummies.
- Information technology- the computer room is equipped with 10 PCs for students' training.
- Seminar room for practical classes in dental radiology.
- Classroom for practical classes in preclinical mobile prosthetics.
- Seminar room for orthodontic analysis of models and orthopantomograms.

Clinical practical classes are conducted in the premises equipped for that purpose.

- Clinical surgery room for mobile prosthetics a chair.
- Clinical surgery room for fixed prosthetics-a chair.
- Clinical practical classroom for paedodontics- 8 chairs.
- Clinical practical classroom for orthodontics-5
- Clinical practical classroom for conservation and endodontics-13
- Clinical surgery room for Oral medicine -6
- Clinical practical classroom for Oral surgery and Periodonthics -8 chairs
- (Clinic for MFH with 60 beds, operation surgery rooms, intensive care and branch surgery rooms for diagnostic, control and routine treatment of patients)

Strengths

The complete instruction in specific dentistry curriculum is carried out within the premises of the Faculty of Dentistry which enables students to use their time rationally and at the same time it provides the choice of patients. The Faculty of



Medicine, where instruction in preclinical medicine is carried out, is located next to the Faculty of Dentistry and it has recently been completely renovated with the adequate facilities (amphitheatres, practical classrooms, classrooms) and equipped correspondingly for the instruction process.

The University Medical Centre with its clinics where instruction in clinical medicine is carried out for students of the Faculty of Dentistry is only 200-300 metres away from the Faculty of Dentistry while its contents (clinics, diagnostic centre, laboratories, 2 amphitheatres) provide conditions for students of dentistry to master theoretical and practical knowledge as envisaged by the programme of their respective Faculty in the course of clinical medical instruction.

Weaknesses

A great number of students in clinical practical classes permanently occupy all the dentistry chairs which often causes damage on the equipment and despite urgent repairs, the process of instruction is slowed down.

In general, the present dentistry equipment is not new (it is either a donation or it comes from the pre-war period) which makes it more difficult to maintain it.

Lack of financial resources (limited budget of the Cantonal Government) prevents the reactivation of the Research Institute.

The expensive imported medicaments and material for dental treatment limit the Faculty in its attempts to modernize treatment methods and to present to its students the latest achievements in the domain of dentistry.

Innovations

During the current year (2004) the new premises were equipped with the clinical practical classroom for oral surgery and periodontology.

Equipment was installed in the Morphology of teeth classroom.

Information technology classroom was equipped wit ten new PCs.

During 2002 the preclinical conservation room was equipped with new dummies and other equipment.

Unified computer database about patients and different treatment procedures was set up.

2.2 Teaching facilities

General Explanation

Every department has seminar rooms with the corresponding equipment. Every teacher has their cabinet and most of them have the adjacent surgery room. Assistant lecturers have their own rooms.

All teachers and associates have PCs and access to Internet.

Both the big amphitheatre and the lecture room are provided with the modern AV equipment.



Strengths

Computer and video equipment has updated the teaching process and enabled the contemporary sophisticated approach to lectures.

Weaknesses

Lectures for 5th year students are held in the premises of the Postgraduate Department so that additional ventilation facilities are required to accommodate a great number of students in a relatively small place.

Best practices

All professors and assistant lecturers are connected into the computer network which facilitates preparation of classes, communication and following of the latest literature.

Innovations

Equipment for computer presentation is available in the amphitheatre and lecture rooms.

New students' classroom is at disposal of students all through the week from 7 a.m. to 8 p. m.

2.3 Training (Preclinical) Laboratories

General Explanation

All preclinical laboratories are located in the corresponding Departments in addition to the clinical outdoors facilities.

Strengths

Some clinics have completely been modernized in accordance with the latest technological and teaching standards.

Weaknesses

Lack of microscopes with monitors. Lack of dummies for pre-clinical practical classes in oral and periodontal surgery. Modernization of the remaining laboratories with the sophisticated equipment.

Innovations

The hitherto efforts have resulted in enhancing the teaching process but further technological improvements are still indispensable.



2.4 Research Laboratories

General Explanation

In general, there is not the financial support for scientific research work and until recently; the budget resources had not been allocated for research projects as such. The pre-war research laboratory located in the basement of the building is no longer in function while its equipment has been completely destroyed. Microbiology laboratory (in the Department for oral medicine and periodontology) is no longer in function and the same has happened with the pathohistological laboratory in the Department for Restorative Dentistry.

The research programme of the Faculty of Dentistry (conducted by professors, associates and postgraduate students) is carried out in the available research premises of the Faculty of Medicine, the University Clinical centre, Faculty of Veterinary Medicine, Natural Sciences and Maths Faculty and other scientific institutions of Sarajevo University.

2.5 Library

General Explanation

The Library was founded in 1964. It is situated on the first floor of the School building (two inadequate rooms - 70 m²). Since its foundation, the library materials have been meticulously selected to cover all the specialty areas of dentistry. The collection of periodicals used to be quite impressive (average annual subscription was 35 titles). In the period 1992-1995 – during the war in Bosnia – acquisition of all information sources was entirely discontinued. Also, a substantial portion of the existing collections was either damaged or lost. In 2001, a complete inventory was made; 50 per cent of the collections were erased from the inventory because of being lost, missing, damaged or unaccountable. The present collection was reclassified (NLM scheme; MeSH thesaurus for subject analysis) and catalogued using ISBDs (standards for bibliographic description). The current periodical subscription is presently restricted to 11 titles. The old journals are situated on the 4th floor, and are not easily accessible. The Student reading room is in the basement.

Library collection:

- Books: 3650 (titles 1506) monographs, reference collection, PhD and MSc theses;
- Non-book material: 11 titles, Medline, Biomedical reference collection, Academic periodical collection on CDs;
- Periodicals current subscription: 11 titles (old journal collection –71 titles)

There are three computers available in the Library.

Staff:

- MSc Ana Gerc, MLS e-mail: librdent@utic.net.ba
- Tatjana Košuta-Žokalj e-mail: <u>biblstom@utic.net.ba</u>

Telephone: + 387 33 216 816; Fax: ++ 387 33 44 33 95

Opening hours: 07:00-15:00 (Monday-Friday)

Strengths



The below paragraphs will describe the achievements which have been accomplished in trying to minimize the weaknesses.

On the shelves, books are arranged by the NLM call number offering the systematic access to the monograph collection. The three card catalogues maintained in the Library offer multiple access (by author, title, a formal characteristic, MeSH descriptors). As there is neither online catalogue nor other software designed for library use, Microsoft office applications are being used for all jobs. The main catalogue card (written in Word application) contains full description of a bibliographic item. It is stored and is envisaged to be used, in the future, for conversion to machine readable bibliographic record. Each periodical issue, found in the year 2001 in the Library, has been recorded in an Excel worksheet. This is important because the old journal collection has been located far away from the Library.

As there is no online catalogue, the alphabetical lists of library collections have been posted on the web site of the School (<u>www.sf.unsa.ba</u>). There is also a "new books" list, giving information on recent acquisitions.

Access to Other Library Resources:

Access to other libraries resource is based on an informal agreement with other biomedical libraries in Sarajevo and National and University Library of B&H. International interlibrary loan is secured through National and University Library of B&H.

Information Service

The above described catalogues offer the maximum which could be gained through a card catalogue. This has been demonstrated by the 100% increase in circulation during the last three years. There are also lots of in-house transactions that are not recorded.

The computers available in the Library are connected to Internet. As there is no network at our school, we access www using the dial-up connection (with lots of problems). The most frequently used database is Medline. Online journals to which we have current subscription are searched on the name/password basis. The computers are also used for searching other databases on the web and CDs, as well as for individual instruction in searching Internet. The library portion of our web site contains lots of useful links to dental sites, including links to NLM and dental libraries, journals, e-books, dictionaries and encyclopaedias.

Via eIFL *Direct* (Electronic Information For Libraries *Direct* - a joint project between the Open Society Institute and EBSCO) the Library has online access to 10 databases providing abstracts or full text of over 3000 journals (34 dental journals). Within the cooperation with the Library of University Clinical Centre, the Hinari database is also available.

Weaknesses

None of the courses in the School Curriculum contains instructions on using library and computer resources as instruments for retrieving scientific information or evidence based dentistry. There is no reference whatsoever to "the library" in the Curriculum. There is no connection between the library and the student reading room.

The most serious of the "technical" weaknesses is the unavailability of online bibliographic system. As direct consequence of the weakness, there are numerous drawbacks:



- no automated union catalogues;
- no automated circulation: the automated circulation system is incomparably more efficient than the time-consuming manual system which is used now;
- no open access to monographs (lack of time for shelf reading), etc.

The library staff has continuously been burdened with non-library tasks. These tasks have been accomplished at the expense of library activities.

Best Practices and Innovations

NLM classification, MeSH thesaurus, ISBD standards – are used for maintaining the catalogues (most of medical libraries do so). For the time being, we are aware of numerous guidelines (MLA, ALA, etc), evidence based librarianship theory, and some of "best practices" techniques for libraries, but we, unfortunately, do not need any of them yet.

Visitors' Comments:

The visitors were impressed by the clear evidence of major physical renovation in a very short period of time. The faculty has made excellent use of the existing space and facilities, for the benefit of patients, staff and students.

We were pleased to note the following:

- offices for all teaching staff equipped with PCs, Internet access and in many cases additional facilities such as scanners, printers etc.
- adequately equipped lecture theatre, seminar rooms and a spacious and well arranged IT room and study area for the students.
- Facilities for the students' association, restaurant and common room.
- care taken for access of handicapped persons.
- Common rooms and social areas for the staff of each department.
- Tidy, clean, well maintained, spacious clinics for both undergraduate and post graduate students and clinical staff.
- Excellent administrative offices and facilities.
- Newly renovated offices and clinical areas on the 5th floor and potential for further expansion into an unused area.

The visitors commend the many efforts made by the school librarian and her assistant to develop an effective learning resource facility. We note that some of these efforts are hampered by such obstacles as :

- lack of University Network
- lack of sufficient books and Journals of international standard
- lack of an automated distribution and management system

As the library would be the centre point in the effort to improve and stimulate research capacity and capability, it is clear that significant resources need to be dedicated to development of these facilities. The visitors recognise the expertise and educational commitment of the library staff.

Section 3: Organisational and Administrative Structures

Person in School who will explain and show this to the visitors:

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3.1 Organisational Structures

The following charts give an outline of the organizational and administrative structure of the Faculty of Dentistry at the University of Sarajevo.





Charts 2:

Organization of the Sarajevo Faculty of Dentistry





ASSOCIATION FOR DENTAL EDUCATION IN EUROPE SCHOOL VISIT SELF-ASSESSMENT DOCUMENT

Chart 3.:

Structure of Medical Faculty

Institutes

Chemistry Biology with genetics Biophysics Histology and embryology Biochemistry and physiology

Pathology Pathophysiology Microbiology

Pharmacology

Epidemiology Hygiene and social medicine Forensic medicine

University Medical Centre

Clinics

Anaesthesiology **Internal clinics:** Cardiology Enterohepatology -endocrinology Anatomy **Infective clinic Dermatological clinic Paediatric clinic Nuclear medicine** Radio diagnosis and therapy Oncology **Psychiatry** Neurology **General surgery** Traumatology **Orthopaedics Cardiac and Thorax** surgery Neurosurgery **Plastic surgery** Maxillofacial surgery Otolaryngology **Ophthalmology**



<u>Chart 4</u>

EDUCATION IN DENTISTRY:

FACULTY OF MEDICINE'S INSTITUTES

Natural sciences: 1. Biology and genetics 2. Biophysics 3. Chemistry

4. Histology and Embryology
5. Biochemistry
6. Anatomy
7. Physiology
8. Pathology
9. Pathophysiology
10. Microbiology
10. Microbiology
11. Pharmacology
12. Hygiene and social medicine
13. Epidemiology
14. Forensic medicine

Preclinical medicine:

UNIVERSITY CLINICAL CENTRE

Clinical medicine:

1. Internal medicine

- 2. Infectology
- 3. Dermatology
- 4. Paediatrics

- 5. Neurology
- 6. General Surgery
- 7. Otorhinolaryngology
- 8. Ophthalmology



FACULTY OF DENTISTRY

Preclinical dentistry:

I. Department of Preclinical dentistry:

Introduction to dentistry with history and ethics
 Morphology of teeth with dental anthropology and forensics
 Dental radiology
 Dental propedeutics



Materials in dentistry

5.

Clinical Dentistry:

III. Department of Preventive dentistry Pedodontics IV. Department of Orthodontics

V . Department of Dental pathology and endodontics VI. Department of Dental Medicine and Periodontology

VII. Department of Mobile and Fixed Prosthodontics VIII . Department of Oral Surgery, MFS and Implantology





Visitors' comments:

The educational process of the dental students seems to involve different departments, institutions and faculties. The focus of the education might be diluted by the fact that so many partners are involved in the structure of the curriculum, seemingly without a central coordination or shared sense of direction.

We suggest that the faculty of dentistry, should be the main decision maker on content, delivery, assessment and evaluation of the entire curriculum. This might include the establishment of a small and flexible dental education committee on which all stakeholders (including dental students and other faculty members) are represented in a balanced level.

3.2 Information Technology Systems

Person in School who will explain and show this to the visitors:

Name: Mr. Vasvija Čehajić, MSc - Person in charge

e-mail: vcehajic@sf.unsa.ba

fax: ++ 387 33 44 33 95

In its Development plan the Faculty of Dentistry has envisaged the introduction of information systems that would entail all segments of work at the faculty. In order to carry out this plan it was necessary to purchase computer equipment, and at present, the Faculty has 52 computers. Below is the list of computer allocation per each department/ sector

	No of PCs
PRE-CLINICAL DENTISTRY	2
ENDODONTICS AND PARODONTOLOGY	6
DISEASES OF ORAL CAVITY	4
PROTHETICS	4
PEDODONTICS	4
ORTHODONTICS	2
ORAL SURGERY	6
INFORMATICS	10
LIBRARY	2
ACCOUNTANCY DEPARTMENT	3
STUDENT SERVICES	1
REGISTRY	1
AMPHITHEATRE (LECTURE ROOM)	1
SEMINAR	1
DEAN'S OFFICE	3
STOREROOM	1
STUDENTS'ASSOCIATION ROOM	1
TOTAL	52

The development of the information system at the faculty evolves through the following activities:

- 1. purchase of computer equipment for participants in instruction (professors and assistant lecturers) lecture rooms, clinics, general staff, student services sector, library, student association room
- 2. development of computer network and its connection to UTIC (University Teleinformation Centre)
- establishment of a computer network of medicine -affiliated faculties (Medicine, Dentistry, Pharmacy, Higher Health Care School) with LAN at the Faculty of Medicine
- 4. creation of WEB page of the Faculty of Dentistry
- 5. purchase of official e-mail addresses
- 6. purchase of software



Ad 1. So far we have purchased 52 PCs. We may say that most professors and assistant lecturers have their PC. Our ultimate goal is that all professors, assistant lecturers and every sector within the faculty where data are retrieved should have access to computer.

Ad 2. The process of establishing LAN network is under way. The computer network has been established in the computer room. All computers in this room are connected to UTIC via the node at the Faculty of Medicine. Tender for LAN for the whole faculty will be announced soon. Upon completion of LAN, expected to be carried out in the next couple of months, all computers will have access to the Internet.

Ad 3. This activity has been realised but only after the completion of AD 2, we will be able to establish connection with medicine-affiliated faculties.

Ad 4. Creation of WEB page has been completed. In order to make this page updated various departments will advise the WEB administrator of all the subsequent changes within respective departments.

Ad. 5. All professors and assistant lecturers have been assigned faculty e-mail addresses, but not all of them have access to the Internet.

Ad.6

SOFTWARE used at the Faculty of Dentistry is as follows:

- for salary calculation
- for accountancy
- for finance
- assets
- personnel (human resources)
- MEDICAL DOCUMENTATION

It is indispensable to provide a software for:

- Library
- Students' services sector

And possibly a software for DISTANCE LEARNING and access to ONLINE bibliography system (COBISS)

Visitors' Comments

As the school seeks to re-establish its international profile and its research capability, the importance of an effective ICT infrastructure and policy cannot be underestimated. It is apparent that great efforts have been made so far to secure the facilities and access to Internet for all staff and students.

The real challenge for the faculty now is to utilise these facilities to fullest extend for the benefit of education, research and the promotion of evidence based dentistry. Even if hard copy of books journals and publications are hard to obtain, staff and students should be strongly encouraged to make maximum use of the electronic access to international literature available. However, experience worldwide has shown that students will not use electronic resources and search facilities unless they are directed to this by the curriculum and educational structures. For example students could undertake project work and literature reviews as part of their in-course assessment (ICA).



Section 4: Staffing

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Mirjana Malić

e-mail: librdent@utic.net.ba

fax: ++ 387 33 44 33 95

4.1 Staffing Levels

Strengths

All the teaching staff and assistant lecturers employed by the Faculty of Dentistry have a tenure. As a rule, the newly- appointed assistant lecturers stay at the Faculty throughout their working lives to pursue their academic careers. Most of the teaching staff has spent some time abroad (in Croatia, Slovenia, USA, Germany, Sweden and elsewhere) either for their M.S. or Ph.D. study programmes. All assistant lecturers attend M.S. study programmes, complete their medical specialisation, and afterwards they attend Ph.D. programmes (the legal prerequisite for the academic teaching staff).

The academic teaching staff and assistant lecturers are given opportunities to visit external courses and attend national and international congresses.

Weaknesses

In spite of good communication with the academic teaching staff responsible for medical subjects, the Faculty of Dentistry is not authorized to directly appoint teachers in charge of medical subjects, and as a result, the process of targeted education of dentistry students in this domain is made more difficult. . Lack of financial report appears to be a constraint for the introduction of the sophisticated technology and the latest research equipment which, in turn, affects our own research work.

List of Staff

List of Academic Staff, by Department, and their Qualifications 4.1. Staff members in education process :

1. Professors	12 (PhD) full time
2. Professors	4 (PhD) part time
3. Assistants	6 (MR)
4. Assistant	1 (MR) MS in informatics
5. Assistants	23
6. Senior specialists	2 (MR)
7. Senior specialists	2
Total	50
Clinical staff:	
8. Senior specialists	12
9. Specialists	10
10. DDS	7
Total	29



4.4. Technical staff: Dental technicians, medical technicians. 37 Dental nursing staff (dental assistants) 48
4.5. Administrative / secretarial staff: Secretary, administration, library, student' service 174.6. Remaining staff Technical services and maintenance 33 Total 212

I: Academic staff:

Professors:

- 1. Prof. Dr. Sc. HAJRIJA KONJHODŽIĆ RAŠČIĆ *Preclinical dentistry*, specialist in restorative dentistry and endodontics
- 2. Prof. Dr. Sc. MAIDA GANIBEGOVIĆ-SELIMOVIĆ *Paedodontics and Preventive dentistry*, specialist in paedodontics and preventive dentistry.
- 3. Prof. Dr. Sc. SEDIN KOBAŠLIJA *Paedodontics and Preventive dentistry*, specialist in paedodontics and preventive dentistry
- 4. Prof. Dr. Sc. DALIJA DEMIROVIĆ *Orthodontics*, specialist in orthodontics
- 5. Prof. Dr. Sc. NADJA BAŠIĆ *Restorative Dentistry and Endodontics*, specialist in restorative dentistry and endodontics
- 6. Prof. Dr. Sc. HAMID TAHMIŠČIJA *Restorative Dentistry and Endodontics*, specialist in restorative dentistry and endodontics
- 7. Prof. Dr. Sc. MIRJANA MALIĆ *Oral medicine and Periodontology*, specialist in oral medicine and periodontology
- 8. Prof. Dr. Sc. AMIRA DEDIĆ *Oral medicine and Periodontology,* specialist in oral medicine and periodontology
- 9. Prof. Dr. Sc. HALID SULEJMANAGIĆ Oral surgery and Implantology, specialist in oral surgery
- 10. Prof. Dr. Sc. TOŠKO GOJKOV *Oral surgery and Implantology*, specialist in oral surgery
- 11. Prof. Dr. Sc. SEAD REDŽEPAGIĆ *Prosthodontics*, specialist in prosthodontics
- 12. Prof. Dr. Sc. AZIJADA ŠULJAK *Prosthodontics*, specialist in prosthodontics
- 13. Prof. Dr. Sc. SENIJA DAUTOVIĆ *Maxillofacial surgery*, specialist in maxillofacial surgery
- 14. Prof. Dr. Sc. HASAN PIRANIĆ *Maxillofacial surgery*, specialist in maxillofacial surgery
- 15. Prof. Dr. Sc. HALID HUJIĆ *Maxillofacial surgery*, specialist in Maxillofacial surgery
- 16. Prof. Dr. Sc. REDŽEP DIZDAREVIĆ *Maxillofacial surgery*, specialist in maxillofacial surgery



Assistants:

- 1. Ass. M.Sc. AMRA VUKOVIĆ *Preclinical dentistry*, specialist in restorative dentistry and endodontics
- 2. Ass. M.Sc. AMINA HUSEINBEGOVIĆ *Paedodontics and Preventive Dentistry*, specialist in paedodontics and preventive dentistry
- 3. Ass. M.Sc. MEDIHA SELIMOVIĆ-DRAGAŠ *Paedodontics and Preventive Dentistry*, specialis in paedodontics and preventive dentistry
- 4. Ass. M.Sc. MUBERA SARAJLIJA *Restorative dentistry and Endodontics,* specialist in restorative dentistry and endodontics
- 5. Ass. M.Sc. SAMIR PROHIĆ Oral Surgery and Implantology, specialist in oral surgery
- 6. Ass. M.Sc. SADETA ŠEČIĆ Oral Surgery and Implantology, specialist in oral surgery
- 7. Ass. M.Sc. VASVIJA ČEHAJIĆ Informatics
- 8. Ass. Dr. SELMA ZUKIĆ *Preclinical Dentistry*, on specialisation in restorative dentistry and endodontics
- 9. Ass. Dr. ANITA BAJSMAN Preclinical Dentistry
- 10. Ass. Dr. AMILA ZUKANOVIĆ *Paedodontics*, on specialisation in paedodontics and preventive dentistry
- 11. Ass. Dr. AMRA MURATBEGOVIĆ *Paedodontics*, on specialisation in paedodontics and preventive dentistry
- 12. Ass. Dr. NINA MARKOVIĆ Paedodontics
- 13. Ass. Dr. SAMRA ŠALAGA Orthodontics, on specialisation in orthodontics
- 14. Ass. Dr. VILDANA DŽEMIDŽIĆ Orthodontics
- 15. Ass. Dr. ENITA NAKAŠ Orthodontics, on specialisation in Orthodontics
- 16. Ass. Dr. ALISA BANDIĆ Orthodontics
- 17. Ass. Dr. ALMA PRCIĆ *Restorative Dentistry and Endodontics*, specialist in restorative dentistry and endodontics
- 18. Ass. Dr. NEDIM SMAJKIĆ *Restorative Dentistry and Endodontics*, specialist in Restorative dentistry and Endodontics
- 19. Ass. Dr. LAJLA BRANKOVIĆ HASIĆ Restorative Dentistry and Endodontics
- 20. Ass. Dr. SANJA HADŽIĆ *Oral Medicine and Periodontology*, specialist in oral medicine and periodontology
- 21. Ass. Dr. ENES PAŠIĆ *Oral Medicine and Periodontology*, specialist in oral medicine and periodontology
- 22. Ass. Dr. MIRJANA GOJKOV- VUKELIĆ Oral Medicine and Periodontology, on specialisation in oral medicine and periodontology
- 23. Ass. Dr. NAIDA SULEJMANAGIĆ *Oral Surgery*, on specialisation in oral surgery



- 24. Ass. Dr. SLOBODAN TRNINIĆ Oral Surgery
- 25. Ass. Dr. EMIR BERHAMOVIĆ Prosthodontics, specialist in prosthodontics
- 26. Ass. Dr. SANELA STRUJIĆ Prosthodontics, on specialisation in prosthodontics
- 27. Ass. Dr. ALMA GAVRANOVIĆ-GLAMOČ *Prosthodontics*, on specialisation in Prosthodontics
- 28. Ass. Dr. LEJLA KAZAZIĆ *Prosthodontics*, on specialisation in prosthodontics
- 29. Ass. Dr. LEJLA BERHAMOVIĆ Prosthodontics
- 30. Ass. Dr. MUHAMED AJANOVIĆ Prosthodontics

II: Non academic staff:

- 1. Prim. M.Sc. DŽEMILA DIZDAREVIĆ *Paedodontics*, specialist in paedodontics and preventive dentistry
- 2. Prim. M.Sc. DENIZA KRESO-KNEŽEVIĆ Orthodontics, specialist in orthodontics
- 3. Prim. Dr. SABIRA ČENGIĆ *Restorative Dentistry and Endodontics*, specialist in restorative dentistry and endodontics
- 4. Prim. Dr. ZIBA LJUTOVIĆ Oral *surgery and Implantology*, specialist in oral surgery
- 5. Dr AMELA DARDAGAN *Prosthodontics*, specialist in Prosthodontics

Visitors' comments

The visitors would like to comment on the commitment and motivation of the staff of the faculty. Faculty members are open minded, eager to develop and extend their competence and hungry for international collaboration. The visitors feel that all available opportunities and support (EU finding schemes, National Scholarship agencies etc) must be utilised in order to assist especially young faculty members in their pursuit for international collaboration, research activities and professional development.

Partly due to the effects of the aggression, there appears to be a gap in the middleupper ranks of the staff, with many professors approaching the age of retirement and not enough senior staff prepared to take over these positions. There seems also to be an imbalance in the distribution of the dental teaching staff, in terms of younger clinical instructors. We encourage the support, development and advancement of younger faculty members. Attention needs to be paid to the employment and recruitment of sufficient clinical teaching staff to ensure the provision of high quality dental education. This may require the redistribution of the existing staff and the possible involvement of post graduate students and other clinicians in the chair-side teaching activities of the faculty.



Sections 5 - 16: The Dental Curriculum

Introduction

In 2001 the new Curriculum for undergraduate studies at the Faculty of Dentistry was adopted, designed to modernize the teaching process with the aim of defining the range of indispensable knowledge and skills for a bachelor of science degree (B.S degree) in dental medicine.

In order to achieve this aim the hitherto Curriculum and syllabus had to be revised resulting in the reduced number of courses but not in the reduction of the relevant contents.

In accordance with the new Curriculum and syllabus all the necessary content has been incorporated within 43 courses (in contrast to the previous 52 courses), while the course contents have been updated based on the latest innovations and achievements in the field of dentistry. Thus, the course syllabuses are to a large extent compatible with the corresponding syllabuses at the Faculties of Dentistry all over the world. At the same time, the teaching process conceived in this way, should enable students to successfully master the necessary theoretical and practical knowledge in the course of ten semesters, but it should also serve as a basis for further professional advancement in order to attain the contemporary world standards necessary for recognition of degrees assigned in Bosnia & Herzegovina outside its borders.

Bosnia& Herzegovina is formally a signatory country of the Bologna Declaration but the Universities are still not in a position to put it into practice because there is no legal framework at the state level which would make its implementation binding and obligatory.

Our aim is to introduce the European Credit Transfer System (ACTS), but its introduction is dependent on the readiness of our country to provide the necessary legal framework.

Curriculum design

	I seme	ester	II semester		
Course	Lectures	Practice	Lectures	Practice	Total hours
Biophysics	3	2			75
Chemistry	4	3			105
Biology and genetics	3	2			75
Introduction to dentistry with	2				30
history and ethics					
Physical ed. and sport*	1	2	0	2	75
Foreign language	2	1	0	2	75
Morphology of teeth with dent.			1	2	45
Anthropology and forensics					
Anatomy			3	4	105
Histology with embryology			2	2	60
Biochemistry			4	3	105
Total (per week)	15	10	10	15	675

Year I



Year II

	III s	emester	IV s	emester	
Course	Lectures	Practice	Lectures	Practice	Total
					hours
Morphology of teeth with	2	2			60
dental Anthropology and					
forensics					
Anatomy	2	3			75
Histology	2	2			60
Physiology	3	2	4	3	180
Microbiology	4	2			90
Sociology	2	0			30
Pathology			5	1	90
Dental pathology			2	2	60
Information technology			1	2	45
Dental Propaedeutics			1	0	15
Materials in dentistry			1	0	15
Pathophysiology			2	1	45
TOTAL (per week)	15	11	16	9	765

Year III

	V semester		VI semester		
Course	Lectures	Practice	Lectures	Practice	Total
					hours
Pathology	3	1			60
Dental pathology	2	2	2	3	135
Materials in dentistry	1	0			15
Pathophysiology	2	1			45
Pharmacology	4	2			90
Internal medicine	3	2	3	2	150
Mobile prosthetics	2	4			90
Fixed prosthetics			2	4	90
Dental radiology			2	1	45
General surgery			3	2	75
Oral surgery			1	0	15
TOTAL (per week)	1	12	13	12	810



Year IV

	VII semester		VIII semester		
Course	Lectures	Practice	Lectures	Practice	Total
					hours
Endodontics	2	3	1	4	150
Mobile prosthetics	1	4	1	4	150
Infective diseases			2	1	45
Otorhinolaryngology	1	2			45
Dermatology	1	1			30
Ophthalmology			1	1	30
General surgery	2	2			60
Paediatrics	1	1			30
Neurology	1	1			30
Periodontology			2	0	30
Preventive dentistry			2	1	45
Orthodontics			1	2	45
Oral surgery	1	3	1	2	105
Hygiene and social medicine	1	1	1	1	60
Oral medicine			1	0	15
TOTAL (per week)	11	18	13	16	870

Year V

	IX semester		X semester		
Course	Lectures	Practice	Lectures	Practice	Total
					hours
Endodontics	0	4	0	4	120
Fixed prosthetics	1	4	1	4	150
Periodontology	1	1	1	2	75
Paedodontics	2	2	1	2	105
Orthodontics	1	2	0	2	60
Oral surgery	0	2	0	2	60
MFH	1	1	2	2	90
Legal medicine			1	1	30
Oral medicine	2	1	0	2	75
Epidemiology	2	1			45
Dental implantology	1	0			15
TOTAL (per week)	11	18	6	21	840



Section 5: The Biological Sciences

5.1 Chemistry in Dentistry

Person in School who will explain and show this to the visitors:

Name: Dr sci. Meliha Lekić, Professor, Head of Department for Medical Chemistry; Dr. sci. Mirjana Mijanović, Assistant Professor, Department for Medical Chemistry.

e-mail:

fax: ++387 33 20 36 70

1. Course

The course Chemistry in Dentistry is taught in the winter semester at the 1st year (15 weeks) and comprises 4 lecture hours and 3 hours of experimental work weekly. Lectures are being held only for dental students (71 students). The theoretical part consists of three interrelated parts:

- Physicochemical processes in biological systems;
- Specific inorganic chemistry, and
- Structure and chemical properties of bio-molecules.

Practical experimental work of the students is focused on the basic analytical methods of determination of elements and compounds which are significant for dentistry, and so important for the further work in biochemistry, physiology and pharmacology.

2. Primary Aims

The primary aims of teaching this course to dental students is to provide general understanding of the structure and characteristics of bio-molecules in the human organism, and of basic laws of biochemical processes, which are prerequisites for understanding life processes in healthy and diseased conditions of organisms. The knowledge will help the students in understanding and learning fundamental and specific medical and dental disciplines.

During practical and experimental exercises, the students acquire specific laboratory experience which will be needed in other experimental activities in the course of their studies. They also learn principles of measurement and understanding significant for medical interpretation and diagnostics.

3. Main objectives

With the help of understanding the basic principles of chemical relations, to understand structural and chemical characteristics of compounds significant for life processes:

The basic concept of chemical thermodynamics: energetic changes in chemical systems; principles of thermodynamics; spontaneity of chemical processes; changes of standard free energy; conjugated reactions; usage of free energy in live organisms.



The basic concept of chemical kinetics: rate of chemical reaction, and factors influencing the rate; catalysis; bio-catalysers; inhibition of enzymes; chemical equilibrium.

Dispersive systems: water as a biological system; solutions of electrolytes; solubility and solubility products; mineralization, demineralization and remineralization; electrolytes of body fluids; Donnan equilibrium and theory of dental caries origin under its influence; colloid solutions; equilibrium in solutions – ionization of the water; pH values of body fluids; pH of the oral cavity; hydrolysis of salts; biological active buffer system.

The basic concepts of electrochemistry: oxide-reductive processes; galvanic cell; change of free energy in oxide-reductive processes.

Characteristic and biological significance of elements and their compounds which are significant for medical and dental education: Na, K, Mg, Ca, C, Pb, N, P, As, O, S, F, Cl, I, Cu, Ag, Au, Zn, Hg, Fe. Analytical determination: sedimentary reactions, paper chromatography and photometry.

Classification of the basic organic compounds according to functional groups: alcohols and ethers; aldehydes and ketones; carboxylic acids; aromatic carbohydrogens; heterocyclic compounds. Emphasis has been placed on their characteristics and biochemically significant reactions in order to facilitate understanding of structure and role of natural substances of endogenous and exogenous origin.

Natural products: amino acids and proteins; carbohydrates; natural animal dyes; nucleotides and nucleic acids; lipids; hormones and vitamins. Analytical determination of organic compounds: dye reaction, electrophoresis and thin layer chromatography.

4. Hours in the Curriculum

15 weeks in the winter semester with 60 hours of lectures (corresponding to 4 hours a week):

physicochemical processes in biological systems (26 hours); specific inorganic chemistry (7 hours), and structure and chemical characteristics of bio-molecules (27 hours).

Practical part consists of 36 hours of experimental work and 9 hours of chemical measuring, making a total of 45 hours during the 15 weeks (corresponding to 3 hours a week).

5. Method of learning/teaching

Lectures are being interchangeably prepared and delivered by two teachers using modern methods and technologies. During lectures, the lecturer and students discuss the subject of the lecture. At the end of the cycle, one lecturer makes a summary of the course in order to facilitate understanding and learning process: chemical structure of hard dental tissue; processes of mineralization, demineralization, and remineralization of the hard dental tissue; theory of dental caries origin under the influence of Donnan equilibrium; pH values of the oral cavity and factors influencing its changes and leading to damage of the dental tissues (3 hours).

Experimental part is being done by students individually. Three groups of students (each comprising 10 students) work simultaneously for 3 hours. Each group is supervised by an assistant (Mr. Sc. in chemistry or Dipl. Ing. in biochemistry); technical staff participates also in this part. Before the beginning of experiment, a



technician demonstrates and explains the experiment which the students are planned to conduct. The results are controlled and verified. Through the experimental work the students are trained to use laboratory equipment (glass ware, pH-meters, photometers, equipment for electrophoresis and chromatography).

In order to improve understanding and learning, the students have consultations with teachers (4 hours per week) and assistants (12 hours per week) through the academic year. Seven days before the examination term, assistants offer pre-examination consultations about experimental part of the examination.

6. Assessment methods

Attendance at experimental practical work is compulsory, and is controlled. Attendance at the lectures is also compulsory, and is controlled periodically. The examination consists of practical experimental work and theoretical oral part. Success at the practical experimental part of the examination is the condition for taking theoretical examination. The practical part is conducted under the supervision of assistants and technical staff. The theoretical part is taken with the lecturer.

During a semester, two tests covering the subjects of the practical part are being taken. The test are prepared and controlled by assistants. Successfully completed practical exercises during a semester, and verified by the assistants, with the successfully completed tests is being accepted as the practical part of the final examination.

7. Strengths

Modern medical science is a complex science whose principles lie in biophysical chemistry and chemistry of biogenic substances of inorganic and organic origin; biophysics and molecular biology. Taking into account the delicate tasks of chemistry in medical education of dental students, this course emphasizes understanding and learning the laws of physical chemistry and chemical characteristics of inorganic and organic substances both through theoretical and practical work.

8. Weaknesses

Lack of modern analytical techniques in practical and experimental work with students.

9. Innovations and Best Practices

Focusing on the subjects relevant for dentistry.

10. Plans for future changes

To improve and modernize experimental practical work of the students by introducing contemporary stereoscopic and chromatographic techniques into analysis of substances important for medical and dental education.

11. Visitors Comments

12. Staff names, qualifications and email addresses for this Department

Dr. Sc. In chemistry Meliha Lekić, Professor and Head of Department of Medical Chemistry

Dr. Sc. in chemistry Mirjana Mijanović, Ass. Professor

Mr. Sc. in chemistry Zlatan Rimpapa, Senior Ass.

Mr. Sc. in chemistry Fehim Korać, Senior Ass.

Dipl. Ing. in chemistry Eldina Đulić, Assistant



5.2 Biochemistry

Person in School who will explain and show this to the visitors:

Name: Mr. Sc. Dr. Med. Radivoj Jadrić, Assistant Lecturer, specialist in medical biochemistry

e-mail: <u>biochemistry_sarajevo@hotmail.com</u>

fax: +387 33 66 59 49/lok. 135

1. Introduction:

The course is designed to familiarize students of the Faculty of Dentistry with the importance of biochemistry in relation to other biological sciences, namely to familiarize them with biochemical processes and functions of the body, both during the development and in adult life.

2. Primary Aims

To familiarize students of the Faculty of Dentistry with biochemical processes in the body, production of energy for its growth and development, physiological function of organs from nutritional ingredients taken by food. Students are to learn the basic body structure, organic and inorganic components of the body and its needs for maintenance of the homeostasis.

3. Main Objectives:

- To familiarize students with organic and inorganic components of the body;
- To familiarize students with body homeostasis in order to understand conditions under which biochemical processes take place;
- Description of the major metabolic processes anabolism and catabolism of lipids, carbohydrates and proteins (amino acids);
- To familiarize students with the basic metabolic process regulation principles;
- To familiarize students with basic laboratory techniques of determining body fluid concentrations;
- To familiarize students with laboratory techniques of determining certain enzyme activities;

4. Hours in the Curriculum

The Curriculum is designed with 105 hours of lectures (60 hours of theoretical and 45 hours of practical instruction) in the 2^{nd} semester for 15 weeks (4 hours of theoretical and 3 hours of practical instruction per week).

5. Methods of Teaching/Learning

Lectures are carried out using slides and computer presentations of various metabolic processes. The students' interest for the subject is broadened with seminar papers and assessment during the practical instruction.

6. Methods of Assessment

The exam is administered in the form of written test and theoretical (oral) exam which is graded separately but the average grade score is entered into the student's report book.

7. Strengths

The Department employs high-quality staff, specially trained in the field of biochemistry. The staff consists of two professors, four assistant lecturers (three of them hold MS degree, specialists in medical biochemistry), while one assistant lecturer is to complete her degree soon. The Department also has two laboratory technicians who assist in preparations of practical classes (the chief laboratory technician – the future engineer of laboratory diagnostics, and laboratory technician). The staff is highly motivated to impart their knowledge to students.

8. Weaknesses

The students are not very interested in taking the exam after completing the course because they prepare other exams from the first semester. Having in mind that students cannot take the biochemistry exam before passing the chemistry exam first, students (majority of them) with a poor knowledge take the chemistry exam rather late, which prevents them from taking biochemistry exam immediately after the course. There is a certain number of students who do not feel the subject matter is relevant for their future vocation – dentistry.

9. Innovations

- Introduction of modern methods of teaching using multimedia devices
- Introduction of new apparatuses in practical instruction in order to familiarize students with the methods used in clinical practice.

10. Plans for Future Changes

- Participation in plans for implementation of the Bologna Declaration (see section 9).
- 11. Visitors Team Comments:

12. Teaching Staff:

- Mira Winterhalter-Jadrić, MD, PhD, Chief of Staff
- Jovan Radovanović, MD, PhD, Professor
- Radivoj Jadrić, MD, MA, specialist in biochemical sciences
- Sabaheta Hasić, MD, MA, specialist in biochemical sciences.
- Emina Kiseljaković, MD, MA, specialist in biochemical sciences
- Belma Zečević, MD, assistant lecturer,
- Aleksandar Bodulović, chief laboratory technician
- Hajrija Sućeska, laboratory technician
5.3 Molecular Biology

Molecular Biology is not taught as an individual subject. Main objectives of this subject are included in Human Biology and Histology.

5. 4. Human Biology and Genetics

Person in School who will explain and show this to the visitors:

Name: Dr. Sc. Amira Redžić, Head of the Department e-mail: <u>amira_redzic@yahoo.com</u>

fax: 203-670

1. Introduction:

This course provides information in basic and biomedical fields: cytology, development biology, genetics - overview, human genetics, pharmacogenetics, genetic aspects of pathological conditions in dentistry;

The course is completely complementary to the general Curriculum of the Faculty of Dentistry.

2. Primary Aims:

To provide grounding in Human biology and genetics indispensable for understanding more advanced courses in the course of study: biochemistry, physiology, histology, anatomy, microbiology and pathology;

To educate students in the field of human cytology, cytogenetics, molecular biology, human and ecology genetics, anthropogenesis, as a basis for understanding the onset, prevention and treating pathological conditions in all development stages of the man.

3. Main Objectives:

- To familiarize students with basics of human cytology, cytochemistry, cytophysics, cytogenetics:
- To familiarize students with the mechanisms of genetic heritage, genetic basis of gender determination and trait transfer,
- To familiarize students with regulation of metabolic processes in different stages of human development,
- To familiarize students with processes and factors of genetic toxicology and muta-genesis along with the presentation of up-to-date information and use of adequate equipment for instruction
- To establish connection between the basic biological disciplines and more advanced courses,
- To use the knowledge gained in this field in medical diagnostics, particularly in diagnostics and therapy of genetic- based pathological conditions.

4. Hours in the Curriculum

45 hours of theoretical instruction and 30 hours of practical instruction in the first semester.

5. Methods of Teaching/ Learning:

Instruction is given in the form of:



Theoretical instruction: We use standard instruction aids (models of organization, models of biological processes; video presentations, slides, schemes and other topics compatible with aim of this course).

Practical Instruction/exercises: Each student has access to his/her own microscope and the necessary equipment/materials.

Consultations: Consultations are organized on a tutorial basis for students who may have any enquiries on a particular topic covered by this course.

6. Methods of Assessment:

Continuous assessment takes place during practical exercises. Students are bound to pass the practical test related to every teaching unit before being allowed to pass on to the next set of practical exercises.

The exam consists of practical work and oral exam.

Practical work includes independent lab work and the report on the practical work itself.

After successfully passing the practical work, students take the oral exam. The student chooses a question out of each chapter of the textbook and he is allocated 30 minutes to present it. The exam is public and is carried out in the classroom.

Each exam is officially registered, and final results are written in the Register book.

7. Strengths:

The Curriculum of the course is particularly designed to meet the needs of students of the Faculty of Dentistry, with the large part of the subject matter put in close connection with requirements of modern theory and practice in dentistry.

8. Weaknesses:

To help improve teaching process, especially in the field of human genetics; it is essential to increase the number of hours of practical instruction in the field of oralfacial genetics.

9. Innovations and "Best Practices":

New, updated insights are introduced in practical and theoretical instruction;

New exercises are introduced in the field of human genetics and cytology;

New chapters are introduced devised to connect the achievements in biological sciences with dental theory and practice

10. Plans for Future Changes:

The course needs to be upgraded to correspond more closely to dental theory and practise. The course should be divided into two parts: Human Biology and Medical Genetics, and administered by competent teachers and assistant lecturers. This course should be developed within the Faculty of Dentistry.

11. Visitors team comments:

12. Teaching Staff:

Dr. Sc. Amira Redžić, Assistant Professor, Head of the Department

e-mail: amira_redzic@yahoo.com

Dr. Sc. Slavka Ibrulj, Lecturer

Azra Koljenović, Assistant lecturer



5.5 Biophysics

Person in School who will explain and show this to the visitors: **Name:** Prof. Dr. Slavenka Vobornik **e-mail:** <u>vobornik@utic.net.ba</u> **fax:**

1. Introduction

The course is composed of three hours per week lectures with demonstrations of basic physics in medical sciences, and two hours per week experimental exercises, during the first semester of studies. The whole course contents 45 hours lectures and 30 hours experimental exercises. The course aim is to give a basic knowledge of physics to any student of dentistry. The theoretical part of course is of use for explanations elected physical phenomena. The practical lab course attends to introduce methodical principles of physical measurements. Focused theoretical advices given within a two hours introductory lecture to the experimental work provide basic knowledge for lab courses to be passed successfully by the students.

2. Primary aims

The aim of the course is to provide the students with a good background knowledge in physics needed by all natural sciences and to equalise the rather diverse knowledge in physics which students possess when entering faculty. Many of the examples given directly relate to matters of medical interest.

3. Main objectives

The lectures include:

- Biomechanics: rotation moving, levers of locomotors system
- Deformations of solid bodies
- Oscillations and waves: acoustic waves, ultrasound
- Hydrostatics and hydrodynamics, elements of hemodynamics
- Thermodynamics: fundamental laws of thermodynamics, equation of state, state changes, thermodynamic potentials, thermodynamic processes in gradient temperature and concentration
- Electromagnetism: electric field, electric currents, magnetic field, magnetic force, electromagnetic induction, bioelectric phenomena
- Electromagnetic radiations: thermal radiation, x-rays, luminescence and laser radiation
- Atomic and nuclear physics: atomic spectra, radioactivity, radioisotopes in medicine
- Dosimeter of ionised radiations

The experimental exercises include:

- Introduction lecture introduction to experimental work
- Density of solid bodies and liquids
- Surface tension of liquids
- Viscosity
- Meteorological measurements
- Calorimetry
- Sound velocity



- Geometric optics, lenses
- Electrical resistance and current-voltage relationships
- Rlc resonance circuits and oscilloscopes
- Absorption of radiation in substances

4. Hours in the curriculum

Lectures: 3 hours per week during the first semester (total 45 hours)

Lab courses: 2 hours per week during the first semester (total 30 hours)

5. Method of learning/teaching

Elected themes are prepared by a senior lecturer and presented on a classical way (excathedra) using blackboard and pencil or overhead projections. During the lab courses students conduct experimental measurements by themselves instructed and supervised by assistants and lab technicians.

6. Assessment method

Examination is composed from two parts: practical and theoretical. The condition for access to theoretical examination is successful practical examination. Practical examination includes working one experimental exercise (determination some physical parameters by measurement) in time of one hour. Theoretical examination is oral examination personally by the teacher, about 30 min of duration.

7. Strengths

There are no strengths.

8. Weaknesses

Small number of hours in the curriculum. Unsatisfactory laboratory equipment.

10. Plans for future changes

There are plans for curriculum changes with aim integration in European community of universities, according to Bologna declaration.

11. Visitors comment

12. Department of biophysics - staff

Prof. Dr. Slavenka Vobornik (Ph.D. of physics) Doc. Dr. Ago Omerbašić (Ph.D. of physics) Ass. Zijad Muharemović (B.S. of physics) Ass. Mustafa Busuladžić (B.S. of physics) Nura Milenković, lab technician Senad Dalipagić, lab technician



Section 6: Pre-Clinical Sciences

6.1 Anatomy

Person in School who will explain and show this to the visitors: Name: Dr. Aida Hasanović, Senior Assistant e-mail:<u>aidah@utic.net.ba</u> fax: 205-431

1. Course:

The total number of practical and theoretical lecture hours is 180, out of which 75 hours are theoretical, and 105 practical lectures. Theory is thought by senior staff and practical exercises are conducted by junior staff under supervision and help of the superiors. Lectures are delivered in an lecture theatre, according to the order defined in the curriculum:

Introduction into anatomy, classification, terminology, bones of the head (15 hours), bones of the extremities and trunk (7), general part and joints of the head (3), muscles – general part (1), the respiratory system (3), cardiovascular system (10), gastrointestinal system (10), urogenital system (10), nervous and sensory systems (15).

Practical exercises in anatomy are carried out in lecture rooms, and include osteology, syndesmology (general part and joints of the head) and dissection of corpses (the head and neck). The students are divided into groups. The groups are guided by assistants who, after lectures and preparation of specimen test the knowledge acquired by the students. The students who learn their lessons and who attended the exercises regularly secure their right to take their examinations. Without introduction of the course "Human Anatomy" into the curriculum, the students would not acquire the needed knowledge on the composition of the human body, which is the prerequisite for studying physiology, pathologic anatomy, roentgenology, clinical medicine, and particularly surgery.

2. Primary aims

Primary aims are to instruct the students on the basis of composition of the human organism in order to be able to study other pre-clinical and clinical courses of the dental curriculum.

3. Main objectives.

By learning anatomy, students develop working habits, improve their observation abilities, and learn how to work systematically and attentively. The further objectives would be to develop visual perception in the students, as well as to demonstrate the significance, the scientific and practical importance of the subject.

4. Hours in the Curriculum

5. Method of learning/teaching used in the anatomy course are the following:

- lectures,
- use of the various anatomic preparations,
- dissection, where the student test the theoretical knowledge during the practical work,



- use of x-rays of the human body parts,
- use of films and slides as visual teaching aids.

6. Assessment methods:

Examination, as the final test of knowledge consists of practical and oral examination. The practical examination is taken on the corpses, specifically on the head and neck region - Regiones cervicales et capitas. The regions (total number: 17) are described in detail in a handbook written by the staff of the anatomy institute. The candidate who manages to "defend" orally the region (to demonstrate theoretical knowledge) is allowed to prepare technically the given region on the corpse material (duration: 3 hours; demonstration of the arteries, veins, nerves and muscles of the region). Then, the student takes the final part of the examination (theoretical). In the oral part of the examination, the candidate should demonstrate knowledge about anatomical preparation, morphology of the organs and their elementary structure, topographic relations and projections of individual organs.

7. Strengths

Strengths of this system of assessment make possible for the examiner to get an insight into manual abilities of the candidate and the way of presentation of knowledge.

8. Weaknesses

In some candidates, the presence of examiners and commission "causes" examination anxiety, and so reduces his concentration. These is also a possibility that the examination questions fail to cover the whole subject matter of anatomy (regardless of the fact that each question covers a definite subject area).

9. Innovations and Best Practices

Besides the existing methods, more sophisticated multimedia techniques of presentation should be introduced in order to enable easier and more plastic presentation of the human body structures.

10. Plans for future changes

The concrete plans will depend on a possible reorganization of the University and the whole education system.

11. Visitors Comments

12. Staff names:

Prof. Dr. Faruk Dilberović Prof. Dr. Fehim Ovčina Prof. Dr. Amela Kulenović Senior Ass. Dr. Aida Hasanović Senior Ass. Dr. Eldan Kapur Senior Ass. Dr. Alda Sarač-Hadžihalilović Senior Ass. Dr. Alma Voljevica Ass. Dr. Elvira Talović Ass. Dr. Almira Lujinović Ass. Dr. Ilvana Vučković



6.2 Physiology

Person in School who will explain and show this to the visitors:

Name: Emina Nakaš-Ićindić, MD, PhD

e-mail: nakasicindic@yahoo.com

fax: 663 743/135

1. Introduction

Theoretical instruction in human physiology at the Faculty of Dentistry consists of 105 hours of and 75 hours of practical instruction at the Department for Human Physiology and Biochemistry of Medical Faculty in Sarajevo.

2. Primary Aims

The primary aim is to familiarize students with functions of the healthy body, and through acquired knowledge and skills provide them with the basics for understanding the clinical subjects.

3. Main Objectives

To familiarize students through different forms of instruction with functional and regulatory mechanisms of the cell, tissues, organs, organ systems and the body as a whole by giving insights into the following fields:

- Physiology of the cell (biological membranes, resting membrane potential and action potential)
- Neurophysiology (physiology of the excitatory tissues, nervous and muscle tissues)
- Blood (haemoglobin, counting Leukocytes and Erythrocytes, coagulation tests, blood groups)
- Respiration (mechanics, exchange and transport of gases, regulation of breathing)
- Cardiovascular system (the heart and blood vessels, ECG, arterial blood pressure)
- Kidneys (glomerular filtration, dilution, concentrating urine)
- Digestive system and metabolism
- Endocrine system
- Central and peripheral nervous system (reflexes)
- Senses (sight, hearing, balance)
- Homeostasis (isotony, equilibrium of carbohydrates, water and ions)

Special accent is given on the areas relevant to students of Dentistry.

4. Hours in the Curriculum

105 hours (45- minute lecture) of theoretical instructions

75 hours of practical instruction

The course is held two semesters in the second year of the study:

III semester		IV semester	
Lectures	Practical classes	Lectures	Practical classes
3	2	4	3



5. Methods of Teaching/ Learning

Lectures are administered in the form of oral presentation and seminars and designed to provide active participation of students. Practical instruction is carried out in groups of 10 students each. After theoretical introduction to the exercises, students perform practical tasks by themselves, and part of the exercise is done interactively using computer- based educational programs.

6. Methods of Assessment

The exam consists of introductory multiple choice test (10 questions), after which student performs two practical exercises and finally the oral exam which consists of five questions which student chooses from the set of 175 questions.

7. Strengths

The major strength is the intensive course which entails the study of the body as a whole, with special emphasis on integrative processes using available modern educational technology (the Internet, computer-based programs, practical work), preparing the dentistry student to be a part of a team of healthcare professionals, a dentist capable of recognising not only local abnormalities, but abnormalities of the body as a whole.

Weaknesses

- The lack of funds for purchase of appropriate laboratory equipment,
- Large groups of students both in lectures and practical classes.

9. Innovations and "Best Practices"

- interactive approach to education
- the use of available modern multimedia
- attempts at making our own computer- based interactive educational programs for students of Dentistry
- publication of additional literature for Dentistry students, especially for practical instruction.

11. Visitors Team Comments:

12. Teaching Staff

Emina Nakaš-Ićindić, MD, PhD, Head of the Institute;

Jasminko Huskić, MD, PhD;

Nermina Babić, MD, MA;

Almira Hadžović, MD, MA;

Nesina Avdagić, MD, MA;

Denisa Zvizdić, MD;

Asija Začiragić, MD;

Lorenka Ljuboja-Milošević, MD.

e-mail: nakasicindic@yahoo.com

6.3 Histology and Embryology

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Zakira Mornjaković

e-mail:

fax:

1. Introduction

Students are familiarized with the structure of the cell, intercellular matrix and different tissues and organs in the human body. Students take this course during the second and third semester.

2. Primary Aims

Students are to gain basic knowledge about histo-physiologic organization of the human body and its intrauterine development.

3. Main Objectives

To enable students for microscopic analysis of the micro anatomic organization of tissues, organs and organ systems, on cellular level and with relation to physiologic function.

4. Hours in the Curriculum:

2nd Semester: Theoretical Instruction: 30 hours

Practical Instruction: 30 hours.

3rd Semester: Theoretical Instruction: 30 hours

Practical Instruction: 30 hours.

Total: 120 hours.

5. Methods of teaching/ learning:

Professors and assistant lecturers teach student in lectures and in practical classes using photographs and colour illustrations in the form of slides and histological samples. Microscopy of histological samples is provided continuously in the microscopic room. Students are given topics to write seminar papers on during the semester; they are also required to take tests related to a particular area of study

The exam consists of the practical and oral part. The practical part consists of the analysis of three samples with complete recognition of organs in question, blood smear analysis, recognition of 7 demonstration samples and the analysis of the TEM photograph.

In the oral exam the student has to answer questions from embryology, cytology, tissues and organology, respectively. In order to take the oral exam, the student has to successfully complete the practical exam.

6. Strengths:

The main strength of this course is a successful interaction of theoretical and practical instruction related to histology and embryology. In the lectures a large corpus of students is presented with thorough information in the field of histology and embryology, while practical classes enable students to gain a more detailed insight into the subject matter in smaller groups. The practical instruction enables face-to-



face communication with a student, intensive instruction and direct control over the process of learning.

7. Weaknesses:

Insufficient and outdated equipment, oversize student groups and lack of interaction with students during the teaching process, the Department is also understaffed.

8. Innovations:

In order to improve the instruction quality, the collection of permanent histological samples and slides is constantly supplemented, the textbooks updated and two- hour consultations are held on a daily basis to facilitate the learning process. The preparation of CD is under way.

9. Plans for Future Changes

To modernize the process of instruction by introducing the new computerized equipment, updating textbooks and printing materials for practical instruction.

10. Visitors Team Comments:

11. Teaching Staff:

- Prof. Dr. Sc. Zakira Mornjković, Head of the Department
- Prof. Dr. Sc. Zlata Kundurović,
- Dr. Sc. Selma Aličelebić, Lecturer
- Dr. Sc. Irfan Šuško, Lecturer
- Dr. Esad Ćosović, Assistant lecturer,
- Dr. Amira Beganović-Petrović, Assistant lecturer,
- Dr. Rusmir Arslanagić, Assistant lecturer
- Šljivo Nedeljka, senior technician
- Hrelja Mirha, lab technician

e-mail:IMMICA@bih.net.ba



Section 7: Para-Clinical Sciences

7.1 Pharmacology and Toxicology

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Elvedina Kapić

e-mail: <u>kapice@dic.unsa.ba</u>

fax: 00-387-33-441-813

1. Course

Pharmacology course is taught in the third year of the studies of dentistry for the duration of one month (V semester).

2. Primary Aims

The primary aim of the course is to provide knowledge on principles of pharmacology and therapeutic application of drugs, with a special reference to drugs that are relevant for dental practice.

3. Main objectives

- General pharmacology (pharmacokinetics/pharmacodynamics)
- Local anaesthetics
- Analgesics/antipyretics
- Antimicrobial agents
- Antiseptics/disinfectants
- Sedatives/hypnotics
- Local and systemic haemostatics
- Adverse effects and interactions of drugs
- Therapy of emergencies
- Pharmacography

4. Hours in the Curriculum

Course is taught for duration of one semester, 4 lecture hours weekly, and 2 hours of practical exercise.

5. Method of learning/teaching

Traditional lectures combined with the use of multimedia.

Practical exercise with small groups, with the problem based learning approach.

6. Assessment methods

Combined, written test and oral examination at the end of the course.

7. Strengths

The course *Pharmacology and Toxicology*, although it does not belong to the group of professional dental subjects, provides knowledge necessary for successful and safe work of the future dentists.

8. Weaknesses

Occasional focusing on knowledge that is irrelevant for dentistry.

Too much burden on the students causes sometimes a decrease in interest for the educational process.



9. Innovations and Best Practices

Introduction of new techniques in solving pharmacological problems:

- Discussions
- Individual consultations
- Team work in small groups
- Simulations

10. Plans for future changes

Improvement of methods and techniques for transfer of knowledge, particularly by application of modern computerized techniques that facilitate transfer and acquiring of knowledge.

11. Visitors Comments

12. Staff names, qualifications and email addresses for this Department

Prof. Dr. Elvedina Kapić Ass. Dr. Jasna Kusturica Ass. Dr. Maida Todić



7.2 Microbiology with Parasitology and Immunology

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Edina Bešlagić

e-mail:

fax:

Year: II, Semester: III

1. Course

Theoretical part of the course consists of lectures which interchange in the strictly defined order:

- introduction into medical microbiology,
- structure of the bacterial cell,
- sterilization and disinfection,
- antibiotics and chemotherapeutics,
- immunology,
- special bacteriology,
- virology,
- parasitology and mycology.

2. Primary Aims.

To teach the students the most important etiological causes of infections relevant for the profession. Learning the basic knowledge about clinical symptoms, diagnosis, therapy and prophylaxis of diseases caused by bacteria, viruses and fungi.

3. Main objectives

Knowledge of medical microbiology:

- staining and cultivating of bacteria,
- identification of bacteria by biochemical reactions,
- methods of disinfection and sterilization,
- therapy with antibiotics,
- anaerobic bacteria,
- characteristics of viruses,
- pathogenesis and diagnostics of viral infections.

4. Hours in the Curriculum

By the curriculum, the course lasts 17 weeks in the winter semester. The total number of lecture hours is 60, two hours twice a week:

- general part and immunology 16 hours,
- special bacteriology 20 hours,
- virology 16 hours, and
- parasitology 8 hours.

Practical part consists of 30 hours, two hours once a week:

- general part 8 hours,
- special bacteriology 14 hours,
- medical parasitology 6 hours, and
- basic of virological diagnostic techniques 2 hours.



5. Methods of learning/teaching

Lectures are given by one lecturer by the definite order. During the lecture, the lecturer and students discuss the presented matter.

The practical part is carried out by the students individually. In average, there are three groups of students, each consisting of 30 students. Each group has its exercises (two ours weekly) under the supervision of 3 assistants and with the assistance by technical staff. Each exercise has its introduction with a description on what the students individually are going to do *lege artis* during the practical exercise. The results are controlled and verified. The presence at the exercises is compulsory. After each practical exercise, a control of active participation of the students is performed.

6. Assessment methods

The final examination consists of taking a test. After the test is passed, the student takes practical part of the examination, i.e. successfully completed practical part allows the student to take theoretical part of the examination, which is taken orally.

7. Strengths

Combination of lectures and practical exercises.

8. Weaknesses

Overload of subject matters for dental students who have a lot of their professional – dentistry subjects.

9. Innovations and Best Practices

A need for greater concentration on subjects which are relevant for dentistry. This means that it is necessary to reduce individual courses.

10. Plans for future changes

11. Visitors Comments

12. Staff names, qualifications and email addresses for this Department

- Prof. Dr. Sc. Edina Bešlagić, professor in charge
- Senior Ass. Dr. Sc. Sadeta Hamzić
- Senior Ass. M.Sc. Sabina Mahmutović
- Senior Ass. M.Sc. Mufida Aljičević
- Senior laboratory technician Radmila Poledica-Popović
- Laboratory technician Mehinović
- Laboratory technician Sabina Šegalo



7.3 General Pathology

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Ivan Selak – Department of Pathology e-mail: fax: +38733666964

1. Introduction

Pathology is a science that studies diseases, their aetiology, pathogenesis, macroscopic and microscopic disease diagnosis. The subject of pathology is studied through two semesters (4th and 5th), i.e. in the second year of the Faculty of Dentistry.

2. Primary Aims

To familiarize students with pathological changes in cells, organs, as well as with their pathogenesis.

3. Main Objectives

The main objective of Pathology as a clinical – theoretical course is to build up on the previous knowledge gained in the courses related to the structure and dysfunctions of the human body with other clinical disciplines. This course provides the foundations for all other clinical courses.

4. Hours in the Curriculum

- 4th semester: 72 hours of theoretical instruction / 12 hours of seminars/ 18 hours of practical classes (total of 102 hours per semester)
- 5th semester: 40 hours of theoretical instruction / 10 hours of seminars / 20 hours of practical classes (total of 70 hours per semester)

5. Methods of Teaching:

- Theoretical instruction,
- Seminars,
- Autopsy, and
- Pathohistological practical exercises

6. Methods of Assessment

The exam consists of the practical part / microscopic appearance of the affected organ in different diseases with a special accent on dental pathology. Students can choose to pass the theoretical exam either orally or in writing; the third option is a multiple choice test.

7. Strengths

A good insight into the student's knowledge and skills is gained by applying the above assessment methods.

8. Weaknesses:

There are none that I am aware of.

9. Innovations and "Best Practices"

A comprehensive coverage of causes of abnormalities with a special focus on the oral cavity pathology.

10. Plans for Future Changes:



The completion of the Curriculum and computer-based learning (using CD's and floppies), as well as the web site which would enable consultations and more updated approach this course.

11. Teaching Staff:

Ivan Selak, MD, PhD, Head of the Institute Zrinka Vidović, MD, PhD, Svjetlana Radović, MD, PhD.



7.4 Forensic Medicine

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Ivan Selak

e-mail: fax: 00387666964

1. Introduction

The course Forensic Medicine is held in the 10^{th} semester and consists of 15 hours of theoretical instruction (45.minute lecture), and 7,5 hours of practical instruction (autopsy) and 7,5 hours of seminars.

2. Primary Aims:

The course Forensic Medicine aims to familiarize students of the Faculty of Dentistry with medical phenomena as related to the application of legal procedures. Forensic Medicine is defined as a special medical field which represents a point of encounter of medical and legal science as a result of medical knowledge and the knowledge of the relevant legislature.

3. Main Objectives:

In order to get a solid grounding in this subject students of dental medicine should acquire knowledge in the fields of traumatology, tanatology, toxicology, sexology, asphyxiation, etc, and all the above with the aim of providing medical-forensic evidence in court cases and establishing truth in a criminal case.

In the course subject of Forensic Medicine students are also familiarized with the questions of medical ethics aimed at familiarizing future dentists with moral issues which encompass a set of customs, habits and standards by which people of a community are guided in their actions and in their overall behaviour. Students should be made aware that violation of ethical norms is conducive to legal responsibility of the physician in question.

4. Hours in the Curriculum:

The course subject is held in the 10^{th} semester: 15 hours of theoretical, 7,5 hours of seminars and 7,5 hours of autopsies.

5. Methods of Learning/Teaching:

Lectures, seminar papers – direct discussion between students, lecturers and assistant lecturers on a particular topic of interest.

Students should gain knowledge how to recognize changes on forensic autopsy material.

6. Methods of Assessment:

The exam consists of the practical part carried out on the autopsy material or museum preparations, and the theoretical part which can be conducted either in oral or written form.

7. Strengths:

Students gain a thorough insight into the subject matter of this course which, in turn, enables them to pass their exam successfully.

8. Weaknesses:



The course is very demanding and the exam itself is time-consuming.

9. Innovations and "Best Practices":

To modernize technological laboratory within the Department for Forensic Medicine.

10. Plans for Future Changes:

To carry out the oral part of the exam through set test questions

To expand direct communication and closer cooperation between students and teachers in order to modernize and improve the quality of instruction and student achievement results in tests.

11. Visitors Team Comments:

12. Teaching Staff :

Prof. Dr. Ivan Selak, Professor, specialist in pathology

Assistant lecturers:

Dobrača Dr. Ilijas, Senior assistant lecturer, specialist in forensics

Žujo Dr. Hamza, Assistant lecturer, specialist in forensics

Visitors comments on sections 5,6,7:

The visitors recognise the importance of a thorough and rigorous grounding in the basic and biomedical sciences for a dentist. However, we are concerned to note that in these areas there appears to be a disproportionate high rate of failure in the assessment of dental students. This appears to be especially true in Anatomy and Physiology, leading to an abnormally extended period of study (on average 8 years) and a bottleneck of students waiting admission to more senior years of the curriculum. Our international experience as educators is that any assessment in which the majority of students are bound to fail, should trigger an urgent examination and evaluation of the following:

- quality and quantity of teaching
- relevance of curriculum content to dentistry
- methods of delivery (e.g. possibly too many lectures containing too much information in too short a time)
- suitability of material (topics) selected for examination
- methods of assessment
- Selection of students in terms of academic ability and suitability to study a demanding course such as dentistry.

We note that, the pass rate is considerably higher when it comes to dental subjects and accords to what would be regarded as acceptable by other academic institutions. We regard this as an essential area for immediate attention.



Section 8: Human Diseases General Medicine, Surgery and Pathology (includes Anaesthesiology and Sedation)

8.1 Internal Medicine

Person in School who will explain and show this to the visitors:

Name:

e-mail:

fax:

1. Course

The course Internal medicine is taught in the third year (V and VI semesters).

2. Primary Aims

To provide essential knowledge in internal medicine relevant for dental practice.

3. Main objectives

To help the students understand the close relationship between dentistry and medicine. To provide relevant information on diagnostic and therapeutic procedures in cardiology, pulmology, nephrology, hematology, gastroenterology, endocrinology.

4. Hours in the Curriculum

Semester V: Lectures – 45 hours; Exercises – 30; Semester VI: Lectures – 45 hours; Exercises – 30;

5. Method of learning/teaching

Theoretical knowledge is being provided through lectures; practical exercises are carried out at the corresponding clinic/hospital wards.

6. Assessment methods

Examination consist of practical and theoretical part.

- 7. Strengths
- 8. Weaknesses
- 9. Innovations and Best Practices

10. Plans for future changes

11. Visitors Comments

12. Staff names, qualifications and email addresses for this Department

- Prof. Dr. Marko Bukša Professor in charge
- Prof. Dr. Mehmed Gribajčević
- Prof. Dr. Midhat Haračić
- Prof. Dr. Vjekoslav Gerc
- Prof. Dr. Amila Arslanagić
- Prof. Dr. Bećir Heljić
- Prof. Dr. Mirza Dilić



8.2 Communicable diseases

Person in School who will explain and show this to the visitors:

Name:

e-mail:

fax:

1. Course

The course Communicable diseases is taught in the fourth year, VII semester.

2. Primary Aims

The primary aims of the course are to qualify the students for early detection of communicable diseases on the basis of relevant clinical, epidemiological and laboratory parameters, with the purpose of timely prevention of the diseases.

3. Main objectives

On the basis of gained knowledge of etiopathogenesis and clinical characteristics the students will learn to recognize acute communicable diseases that are significant for the national pathology, in peace and war. In the course for dental students, special attention is paid to contagious diseases that are transmitted by contact, respiratory pathways, blood and blood derivates.

4. Hours in the Curriculum

Semester VII:

Exercises: 15 hours

5. Method of learning/teaching

Theory – lectures; practical education – exercises.

Lectures: 30 hours

6. Assessment methods

The examination consists of:

- practical part (examination of a patient, history taking, conclusion on the possible diagnosis), and
- oral part general infectology (one question), and special infectology (two questions).

7. Strengths

8. Weaknesses

- 9. Innovations and Best Practices
- **10. Plans for future changes**
- **11. Visitors Comments**

12. Staff names, qualifications and email addresses for this Department

Prof. Dr. Dževad Čengić



8.3 Dermatovenerology

Person who will meet and show the Clinic to the visitation team:

Name: Naima Arslanagić, MD, PhD,

e-mail: derma.sa@bih.net.ba

fax: +387 33 470-872

1. Introduction

The course Dermatovenerology is held for students of the Faculty of Dentistry in the fourth year of their study (7th semester). The instruction is carried out according to the Curriculum adjusted for students of the Faculty of Dentistry. Theoretical instruction entails 15 hours (45- minute lecture). Practical instruction consists of 15 hours (2 hours per week) for one semester.

2. Primary Aims

Familiarize students with dermato-venerological diseases that a future dentist will encounter in everyday practice

Provide them with the necessary knowledge so that they can treat some of those diseases themselves or refer the patient for further treatment to the relevant institution.

3. Main Objectives

During this course students are to learn diseases which attack mucosa of the oral cavity, lips and the surrounding tissues as part of general dermatological diseases of various etiopathogenesis: bacterial, viral, fungal, auto-immune and allergic, as well as malignant and pre-malignant diseases.

4. Hours in the Curriculum

Theoretical instruction (15 hours) is delivered by the professor while practical classes (15 hours) are held by one assistant lecturer in charge of one student group.

Each lecture is accompanied by the display of a patient, be it in a form of a computer presentation or as a live subject. Practical instruction is always carried out with a patient.

5. Methods of Assessment

The exam consists of practical test and an oral exam. Practical test is performed on a patient.

6. Strengths

One of the major strengths of this course is that students are presented the actual diseases, the disease dynamics and therapeutic effects. Theoretical instruction is designed to enable students to grasp contemporary pathology.

Students actively participate in the course of instruction by asking questions and giving their comments.

7. Weaknesses:

When there are no patients available, students are provided with photographs showing characteristics and dynamics of the disease.

8. Innovations and "Best Practices"



Students have a CD at their disposal where diseases, studied in the course, are presented and explained. They also have the updated textbook with photographs and illustrations.

During the revision period students are welcome to come to the Clinic and actively participate in establishing the medical history of a particular patient.

9. Plans for Future Changes:

Our plan is to present the most interesting parts of this course on the official web site of the Clinic for Dermato-venerology.

12. The Staff

Naima Arslanagić, MD, PhD, Head of the Department; Asja Prohić, MD, PhD, Assistant lecturer.

8.4 Paediatrics

Person in School who will explain and show this to the visitors:

Name: Senka Dinarević MD, PhD, Head of the Clinic of Paediatrics

e-mail: <u>dsenka@smartnet.ba</u>

fax: +387 33 665 823

1. Introduction

The course of Paediatrics is held in the fourth year (7th semester). Paediatrics is an indispensable course for a future dentist. The course is administered through theoretical and practical instruction. The theoretical part consists of 15 teaching units.

1. Introduction to Paediatrics, protection of children's rights	1
2. Physiology and pathology of child growth and development	1
3. Child nephrology	1
4. Child cardiology	1
5. Child immunology and rheumatology	1
6. Child pulmonology and allergology	1
7. Neonatology	1
8. Child neurology	1
9. Child haematology	1
10. Child endocrinology	1
11. Child gastroenterology	1
12. Child nutrition	1
13. Intensive paediatrics care	1
14. Intensive paediatrics care	1
15. Preventive paediatrics and child care	1

Practical instruction consists of 15 hours.

2. Primary Aims

- a) To familiarize the dentistry students with the basics of paediatrics and how to approach an ill child,
- b) To familiarize students with special problems of ill children and with the possible approaches to chronically ill children from the period of infancy, toddler stage, prep school, school and adolescent period.

3. Main Objectives

- a. To explain specific approaches to ill children through theoretical and practical instruction
- b. To explain the need of adopting a different approach in dealing with chronically ill children
- c. To impart skills and practical knowledge in practical classes
- d. Particular review of specific child-related diseases in relation to dental practice.

Hours in the Curriculum

• One hour (45 minutes) of theoretical and one hour of practical instruction per week for one semester.



4. Methods of Teaching/Learning

- Theoretical instruction consists of 15 units (lectures) followed by practical instruction.
- Besides lectures and practical classes students are provided access to the Department (Clinic) library as well as the Internet (there is 24-hour- Internet access from the Clinic)
- Everyday consultations of assistant lecturers and lecturers with students
- Providing opportunities to take part in traditional Schools within the Sarajevo Paediatric Education Centre (PECS) School for Asthma, Paediatric summer school and School of ultrasound with resuscitation courses).

5. Methods of Assessment

The exam consists of practical and theoretical part.

Students choose examiners publicly with the presence of at least two members of the teaching staff responsible for this particular course. The exam questions are available on the notice board.

6. Strengths

- Theoretical and practical part of instruction are closely interrelated
- Access to the Internet provides students with an opportunity to broaden their education
- Everyday contact with the teaching staff encourages and enhances the teaching process as such.

7. Weaknesses

- Number of hours of lectures and practical classes should be increased and held in adequate premises (the existing facilities are inadequate for teaching).

8. Innovations and "Best Practises"

- Use of the Internet
- Further education through Sarajevo Paediatric Education Centre (School of Asthma, Paediatric Summer School and School of ultrasound with resuscitation courses).

9. Plans for Future Changes

- New textbook for Dentistry students
- Seminars for Dentistry students

10. Visitors Team Comments

11. The Teaching Staff:

Senka Mesihović-Dinarević, MD, PhD Suada Heljić, MD, PhD Ediba Saračević, MD, PhD

Assistant lecturers:

Prim. Dr. Edina Kovač- gastroenterology
M.Sc. Dr. Danka Miličić-Pokrajac – nephrology, MD, MA
Prim. Dr. Rešad Terzić – cardiology, MD
Dr. Zijo Begić – rheumatology, MD
Dr. Hajrija Maksić – neonatology, MD
M.Sc. Dr. Amina Selimović – pulmoallergology, MD, MA
M.Sc. Dr. Smail Zubčević – neuropaediatrics, MD, MA
M.Sc. Dr. Feriha Ćatibušić - paediatric triage (screening), MD, MA



M.Sc. Dr. Snježana Hasanbegović – endocrinology, MD, MA Dr. Sc. Edo Hasanbegović – haemtooncology, MD M.Sc. Dr. Meliha Sakić - intervention paediatrics, MD, MA

e mail: <u>info@pedijatrija-sa.ba</u> http:/www.pedijatrija.sa.ba



8.5 Neurology and Psychiatry

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Nedim Lončarević

e-mail:

fax:

1. Course

The course *Neurology and Psychiatry* is pertinent for the studies of dentistry because of neurological diagnostics (with emphasis on the cranial nerves); the lectures in psychiatry will educate dental student to recognize psychiatric conditions and to direct the patient to a psychiatrist.

2. Primary Aims

The primary aim is to provide basic principles of neurology and psychiatry:

- organic neurological disorders and deficiencies (hemiparesis, involuntary movements);
- special accent should be paid to the cranial nerves (paralysis of the nervus facialis, neuralgia of the nervus trigeminus, and recognition of some epileptic manifestations).

3. Main objectives

- recognition of neurological symptoms;
- recognition of disorders of certain neurological functions; weakness of the arm;
- deficiency of the facial nerve,
- recognition of headache requiring neurological treatment;
- recognition of neuralgias in the oro-facial region and stomatognathic system;
- recognition of some neurological signs: facial asymmetry;
- weakness or loss of reflex of the palatine uvula and pharynx.

4. Hours in the Curriculum

The course Neurology and Psychiatry is taught in the fourth year (VII semester).

Semester VII: Lectures: 15 hours Exercises: 15 hours

5. Method of learning/teaching

Theoretical lectures are combined with classic and contemporary illustrations, and practical exercises consist of taking history and neurological status of the patient, and of interviewing the patient.

6. Assessment methods

The examination consists of classical grading of practical examination of a patient (patient history and neurological status), and of the oral part in combination with modern assessment methods.

7. Strengths

8. Weaknesses



9. Innovations and Best Practices

The lectures and practical exercises are recorded on disks and posted on the Internet, so being more available to the students (anatomy of the nervous system, physiology of the nervous system, pathogenic mechanisms causing symptoms, clinical conditions and diagnostics, therapeutic algorithms).

- **10. Plans for future changes**
- **11. Visitors Comments**
- 12. Staff names, qualifications and email addresses for this Department

Prof. Dr. Sc. Nedim Lončarević, specialist in Neuropsychiatry, subspecialist in Neurophysiology, Head of Department of Neurology of University Clinical Centre Sarajevo



8.6 General Surgery and War Surgery

Person in School who will explain and show this to the visitors:

Name:

e-mail:

fax:

1. Course

To provide information on contemporary theoretical and practical knowledge from those segments of surgery which are closely related to dentistry.

2. Primary Aims

To educate dental students to be able to recognize and treat basic surgical problems

3. Main objectives

To provide basic knowledge from general surgery needed for further studying of surgical subspecialties.

4. Hours in the Curriculum

Semester VI:	Lectures: 45 hours	Exercises: 30 hours
Semester VII :	Lectures: 30 hours	Exercises: 30 hours

5. Method of learning/teaching

Theoretical part is given in the traditional form of lectures, and the practical exercise are carried out at the hospital wards.

6. Assessment methods

Before the examination, the candidate must spend seven days at the ward of the examiner, to prepare for the practical part of the examination by applying the acquired surgical skills. The oral examination consists of six questions defined by the Department of Surgery. All the examiners use the same questions. The list of questions is publicly accessible.

7. Strengths

- 8. Weaknesses
- 9. Innovations and Best Practices
- 10. Plans for future changes
- **11. Visitors Comments**

12.Staff names, qualifications and email addresses for this Department

Prof. Dr. Salahudin Dizdarević



8.7 Ophthalmology

Person in School who will explain and show this to the visitors: Name: Prof. Dr. Sc. Mustafa Sefić, Dr. Sc. Emina Alimanović e-mail:

fax: ++387 33 663-668

1. Course

The course *Ophthalmology* is a part of the School of Dentistry Curriculum, and is taught in 34 lecture hours and 34 hours of practical exercises. The eye with the optic nerve is situated in the orbit of the skull, in close communication with anterior cranial fossa, maxillary, ethmoidal, sphenoidal sinuses, by way of which it is connected to the nose and oral cavity. Various communicable and vascular diseases, as well as expansive processes are transmitted endogenously and *per continuitatem* to the eye. Such cases must be treated through a team approach. The above explanation demonstrates the relevance of ophthalmologic knowledge for dental students.

2. Primary Aims

To provide knowledge about the most common diseases that are, through causal and consequential relationship, related to both ophthalmology and dentistry;

To provide knowledge about acute conditions in ophthalmology with the purpose of helping the dental students recognize and adequately triage the conditions.

3. Main objectives

- To provide knowledge about anatomy, physiology and pathology of the eye;
- To make familiar the most common diseases of the anterior segment the eye (conjunctivitis, iridocyclitis);
- To get acquainted with the most common diseases of the posterior segment of the eye (uveitis, neuritis);
- To study the acute conditions in ophthalmology (occlusion of the a.v. centralis retine, acute glaucoma, neuritis retrobulbaris);
- To provide knowledge about chemical injuries of the eye;
- To provide knowledge about contusion and perforation of the eye.

4. Hours in the Curriculum

5. Method of learning/teaching

- Lectures with slide presentations 34 hours, X semester. Lecturers: professors or assistant professors;
- Practical exercises with patients at the hospital, under supervision of assistants or senior assistants.

6. Assessment methods

Practical part: examination of a patient and a colloquium with the assistant.

Theoretical part is taken orally with professor or assistant professor; grades from 5 to 10.

7. Strengths

8. Weaknesses

- 9. Innovations and Best Practices
- **10. Plans for future changes**

11. Visitors Comments

12. Staff names, qualifications and email addresses for this Department Prof. Dr. Sci Mustafa Sefić – Head of the Department of Ophthalmology



8.8 Otorhinolaryngology

Person in School who will explain and show this to the visitors:

Name:

e-mail:

fax:

1. Course

The course *Otorhinolaryngology* is taught to dental students in the fourth year (VII semester).

2. Primary Aims

The primary aim is to provide knowledge of diagnosis and therapy of diseases of the Otorhinolaryngology region.

3. Main objectives

Learning the techniques of examination of the orl region and performing necessary interventions in this domain.

4. Hours in the Curriculum

Semester VII: Lectures: 15 hours

Exercises: 30 hours

5. Method of learning/teaching

Theory is taught in the form of conventional lectures, and exercises are carried out at the hospital wards.

6. Assessment methods

The examination consists of theoretical and practical part.

- 7. Strengths
- 8. Weaknesses
- 9. Innovations and Best Practices
- **10. Plans for future changes**
- **11. Visitors Comments**
- 12. Staff names, qualifications and email addresses for this Department



8.9 Radiology

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Lidija Lincender e-mail: <u>lidija@smartnet.ba</u>

fax: +387 33 444 553

1. Introduction:

Radiology is a science that deals with ionizing and non-ionizing radiation. We use possibilities of modern classical and digital (native and contrast) radiological diagnostic methods to diagnose possible pathological lesions in the region of the head and neck, and the rest of the body. In dental radiology we utilize classical radiographic techniques (x-ray of the teeth), teleradiology and digital techniques (ultrasound, CT, MRI) to diagnose lesions in the head and neck.

The subject is held in the third year (6th semester): 30 hours (45–minute-lecture) of theoretical and 15 hours of practical instruction.

2. Primary Aims:

To familiarize students with:

- Radiodiagnostics
- Radiotherapy
- Basic knowledge in dental x-ray,
- To enable them to work independently.

3. Main Objectives:

Students are to acquire knowledge in:

- Radiophysics and basics in ionization and non -ionization radiation,
- Classical tests native and contrast x-ray (oral and extra oral x-rays)
- Performing x-ray
- Interpretation of findings
- Digital radiological techniques, familiarizing with ultrasound, CT and MRI techniques
- Familiarizing students with certain radiological procedures (normal and pathologic), with special emphasis on pathological changes of teeth, head and neck, and short introduction into other diagnostic procedures.
- Radiobiology influence of ionization radiation on human cells; application of protection in radiology and methods of ionization measurement dozimetry.
- Basics of radiotherapy; possibilities of treating malignant diseases of head and neck.

4. Hours in the Curriculum:

The course subject is held in the 6^{th} semester, and consists of 30 hours of theoretical and 15 hours of practical instruction.

5. Methods of Teaching/ Learning:

Theoretical instruction is administered by using slides, LCDs and TV set.

Practical instruction consists of teaching students how to use the apparatus and methods of taking x-rays (analysis of x-ray)



6. Methods of Assessment:

The exam consists of theoretical and practical tests with a summative mark.

7. Strengths

8. Weaknesses:

Insufficient number of hours: number of hours of practical and theoretical instruction should be increased, particularly practical work with patients (2nd semester).

9. Innovations and Best Practices

10. Plans for Future Changes:

Continue cooperation of the Faculty of Dentistry and the Department of Radiology of CCUS.

Introduce computer-based theoretical instruction and form LAN between Radiology and the Faculty of Dentistry.

11. Visitors Team Comments:

12. Teaching Staff:

Prof. Dr. Faruk Dalagija Prof. Dr. Lidija Lincender Doc. Dr. Šefik Bešlić Doc. Dr. Melika Klančarević Prof. Dr. Nemina Obralić Doc. Dr. Bašić Hiba

Assistant lecturers:

M.Sc. Amela Mornjaković M.Sc. Dr. M.Sc. Dr. Dr. Muris Ibralić Dr. Vanesa Bešlagić Dr. Besima Hadžihasanović Dr. Sabina Prevljak

Chief radiological technician: Andrija

x-ray technician: Muhamed Huremović

e-mail: instradkc@yahoo.com

Visitors Comments on section 8:

As the teaching of the above disciplines occurs solely in the premises of the medical faculty the visitors had limited opportunity to investigate the teaching and assessment of the above disciplines. However, we would question the relevance of much of this to the formation of a dental graduate. We question whether there needs to be the present quantity of information and find it difficult to discern the dental relevance of much of the content. This component could be significantly compressed and the relevant material integrated with the clinical dental curriculum.



Section 9. Preclinical Dentistry

9.1 Dental Morphology, Dental Anthropology and Forensic Dentistry

Person in School who will explain and show this to the visitors:

Name: Dr. Selma Zukav, Assistant lecturer

e-mail:selmas@smartnet.ba

fax: ++ 387 33 44 33 95

1. Introduction

The course *Dental Morphology with dental anthropology and forensic dentistry* is held in the 2nd and 3rd semester. It belongs to the group of pre-clinical dentistry courses. It consists of three parts: - comparative anatomy of man's teeth and those of other vertebrates with an evolutionary survey; -histology, embryology and physiology of teeth and forensic dentistry.

2. Primary Aims

Educate students in the field of anatomy, histology and embryology of teeth with the basics in the evolution of dentition

Familiarize students with dental forensics and use of teeth in dental and DNK analysis

3. Main Objectives

- Teach students the anatomic phenomena on teeth
- Familiarize students with nomenclature of teeth and orientation in the oral cavity
- Provide information in detail on the histological structure of teeth and the support tissue
- Familiarize students with the embryological development of teeth, disruptions in the process and emergence of dental anomalies
- Provide a good grounding so that students can follow clinical courses without much trouble
- Provide an insight into the basics of forensics related to dentistry

4. Hours in the Curriculum

In the second semester there are 15 hours of theoretical instruction and 30 hours of practical instruction while in the 3rd semester there are 30 hours of theoretical instruction and 30 hours of practical instruction.

5. Methods of learning/ teaching

Through lectures students gain theoretical knowledge. The practical part envisages drawing and tooth modelling in wax and also the tooth analysis from their own collection of the extracted teeth, also microscopic work and drawing of their own chiselling and other propagates from histology and embryology of teeth.

6. Methods of Assessment

During instruction students take colloquiums (part-time exams from specific areas covered in the course) while upon the completion of the 3rd semester students take the exam which consists of the theoretical and practical part.



7. Strengths

Gradual introduction of students into the subject matter of this course which is indispensable for following the subsequent clinical courses in later years of their studies.

8. Weaknesses

Big groups of students and lack of equipment (microscopes and other laboratory equipment, computers for presentation, different demonstration models of teeth, teeth lumen, posters etc.)

9. Innovations and «Best Practices»

Establishment of the link of the Department for pre-clinical dentistry on the web page of the faculty where students can obtain information on exam times, course literature and other relevant information..

10. Plans for Future Changes

Introduction of interactive learning via web page where students will be able to find pictures of histological and embryological preparation slices, short questions and answers set for self- assessment of students. Introduce the number of practical classes in dental forensics.

11. Visitors Comments

12. Teaching Staff

Prof. Dr. Sc. Hajrija Konjhodžić Raščić Dr. M.Sc. Amra Vuković, Senior assistant lecturer Dr. Selma Zukić, Assistant lecturer



9.2 Dental Materials

Person in School who will explain and show this to the visitors:

Name: Ass. Dr. Anita Bajsman

e-mail:

fax: ++ 387 33 44 33 95

1. Introduction

The course Materials in Dentistry is held in the 2nd and 3rd year for students of Dental Medicine, namely in the 4th and 5th semester. This course is presented in 15 hours of theoretical instruction (lectures) per semester. The course is designed to familiarize students with basics in dentistry materials.

2. Primary Aims

- Familiarize students with basics in dentistry materials
- Familiarize students with physical, chemical and biological properties of dental materials aimed at instructing them how to select and use them appropriately in dental practice.

3. Main Objectives

- Present in detail and further expand students' knowledge acquired in chemistry, physics and biology which is an indispensable prerequisite for their understanding of the properties of dental materials.
- Students are to learn about dental materials from the standpoint of physical, mechanical, chemical and biological properties.
- Students are to get grounding how to use dental materials appropriately.
- Students are to be taught how to critically assess a range of commercial dental materials;
- Students are to learn how to make the right choice with regard to the use of dental materials.

4. Hours in the Curriculum

IV semester: 15 lectures (1 lecture (45 min) per week

No practical classes

V semester: 15 lectures (1 lecture (45 min) per week

No practical classes

5. Methods of teaching

Lectures, consultations

6. Methods of Assessment

The exam is administered in the form of test which is taken after the completion of lectures. The test consists of 5 questions relating to the general part and 5 questions relating to the specific part of the course subject. The test is designed by lecturers while the administering of the exam is the responsibility of professor in charge of the course subject. Several tests with different questions are set for the term exam dates.


7. Strengths

Continuous contact with students who are offered not only theoretical knowledge but practical know-how to recognize materials used in daily dental practice.

8. Weaknesses

- Practical classes in this course subject are not envisaged by the Curriculum.
- Lack of the adequate textbook.
- The Institute for Materials in Dentistry has still not been established at the faculty.

9. Innovations and Best Practices

Establishment of link of the Department for Pre-Clinical Dentistry on web site of the Faculty where students can find the list of literature and exam dates information.

10. Plans for Future Changes

Introduction of interactive learning via web site of the Faculty (link of the Department for Pre-Clinical Dentistry) where students will find short questions and answers for self-assessment of their knowledge.

Introduce practical classes in the Curriculum.

Complete the adequate textbook for this course.

11. Visitors Team Comments

12. Teaching Staff

- Prof. Dr. Sc. Hajrija Konjhodžić-Raščić, lecturer in charge
- Prof. Dr. Sc. Vladimir Miličević
- Prof. Dr. Sc. Hamid Tahmišćija
- Prof. Dr. Sc. Nadja Bašić
- Prof. Dr. Sc. Sead Redžepagić
- Prof. Dr. Sc. Toško Gojkov
- Prof. Dr. Sc. Azijada Šuljak-Lončarević
- Prof. Dr. Sc. Maida Ganibegović
- Prof. Dr. Sc. Sedin Kobašlija
- Ass. Dr. Anita Bajsman



9.3 Dental Radiography and Radiology

Person in School who will explain and show this to the visitors:

Name: Ass Dr. Nina Marković

e-mail: <u>ninamarkovic@lsinter.net</u>

fax: ++ 387 33 44 33 95

1. Introduction :

The course Dental Radiology is held in 3rd year (6th semester). It belongs to the group of pre-clinical courses at the faculty of dentistry. It consists of two parts : the general part which includes 28 hours (20 lectures and 8 practical classes) held at the Clinic for Radiology and Oncology of Medical Faculty in Sarajevo, and the specialist part which includes 17 hours (10 lectures and 7 practical classes) held in the Department of dental roentgenology at the Faculty of Dentistry in Sarajevo.

2. Primary Aims:

- Educate students in the field of radio diagnostics and radiotherapy
- Educate students in the field of dental techniques of x-ray taking (intra and extra oral) and the interpretation of radiographs.

3. Main Objectives

- Provide grounding in general radiology, radio diagnostics and radiotherapyoverview of classical and contemporary methods;
- Dental apparatuses, films and techniques of x-ray taking;
- Familiarize students with the roentgen cabinet and the work of technicians;
- Analysis and diagnostic of dental radiographs-normal anatomy;
- Analysis and diagnostic of dental radiographs-pathological states;
- Familiarize students with contemporary methods and techniques in dental radiology.

4. Hours in the Curriculum:

- 6th semester- 30 hours of lectures and 15 hours of practical classes :
- General part (general radiology with oncology) :20 hours of lectures and 8 hours of practical classes
- Specialist part (dental radiology) : 10 hours of lectures and 8 hours of practical classes.

5. Methods of Teaching/ Learning

Lectures, demonstration and practical classes

6. Methods of Assessment

General part: oral exam

Specialist part: Colloquium (techniques of x-ray taking); practical part of the exam (diagnostics of radiographs) and the final oral exam.

7. Strengths

The course enables students to master dental techniques of x-ray taking through practical classes but also to get grounding in dental roendgenological diagnostics which helps them to master course contents in clinical dental subjects.

8. Weaknesses



- Insufficient number of hours in the specialist part.
- Lack of equipment to familiarize students with contemporary radiological methods in dental radiology (computerized, digital and ultrasound radiology).
- Lack of dummies for practical classes.

9. Innovations and Best Practices

Individual and group analysis and diagnostics of pathological states combined with therapy planning.

10. Plans for Future Changes

- Increase number of hours in specialist part (dental x-ray diagnostics)

- Upgrade facilities and equipment for theoretical and practical instruction

12. Teaching Staff

Specialist part:

Prof. Dr. Maida Ganibegović- Selimović

Ass. Dr. Nina Marković

General part:

Prof. Dr. Lidija Linceder (professor in charge)



<u>9.4 Dental Propaedeutics</u>

Person in School who will explain and show this to the visitors:

Name: Ass. Dr. Lajla Branković – Hasić

e-mail:<u>lhasic@sf.unsa.ba</u>

fax: ++ 387 33 44 33 95

1. Course

Dental propaedeutics is taught in the II year of the undergraduate studies of dentistry.

2. Primary Aims

The aim of the course is to teach the principles of diagnostic procedures: anamnesis, clinical examination, tests. The course has been designed to provide the student with basic information on the initial treatment procedure, equipment, instruments, and sterilization in dentistry. The main idea of the course was to stimulate the student's interest in clinical disciplines of dentistry and in connecting them to the subjects of general medical curriculum.

3. Main objectives

- To prepare the students for pre-clinical and clinical courses,
- To prepare the students for independent use of the instruments,
- To provide basic guidelines for carrying out the diagnostic protocol,
- To provide guidelines for understanding of various phases of the diagnostic protocol and treatment plan,
- To provide basic knowledge of oral biology (teeth, periodontium, oral mucosa, jaws, salivary glands, tmj),
- To provide basic knowledge of oral pathology (lesions of the oral hard tissues, diseases of the pulp, periodontium, oral mucosa, salivary glands).

4. Hours in the Curriculum

This is a pre-clinical course, and is taught in IV semester – 15 hours of theoretical education.

5. Method of learning/teaching

6. Assessment methods

To test the knowledge gained in their course, a written examination in the form of a test consisting of 9 questions is used. Five correct answers are sufficient for the grade 6, the grade considered a pass; six correct suffice for the grade 7, etc.

7. Strengths

The student's motivation for clinical work and understanding of his future work.

8. Weaknesses

9. Innovations and Best Practices

Video presentations.

10. Plans for future changes

To create a software which would, in the form of a short questionnaire, help the student to find his way in the diagnostic and therapy procedures for the most common diseases treated in a dental clinic.



11. Visitors Comments

12. Staff names, qualifications and email addresses for this Department

- Prof. Dr. Sc. Hamid Tahmišćija E-mail: htahmiscija@sf.unsa.ba
- Prof. Dr. Sc. Halid Sulejmanagić
- Prof. Dr. Sc. Toško Gojkov
- Prof. Dr. Sc. Sead Redžepagić
- Prof. Dr. Sc. Sedin Kobašlija
- Prof. Dr. Sc. Mirjana Malić
- Prof. Dr. Sc. Amira Dedić

Visitors' comments:

The faculty has invested significant effort to provide adequate facilities for the preclinical training. Although the facilities are tidy and well maintained, the large numbers of students make it very difficult at times to secure the necessary training. Further investement would be required in areas such as training with high speed handpieces for restorative preparations.



Section 10-15. Clinical Dentistry

10.1 Orthodontics

Person in School who will explain and show this to the visitors:

Name: Prof.Dr. Dalija Demirović

e-mail: <u>ddemirovic@sf.unsa.ba</u> or <u>librdent@utic.net.ba</u>

fax: ++ 387 33 44 33 95

1. Introduction:

This course is held in three semesters (VII, IX, X). The theoretical instruction is held in the 8th semester with the total of 30 teaching hours per semester (2 hours per week).Practical instruction is held in the 8th, 9th and 10th semester. In 8th semester there is a course of practical instruction through pre-clinical practical exercises while in the 9th and 10th semester clinical exercises are held and seminar courses are arranged.

2. Primary Aims:

- Education process should enable students to:
- Detect in due time dental-facial defects
- Distinguish between more severe (functional) and less severe (aesthetic) defects
- Act in a preventive manner
- Apply interceptive measures and some moveable apparatuses within the range of these measures

3. Main Objectives:

- familiarize students with the subject matter of Orthodontics
- familiarize students with growth and development of cranio-facial structures
- familiarize students with etiology of dental-facial defects
- familiarize students with biomechanics in orthodontics
- familiarize students with diagnostic protocol and the respective therapy plan principles
- familiarize students with normal functions of oral-facial system and its dysfunctions
- systematize dental-facial defects
- familiarize students with measures and possibilities of interceptive orthodontics
- familiarize students with different kinds of orthodontics therapy
- familiarize students with different kinds of manufacturing of orthodontic apparatuses (mobile and fixed)

4. Hours in the curriculum (clinical part):

IX semester : clinical exercises 2 hours per week

- treatment of patients
- diagnostic protocol
- planning of therapy
- application of apparatuses

X semester : clinical exercises...... 2 hours per week



- treatment of patients
- diagnostic protocol
- planning of therapy
- application of apparatuses

5. Methods of learning / teaching:

- Lectures......VIII semester
- Seminar assignments......VIII, IX and X semester
- Pre-clinical practical classes......VIII semester
- Clinical exercises.....IX and X semester

6. Methods of Assessment

Model analysis for detection of morphological variations (8th semester) and knowledge test

Student treats a patient and s/he are required to make a diagnosis and plan treatment therapy (integrated treatment); His/her work is supervised by the assistant lecturer.

Student has to hand in an apparatus, active tablet or a functional apparatus. This, again is supervised by the assistant lecturer.

Knowledge test.

7. Strengths:

Synthesis (balance) between theoretical and practical work

A wide range of pathological conditions in different patients

8. Weaknesses:

- A great number of students in a group
- Difficulties in further monitoring of treatment therapy
- Relatively insufficient number of hours for theoretical instruction

9. Innovations and « Best Practice»

- Focus on interceptive orthodontics
- New method for space restitution after extraction of the first permanent molar teeth

10. Plans for Future Changes:

- Organize smaller groups of students
- Introduce Orthodontics course in the 7th semester
- Provide better technical possibilities such as tele-roentgen, computer analysis etc. for a better insight into the complexity of oral-facial system and its functioning
- Further monitoring of treatment results

11. Visitors team report

12. Teaching staff with e-mail address of Department:

Prof. Dr. Sc. Dalija Demirović, specialist in orthodontics e-mail: <u>ddemirovic@sf.unsa.ba</u>

- Ass. Dr. Samra Šalaga, assistant lecturer
- Ass. Dr. Enita Nakaš, assistant lecturer
- Ass. Dr. Vildana Džemidžić, assistant lecturer
- Ass. Dr. Alisa Bandić, assistant lecturer



9.2 Paediatric Dentistry

Person in School who will explain and show this to the visitors:

Name: Ass. Dr. Amra Muratbegović

e-mail: muratbey@bih.net.ba

fax: ++ 387 33 44 33 95

1. Introduction

The course *Paediatric Dentistry* is organized in two semesters. It consists of theoretical and practical part. The practical part is carried out as work with patients and it is held once a week- 2 classes (2X45 min) per week. The theoretical part is carried out in the form of lectures. It is organized once a week – 2classes (2X45 min).

In the 9th semester students get theoretical grounding and they learn approaches how to work with children patients in accordance with dental practice in our country for this age of patients. In the 10th semester students are trained to work with medically troubled child patients, pregnant women and also for a more demanding treatment of deciduous teeth and the treatment of permanent teeth.

2. Primarni ciljevi

Train students to recognize and treat pathological conditions in patients of child age with a particular focus on prevention.

3. Main objectives

- Development of teeth
- Child development and the corresponding approach of the dentist.
- Premedication and anaestesia
- Preventive measures (primary, secondary, terciary)
- Restorative dentistry and endodontics
- Medical enlightenment of children, parents and educators

4. Number of hours in the Curriculum

9t semester- 30 classes of theoretical instruction and 30 classes of practical instruction.

10th semester- 15 classes of theoretical instruction and 30 classes of practical instruction

In practical classes a student spends 50% of time working with a patient and 50% of time assisting his colleague.

5. Methods of teaching/ learning

Lectures, individual practical work with patients supervised by the assistant lecturer, demonstration on models how to place copherdams and confectionary crowns on deciduous teeth; work with special needs children, lectures in nursery schools and primary schools.

6. Methods of assessment

Colloquial exam during the course duration, exam for the practical part of the course and the final oral exam.



7. Strengths

Since the general state of dental care in our patients is not at the enviable level, during practical classes students get to see a range of pathological conditions in child patients. They acquire the ability to diagnose a pathological condition, plan treatment and bring decisions how to proceed with treatment and cure diseases of child patients of different ages.

8. Weaknesses

Poor provision with materials and technical equipment indispensable in contemporary diagnostic and treatment methods in dentistry.

Lack of cooperation with prosthodontics departments.

Lack of surgeries for assistant lecturers.

9. Innovations and "best practices"

Use of computer equipment for theoretical instruction.

Students get a new patient in each practical clAss. The number of practical classes completed by the student is entered into a special register book. The required number of patients is a precondition for authorisation of the respective semester..

10. Plans for future changes

Upgrading of equipment and materials used for practical classes with students.

Setting up the prosthetics laboratory designed to meet the needs of child dentistry department.

12. Teaching staff

Prof. Dr. Maida Ganibegović Selimović

Prof. Dr. Sedin Kobašlija

M.Sc. Dr. Amina Huseinbegović (senior assistant lecturer)

M.Sc. Dr. Mediha Selimović Dragaš (senior assistant lecturer)

M.Sc. Dr. Nina Marković (assistant lecturer)

M.Sc. Dr. Amila Zukanović (assistant lecturer)

M.Sc. Dr. Amra Muratbegović (assistant lecturer)

10.3 Public Dental Health and Prevention

Person in School who will explain and show this to the visitors:

Name: Dr. Amila Zukanović, Assistant lecturer

e-mail: migulin@lsinter.net

Fax: ++ 387 33 44 33 95

1. Introduction

Instruction in the course-Prevention Dentistry- is held in the 8th semester (fourth year).

The theoretical part of instruction-45min lectures are held once a week.

The practical part of instruction is based on 2 hours per week.

Due to the importance of prevention dentistry with regard to preventing oral diseases the course-Prevention Dentistry- is studied as a special one- semester course.

2. Primary Aims

Educate students of dentistry to plan and implement preventive dental measures.

3. Aims and Objectives

- Familiarize students with importance and aims and objectives of prevention dentistry
- Teach students the basics of prevention dentistry (primary, secondary and terciary prevention)
- Educate students about preventive measures in dentistry
- Educate students to plan preventive programmes and projects (both individual and population-based)
- Educate students to practically imply and carry out all preventive dental measures

4.Hours in the Curriculum/Syllabus

Number of hours in theoretical instruction (lectures) for the subject Prevention Dentistry-15 hours

Number of hours in practical instruction (practical classes) for the subject Prevention Dentistry- 30 hours

Since this subject envisages work with patients, students spend 2 hours per week working with patients.

5. Method of learning/ teaching

Lectures, demonstration, practical classes, lectures in schools and nursery schools

6.Methods of Assessment

Colloquium exam during instruction, practical exam and oral exam (final exam)

7. Strengths

- Work with a great number of patients
- Work with specific patient groups (special needs children, pregnant women etc)
- Field work (schools, nursery schools, institutions for special needs children)

8. Weaknesses

Lack of harmonization of health care policy with the curriculum and needs of prevention dentistry

9. Innovations and Best Practices



Implementation of prevention measures in accordance with world trends in dentistry.

10. Plans for Future Changes

Increase number of hours of health education classes in nursery schools and schools. Promotional campaigns of dental health through media and education institutions.

12. Teaching Staff

Prof.Dr. Maida Ganibegović - Selimović

Prof. Dr. Sedin Kobašlija

Senior Ass. Dr. Amina Huseinbegović - Čengić

Senior Ass. Dr. Mediha Dragaš - Selimović

Ass. Dr. Amra Muratbegović

Ass. Dr. Nina Marković

Ass. Dr. Amila Zukanović



Section 11: Restorative Dentistry

11.1 Dental Pathology with Endodontics

Person in School who will explain and show this to the visitors: Name: MSc. Dr. Mubera Sarajlija e-mail: <u>msarajlija@sf.unsa.ba</u> Fax: ++ 387 33 44 33 95

1. Course

The course *Dental Pathology with Endodontics* is taught through seven semesters, and is consisted of pre-clinical and clinical parts. Theoretical classes are taught in IV, V, VI, VII and VIII semesters, while practical exercises are conducted from IV to X semester. Lectures cover introduction in history of dental pathology, developmental and morphologic anomalies of hard dental tissues, etiology, epidemiology and prevention of dental caries, physical and chemical aspects, as well as clinical aspects of a carious lesion. Principles of cavity preparation and use of dental materials for cavity filling are taught in detail. Later, the students are taught physiology, pathology, diagnostics and therapy of pulpal and periodontal diseases.

2. Primary Aims

The aim of the exercises is to train the students for work with patients. From the beginning, the students are involved in preparation and making of cavities on models and phantoms, their lining and filling with permanent materials. Further aims are to provide necessary knowledge for independent treatment of caries in patients, for diagnosis and therapy of pulpitis, and for contemporary therapy of infected root canal.

3. Main objectives

- Methods of caries detection,
- Treatment of carious lesion using restorative materials (dental amalgam, composites, glass ionomer cement),
- Indication for use and application of various restorative materials,
- Biology and development of pulpal and periapical diseases,
- Pathology of the pulp and periapical region including pathology of inflammation,
- Diagnosis of endodontic diseases,
- Therapy of the vital pulp,
- Procedures of preparation, treatment and filling of the root canals.

4. Hours in the Curriculum

Lectures:

IV - VIII semesters: lectures in pre-clinical and clinical restorative dentistry and endodontics:

IV –VII semesters: (2 hours weekly, 30 hours by semester, total 120 hours),

VIII semester: (1 hour weekly, total 15 hours),

IX and X semesters: no lectures.

Exercises:

IV semester: pre-clinical exercise room – morphology and preparation of cavities of I, II, III, IV and V class by Black on plaster models

IV semester: 30 exercise hours.



V and VI semester: pre-clinical exercise room - preparation of cavities of class I, II, III, IV and V by Black, cavity lining and filling on the phantoms,

V semester: 30 exercise hours VI semester: 30 exercise hours

VII and VIII semesters – clinical exercise room – restorative dentistry

VII semester: 45 exercise hours

VIII semester: 60 exercise hours

IX and X semester – clinical exercise room – endodontics

IX semester: 60 exercise hours X semester: 75 exercise hours

VII-X semesters: work with patients 4 hours weekly.

5. Method of learning/teaching

- IV and V semester: morphology of cavities on plaster models
- VI semester: preparation of cavities with lining and filling on phantoms
- VII semester: colloquium in cariology with presentation of work with patients and the working unit, followed by the student's independent work under the supervision of the assistant.
- VIII semester: independent work with the patient under supervision of the assistant. Demonstration of the endodontic treatment procedures on the extracted teeth (4 hours); later, the students exercise endodontics on extracted teeth (4 hours), followed by a colloquium on endodontics.
- IX and X semesters: within the clinical exercises, the students make fillings using composites and amalgam, and treat deep caries and exercise endodontic treatments under the supervision of the assistant.

6. Assessment methods

- Colloquium on cariology and endodontics which is graded with 5-10; the grade is taken into account in the final examination,
- Each phase of the student's work both in the preclinical and clinical exercise is supervised by the assistant; successfully finished work is being recorded in a student booklet,
- Definite number of works in restorative dentistry and endodontics is required for taking the final examination,
- I class -10; II class -10; III class -10; IV class -1 to 2; V class -5 and three endodontic works,
- The final examination is taken after completion of X semester. It consists of a practical and theoretic part. First, the practical part is being taken including: examination and inspection of oral hard tissues, preparation and filling of cavities, diagnosis and therapy of the pulp and periodontium, followed by the theoretical examination of the whole subject matter.

7. Strengths

The students work on patients with various pathologies from VII to X semester.

8. Weaknesses

The great number of the students, insufficient number of assistants, inadequate conditions for endodontic treatment (koferdam, suager), and insufficient quantity of disposable materials.



9. Innovations and Best Practices

The use of modern apex locator, demonstration of contemporary techniques for filling of root canal, video presentations with lectures.

10. Plans for future changes

Introduction of new technologies into work and practical exercises (RVG, koferdam).

11. Visitors Comments

12.Staff names, qualifications and email addresses for this Department

Prof. Dr. sci Hamid Tahmišćija – head of Department for Dental Pathology and Endodontics E-mail: <u>htahmiscija@sf.unsa.ba</u>

Prof. Dr. sci Nađa Bašić - head of Clinic for Dental Pathology and Endodontics E-mail: nbasic@sf.unsa.ba

Senior Assistant Dr. Mubera Sarajlija Assistant Dr. Alma Prcić Assistant Dr. Lajla Branković- Hasić

Collaborators:

Prim Dr. Sabira Čengić Dr. Fahrudin Mucić



<u>11.2 Fixed Prosthodontics</u>

Person in School who will explain and show this to the visitors:

Name: Dr. Emir Berhamović, assistant lecturer

e-mail: berhamov@bih.net.ba

Fax: ++ 387 33 44 33 95

1. Introduction

Fixed prosthodontics is a course studied in the field of dental prosthodontics within the Department for dental prosthodontics. The course is divided into two parts: pre-clinical fixed prosthodontics and clinical fixed prosthodontics.

Pre-clinical fixed prosthodontics is held in 6th semester. The number of lectures- 30 lectures per semester. The number of practical classes- 60 practical classes per semester.

The theoretical instruction takes place in the lecture hall while the practical classes are held in the practical classes cabinet.

Clinical fixed prosthodontics is held in 9th and 10th semester. Hours in the curriculum: 15 lectures per semester: 60 hours of practical classes. This course subject is covered by the total of 60 hours of lectures and 120 hours of practical classes for two semesters.

This course is focused on teaching students the basic and indispensable knowledge in the field of fixed prosthodontics corresponding to the course curriculum and syllabuses in other countries of the world.

2. Primary Aims

- To provide students with theoretical grounding and the survey of literature in this particular field.
- To help students master practical skills in the field of pre-clinical and clinical fixed prosthetics that will be applicable in practice.

3. Main Objectives are to:

- Ensure basic conditions for realisation of instruction both for graduate and postgraduate students
- Realise theoretical instruction in the field of fixed prosthodontics
- Realise practical classes in the field of fixed prosthodontics
- Ensure additional consultation hours for students
- Ensure the adequate equipment for the realisation of the curriculum
- Train students to provide adequate services to patients and encourage them to continue with postgraduate studies.

4. Number of hours in the curriculum:

Pre-clinical part: 30 hours of lectures and 60 hours of practical classes

Clinical part: 15 hours of lectures and 60 hours of practical classes in 9th semester; 15 hours of lectures and 60 hours of practical classes in 10th semester.

Students work with patients 3 hours per week.

5. Methods of teaching/ learning

- Multimedia presentations
- Lectures for theoretical instruction and videopresentations for practical instruction
- Work on dummies s in practical classes; individual presentation
- Work with patients; individual presentation



6. Methods of Assessment

- Work with patients and its assessment for the practical part of the exam
- Oral exam

7. Strengths

- Presentation of lectures with contemporary electronic aids
- Work on dummies
- Elaboration of all prosthetic works in the field of fixed prosthodontics
- Education in the field of implantology

8. Weaknesses

- Obsolete equipment in the clinic
- Financial dependence on the state budget for purchase of equipment and study trips abroad
- Understaffing

9. Innovations and "Best Practices "

- Work on dummies
- Multimedia presentations
- Video presentations for practical instruction

10. Plans for future changes

Upgrade the existing equipment

Purchase new equipment

Harmonize the overall instruction with world standards in this particular field of study.

11. Visitors Comments

12. Teaching Staff

Prof. Dr. Sc. Sead Redžepagič, e- mail : protetik@bih.net.ba

Dr. Emir Berhamović, assistant lecturer

Dr. Lejla Dautović -Kazazić, assistant lecturer

Dr. Alma Gavranović - Glamoć, assistant lecturee



11.3 Removable Prosthodontics

Person in School who will explain and show this to the visitors:

Name: Prof Dr. Sc. Azijada Šuljak Lončarević,

Dr. Muhamed Ajanović, Assistant lecturer

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Fax: ++ 387 33 44 33 95

1. Introduction

The course Removable Dental Prosthodontics is held in 3 semesters and it consists of lectures, seminars and practical classes (demonstration method is used and conducted by assistant lecturers and students).

- **A.** Pre-clinical education in mobile prosthetics: introduction into clinical and lab stages of work. Practical classes are conducted on dummies (the fifth semester).
- **B.** Total toothlessness. Total prosthesis (lectures, seminars, practical classes with patients in the clinic (the seventh semester).
- **C.** Partial toothlessness. Construction of mobile partial prostheses: lectures, seminars, practical classes with patients in the clinic

2. Primary Aims

- To familiarize students with the anatomy and physiology of the teeth and the subsequent changes that occurs in total and partial toothlessness and the basis of the temporomandibular articulation and its dysfunctions (aetiology, pathophysiology, diagnostics and prosthetic therapy;
- To train students through the construction stages of mobile prostheses (total and partial) for manual skills in prosthodontics ;
- To enable students to gain theoretical knowledge indispensable for work with patients.

3. Main Objectives

- To teach the foundations in anatomy and basic functions of the dental system.
- To teach the foundations of dental mobile prosthodontics and dental materials used in dental mobile prosthodontics both in the pre-clinical and clinical stage.
- To familiarize students with the appropriate materials used in dental prosthetics.
- To familiarize students with the construction phases, design principles and the construction of partial prosthesis.
- To help students gain the experience in using the dental equipment and materials used in mobile prosthetics.
- To help students gain the basic knowledge about disorders of temporomandibular articulation
- To familiarize students with occlusion



4. Hours in the Curriculum

- **A.** Preclinical education of students in Removable Dental prosthodontics is held in the fifth semester.
 - Lectures: 30 hours.
 - Demonstration work: 5 hours.
 - Practical work of students supervised by assistant lecturers: 60 hours. (Work on dummies).
 - TOTAL HOURS: 90.
- **B.** Clinical education of students in Removable Dental Prosthodontics total toothlessness and total dental prosthesis is held in the seventh semester in the clinic.
 - Lectures: 15 hours.
 - Demonstration and lab 15 hours
 - Seminar work: 15 hours.
 - Practical work of students supervised by assistant lecturers: 60 hours (4 hours per week).
 - TOTAL HOURS: 105.
- **C.** Clinical education of students in Removable Dental Prosthetics. Partial toothlessness and partial dental prosthesis is held in the 8th semester at the clinic.
 - Lectures: 15 hours.
 - Demonstration and laboratory work: 15 hours
 - Seminar work: 15 hours.
 - Practical work of students supervised by assistant lecturers: 60 hours (4 hours per week).
 - TOTAL HOURS: 105.

5. Methods of learning/teaching

The fifth semester:

Pre-clinical education of students in this course is focused on theoretical and practical knowledge. Contemporary audio-visual aids are used in lectures. Demonstration is carried out by assistant lecturers on dummies. Slide projection is also helpful. The focus is on practical application of theoretical knowledge gained in the course.

The 7th semester:

In the seventh semester students are tested to check whether they have mastered the area of pre-clinical education in the course. The foundations of diagnostics of temporomandibular disorders and occlusion are presented in this semester.

The 8th semester:

In this semester students are given an opportunity to apply in practice the knowledge gained beforehand and also a chance to do the prosthetic reconstruction by combining fixed and mobile partial prostheses. A special focus is placed on metal constructions of partial prostheses, caries in periodontal prophylaxis, occlusion and diagnostics of temporomandibular abnormalities.

6. Assessment

In the course of pre-clinical education students are required to make two total prostheses and one to two partial prostheses. In the seventh and 8th semester each stage in the student's work is observed and assessed by assistant lecturers. After the



completed course the student takes up the exam which lasts for three days. It consists of the practical and theoretical part. The practical work is carried out in two days and it successful completion is a prerequisite for the oral exam (testing theoretical knowledge). The mark grid is between 5 (fail grade) and 10 (the highest mark). Both professors and assistant lecturers are present in the oral exam in order to ensure objective assessment.

7. Strengths

A systematic approach to teaching, the use of audiovisual aids in lectures, combination of teaching methods (demonstration, explanation, practical work), which enable students to gain theoretical knowledge and manual skills. A great number of practical classes is vital and it enables students to make mobile prostheses successfully upon completion of three semesters.

8. Weaknesses

Oversize classes, particularly in clinical practical exercises (one assistant lecturer supervises 13-18 students).

Inadequate facilities in the classrooms for practical exercises with only 6 outdated chairs.

Inadequate equipment in the laboratory

Lack of appropriate materials used in mobile prosthetics.

9. Innovations and «Best Practices»

- Focus is placed on further enhancement of knowledge on temporomandibular articulation dysfunctions, particularly with respect to stress and the application of the same in therapy treatment.
- To improve work in the field of aesthetic dentistry
- To gain a better theoretical knowledge on possible combinations of mobile prostheses with implants.

10. Plans for future changes

- Reconstruction of laboratory
- Purchase of the new equipment
- Educate younger colleagues and enable them to go on study trips
- Exchange of experiences with colleagues from other European universities
- Joint efforts to prevent and preserve dental health, particularly of patients with mobile and fixed prostheses or their combination with implants.



<u>11.4</u> Occlusion and Function of the Masticatory System.

Included into Prosthodontics and Periodontology.

Section 12: Periodontology

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Mirjana Malić

e-mail: librdent@utic.net.ba

Fax: ++ 387 33 44 33 95

1. Introduction

Periodontology is taught as an independent subject through three semesters (VIII, IX and X). The course comprises theoretical lectures and practical exercises.

2. Primary aims

The students should be able to recognise and diagnose the different types of periodontal diseases and should be able to treat them preventively and/or invasively (deep scaling and root planning) according to the pathologic symptoms. They should be familiar with more advanced treatment modalities.

3. Main objectives

- Development, anatomy, physiology of the periodontal structures
- Etiology and pathogenesis of periodontal diseases (microbiology, host response, risk factors)
- Epidemiology of periodontal disease
- Periodontal diseases and systemic disorders
- Diagnosis of gingival and periodontal diseases (clinical and radiographic methods, indices)
- Prophylaxis of gingival and periodontal diseases
- Therapy of gingival and periodontal diseases :
 - treatment planning, strategic approach
 - hygienic phase (professional plaque control) •
 - occlusal adjustment, splitting
 - corrective phase (deep scaling and root planning)
 - methods of periodontal surgery •
 - regenerative techniques
 - antimicrobial chemotherapy •
 - Maintenance phase: supportive periodontal therapy (i.e. recall)
- Principles of plastic, mucogingival and preprosthetic surgery

4. Hours in curriculum

Theoretical knowledge

Periodontology I

Embryology, biology, etiopathogenesis, epidemiology 30 h

Periodontology II

IX semester Clinical manifestations of different types of gingivitis and periodontal diseases and diagnostic methods 15 h

Clinical exercises 30 h

(students perform intra-oral examinations and preventive treatments: OH and supragingival root cleaning)

VIII semester



Periodontology III

X semester

Initial phase of therapy: student has to perform systemic periodontal examination and treatment including the hygienic phase, professional plaque control, occlusal adjustment and corrective phase (scaling and root planning) **15 h**

Each student is responsible for: 5 patients – diagnostic procedure;

- 2 patients complete initial th.
- 2 patients subgingival curetage
- 2 patients occlusal diagnosis
- 2 patients occlusal adjustment

5. Method of learning/teaching

Lectures, practical demonstration, hands-on-training, clinical treatment while being instructed.

6. Assessments Methods

Written examination - study case (after IX semester)

Final examination (after X semester):

a) practical/clinical skills

diagnostic procedures, clinical evaluation, diagnosis and plan of therapy,

initial therapy

b) theoretical knowledge - oral examination

7. Strengths

- Individual work of the students with a patient
- Possibilities of performing diagnostic procedures and initial phase of treatment

8. Weaknesses

- Insufficient number of practical clinical exercise
- Periodontal examination is limited to traditional diagnostic methods
- Students are not involved in assistance during periodontal surgery

9. Innovations

New facilities for clinical exercises will make these exercises more adequate.

10. Plans for future changes

Hands-on-training on the phantom head to learn conventional access surgery, as well as modern periodontal regenerative techniques

12. Staff

- 1. Prof. Dr. Sc. Amira Dedić Heald of the Department of Oral Medicine and Periodontology, Professor, specialist in Oral medicine and periodontology
- 2. Prof. Dr. Sc. Mirjana Malić Full professor, specialist in Oral medicine and periodontology
- 3. Ass. Dr. Enes Pašić Specialist in Oral medicine and periodontology
- 4. Ass. Dr. Sanja Hadžić Specialist in Oral medicine and periodontology
- 5. Ass. Dr. Mirjana Gojkov Doctor of Dental medicine



Section 13: Oral Surgery

13.1 Oral Surgery

Person in School who will explain and show this to the visitors: **Name:** M.Sc. Dr. Samir Prohić, senior assistant lecturer **e-mail:** <u>sprohic@utic.net.ba</u> **Fax:** ++ 38733214259

1. Introduction

The course Oral Surgery is held in the 6th, 7th, 8th, 9th and 10th semester. Students of 6th semester listen only to theoretical instruction- 1 hour per week (15 hours per semester). In this semester students get basics in the techniques of applying local anaesthesia and in extraction of the teeth. Students of the 7th and 8th semester attend practical classes in addition to theoretical instruction. Practical instruction implies work with patients. Students of 9th and 10th semester have only practical instruction.

2. Primary Aims

Familiarize students with basic principles of oral surgery so that they can gain theoretical and practical knowledge in this field.

Enable students to master practical skills in the field of oral surgery with a particular focus on techniques of applying local anaesthesia, tooth extraction and diagnostics of surgical treatment with patients who need such treatment.

3. Main Objectives

- Acquire theoretical and practical knowledge in the following areas:
- Local anaesthesia and possible complications, techniques of applying anaesthesia
- Tooth extraction and possible complications; extraction techniques
- Urgent cases in oral-surgical practice
- Odontogenous infections with apicotomy
- Tooth impacts
- Cysts and tumors in oral-facial region
- Traumatic injuries to the dental-alveolar system
- Pre-prosthetics surgery
- Pathology of maxillary sinus
- Gingivectomy

4. Number of hours in the curriculum:

- 6th semester-15 hours of theoretical instruction (1 hour per week).
- 7th semester-15 hours of theoretical instruction and 45 hours of practical instruction per semester (1+3 hours per week)
- 8th semester- 15 hours of theoretical instruction and 30 hours of practical instruction per semester (1+2 hours per week)
- 9th semester-30 hours of practical instruction per semester (2 hours per week)
- 10th semester- 30 hours of practical instruction (2 hours per week)



It means that in their fourth year students spend 2,5 hours per week working with patients (their work is supervised) while in their fifth year they spend 2 hours working directly with patients. (their work is again supervised).

5. Methods of learning/teaching

In the 6th semester, in addition to lectures, students get pre-clinical information on dummies and skull to facilitate their acquisition of knowledge of anaesthesia and tooth extraction techniques .In the 7th and 8th semester, besides theoretical instruction, students are trained how to work with patients under strict supervision. Only after passing partial exam students are allowed to work with patients but under supervision. In 9th and 10th semester students attend only practical classes. By curriculum/ syllabus each student is requested to have 10 extractions and 10 applications of local anaesthesia. This is entered into the student's booklet as well as the attendance hours of each student in the operating theatre where his / her role is that of an assistant. According to the syllabus requirements, students of the final year (5th year) must attend and assist in the operating theatre during everyday operating interventions which involve various pathological conditions.

As for theoretical instruction, there is a power-point presentation for each methodological unit with an overview of clinical cases. As for practical instruction, students are presented different techniques on dummies and skulls.

6. Methods of assessment

After the 6th semester students take the partial written test. After having successfully completed this written test, students are allowed to work with patients. After completing the 10th semester and meeting the curriculum requirements in respect of the number of extractions and local anaesthesia application, students take the final exam which consists of two parts:

Practical instruction- student's practical work with a patient is assessed. Its successful completion is a prerequisite to take the exam in theoretical knowledge of the subject matter which is administered in the form of the oral exam which assesses the level of knowledge of a respective student.

7. Strengths

Due to the low level of the overall dental health care, students are never short of patients so that they can meet the curriculum requirements in respect of the number of extractions. In turn, this enables us to organize practical instruction at a high level.

8. Weaknesses

Student-teacher ratio is not conducive to a high- quality instruction, both in theoretical and practical respect. Students are divided into very big groups and this affects the overall teaching process.

Lack of equipment for applying general anaesthesia.

9. Innovations and "Best Practices"

All lectures are accompanied by power-point presentations. There is a direct link from the operating theatre so that various operative interventions are presented in live on the amphitheatre monitors. If there is a need, this link can be activated when more advanced courses are organized.

10. Plans for Future Changes

In the near future the Department for Oral Surgery will get new premises with ten working seats for practical instruction.



The purchase of anaesthesiological equipment for applying general anaesthesia has been planned for our clinic and the budget has already been approved by the Government.

11. Visitors team comments

12. Teaching Staff :

Prof. Dr. Sc. Halid Sulejmanagić,Professor, Head of the Clinic Prof. Dr. Sc. Toško Gojkov., Associate Professor, Head of the Clinic M.Sc. Dr. Samir Prohić, Senior Assistant Lecturer M.Sc. Dr. Sadeta Šečić, Senior Assistant Lecturer Dr. Naida Sulejmanagić, Assistant Lecturer Dr. Slobodan Trninić, Assistant Lecturer e-mail: <u>usbih@bih.net.ba</u>



<u>13.2</u> Dental Implantology

Person in School who will explain and show this to the visitors:

Name: M.Sc. Dr. Samir Prohić, senior assistant lecturer

e-mail: sprohic@utic.net.ba

Fax: ++ 38733214259

1. Introduction

The course Dental Implantology is held in the 9th semester (fifth year) in the form of theoretical instruction.

2. Primary Aims

To familiarize students with basics in dental implantology and contemporary methods with regard to dental implants. This course enables students to get an insight into the interdisciplinary approach to the problem of dental implants so that they could assess correctly in their later practical work the possibilities of their application with the aim of resolving partial or complete toothlessness.

3. Main Objectives

- Familiarize students with the following teaching units:
- Selection of patients for dental implantology including anatomy.
- Implantation team
- Surgical phases in dental implantology-techniques
- Surgical techniques- sinus-lift operation
- Prosthetic indications in dental implantology
- Phases of prosthetic elaboration
- Kinds of prosthetic works in dental implantology
- Periodontal aspect of dental implants

4. Hours in the Curriculum:

Number of hours in the curriculum: 15 hours of theoretical instruction per semester (1 hour per week)

5. Methods of learning/teaching:

- theoretical instruction accompanied by power-point presentation and video demonstration of various techniques of surgical implanting and also making of supra-constructs in dental implantology.

6. Methods of Assessment:

- after completion of theoretical instruction students take the exam which is administered in the form of oral exam.

7. Strengths:

Students are given an opportunity to gain grounding on dental implants in this undergraduate course which was not a case with previous undergraduates who did not have a chance to attend this course.



8. Weaknesses:

The economy in our country is in dire circumstances, and as a result, the number of patients who have dental implants built in has been drastically reduced, and this, in turn, makes it more difficult for teachers to show to their students in practice what has been taught in theory.

9. Innovations and "Best Practices":

All lectures are accompanied by power-point presentations. During lectures the students are shown the original software programme created in our Department for screening and monitoring the clinical parameters in patients with dental implants. In our Department we have also created the original carriers for animal preparation of bones which simulate the surgical work on the patient.

10. Plans For Future Changes:

In the future we expect the economic situation in our country to improve, and respectively, of our citizens, so that we may have a higher number of dental implants, and consequently, the opportunity to provide a better practical instruction for our students.

11. Visitors team comments

12. Teaching Staff :

Prof. Dr. Sc. Halid Sulejmanagić, Professor, Head of the Clinic Prof. Dr. Sc. Sead Redžepagić, Head of the Clinic for Prosthodontics Prof. Dr. Sc. Toško Gojkov., Associate Professor, Head of the Clinic M.Sc. Dr. Samir Prohić, Senior Assistant Lecturer M.Sc. Dr. Sadeta Šečić, Senior Assistant Lecturer Dr. Emir Berhamović, Assistant lecturer Dr. Naida Sulejmanagić, Assistant Lecturer Dr. Slobodan Trninić, Assistant Lecturer e-mail: <u>usbih@bih.net.ba</u>



<u>13.3 Maxillofacial Surgery</u>

Person in School who will explain and show this to the visitors:

Name: Prof Dr. Senija Dautović

e-mail: mfh@bihnet.ba

Fax: ++ 387 33 66 43 28

1. Introduction

The course Maxillary-Facial Surgery is held in 9th and 10th semester. The theoretical instruction is held in 9th semester while practical instruction is held in 9th and 10th semester. The theoretical instruction covers 30 hours. The practical instruction covers 45 hours. Instruction in this course is continuous.

2. Primary Aims

Through theoretical and practical instruction provide students with grounding in maxillary-facial surgery.

3. Main Objectives

To realise the syllabus of theoretical and practical instruction this includes the following:

- Traumatology (Injuries of soft and bone tissues in the maxillary-facial region and their surgical treatment)
- Inflammatory processes in the maxillary-facial region (etiology, prevention, pathogenesis, diagnostics and therapy)
- Tumours and cysts (benignant malign tumours, etiopathogenesis, clinical picture diagnostics and therapy)
- Nerve diseases (neuralgia, anaesthesia, hypoesthesia, nervus facialis paresis)
- Orthogenetic surgery (inborn and acquired anomalies of the facial bones

Planning and preparation of the patient for surgical treatment).

- Inborn splits of lips and the palate (etiology, classification and methods of surgical treatment).
- Diseases of salivary glands (acute and chronic inflammations, sialokalkulosis- syndromes, etiology, clinical picture, diagnostics and therapy).
- Diseases of temporomandibular articulation (inflammation, arthrosis, subluxations, luxations, ankilosis, etiology, clinical picture, diagnostics and therapy).

4. Number of Hours in the Curriculum

This course covers 30 hours of theoretical instruction held in 9th semester and 45 hours of practical instruction which is carried out in the 9th and 10th semester involving the work with patients. In other words the course covers 2 hours of theoretical instruction and 1 hour of practical instruction per week in 9th semester while in 10th semester it covers 3 hours of practical instruction per week.



5. Methods of Teaching/Learning

Theoretical instruction is carried out by the use of audiovisual aids (slides, OHP, CD presentation. Practical instruction implies performing different kinds of immobilisation, observing surgical interventions in the operating theatre and practical instructions how to use the surgical needle.

6. Method of assessment is continuous followed by the final exam at the end of this course..

7. Strengths

Continual work with patients (establishing medical history of patients, check-ups), attendance of surgical interventions in the operating theatre.

8. Weaknesses

Oversize groups make it difficult for students to follow practical instruction.

9. Plans for Future Changes

Introduce the use of distractors and new methods of restorative surgery. Apply a contemporary approach to patients with cancer.

10. Create better facilities in respect of premises, equipment in order to enhance the quality of instruction

11. Visitors Comments

12. Teaching Staff

- 1. Prof Dr. Sc. Senija Dautović
 - 2. Prof Dr. Sc. Hasan Piranić
 - 3. Prof Dr. Sc. Halid Hujić
 - 4. Dr. Sc. Redžep Dizdarević, Lecturer
 - 5. Dr. Sc. Amer Smajilagić, Assistant lecturer
 - 6. mr Sc. Faris Fočo, Assistant lecturer
 - 7. Associates : Dr. mr Sc. Tarik Mašić
 - 8. Dr. Irma Ramović
 - 8. Senior medical nurse- technician
 - Ševala Smajlović

e mail areas of this clinic : <u>mfh@bihnet.ba</u>



Section 14: Oral Medicine

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Mirjana Malić

e-mail: libradent@utic.net.ba

Fax: ++ 387 33 44 33 95

1. Introduction

Oral medicine is a separate subject which is taught in VIII, IX and X semester. The course comprises theoretical lectures and practical exercises.

2. Primary aims

To educate students about various clinical entities in the oral cavity: macromorphological and histopathological characteristics, subjective symptoms, etiopathogenesis, clinical and therapeutical approaches to numerous pathological processes with oral manifestation; local disturbances or various types of oral infections; oral manifestations of systemic diseases; localised oral tissue alterations which may cause pathological influence on entire organism, as well as diagnostic procedures and therapeutic modalities.

3. Main objectives

- histomorphological and physiological characteristics of the oral mucosa
- defense factors of the oral cavity and oral flora
- efflorescence of the oral mucosa
- hereditary and developmental anomalies of the oral cavity
- mechanical, thermic and chemical lesions of the mucosa
- infections of the mouth (bacterial, fungal and viral)
- oral geriatrics and pediatrics
- cheilitis and glossitis
- oral manifestations of skin diseases
- white lesions
- autoimmune diseases with oral manifestations
- allergy
- oral symptomatology of hematologic diseases
- oral symptomatology of hormonal disorders
- dysfunction and pathology of the salivary glands
- stomatopyrosis et dynia
- oral dermatologic syndomes
- focal complex risk factors

4. Hours in curriculum

Oral medicine I	VIII semester
- theory	1 hour weekly (15 weeks)
Oraln medicine II	IX semester
- theory	2 hours weekly (15 weeks)
- clinical exercise	1 hour weekly (15 weeks)
Oraln medicine III	X semester
- clinical exercise	2 hours weekly (15 weeks)

Differential diagnosis and treatment of various oral mucosa affections.



Each student is responsible for:

- 3 patients with oral infection (diagnost. procedures, lab. investigations)
- 5 patients with systemic desease (history of case, diagnosis and tretment)
- 5 patients diagnosis and treatment of oral foci

5. Method of learning/teaching

Lectures with video presentation, clinical history and differential diagnosis of defined entity is presented first, and consequently macroscopy is described and shown by slides, followed by histomorphology.

Through seminars, lectures, and clinical exercises the students learn about diagnostic procedures, necessary laboratory analyses, prognosis and terapeutical measures.

6. Assesment Methods

a. **Case study** (in written form): fool elaboration of one patient including clinical history, diagnostic procedures, macro and micro morphology, lab. analysis, diagnosis and differential diagnosis and therapy plan.

b. Final exam :

- practical/clinical part on one patient
- theoretical knowledge oral examination

7. Strengths

Independent subject.

Motivation of the students for medical approach and comprehensive analysis of macro and micromorphological characteristics and of the nature of etiopathogenetic processes in various oral pathologic conditions and systemic diseases.

8. Weaknesses

Insufficient interdisciplinary cooperation with the University Clinical Center.

No possibility to use modern diagnostic and laboratory methods; unavailability of individual microbaiological laboratory.

10. Plans for Future Changes

To equip microbiological laboratory with basic equipment, to strengthen cooperation with Institute of Pathology, Institute of Microbiology and Immunology, Department of Dermatology, and Department of Internal Medicine, in order to make modern diagnsotic methods accessible to the students.

12. Staff

- 1. Prof. Dr. Sc. Amira Dedić Heald of the Department of Oral Medicine and Periodontology, Professor, specialist in Oral medicine and periodontology
- 2. Prof. Dr. Sc. Mirjana Malić Full professor, specialist in Oral medicine and periodontology
- 3. Ass. Dr. Enes Pašić Specialist in Oral medicine and periodontology
- Ass. Dr. Sanja Hadžić Specialist in Oral medicine and periodontology
 Ass. Dr. Mirjana Gojkov Doctor of Dental medicine



Section 15: Integrated Patient Care and Dental Emergencies and Special Needs Patients

Included in Oral Surgery, Paediatric Dentistry, Periodontology and Oral Medicine

Visitors' comments on sections 10-15:

We commend the faculty of dentistry for ensuring that all necessary components are present for the complete clinical education of a dental student. We recognise that the faculty has done much to obtain equipment to replace that what existed prior to the aggression. The students are exposed to a wide variety of clinical competencies and skills. Clinical teachers display interest, enthusiasm and commitment to the education of future dentists. We recognise that much of the clinical expertise present in the faculty is of high standard.

However, many of the current clinical procedures, as performed on average in the student clinic do not stand up to international best practices, as it is required for the competent graduate dentist. We recognise that lack of resources can handicap the implementation of best clinical practices, although the staff is competent and well aware of the international standards. We believe that the implementation of international best practices in the clinical training and healthcare must be the absolute priority for future distribution of financial resources.

The clinical education seems to be heavily directed towards treatment and restoration rather than prevention and public dental health. With the present situation of oral health within the population of Bosnia, we feel that the faculty is responsible to invest more efforts in emphasising the role of prevention among dentists as well as the population. The integration of all prevention and public health care related disciplines in the curriculum under one clinic or discipline would help in this direction.

The visitors would recommend the following, in order to better achieve higher and more effective standards of clinical care:

- Horizontal and vertical integration of clinical and preclinical education
- Encouragement of a holistic and integrated approach to patient care and treatment.
- Capitalisation on the existing strong links between closely related departments and clinics.
- Early teaching programme on Oral hygiene instruction to ensure students appreciate the crucial importance of prevention.
- Further increase in the amount of actual time spent by the individual student with patients.



Section 16: Behavioural Sciences

16.1 Introduction into Dentistry with History and Ethics

Person in School who will explain and show this to the visitors:

Name: Dr. M.Sc. Amra Vuković, Senior assistant lecturer e-mail: <u>amravukovic@doctor.com</u>

Fax: ++ 387 33 44 33 95

1. Introduction

The course Introduction into dentistry with history and ethics consists of three parts. The introductory part is focused on familiarizing students with their future vocation, motivational background and job prospects. The second part is focused on familiarizing students with the development of dentistry through history (since prehistory to our times) while the third part is devised to give students a grounding in medical ethics and deontology.

2. Primary Aims

To familiarize students at the beginning of their studies about professional and ethical aspects of their future vocation.

3. Main Objectives

To provide students with broad perspectives related to the development of dentistry but also to make them reflect on their own motivation for choosing this profession. They are also given an insight into the ethical code of behaviour during studies at this faculty..

4. Number of hours in the Curriculum

This course consists of 15 hours of theoretical instruction. The lectures in the field of ethics and international humanitarian law are delivered by professors from the Faculty of law and Faculty of Philosophy.

5. Methods of learning / teaching

Students gain theoretical knowledge through lectures delivered by different professors.

6. Methods of Assessment

After completion of instruction students take a test. The test consists of the equal number of questions pertaining to the three constituent parts of this course.

7. Strengths

The course is designed to motivate students for a successful completion of their studies.

8. Weaknesses

Lack of the adequate textbook.

9. Innovations and «Best Practices»

Conducting anonymous questionnaire among students about their motivation for the choice of dentistry as their future vocation.



10. Plans for Future Changes

Introduce a special course in dental ethics and deontology which would be taught in later semesters so that students could obtain a better insight into ethical aspects of clinical problems in dentistry.

11. Visitors Comments

12. Teaching Staff:

Prof. Dr. Sc. Hajrija Konjhodžić Raščić

Prof. Dr. Sc. Ajnija Omanić

Prof. Dr. Sc. Zdravko Grebo

M.Sc. Dr. Amra Vuković, Senior assistant lecturer

Dr. Selma Zukić, Assistant lecturer



16.2 Epidemiology

Person in School who will explain and show this to the visitors:

Name:

e-mail:

Fax:

1. Course

The course *Epidemiology* is taught to dental students in the fourth year (IX semester).

2. Primary Aims

The primary aim of the course is to provide basic knowledge of epidemic phenomena, and to use it in planning health protection from all diseases.

3. Main objectives

The main objectives are to educate dental students about modern methods of epidemiologic planning in prevention of acute communicable and mass noncommunicable diseases.

4. Hours in the Curriculum

Semester IX: Lectures: 30 hours

Exercises: 15 hours

5. Method of learning/teaching

Lectures and exercises.

6. Assessment methods

Examination consists of practical and oral part.

- 7. Strengths
- 8. Weaknesses
- 9. Innovations and Best Practices
- **10. Plans for future changes**
- **11. Visitors Comments**
- 12. Staff names, qualifications and email addresses for this Department



16. 3 Hygiene and Social Medicine

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Sejdo Ćatović; Prof. Dr. Ajnija Omanić

e-mail:

Fax: Hygiene: +387 33 443-413 Fax: Social medicine : +387 33 202-051

1. Hours in the Curriculum:

Hygiene: 15 hours of theoretical and 15 hours of practical instruction.

Social Medicine: 15 hours of theoretical and 15 hours of practical instruction.

2. Primary Aims:

To present students with current knowledge and skills in Hygiene and Social Medicine.

Students are to grasp dependence between health and diseases in relation to environment (physical, chemical and social environment), to enable them for thorough analysis of environmental factors and assessment of negative environmental factors affecting health.

3. Main Objectives

Students are to acquire knowledge about the influence of environmental factors on health (on an individual and on population),

To familiarize students with hygiene measures in solving health problems of their patients,

To make them competent to solve public hygiene problems in the community (local community, municipality),

Students have to learn how to perform quick and reliable physical-chemical and laboratory tests that do not require the specialized equipment; and students should also be able to interpret the findings of specialized hygiene services.

Students are encouraged to actively participate in health promotion in their community.

4. Hours in the Curriculum

5. Methods of Teaching/Learning

Students are to gain knowledge in different fields of Hygiene and Social Medicine via lectures and their active participation. Through practical instruction students acquire skills for performing physical-chemical procedures (tests) and solving problems in their respective community.

6. Methods of Assessment

Part-time colloquiums are organized for each area of study. The final exam consists of the practical and theoretical part.


7. Strengths

In the practical part of the exam the student demonstrates that he/she has mastered certain skills, and in the theoretical part that he/she has gained knowledge in the subjects of Hygiene and Social Medicine.

The format of the exam enables the teacher to gain a good insight into the student's acquired knowledge and skills in Hygiene and Social Medicine.

8. Weaknesses:

We are unaware of any weaknesses related to the assessment methods in our department.

9. Innovations and "Best Practices"

Theoretical and practical instruction is improved with a particular focus on the interactive process.

10. Plans For Future Changes

The new Curriculum for the course **Hygiene and Social Medicine** is being devised at the moment.

11. Visitors Team Comments:

12. Teaching Staff:

Hygiene:Prof. Dr. Sejdo Ćatović, ProfessorSocial Medicine:Prof. Dr. Ajnija Omanić, Associate Professor

16.4 Information Technology and Computers

Person in School who will explain and show this to the visitors:

Name: Vasvija Čehajić, senior assistant lecturer

e-mail: vcehajic@sf.unsa.ba

Fax: ++ 387 33 44 33 95

1. INTRODUCTION

The course Information Technology and Computers is held in the 4th semester. The course consists of theoretical instruction and practical instruction. Practical classes are held in the computer room. Acquiring computer literacy is a precondition for any professional activity nowadays. Computer literacy is also a prerequisite for gaining further knowledge.

2. Primary Aims:

Familiarize students with new computer technologies in theoretical and practical sense.

3.Main Objectives:

- Through theoretical instruction familiarize students with basics in information technology(hardware, software, programme languages, databases, information systems, expert systems, computer networks, Internet)
- Train students to work on WINDOWS 98-XP, MSWORD, MS EXCEL, MSPOWERPOINT, INTERNET

4. Hours in the Curriculum

Number of lectures: 15 hours per semester

Number of practical classes: 30 hours per semester

5. Methods of teaching / learning

Lectures are held in the lecture room. All theoretical lectures are delivered as a POWER POINT presentation. Discussion about the topic of presentation is conducted after each presentation. Practical classes are held in the computer room which is equipped with 10 PCs. Every student works on his/her computer.

At the end of the semester students take an exam in practical work on computer.

Literature for this course:

- Osnove informatike za stomatologe, (Basics in Information Technology for Students of Dental Medicine) by V. Čehajić, 2000
- MS OFFICE manuals
- INFORMATIKA (INFORMATICS), Z. Lagumdžija, 1999

6. Methods of Assessment

Final grade is based upon :

- score for practical work on computer
- oral exam grade



7. Strengths

- Adequate facilities- information technology cabinet
- Every student can work on one computer
- Interactive work with students

8. Weaknesses

-The hitherto method of work has prevented more advanced students from improving their knowledge since the course syllabus is the same regardless of student abilities.

9. Innovations and «Best Practices»

Starting with this academic year all computers in the computer room will be connected to the rooter and have access to the Internet. Students will be trained to use the Internet services such as e-mail and Browser services.

10. Plans For Future Changes

1.Every year we witness the admittance of students with a good knowledge of work on computers and they should be offered a choice in selection of practical classes on computers. Therefore, it is necessary to diversify course options and organize

- Computer courses for total beginners
- Advanced courses with focus on EXCEL and SPSS programmes for statistical databases
- Train students to work with special software designed for dentistry-related courses

11. Visitors team comments

12. M.Sc. Vasvija Čehajić, dipl.fiz. vcehajic@sf.unsa.ba

Visitors' comments on section 16.4:

The visitors were happy to note the presence of an IT specialist and the existence and success of a course in IT. We commend this feature as one of the strengths of the Sarajevo dental curriculum. Impending improvements to the IT infrastructure of the faculty will produce even further benefits. We recommend that the development of IT should go hand in hand with improvements to the provision for other learning resources, especially the library facilities.

Visitors' overall comment on sections 6-16:

The curriculum appears to be broad and includes the comprehensive cover of basic sciences and medically related subjects. We note that the faculty of dentistry do their very best to cope with teaching very large numbers of dental students. However, it appears that the existing curriculum would not meet the recommendations of the European Union on the competences expected of the new dental graduate. The balance of the current curriculum in favour of medical topics does not allow the faculty of dentistry to pay sufficient attention to the full extend of some clinical competencies.

We perceive that there is a serious overloading in the early stages of the curriculum, particularly in assessment, which is inhibiting dental students from even reaching the dental components of the curriculum. We also suggest that the teaching and assessment of the medical components may lack relevance or application to dentistry. The medical components of the curriculum could be further reduced, integrated and rationalised, to allow a greater emphasis on the academic, scientific and clinical education required to produce a dental graduate.



The upcoming revision of the curriculum could be the main task of a small educational committee, as mentioned in the previous section.

We also recommend a far earlier exposure of the students to the dental clinical environment and introduction to the relevant theoretical knowledge, attitudes and skills. This might require a sequential, gradual introduction of the dental – clinical training starting already with the first year.



Section 17: Examinations, Assessments and Competences

Person in School who will explain and show this to the visitors: **Name:** Prof. Dr. Mirjana Malić **e-mail:** <u>librdent@utic.net.ba</u>

Fax: ++ 387 33 44 33 95

1. Introduction

Undergraduate education in BH is ruled by (10) different cantonal laws,

The number of undergraduate students into a new academic year is determined by the Sarajevo Canton Government as recommended by the University Senate.

In order to qualify for admittance into the Faculty the would be students are required to take the entrance exam in physics, chemistry and biology.

The entrance exam is given in the form of a written test which is assigned points with the set minimal number of points that qualify a student for admittance.

Rating is made by adding the entrance exam scores to the average grade of the tested subjects that had been assigned to students in high school.

Students are required to attend lectures and practical classes regularly for each respective course, (with occasional administration of tests in theory - seminar assignments and practical skills testing – quantification of individual therapy stages). After that, students take final exams in each respective course subject.

All course subjects in preclinical and clinical medicine have a final exam which consists of

- a) practical and
- b) theoretical exam

Practical exam is a prerequisite to take the theoretical exam: written test (for some preclinical subjects) or oral exam (taken at the clinic).

Upon completion of theoretical and practical teaching classes students are required to take an exam in all course subjects in clinical dentistry after successful completion of practical skills testing. Each exam consists of two parts:

- practical exam
- oral exam which tests theoretical knowledge

Strengths

The oral exam enables assessment of students' understanding and mastery of the course contents, but also the direct contact with a student provides an opportunity for additional clarification and instructions.



Weaknesses

- Potential for subjective assessment of the oral exam.
- Lack of transparency in oral exams is justified by the fact that exams are publicly conducted in the presence of other students and/ or assistant lecturers.
- The written exam is administered in the format of a test or short answers to questions but it is by large based on « superficial knowledge».

General weakness

By law students can take an exam a countless number of times.

Innovations

At present, the legal framework does not allow for drastic changes in the assessment system.

Plans

The implementation of the Bologna Declaration and the introduction of ACTS will greatly upgrade and enhance the assessment system.

External examiners – not envisaged in the current legal framework.

There is no final examination. The requirements are that the student has to pass all the given exams and fulfil the clinical requirements throughout the five years of education.

Visitors' comments:

The impending curriculum review presents an ideal opportunity for a thorough reexamination and fresh evaluation of how the dental student should be assessed.

We recognised that the faculty is seeking to improve the quality and range of its assessment diet. We have already commented on what we perceive to be serious flaws in the assessment of the basic and biomedical sciences.

The purpose of assessment in dental education should be to ensure the safe and competent progress of the dental student into clinical practice. Accepted best practice in dental student assessment requires that there should be a limit on the number of opportunities to resit an assessment; It is demotivating for a student to have unlimited number of attempts and in fact this devalues the actual assessment.

It appears that heavy biomedical subjects can be examined later in the curriculum, even during the demanding final year of the studies. This not only minimises the relevance of the biomedical subject but it also can present serious problems in the attendance of the clinical training. Examination of the preclinical subjects should at all cases proceed entrance to clinical training.

The dental faculty should take responsibility for ensuring the fairness, safety and suitability of all assessments in the five year curriculum.

Currently, the curriculum appears to heavily rely on somewhat traditional and possibly even outdated methods of assessment. We recommend that the faculty considers the further employment of more modern methods of assessment which examine the student in all relevant domains. For example, the faculty might consider the introduction of in-course (continuous) assessment, coursework, projects, assignments, case reports or presentations.

Section 18: Other Influences

Person in School who will explain and show this to the visitors: Name: Prof. Dr. Sedin Kobašlija e-mail: <u>skobasli@utic.net.ba</u> Fax: ++ 387 33 44 33 95

18.1 Regional oral health needs

According to the data from 2000, Sarajevo had a population of 390 534. Out of the number, preschool children make up 6% (22 872) of population, school children 17% (63 247), students 3% (11 367), retirees 14% (54 184). In the year 2001, there were 34 university teachers at the School of Dentistry in Sarajevo. In the town, there is a population of 246 doctors of dental medicine (31 at the School of Dentistry), dental technicians 96 (32 at the School), and dental nurses 159 (48 at the School). During one month period, an average number of 5000 patients (about 10 000 interventions) are treated at the School of Dentistry. Out of the number, about 4000 interventions are performed within the educational process. Considering the present situation and the fact that the statistical data on oral health in Bosnia and Herzegovina have been disturbing (DMF index in 12-year olds was 6.10 in 1999, dental caries prevalence was 97,40 %, and DMF index in 35-45 year adults was 20.05), there is a need for better organization in the first place of preventive dentistry. Preventive programs of quality and adequate policy of specialization in this specialty would open perspectives of improvement of oral health of the population. The fact that lots of parents do not take sufficient care of oral health of their children is another factor which decreases the number of patients of this age in the dental clinics.

18.2 Evidence based treatments

Evidence based dentistry has not been included into the curriculum yet. However, efforts have been made to secure all treatments to be based on the actual scientific literature. The Library and Internet provide access to databases in this domain. Nevertheless, it should be emphasized that the access to scientific literature and databases is still insufficient. The disadvantage is being partially made up for by discussions and coordination of the clinical work between the students and teachers. There is a project which is aimed at quality control in dentistry, but its complete implementation has not started yet.

18.3 Involvement in other university activities and sport

The student organization at the School of Dentistry provides a variety of activities including computer courses, editing a student journal, organization of journeys and excursions, etc. Within the University, sport competitions are organized for various faculties in basketball, football and other sports.



18.4 Recreation

At the School of Dentistry, there is a pause of 30 minutes during the working hours. Most employees use it as a coffee or lunch brake. There are no recreational facilities or organized activity for active recreation of the employees. This is primarily connected to the employees' negative attitude toward active recreation. Some of them do some active recreational activities after the working hours. In the immediate vicinity of the School of Dentistry there are facilities for sport recreation, which can be used for a moderate fee.

18.5 Student Selection Procedures

The School of Dentistry in agreement with Cantonal administration makes a decision on the number of candidates for admission to the first year of the dental studies. Application for admission could be submitted by pupils from all parts of Bosnia and Herzegovina and abroad after completion a secondary school. About 10 per cent of places are assigned for foreign citizens, who must meet all the criteria for admission as the B&H citizens. Foreign students pay the full tuition fees, while B&H citizens pay minimum fee. All further admission procedures are in charge of the School of Dentistry. The main discriminate criteria for admission include grades from all secondary school classes, as well as the marks in physics, chemistry and biology. The candidates take also an aptitude test comprising questions in physics, chemistry and biology. On the basis of points won by addition of grades from secondary school and marks from the aptitude test a list of candidates is produced. By the predetermined quota, those candidates with the greatest number of points are admitted to the School. The number of candidates is usually three times greater than the quota for admission.

18.6 Labour Market Perspectives

According to data from 2001, there are 734 doctors of dental medicine in Bosnia and Herzegovina. Out of the number, 245 are specialist (the greatest number – 51 are specialists in orthodontics; the smallest number – 15 are maxillofacial surgeons). In the state dental service, the percentage of 69.2 of the total number of dentists are employed, 30 per cent work in private practices. The total of 701 dental units has been registered. Percentage of male dentists is 45.1, and that of female 54.9%. The greatest percentage of dentists (37.25%) is found within the age group 45-54, while the smallest percentage (17.65%) makes up the age group 35-45.

In average, there is one dentist to every 4633 inhabitants. There are differences among various regions where urban environments have averagely more dentists than rural ones.

The problem of unemployment has been present, and the rate of unemployment of dentists has been rising. There are no exact data on the problem either for Federation B&H or state Bosnia and Herzegovina. At present, in Sarajevo canton there are 90 dentists at the unemployment bureau.

After completion of dental school, doctors of dental medicine have to spend a year as trainees in dentistry. After the training, they take State Board Examination. When they pass the examination, dentists are allowed to open their private practice. In spite of the poor state of oral health, there are no conditions for continuous opening of new jobs for dentists because of insufficient financial means. That is why a lot of dentists decide to open private practice. The prospects for employment in state services are to some degree better in the rural environment. The dentists form private practice treat only their private patients, while those form the state public sector treat mostly patients with health insurance.



Because the diploma from Sarajevo School of Dentistry is not been accepted as valid in developed countries, dentists form B&H do not go abroad for employment. On the other side, due to bad economic situation, dentists from other countries do not come to B&H to get employed.

Visitors' comments:

The visitors feel there should be a clear link between the existing and projected work opportunities for qualified dentists and the number of students recruited to the dental faculty.

The University and the dental faculty in agreement with the professional organisation of dentists, should be able to influence the final number of students to be admitted, as according to the existing resources



Section 19: Student Affairs

Visitors should meet full class together of final year together with the class representatives of earlier years

Name of Student representatives (2 for each class) who will discuss this:

Final Year:	Nedim Sulejmanagić
Fourth Year:	Selma Numanović Dženita Merdana
Third Year:	Šeila Muhović
Second Year:	Dina Bašagić Eroldina Halilović

This will be the basis of a discussion with visitors.

Visitors' comments:

The students of the dental faculty are well motivated, enthusiastic, vivid and in good relations with the staff of the school. It was clear to the visitors that students seem less concerned with studying medical subjects in great depth, than in becoming competent dentists at the end of five years. In particular, the faculty of medicine input to the curriculum appears to be the centre of student dissatisfaction and appears to be responsible for the grossly extended period of study for many dental students. They recommended that the basic and biomedical sciences should be better integrated and made much more relevant to students intended to become dentists.

Thought needs to be given to the timetabling of all aspects of the curriculum to ensure that students are not heavily overloaded with theoretical knowledge; for example, to have three consecutive lectures in a session would reduce the overall effectiveness of the learning process - there is a limit to the concentration spam of any learners, even medical and dental students.

The students feel that their influence and participation in the design of the curriculum is minimal. Two questionnaire surveys were conducted by the student association presenting the students' views on how their education could be improved, but the students believe that not much has changed in response. Indeed, the students believe that the attitude of some teachers to such surveys is negative. In addition they would like to see standard and regular evaluations for every course, which would be used in order to improve standards of teaching quality. The visitors strongly encourage the further development of staff-student dialogue, for example by the establishment of a



staff-student consultative committee, which is accountable to the proposed dental education committee. In our experience there is great value to be found in obtaining regular student feedback. This process requires a degree of responsibility, open mindedness and humility on both sides.

The students feel that some of the textbooks they are using are outdated and would encourage the staff to write new ones. The visitors recommend that the school makes a further investment in obtaining a selection of international textbooks and journals and makes better use of electronic resources available e.g. on-line access journals.

The students strongly expressed that they feel overwhelmed by the quantity of theoretical information, which they are expected to absorb, which seems to be completely out of relation to the quantity of time for practical training in the curriculum. Best practice in dental teaching requires that students are treated with collegial respect by all teachers. We commend the dean and other senior faculty members for promoting high standards of professional behaviour by teachers towards students. However we understand from some students that there are cases where they have been treated without this collegial respect, especially when this occurs in front of patients.



<u>19.1</u> Basic Data from Dental Schools

- a) Average number of dental students qualifying per year:
- b) Average number of dental students admitted to the first year: **70**
- c) Length of course in years and/or semesters: **5 years / 10 semesters**
- d) Is there a separate period of vocational training following graduation as a dentist in your country? **NO**
- e) If yes to d) above, is that organised by the University/Dental School? YES/NO



19.2 List of postgraduate courses

Person in School who will explain and show this to the visitors:

Name: Prof. Dr. Hajrija Konjhodžić-Raščić

e-mail:

Fax: ++ 387 33 44 33 95

Postgraduate courses at the School of Dentistry in Sarajevo under the tile *Basic Principles of Research in Dentistry* are organized as two year studies (four semesters). The first two semesters include methodology of scientific research and subjects relevant for general scientific areas. The second part of the curriculum, the third and fourth semesters, emphasizes more specific scientific and professional areas, and is aimed at writing the master's thesis.

a) Teachers and external lecturers:

Lectures are held by the staff from the School of Dentistry and prominent scientific authorities, after being verified by the Education Board of Postgraduate Studies on the basis of their *curricula vitae* and conditions required for the subjects.

b) Curriculum:

In the first and second semesters, the curriculum includes 6 subjects:

_	General methodology of scientific research	20 hours
_	Clinical methodology of scientific research	20 hours
-	Medical scientific statistics and informatics	20 hours
-	Immunology	20 hours
-	Human genetics	20 hours
-	Total	100 hours

In the third semester, selected subjects from ten scientific areas are studied:

	5	
-	Pre-clinical dentistry	10 hours
-	Dental pathology with endodontics	10 hours
-	Oral medicine with periodontology	10 hours
-	Prosthodontics	10 hours
-	Oral surgery	10 hours
-	Maxillofacial surgery	10 hours
-	Dental implantology	10 hours
-	Paediatric and preventive dentistry	10 hours
-	Orthodontics	10 hours
-	Microbiology	10 hours
	Total	100 hours

In the fourth semester, a bibliographic review on the selected topic for the master's thesis is prepared under the mentorship of a senior teacher of the chosen subject.

c) Examinations:

Examinations consist of oral parts, interviews and written seminar papers.



The candidate who fulfilled all requirements of the courses and passed the examinations is given a certificate on completed postgraduate education, and is allowed to write the master of science thesis.

The program of the postgraduate studies will be presented by the leader of the studies, Prof. Dr. Sc. Hajrija Konjhodžić-Raščić

<u>19.3</u> List different auxiliary/technology/other courses and state number who <u>qualify per year</u>

19.4 Describe briefly student counselling services in the University



Section 20: Research and Publications

Host school should set out the publications of all staff according to the sections set out below <u>strictly confined to past 36 months</u> - please exclude abstracts and articles in non-scientific or non-refereed journals

20.1	number of publications in journals	
	number of abstracts	177
20.2	number of textbooks published by staff	5
20.3	number of chapters in books	26
20.4	grants received > €1,000	5

A full list of publications is set out in Appendix 1

Visitors' Comments

It was clear to the visitors that the past decade and events of the war have minimised the possibility to finance research activities. Most of the available laboratories and research facilities were destroyed during the aggression and financial constraints have handicapped attempts to reconstruct research infrastructure. However, the staff even at a personal cost and through sacrifice has tried to maintain a level of research activity throughout this time.

Due to the above limitations, dissemination of research was possible mainly to local or regional journals and events.

However, with the worst time having gone, the staff appears very eager to engage in research activities as much as possible and initiate international collaborations towards this direction.

The visitors would strongly encourage the staff to identify areas of strength and pursue research in such areas which benefit from the existing resources and status of the population. Such areas could include research within oral healthcare, epidemiology and prevention, in collaboration with national and international centres. Dissemination of such results in International journals could attract further attention and research funds to the faculty of dentistry.

Publications are listed in the attached Appendix



Section 21: Quality Development or Continuous Improvement Policies/Schemes

Person in School who will explain and show this to the visitors: Name: Prof. Dr. Sc. Halid Sulejmanagić

e-mail: librdent@utic.net.ba

Fax: ++ 387 33 44 33 95

The strategy of continuous enhancement of quality for the teaching staff, particularly assistant lecturers has been implemented at the Faculty of Dentistry for a long time. Assistant lecturers are selected in compliance with the Law on Higher education. Only the best students can be chosen for the position. Those are the students with the highest average grade and the high grade for the course subject they have been nominated for. In addition, the candidate in question must have a talent for research work.

Upon appointment an assistant lecturer is given 3 years to complete a postgraduate course of study. The postgraduate study last for 4 semesters and 1 year is provided for completion of M.S. thesis. The thesis is defended in public and the Academic Council of the Faculty brings a decision whether a candidate has met all the requirements to be awarded the M.S. degree.

This implies a career promotion into a senior assistant lecturer which entitles the candidate to start work on his/her doctoral thesis. The proposal of the thesis must be approved by the Ethic Committee, Academic Council of the Faculty and the Senate of the University.

After obtaining a Ph. degree the candidate has met all the requirements to be promoted into Assistant Professor.

After 5 years Assistant Professor may be promoted into Associate Professor if he/she has met all the requirements as proscribed by the law. It takes another 5 years to be promoted into Professor.

The promotion policy is determined by very strict regulations as proscribed by the Law on higher education, and in itself it corroborates the assertion that a University teacher is constantly monitored in respect of quality.

Staff evaluation by students

At the end of each semester the Students' Association at the Faculty but also the Students' Union at the University conduct an anonymous questionnaire to evaluate the work of their professors and assistant lecturers. The questionnaire results are submitted directly to the Dean of the faculty but they are also published in a student magazine.

The anonymous questionnaires are also conducted by particular Departments for the courses they run. The questionnaire items are the standard ones. On the basis of questionnaire results and their analysis a department can gain a better insight into the quality of education programmes it provides. This method of evaluation is a good basis for a further discussion as to the changes in the curriculum/syllabus at the Faculty of Dentistry.

Staffing policy

Aim- It is the aim and the strong commitment of the Faculty of Dentistry to ensure the optimal number of assistant lecturers. We perceive their role as critical for any further development of the Faculty of Dentistry. Assistant lecturers should be provided with an opportunity to go on study trips at the universities in Europe and in USA. The study trip abroad is extremely important not only for the exchange of experiences and ideas but also for the involvement of young assistant lecturers into various research projects.

Our commitment is also to establish inter-faculty cooperation and sign agreements on the exchange of students, assistant lecturers and professors and promote work in international research projects.

The Academic Council of the Faculty evaluates the work of its teaching staff in compliance with the Law on higher education. The evaluation is approved/ confirmed by the University Senate and Chancellor.

Teaching staff

We have already given the outline in Section 2.We would like to emphasize again that there is a problem of understaffing at the Faculty of Dentistry, both regarding assistant lecturers and professors.

The consequences of war are still being felt in this segment of education, and obviously we are faced with serious financial constraints at this moment. The Faculty is financed by the Sarajevo Canton Government. The Faculty must obtain the Government consent if it is to appoint a new assistant lecturer. In the present circumstances it is difficult to obtain this consent in view of the overall economic situation in our country.



5

7

21.1 International contacts

- Student and staff visits abroad (number of persons)
- Foreign students visits to the actual school (number of persons)

Student and staff visits abroad (Institutions)

- University Clinic for Maxillofacial Surgery, Tokyo, Japan
- School of Dentistry University of Zagreb, Zagreb, Croatia
- Fulbright's Scholarship Buffalo, USA
- Tempus project Bruxeless, Belgium
- Schaan, Liechtenstein, Oct.2003

Foreign students visits to the actual school (institutions)

- School of Dentistry, University of Malmö, Sweden
- School of Dentistry, University of Oslo, Norway

21.2 Literature list

The list is enclosed as a separate attachment.



Appendix 1 List of Publications

Stomatološki fakultet Univerziteta u Sarajevu School of Dentistry, University of Sarajevo Bolnička 4a, 71000 Sarajevo, Bosna i Hercegovina T: 00 387 33 216 816 F: 00 387 33 443 395

E: <u>librdent@utic.net.ba</u> biblstom@utic.net.ba

Section 20: Research and Publications

20.1	number of publications in journals	31	
20.1x	number of abstracts	1	77
20.2	number of textbooks published by staff	5	
20.3	number of chapters in books	26	
20.4	grants received > €1,000	5	

Number of publications in journals (full text articles) 31

- Arifhodžić F, S Al Qattan, B Sen, M Al Shennawy, N El Zohairy. Orofacijalna granulomatoza (Orofacial granulomatosis). Stomatol Vjesn 2002;1(1):47-51, 53-5.
- Čehajić V. Kako ugraditi iskustva projektanta u izradi plana razvoja IS-a. In: CASE 14. Opatija : Ministarstvo znanosti i tehnologije, CASE, Hrvatski informatički zbor, 2002. p. 89-93.
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- 5. Ganibegović M, Huskić B, Muratbegović A. Pedodontske intervencije kod pedijatrijskih neuroloških pacijenata (Dental treatment for children with neruological diseases). Bilten Stomatol BiH 2003;6(18):14-7.
- Ganibegović M, Zukanović A, Selimović A, Dedić A. Priprema djece sa mentalnom retardacijom za dentalni tretman (Preparation of children with mental retardation for dental treatment). Bilten Stomatol BiH 2002;5(16):8-11.
- Ganibegović-Selimović M, Muratbegović A, Nikšić D. Evaluacija metode za edukaciju edukatora iz preventivne stomatologije u predškolskim ustanovama. In: Zdravstvena politika i strategija : Internacionalni kongres "Zdravlje za sve"; Perspektive zdravlja u 21 vijeku. Banja Luka, 2003. Zbornik radova. p. 32-37.
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- Gojkov T, Kamenica N. Osteoporoza i reperkusije na kosti orofacijalnog sistema (Osteoporosis and repercussions on the orofacial system). Bilten Stomatol BiH 2001;4(11-12):19-21.
- 10. Gojkov T. Hirurška priprema zuba za fiksno protetsko zbrinjavanje (Surgical teeth preparation for fixed prosthetic provisioning). Bilten Stomatol BiH 2001;4(10):19-21.
- 11. Kobašlija S, Pioch T, Tahmiščija H, Selimović-Dragaš M, Huseinbegović A. Elastična snaga vezivanja Syntac-a nakon tretmana dentina sa NaOCI-om (Tensile bond strength of Syntac after NaOCI treatment). Stomatol Vjesn 2002;1(1):17-24, 25-30.
- 12. Lončarević-Šuljak A, Dilberović F. Kompjutersko grafički model prostornog odnosa zglobnih površina temporomandibularnog zgloba sa aspekta gnatološke okluzije (Computer graphic model of the relationship of the temporomandibular joint surfaces from the point of view of gnathologic occlusion). Bilten Stomatol BiH 2001;4(10):2-3.
- Ožegović L, Arifhodžić F, Babić M, Hadžić S, Pašić E. Infekcija kandidom, sistemski poremećaji i protezna stomatopatija (Candida infection, systemic disorders and denture stomatitis). Stomatol Vjesn 2002;1(1):31-4,35-8.
- Pioch T, Kobašlija S, Huseinbegović A, Müller K, Dörfer CE. The effect of NaOCI dentin treatment on nanoleakage formation. J Biomed Mater Res 2001; 56:578-583.
- 15. Prcić-Konjhodžić A, Konjhodžić F. Povodom dva slučaja dentogenog apscesa mozga (Odontogenous abscess of the brain). Stomatol Vjesn 2002;1(1):57-9, 61-2.
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- Redžepagić S, Berhamović E. Frakturiran korijen zuba kao osnova za protetsku rekonstrukciju zuba – ekstrahirati ili liječiti (Fractured tooth root as foundation for prosthetic reconstruction – extraction or healing). Bilten Stomatol BiH 2001;4(11-12):22-4.
- 19. Redžepagić S, Berhamović E. Održavanje oralne higijene na suprastrukturama dentalnih implantata. Bilten Stomatol BiH 2002;5(14-15):21-3.
- Redžepagić S, Tafi S, Muradbegović M, Berhamović E. Nadoknada centralnog sjekutića implantatom (Restoring central incisor with dental implant). Bilten Stomatol BiH 2003;6(19-20):16-9.
- 21. Redžžepagić S, Berhamović E, Dautović L. Vađenje konfekcijske kočić nadogradnje iz zubnog korjena (Removal of prefabricated post from tooth root). Bilten Stomatol BiH 2003;6(19-20):23-6.
- 22. Salihagić D, Gojkov T, Ljutović Z. Papilarne hiperplazije tvrdog nepca (Papillary hyperplasia of the hard palate). Bilten Stomatol BiH 2001;4(11-12):16-8.



- 23. Sarajlija M. Evaluacija efikasnosti jednokomponentnih dentin adheziva (Evaluation of efficacy of single – component dentin adhesives).
 Stomatol Vjesn 2002;1(1):3-9,11-6.
- 24. Smajilagić A. Mentalni otvor kao stalna anatomska tačka za klasifikaciju atrofije alveolarnog grebena na ortopantomogram snimcima mandibula (Foramen mentale as constant anatomic landmark for the alveolar atrophy classification on mandibla ortopantomogram pictures). Bilten Stomatol BiH 2003;6(19-20):27-31.
- 25. Sulejmanagić H, Berhamović E, Kapur E. Anatomske osnove u dentalnoj implantologiji (Anatomical basis of dental implantology). Bilten Stomatol BiH 2001;4(10):4-12.
- Sulejmanagić H, Kobašlija H, Sadiković M, Huseinbegović A, Dragaš-Selimović M, Blagojević O, et al. Stanje stomatološkog kadra i opreme u BiH. Bilten Stomatol BiH 2001;4(11-12):32-6.
- 27. Sulejmanagić H, Kobašlija S, Sadiković M, Huseinbegović A, Selimović-Dragaš M, Blagojević O, et al. Stomatologija danas u BiH. Bilten ljekarske komore Ze-Do kantona 2001;2(2):41-46.
- 28. Sulejmanagić H. Povodom 40 godina postojanja i rada Stomatološkog fakulteta u Sarajevu (On the occasion of the 40-year jubilee of the School of Dentistry of Sarajevo university). Stomatol Vjesn 2002;1(1):63-4,65-6.
- 29. Šuljak A, Prcić A. Measuring device DEA-A001 used in odontology and osteometry of jaw bones. Med Jurnal 2001;6(2):89-94.
- 30. Šuljak-Lončarević A. Centralna relacija mandibulae predstavljena kompjutersko-grafičkim modelima – aspekt frankfurtske horizontale (The centric relation of the mandible represented by the computer aided graphic models – the aspects of the Frankfurt horizontal) Stomatol Vjesn 2002;1(1):39-41, 43-5.
- 31. Žunić F, Sulejmanagić H, Salihagić D. Ludwigova angina (Ludwig's angina) Bilten Stomatol BiH 2001;4(10):22-4.

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- Alajbeg I, Cekić-Arambašin A, Topić B, Alajbeg ŽI. Pragovi podražljivosti oralne sluznice provocirani istosmjernom strujom - usporedba bolesnika sa sindromom pečenja usta i zdrave kontrole (Oral mucosal sensory thresholds assessed by direct current stimulation - comparison between burning mouth syndrome patients and healthy controls).In: Kongres stomatologa Bosne i Hercegovine sa internacionalnim učešćem, 1. Sarajevo, 2001. Knjiga sažetaka. Sarajevo : Stomatološki fakultet, 2001. Str. 71.
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- Alikadić-Husović A, Šakovic-Račić A, Konjhodžić H, Prcić A, Subašić D, Čabrić E. Problem dijagnostike hroničnih uveitisa uzrokovanih asimptomatskim bolestima zuba (Problem of diagnosis of chronic uveitis in asymptomatic tooth diseases). In. Kongres stomatologa Bosne i Hercegovine sa internacionalnim učešćem, 1. Sarajevo, 2001. Knjiga sažetaka. Sarajevo : Stomatološki fakultet, 2001. Str. 37.
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