Association for Dental Education in Europe

Part I School Self Assessment

Part II Visitors Comments

Faculty of Dentistry

Moscow State University of Medicine and Dentistry

11-14th November 2007

MOSCOW STATE UNIVERSITY OF MEDICINE&DENTISTRY

FACULTY OF DENTISTRY

ADEE VISITATION

Part I

SCHOOL SELF ASSESSMENT

MOSCOW
11-14 NOVEMBER 2007

PART I CONTENTS

Section 1. Introduction and the general description

Moscow State University of Medicine and Dentistry (MSUMD) is a state Higher Educational Institution (the Certificate of the State educational Institution - № 068.150 from 03.11.1997, Moscow). Activity of University is coordinated by Ministry of Public Health Service and Social Affairs of the RF, financed by the state.

MSUMD carries out training of specialists in the sphere of nursing, higher medical, postgraduate and additional education on the basis of the license of the Ministry of General and Vocational Training of the RF №24G-0576 from 01.04.1999 and by the order of the Ministry of Education of the RF №843 from 07.03.2001.

1.1. Background

Moscow State University of Medicine and Dentistry has more than 80-year history.

Its traditions go back to the first dental surgery schools which have appeared in Russia in XIX century. In 1920 when new authority was confronted by an vast goal of creating dental health care system for the population, I.M.Kovarsky's Moscow Dental Surgery School was reorganized in to the House of Soviet Odontology, having an indicative ambulatory, chemical laboratory, dental technicians' school. Scientific and educational goals set for the given establishment were to prepare dental instructors from among doctors of an old formation and support personnel of various categories: dental technicians-prosthetics, dental technicians-fillers, dental nurses.

The University foundation day is April, 22, 1922, when the House of Soviet Odontology was transformed into the State Institute of Odontology (SIO). The big role in organizations of this school were played by outstanding figures of the national public health services: N.A.Semashko, P.G.Dauge, M.B.Jankovsky, A.I.Evdokimov. The main direction of scientific research in the institute were odonto-stomatological - efforts being concentrated on two major problems: studying the nature of dental caries and alveolar pyorrhoea.

In 1927 the Institute was renamed into the State Institute of Dentistry and Odontology (SIDO), carrying out retraining and specialization of doctors who have graduated from general medical faculties, organization of the dental care for population and research development. In 1932, with creation of the State Scientific Research Institute of Dentistry and Odontology (SSRIDO), scientific activity became scheduled; topics of investigated problems covered the pathology and therapy of teeth and oral cavity diseases, maxillofacial surgery, prosthetic dentistry. In 1933 the Central Research Technical Laboratory for mass manufacturing of steel dentures was created.

According with the Narkozdrav RSFSR order, in 1935 Moscow Dental Institute was organized on the SSRIDO base - a Higher Educational Institution teaching dentists. Institute became the only research institution in RSFSR which aims included scientific development of dental problems, introduction of results of research in mass practice and professional training for dental specialists. In the Institute departments of normal human anatomy, biology, general chemistry, histology and embryology, and in 1937 – therapeutic dentistry, oral surgery and prosthetic dentistry-were opened.

In 1939 the State Scientific Research Institute of Dentistry and Odontology merged with the Moscow Dental Institute into Moscow State Dental Institute (MSDI) in which senior lecturer D.S.Dyshlis was first Director. The first graduation of 79 dentists was held during the same year. By 1941 MSDI represented a Higher Education institution with 25 departments in which research work on caries, periodontal and oral mucous diseases, maxillo-facial traumatology was carried out.

During II World War MSDI worked as a maxillo-facial hospital with the staff of polyclinics and students of dental Department providing all necessary care. Due to precisely balanced and organized network of the specialized medical establishments in war field and on home front, 85 % of individuals with maxillo-facial trauma were cured and returned to the battle field.

After the end of war, in 1949 by the order of Council of Ministers of USSR MSDI was reorganized to Moscow Medical Dental Institute (MMDI) with a 5-year course of training, which became the scientific, educational and consulting centre in all areas of dentistry.

In 1968 on the basis of the Institute the Faculties of General Medicine and Postgraduate Education for dentists were opened, the Central Research Laboratory was created. In 1975 the Postgraduate Education Faculty for Teachers was organized. In 1976 the unique Dental Hospital designed for reception of 2000 patients per day, having 50 beds, was opened. Now it houses Hospital Dental Departments.

In 1972 for merits in development of national public health services, medical science and professional training MMDI was awarded with the Labour Red Banner.

In 80-90s of XX century dental base of the Institute continued to develop, number of graduating dentists increased. In 1983 the Evening Education Dental Faculty was organized in the Institute, and by 1998 the Faculty of Auxiliary Personnel, which is training in specialty «Dental technician», and since 2001 - in specialty «Dental hygienist», was formed.

On August, 3, 1999 MMDI receives the status of University and the name: Moscow State University of Medicine and Dentistry (MSUMD).

At present MSUMD is the largest in the country and in Europe educational, medical and scientific-practical centre, the leading Higher Educational Institution of Russia in dental education. By rating of the Ministry of Education and Science of RF MSUMD holds the second place

among medical high schools in the country. During the whole period of existence University trained more than 40 thousands of dental and medical specialists for Moscow and other regions of Russia. Simultaneously more than 10 thousands undergraduate and postgraduate students are trained; including foreign citizens (annually up to 700 students from 47 Commonwealth of Independent States (CIS) and other foreign countries).

There are 11 faculties function in the University:

- Dentistry
- General Medicine
- Clinical Psychology (opened in 2001)
- Economy of Public Health Services (opened in 2004)
- Moscow Regional (opened in 2005)
- Penitentiary Medicine (opened in 2006)
- Continuing Education of Dentists and Medical Universitiy Teachers
- Postgraduate Education
- Auxiliary Personnel Training
- Pre-entry Training
- Foreign Students Education

The Moscow State University of Medicine and Dentistry is headed by the president - Nikolay D. Yushchuk, Academician of Russian Academy of Medical Sciences, Professor, M.D., Ph.D. Med.Sci.

Rector of MSUMD - Oleg O. Yanushevich, Professor, M.D., Ph.D. Med.Sci.

Dean of Dental Department - Sergey J. Ivanov, Professor, M.D., Ph.D. Med.Sci.

The University includes 105 departments, Research Institute of Medicine and Dentistry (RIMD), the Clinical Diagnostic Centre, the Dental Hospital with Polyclinics, the Centres of Reconstructive Surgery and Implantology. In training of students facilities of the Centre of Cardiovascular Surgery, Institutes of Transplantation and Eye Diseases (over 9 federal centres of science) are intensively used.

The University has its own media: the newspaper «Bulletin of MSUMD», scientific practical journals «Cathedra», «Dental Forum», «Orthodontics» etc.

Within the framework of the National Project «Health Care» active work on realization of socially significant innovation projects in sphere of education and medicine are being conducted.

Since 1979 the WHO Collaborating Centre on Dentistry (the director - Edith M. Kouzmina, Professor, M.D., Ph.D. Med. Sci.) is based in MSUMD. The basic directions of its activity are:

- development of training programs for various groups of dental personnel;

- creation of a databank and monitoring of oral diseases prevalence among Russian population;
- preparation of working meetings and symposiums with participation of leading foreign experts; organization of lectures and seminars for teachers and students;
- development of modern models of oral diseases preventive programs.

The international scientific activity of University is diverse and full of content. Actions annually take place within the framework of international forums and the congresses on dentistry and other fields of medicine. MSUMD is initiator and organizer of meetings and conferences on questions of modernization and quality improvement of higher medical education, Dental Marathon of Young Doctors, the International Student's Olympiads.

Now the University is in cooperation with foreign educational institutions from several countries:

- Italy (Universities of Rome, Milan, Bari, Ferrara);
- France (Dental Faculties of Universities Paris - 7 and of Nice's Sofia-Antiopolis);
- Germany (Ludwig-Maximilians University, Munich; Dental Department of Ernst-Moritz-Arndt University of Greifswald);
- Switzerland (Shtraumann Institute, Basel);
- Norway (University of Oslo);
- Bosnia and Herzegovina (University of Bani Lyka and the Union of Private Dental Clinics);
- Macedonia (Medical Department of St. Cyril and Methodius University, Skopje);
- Belarus (Belarus State Medical Institute, Minsk);
- Ukraine (Institute of Dentistry of Ukrainian Academy of Medical Sciences, Odessa; National Medical Academy of Postgraduate Education named after P.L.Shipik, Kiev; Ternopol State Medical University named after I.J.Gorbachevskogo, Ternopol);
- Azerbaijan (Azerbaijan State Medical University, Baku);
- Kyrghyzstan (Kirghizo-Russian Slavic University, Bishkek);
- Uzbekistan (Tashkent State Medical University, Tashkent);
- Japan (Dental College of Tokyo);
- USA (University Stony-Brook, New York; University of Southern California, Los Angeles);
- Brazil (FAPI University).

All the above mentioned agreements are aimed on collaborative development of research and education in the academic entities.

In 2003 agreement with UNESCO on creation in MSUMD of UNESCO Chair «Healthy lifestyle - for sustainable development» (see section 16) was signed.

INTERNATIONAL COLLABORATION OF MSUMD

1.2. Primary functions of the University

- Continuous dental education (undergraduate and postgraduate), according to requirements of the State Educational Standard on specialty «Dentistry», with the purpose of providing Russian regions with highly qualified dentists (first of all, General Dental Practitioners);
- Training of Auxiliary Dental p\Personnel – Dental Hygienists and Dental Technicians;
- Improvement of professional skill of Dentists and Medical University Teachers (not less than once in 5 years);
- PhD training;
- Research;
- Provision of the high quality specialists, preventive and clinical care for patients;
- Training of Foreign Students.

1.3. General description of the curriculum

The basic curriculum for specialty 060105 «Dentistry» was authorized by Ministry of Health of the RF and Department of Educational Institutions and Personnel of the RF on 29.05.2000. Working Training Programs on all the disciplines of the curriculum of Dental Faculty were developed in 2002 and authorized by the Central Methodical Council of the University.

Duration of study at Dental Faculty of MSUMD is 5 years. After finishing the basic curriculum and Final State Certification graduates receive qualification «doctor–stomatologist» (dentist). For receiving the right of independent dental practice they are obliged within 1 year (1728 hours) to pass initial specialization in internship on General Dental Practice.

Undergraduate curriculum:

Total of contact hours - **6541**

This includes:

- **Humanitarian and Socio-economic Disciplines - 866** hours (**13,2%**):

(Philosophy; Bioethics; Psychology and Pedagogics; History of Medicine; Latin; Foreign Language; Economy; Medical Law; Healthy Lifestyle; Physical Training).

- **Mathematical and Natural-science Disciplines - 636** hours (**9,7%**):

(Biology with Ecology; General and Bioorganic Chemistry; Physics, Mathematics and Informatics; Medical Informatics).

- **Medical-biological Disciplines - 1229** hours (**18,8%**):

(Human Anatomy; Normal Physiology; Histology, Embryology, Cytology; Biological Chemistry; Microbiology, Virology, Immunology; Anatomical Pathology; Physiopathology; Pharmacology).

- **Medical-preventive Disciplines - 141** hours (**2,2%**):

(General Hygiene, Public Health)

- **Clinical Medical Disciplines - 1197** hours (**18,3%**):

(General Medicine; Surgical Diseases; Topographical Anatomy and Operative Surgery of Head and Neck; Radiodiagnostics and Radiotherapy; Infectious Diseases, Phthisiology; Dermatovenerology; Neurology; Ear, Nose and Throat Diseases; Psychiatry; Obstetrics; Paediatrics; Clinical Pharmacology; Forensic Medicine; First Aid; Exercise Therapy).

- Special Dental Disciplines - 2472 hours (**37,8%**):

(Dental Materials; Propaedeutic Dentistry; Preventive Dentistry and Epidemiology; Therapeutic Dentistry, Oral and Maxillo-facial Surgery; Implantology; Maxillo-facial Traumatology; Prosthetic Dentistry; Children's Therapeutic Dentistry, Children's Oral and Maxillo-facial Surgery; Orthodontics; Elective Course in Dentistry).

Structure of the undergraduate curriculum at Dental Faculty of MSUMD

1st study year (1st-2nd semester)

Discipline	Number of contact hours	Final control
1. Biology with Ecology	120	Exam
2. General Chemistry	96	Exam
3. Bioorganic Chemistry	44	Final pretest
4. Biological Chemistry	65	Training proceeds in 2nd study year
5. Physics, Mathematics and Informatics	160	Exam
6. Human Anatomy (general course)	180	Final pretest
7. Normal Physiology	100	Training proceeds in 2nd study year
8. Histology, Cytology and Embryology	65	Training proceeds in 2nd study year
9. Microbiology, Immunology and Virology	60	Training proceeds in 2nd study year
10. Dental Materials	80	Exam
11. First Aid/ Emergency Care	40	Final pretest
12. History of Medicine	40	Final pretest
13. Latin	80	Final pretest
14. Foreign Language	120	Training proceeds in 2nd study year
15. Physical Training	120	Final pretest
TOTAL:	**1370**	

2nd study year (3rd-4th semester)

Discipline	Number of contact hours	Final control
1. Biological Chemistry	113	Exam
2. Anatomy of Head and Neck	95	Exam
3. Normal Physiology	116	Exam
4. Histology, Cytology, Embryology	90	Exam
5. Microbiology, Immunology and Virology (general course)	58	Exam
6. Anatomical Pathology	40	Training proceeds in 3rd study year

7. Physiopathology	40	Training proceeds in 3rd study year
8. Pharmacology	59	Training proceeds in3rd study year
9. Propaedeutic Dentistry	195	Exam
10. Preventive Dentistry and Epidemiology	40	Training proceeds in3rd study year
11. General Hygiene	40	Training proceeds in 3rd study year
12. Propaedeutics of Internal Diseases	40	Training proceeds in 3rd study year
13. General Surgery	40	Training proceeds in 3rd study year
14. Topographical Anatomy and Operative Surgery of Head and Neck	40	Final pretest
15. Philosophy	116	Exam
16. Bioethics	40	Final pretest
17. Economic	78	Exam
18. Foreign Language	78	Final pretest
19. Physical Training	78	Final pretest
TOTAL:	**1396**	

3rd study year (5th-6th semester)

Discipline	**Number of contact hours**	**Final control**
1. Oral Microbiology	38	Final pretest
2. Anatomical Pathology (general course	76	Exam
3. Physiopathology (general course)	76	Exam
4. Pharmacology	58	Exam
5. Public Health	63	Exam
6. Preventive Dentistry and Epidemiology	66	Training proceeds in 5th study year
7. Faculty Therapeutic Dentistry	160	Training proceeds in 4th study year
8. Faculty Oral Surgery	122	Training proceeds in 4th study year
9. Prosthetic Dentistry	120	Training proceeds in 4th study year
10. Children's Therapeutic Dentistry	21	Training proceeds in 4th study year
11. General Hygiene	38	Final pretest

12. Propaedeutics of Internal Diseases	57	Exam
13. Internal Diseases	63	Training proceeds in 4th study year
14. General Surgery	38	Final pretest
15. Surgical Diseases	62	Training proceeds in 4th study year
16. Radiodiagnostics and Radiotherapy	80	Exam
17. Ear, Nose and Throat diseases	63	Exam
18. Dermatovenerology	42	Training proceeds in 4th study year
19. Psychology and Pedagogies	60	Final pretest
20. Medical Informatics	38	Final pretest
21. Healthy Lifestyle	20	Final pretest
TOTAL:	**1361**	

4th study year (7th-8th semester)

Discipline	**Number of contact hours**	**Final control**
1. Physiopathology of Maxillo-facial Region	42	Final pretest
2. Anatomical Pathology of Head and Neck	36	Final pretest
3. Faculty Therapeutic Dentistry	71	Exam
4. Hospital Therapeutic Dentistry	114	Training proceeds in 5th study year
5. Faculty Oral Surgery	36	Exam
6. Implantology	21	Final pretest
7. Maxillo-facial Traumatology	112	Final pretest
8. Faculty Prosthetic Dentistry	167	Exam
9. Children's Therapeutic Dentistry	56	Training proceeds in 5th study year
10. Children's Oral and Maxillo-facial Surgery	56	Training proceeds in 5th study year
11. Orthodontics	56	Training proceeds in 5th study year
12. Internal Diseases	98	Exam
13. Surgical Diseases	73	Exam
14. Dermatovenerology	38	Final pretest
15. Neurology	56	Final pretest
16. Obstetrics	54	Final pretest
17. Ophthalmology	38	Final pretest

18. Psychiatry	38	Final pretest
19. Infection Diseases, Phthisiology	57	Final pretest
20. Clinical Pharmacology	36	Final pretest
TOTAL:	**1255**	

5th study year (9th-10th semester)

Discipline	**Number of class hours**	**Final control**
1. Preventive Dentistry and Epidemiology	36	Final pretest
2. Hospital Therapeutic Dentistry	251	Exams on practical skills Integrated exam in structure of Final State Certification of graduates
3. Maxillo-facial Surgery	216	
4. Hospital Prosthetic Dentistry	220	
5. Children's Therapeutic Dentistry	72	Integrated exam in Pediatric dentistry and Orthodontics
6. Children's Oral and Maxillo-facial surgery	72	
7. Orthodontics	72	
8. Paediatrics	72	Final pretest
9. Forensic Medicine	36	Final pretest
10. Exercise Therapy /Rehabilitation	36	Final pretest
11. Medical Law	36	Final pretest
12. Elective Course in Dentistry	40	
TOTAL:	**1150**	

Subjects of Elective Courses in Dentistry

Preventive Dentistry

1. Initial stages of dental caries. Newest methods of diagnostics, prevention and treatment.
2. Prevention of oral diseases among patients after teeth whitening.
3. Teeth hypersensitivity. Methods of diagnostics, prevention and treatment.

Therapeutic Dentistry

1. Use of matrixes and matrix holders in therapeutic dental practice.
2. Compomers use in dentistry.
3. Newest adhesive technologies in therapeutic dentistry.

4. Newest endodontic instruments and their application in therapeutic dentistry.

5. Application of piezo-surgery in complex treatment of periodontal diseases.

6. Modern methods of teeth splinting.

7. Modern insight on aetiology and pathogenesis of bullous dermatitis.

8. Clinical manifestations of diphtheria, reproach, chicken pox on oral mucous in adults.

9. Cancer awareness in dentistry.

10. The delayed visits to the dentist and their connection with patient's personal features.

Oral and Maxillo-facial Surgery

1. Cosmetic surgery of maxillo-facial area.
2. Dental implantology.

Prosthetic Dentistry

1. Newest methods of micro-prosthetics using CAD/CAM technology (CEREC systems).

2. Modern insight on teeth preparation for metal and non-metal crowns.

3. Application of newest prosthetic constructions in rehabilitation of patients with maxillo-facial injuries.

4. Telescopic fixing systems. Attachments.

5. Dentures with magnetic fixation system.

6. Application of the titanic alloys in prosthetic dentistry.

Section 2. Facilities

2.1. Clinical facilities

The responsible person: Igor V. Maev, Professor, MD, PhD Med. Sci.
First Vice-rector of MSUMD
E-mail: Maev@msmsu.ru

Yurij A. Vasyuk, Professor, MD, PhD Med. Sci.
Vice-rector for Educational and Clinical Affairs of MSUMD
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Dental clinical activity in the University is presented by 19 Dental Faculty Departments (out of which 13 are dentally oriented) and 7 Departments of Continuing Dental Education Faculty.

There are two bases of Dental Faculty – Clinical Diagnostic Centre (CDC) and Dental Hospital.

Clinical Diagnostic Centre (Dolgorukovskaya str., 4) is an ambulatory (policlinics) housing some departments of the Dental Faculty: Propaedeutic Dentistry; Preventive Dentistry and Epidemiology of Oral Diseases, Faculty Therapeutic Dentistry Department, Faculty Oral Surgery Department, Faculty Prosthetic Dentistry Department, where students in 2^{nd}, 3^{rd} and 5^{th} study years are trained. The building has 8 floors (10 301 m^2), is equipped with 141 universal dental units (KaVo (Germany), Planmeca (Finland)), Dental Technical Laboratory for 50 units with its own cast shop, Radiology Department, Clinical Diagnostics and Immunological laboratories. It serves over 55 thousand patients per year. CDC MSUMD carries out specialists care using modern dental and medical technologies, involving experts of supreme medical qualification, staff of University dental departments.

Dental Hospital of the MSUMD (Voucheticha str., 9a) is a unique dental centre for Russia which is providing complex ambulatory and hospital care to children and adults. It houses several departments of Dental Faculty: Hospital Therapeutic Dentistry, Hospital Oral and Maxillo-facial Surgery, Hospital Prosthetic Dentistry, Children's Therapeutic Dentistry, Children's Oral and Maxillo-facial Surgery, Orthodontics and Children's Prosthetic Dentistry. Students in 4-th and 5-th study years are trained here. The Dental Hospital consists of 4 floor ambulatory and 8 floor hospital facility (11049 m^2). It serves over 220 thousand patients / year. The ambulatory care is provided to population from Moscow and other regions of Russia in the Dental Hospital Policlinics equipped with 261 universal dental units (KaVo and Siemens (Germany), Planmeca (Finland)). The hospital facility of the Dental Hospital has 134 beds. Work of the hospital facility is provided by full scale staff, including anaesthesiologists and intencive care specialists, surgery

is administered in the operational block (8 operating rooms), department of intensive therapy (5 beds), clinical laboratory, radiology and physiotherapeutic departments.

Students are also trained on the basis of dental polyclinics (out-clinics) of Moscow and other dental health care facilities.

Postgraduate education of dentists is realized at the *Training and Clinical Centre of Continuing Education for Dentists and Medical Universities Teachers Faculty* (Dolgorukovskaya str., 18a) organized in 2006. The building has 3 floors (2 530 m^2), is equipped with 32 universal dental units.

At the *Clinical Centre of the MSUMD* (Onezhskaya str., 7) training of Interns (in General Dentistry) and Dental Technicians is realized. Total area of Centre is 240 m^2, it is equipped with 10 universal dental units.

Strengths

Due to situation of Dental Faculty departments in the versatile clinical centres of the University students have an opportunity to be trained in all dental disciplines consistently. Having started the education in the department of Propaedeutic Dentistry equipped with a modern phantom class, students develop the knowledge and practical skills in departments of Preventive Dentistry, Therapeutic Dentistry, Oral and Maxillo-facial Surgery, Prosthetic Dentistry. It allows generating in students the complex approach to diagnostics, treatment and prevention of oral diseases.

Dental care is provided by students with the modern equipment and wide spectrum of dental materials, under supervision of professors, senior lecturers and clinical assistants of the dental departments.

2.2. Teaching facilities

The responsible person: Yurij A. Vasyuk, Professor, MD, PhD Med. Sci.
Vice-rector for Educational and Clinical Affairs of MSUMD
E-mail: yvasyuk@yandex.ru

Lecture halls of the University are equipped with convenient armchairs, ventilation, acoustic systems, with an opportunity of carrying out video-presentations at a modern level. The Dental Faculty has 6 lecture halls:

- 2 - in the main administrative building of University - 238 places (the Big Hall) and 84 places (“Aluminium Hall”);
- 2 - in “Theoretical buildings” of University - 256 and 160 places;
- in the Clinical-Diagnostic Centre - 100 places.
- in Dental Complex of MSUMD - 360 places.

Each Department has *academic auditoriums* (from 2 up to 10) suitable for seminars. There are clinical departments situated in resourceful hospitals and specialized clinics where students have opportunity of examining patients with various diseases. Dental departments have medical halls equipped with dental units, necessary instruments and materials where students realise clinical practice under teacher's supervision. Some departments (Anatomy, Oral Surgery) have their own museums.

The *phantom class* of Propaedeutic Dentistry Department (56 m^2) functions with 15 phantom units (KaVo) completed with the necessary equipment for performing phantom manipulations in all areas of dentistry: Preventive, Therapeutic, Surgical, Prosthetic. Units are equipped with turbine and mechanical handpieces, saliva ejectors, pusters for water and air, etc. Operating conditions are made as close as possible to the operating conditions for patients in clinics.

Students have access to 5 interdepartmental *computer classes* located on the clinical bases of the University (opened from 9.00 till 20.00) and 4 computer classes at departments of Faculty Prosthetic Dentistry, Radiological Diagnostics, Ophthalmology, First Aid.

The *linguaphone study* and *video class* allows to carry out work with texts in foreign languages and tasks on lexicon and grammar on different topics.

2.3. Teaching laboratories

Teaching experimental laboratories are available at the Departments of the General and Bioorganic Chemistry, Physics, Biological Chemistry, Normal Physiology, Microbiology, General Hygiene, Dental Materials.

The university has a Teaching Dental Laboratory training the «Dental Technician» students.

2.4. Research laboratories

The responsible person: Victor N. Tzarev, Professor, MD, PhD Med. Sci.
Director of Research Medical Dental Institute
E-mail: nikola777@rambler.ru

Research Medical Dental Institute (RMDI) of MSUMD provides experimental and laboratory base for realization of scientific fundamental research in dentistry, and also applied and clinical-laboratory dental research.

RMDI structure includes 2 departments and 7 laboratories.

1. The *Department of Experimental Research and Modelling* includes:
- Molecular and Genetic Research Laboratory;
- Immunological Laboratory;
- Cell Technologies Laboratory.

2. The *Department of Fundamental Dentistry* includes:
- Prevention of Oral Diseases Laboratory;
- Standardisation in Dentistry Laboratory;
- Pain and Anaesthesia Laboratory;
- Dental Materials Laboratory.

Scientific staff – 52.

Out of those: Doctors of Medical Sciences (MD) – 6;
Candidate of Medical Sciences (PhD) – 27.

Main directions of RMDI research work for the period of 2007-2012:

- Molecular, genetic and immunological methods of periodontal diseases diagnostics;
- Complex preventive care and treatment of oral diseases in children with congenital lip and palate clefts;
- Development of dental alloys based on precious metals.

2.5. Library

The responsible person: Elena A. Stupakova
E-mail: bibl@msmsu.ru

General information

Fundamental Scientific Educational Library of MSUMD is situated in a separate building near to Dental Hospital where students are trained. The library occupies an area of 1640 m^2.

Users of the Library

Now the Library serves 13824 permanent readers (within one year 61000 readers are served) among which are students of undergraduate and postgraduate faculties, teachers from the University, doctors from University clinics, persons who are not related to the University (served on commercial basis).

Structure of the Library

1. Department of processing and cataloguing
2. Department of acquisition and scientific processing of the literature
3. Departments of scientific literature storage
4. Departments of educational literature storage
5. Scientific and bibliographic department
6. Department of rare books and manuscripts
7. Methodical department
8. Department of a computerization.

Access to:

- Educational literature - 9.30 - 18.00
- Scientific literature (reading-room) - 9.30 - 20.00
  on Saturday - 9.30 - 15.00
  on Sunday - day off.

Library stock

The stock of MSUMD Library is made up by 602.000 items

From this:

- The educational literature - 452 000 items
- The scientific literature - 69 000 items (in foreign languages - 1830 items)
- The periodicals - 28 000 items
- Dissertations and abstracts - 17 000 items
- Works of employees of the University (books, collections of proceedings, methodical manuals) - 1600 items

Equipment of the Library

Computers (9) with the high-speed Internet access, office equipment: copiers (4), scanner (1), printers (3).

Primary aims

High level provision with necessary literature for the educational, pedagogical and research activity of all categories of students and staff of the University.

Main objectives

- High quality service for all categories of readers;
- Expansion of library services spectrum (creation of the electronic catalogue, use of foreign search engines etc.) for simplification of the search for the educational and scientific literature according to requirements of readers.

Strengths

- Since 1990 the Library files an electronic catalogue, which includes 13850 bibliographic recordings on printed editions and allows to the user multidimensional search of the literature on alphabetic, regular and other principles.
- The reading-room is equipped with a local computer network, having a high-speed Internet access and an opportunity of information search of Medline and other international systems.
- Creation of an electronic card file of a bibliographic list of journal articles (14 970 names).
- The documentary fund of the Department of rare books and manuscripts on medicine (about 5000 copies), representing a historical value from the point of view of chronology (the most ancient book - 1820 of publication), limited circulation editions.

Weaknesses

- Lack of rooms for Library;
- Lack of means for purchasing of the educational literature;
- The increase and renewal of material resources (the electronic and office equipment) is desirable.

Innovations and best practices

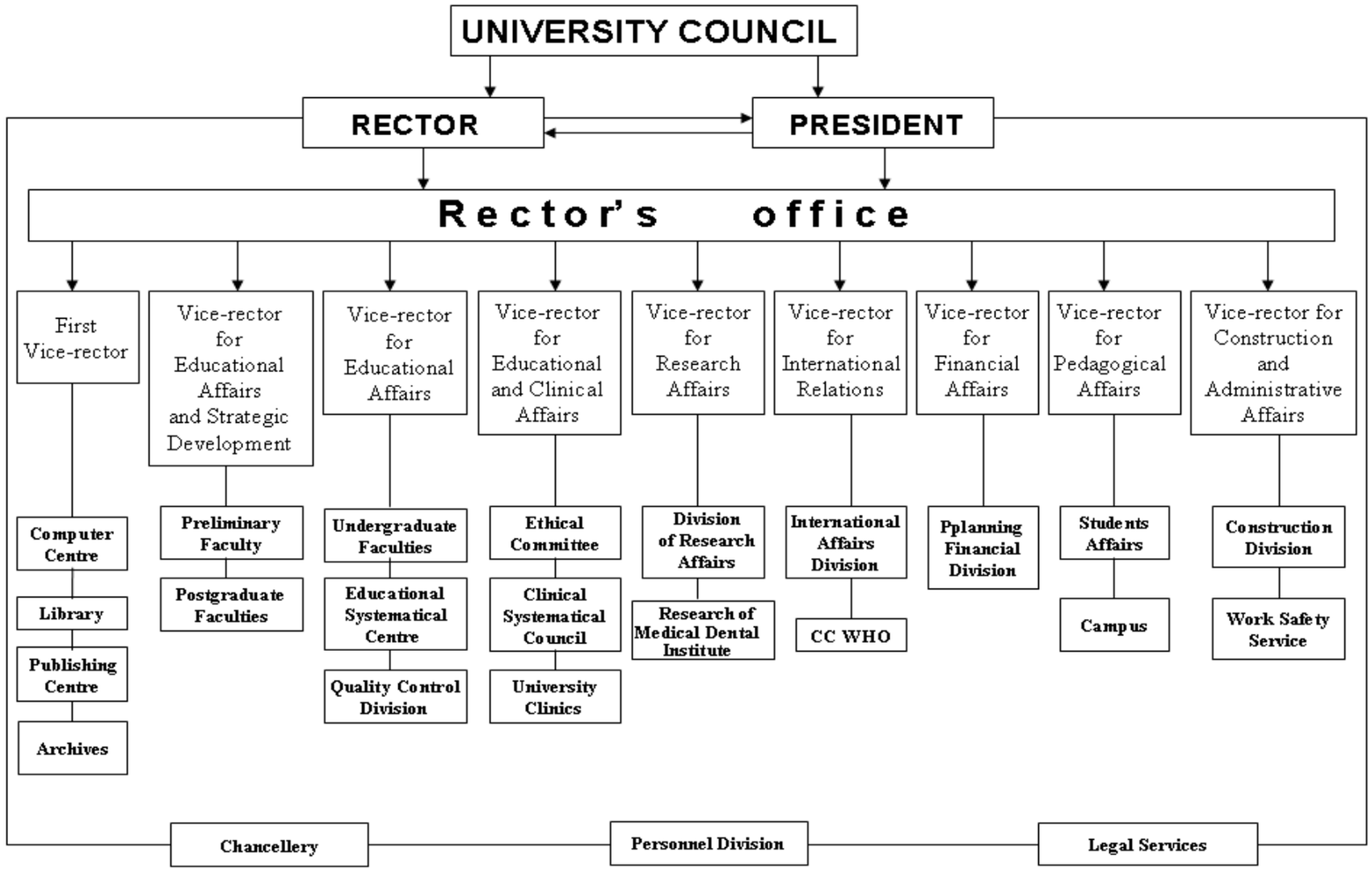
- drawing up of the bibliographic list by individual request;
- training on bases of bibliographic-marketing knowledge students of 3-rd study year.

Plans for future changes

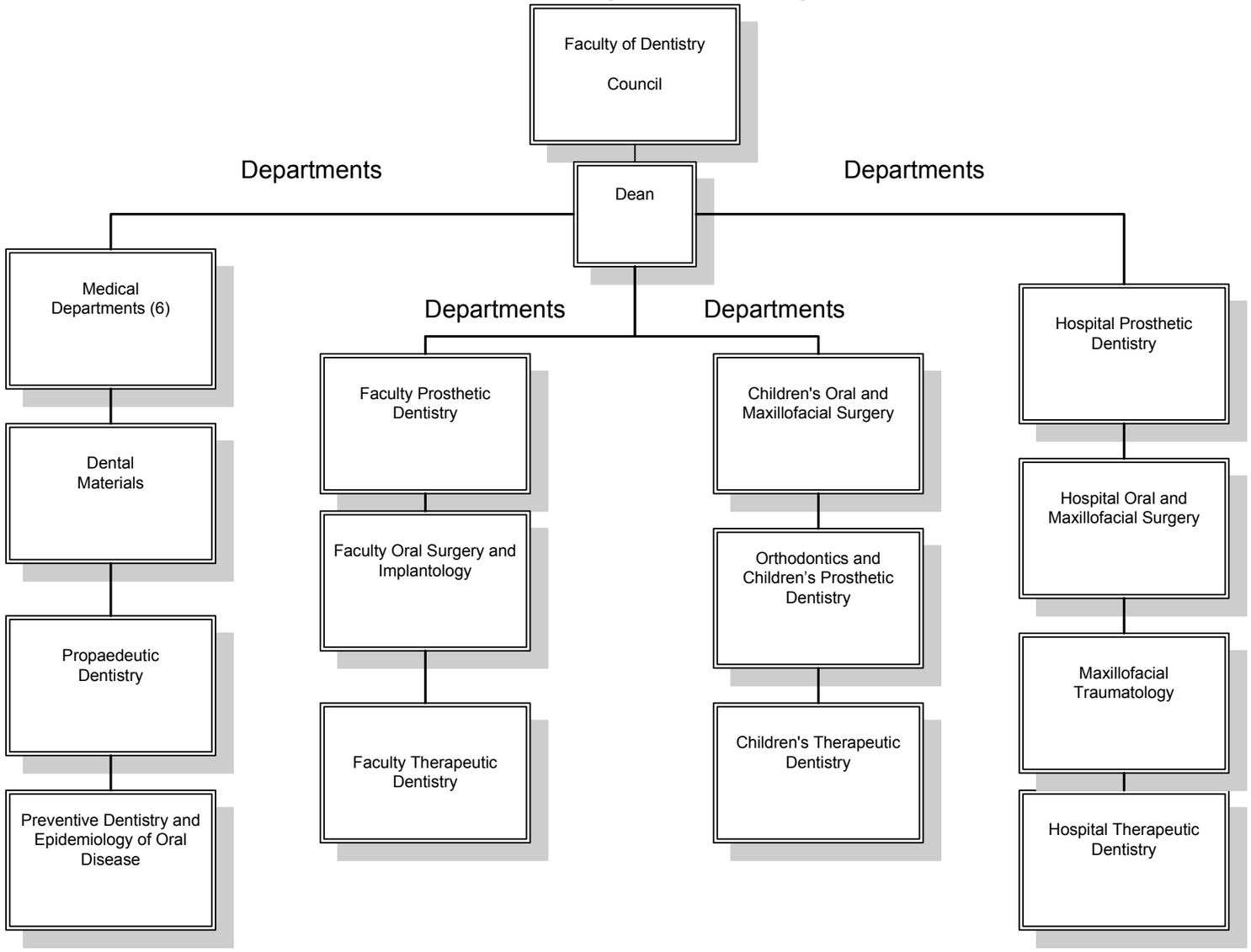
- renewal of electronic and office equipment.

Section 3. Organizational and administrative structures

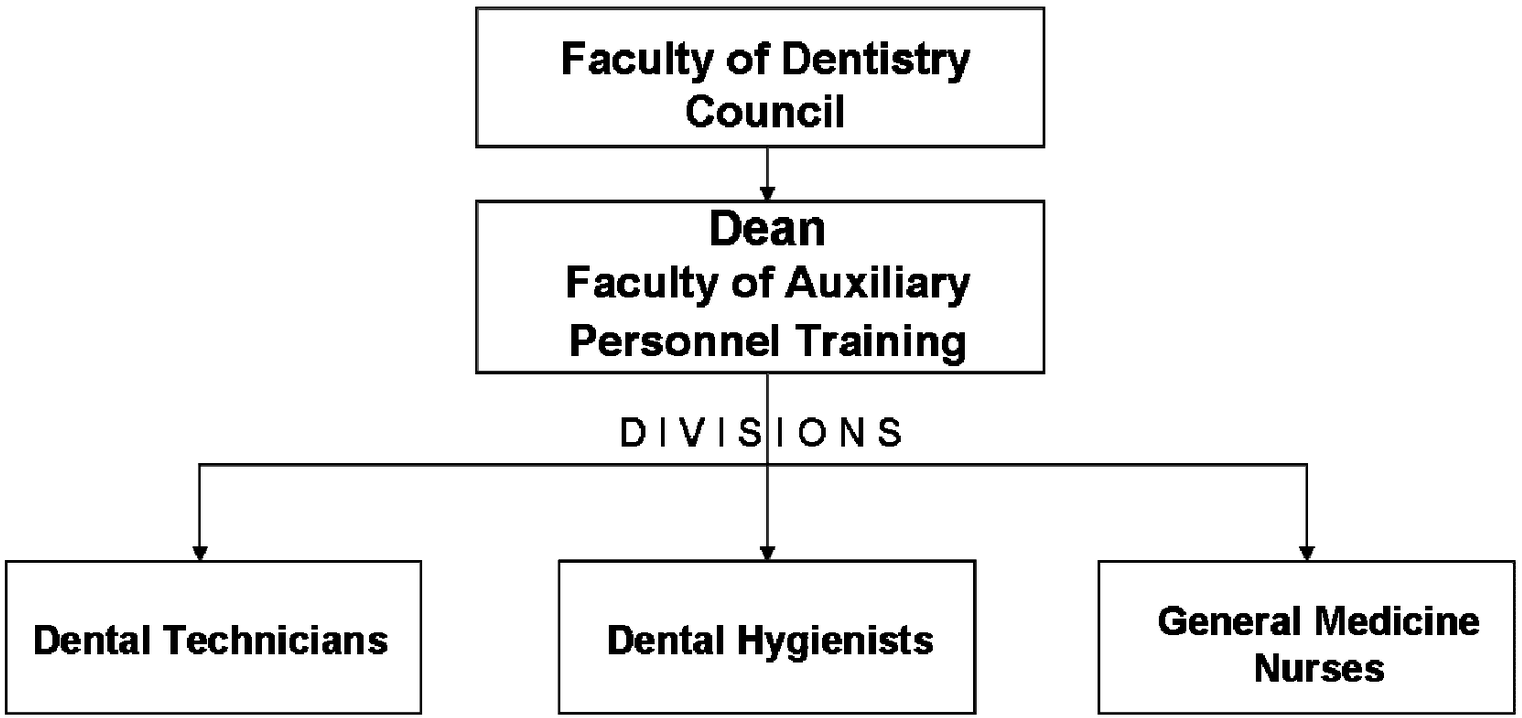
3.1. Clinical/Academic Organizational Structures

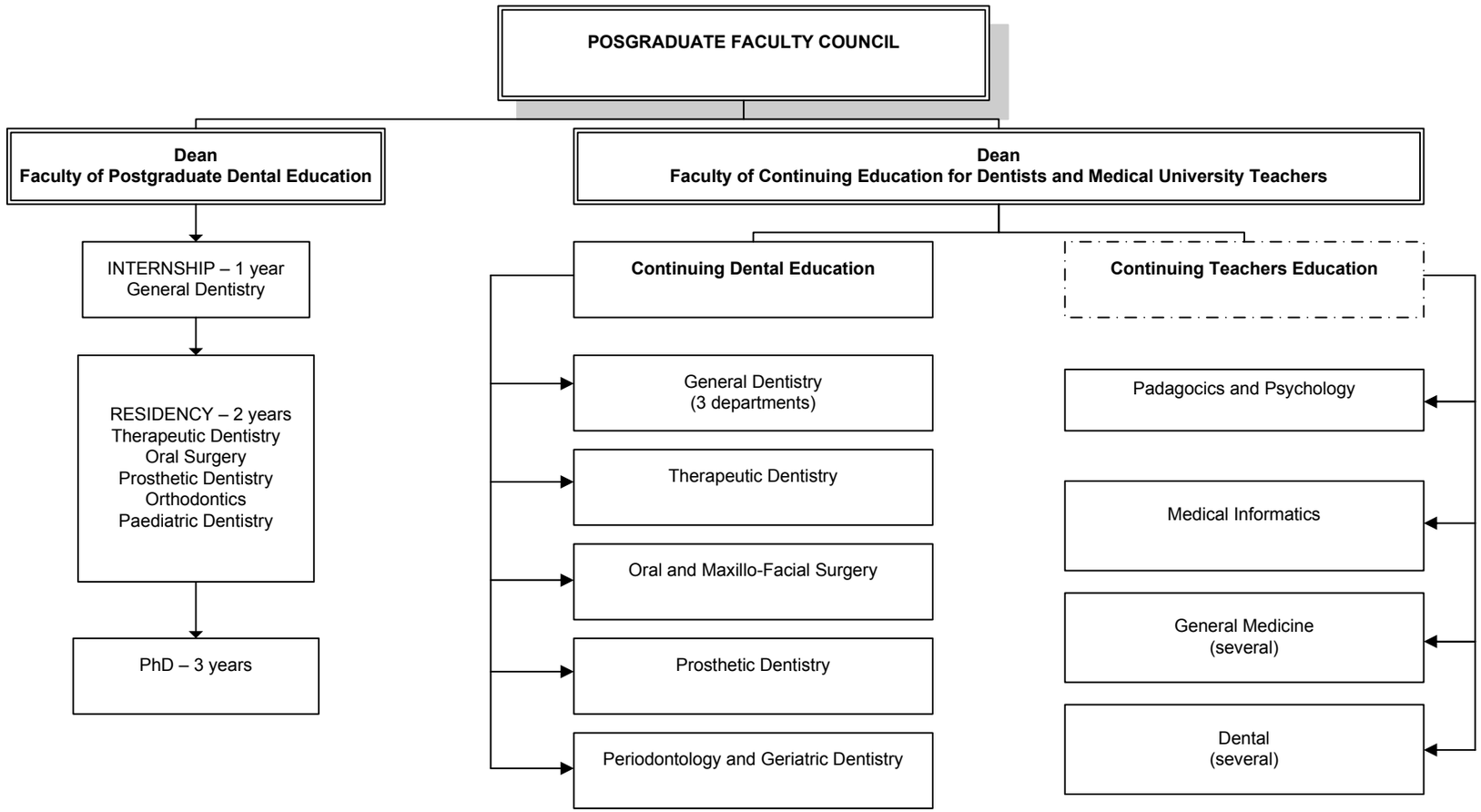


Faculty of Dentistry



FACULTY OF AUXILIARY PERSONNEL TRAINING OF MSUMD




POSGRADUATE FACULTY COUNCIL
Dean
Faculty of Postgraduate Dental Education
Dean
Faculty of Continuing Education for Dentists and Medical University Teachers
INTERNSHIP – 1 year
General Dentistry
RESIDENCY – 2 years
Therapeutic Dentistry
Oral Surgery
Prosthetic Dentistry
Orthodontics
Paediatric Dentistry
PhD – 3 years
Continuing Dental Education
Continuing Teachers Education
General Dentistry
(3 departments)
Therapeutic Dentistry
Oral and Maxillo-Facial Surgery
Prosthetic Dentistry
Periodontology and Geriatric Dentistry
Padagocics and Psychology
Medical Informatics
General Medicine
(several)
Dental
(several)

3.2. Information technologies (IT)

The responsible person: Jurij S Shupenin
E-mail: IVC@msmsu.ru

3.2.1. General information

Computer centre (CC) MSUMD is situated in administrative building of the University. Its personnel is made up by 30 programmers, engineers, technicians and operators. Basic functions of CC are introduction and support of information technologies in educational process and administration of the University.

Field of CC activity includes support of 5 interdepartmental computer classes for students' independent work on various disciplines, located on medical bases of the University (business hours - from 9.00 till 20.00) and 4 departmental computer classes at departments of Department Prosthetic Dentistry, Radiological Diagnostics, Ophthalmology, Radiological Therapy, First Aid. University computer network состоит, in total, 84 personal computers with high-speed Internet access, with a complete set of training and supervising software for various disciplines. The special software allows to provide computer testing for the current control of students and also of one of the stages of graduates Final State Certification . Now practically each Department has the complete set of multimedia equipment and computer assisted lecturing has become.

CC provides support of the University web-site. The site www.msmsu.ru contains 14 basic sections describing activities of the University, has its own search engine and is integrated with the University Interten portal. The differentiated users access to the portal enables access to confidential internal information for each employee. University has its own mail server which organizes electronic document circulation between employees of University.

The group of programmers and database managers provides functioning the University Computer Aided Management System (finance, planning, management of staff, educational process etc.) All administrative divisions of University are incorporated into the local computer network (210 computer).

Department of Medical Informatics is training students and teachers in basic computer skills (see section 5.6) and provides technical support for real-time teleconferencing (the telemedical studio is organized).

In total University has 631 modern personal computers, servers, sufficient office equipment.

For successful development of information technologies the University cooperates with representatives of Microsoft, IBM, Cisco, Softline, Krok and others.

3.2.2. Primary aims

Maximizing IT support of the University community (students of undergraduate and postgraduate level, employees of the University).

Improving quality of educational process management and administrative activity in the University.

3.2.3. Main objectives

- To ensure basic computer skills of students and teachers.
- To improve fundamental and professional knowledge and skills of students through the use in educational process of training and supervising computer programs with possibility of self-preparation.
- To maintain information exchange (teleconferences, use of WEB-technologies).
- To introduce and support special software for management, coordination, and control of activity of all administrative, educational, research and clinical divisions of the University.

3.2.4. Strengths

- Presence in structure of the University of an IT-division (since 1990), staffed with the highly skilled personnel.
- The advanced local network infrastructure.
- Presence of a database containing training and supervising computer programs on various disciplines, active use of multimedia technologies in undergraduate and postgraduate education.
- Presence of system of continuing professional education in the field of information technologies.

3.2.5. Weaknesses

- Lack of rooms for employees of IT-division.
- Lack of resources for the upgrade of the electronic equipment, low salaries.

3.2.6. Innovations and best practices

- Participation in the federal program "Innovative Higher School".
- Creation of uniform informational and educational zone of University.
- Creation of a uniform information access point by means of the Corporate Information Portal (Internet)
- Development of distance learning environment.

3.2.7. Plans for future changes

- Increase of IT support for the University and potential Internet-users.

Section 4. Staff

4.1. Staff qualification

The responsible person: Igor V. Maev, Professor, MD, PhD Med. Sci.
First Vice-rector of MSUMD
E-mail: Maev@msmsu.ru

Staff statistics:

Position	Number	Scientific degree		Academic status	
		M.D.	Ph.D	Professor	Associate professor
Head of Department	51? пересмотреть	46	4	38	9
Professor	110	101	8	60	22
Docents	277	18	246	2	165
Clinical lecturer	312	2	238		10
Lecturer	147	1	49		5
Senior academic assistant	185	2	35		1
Academic assistant	246				
Dental technician	82				
Engineers and technicians	8				

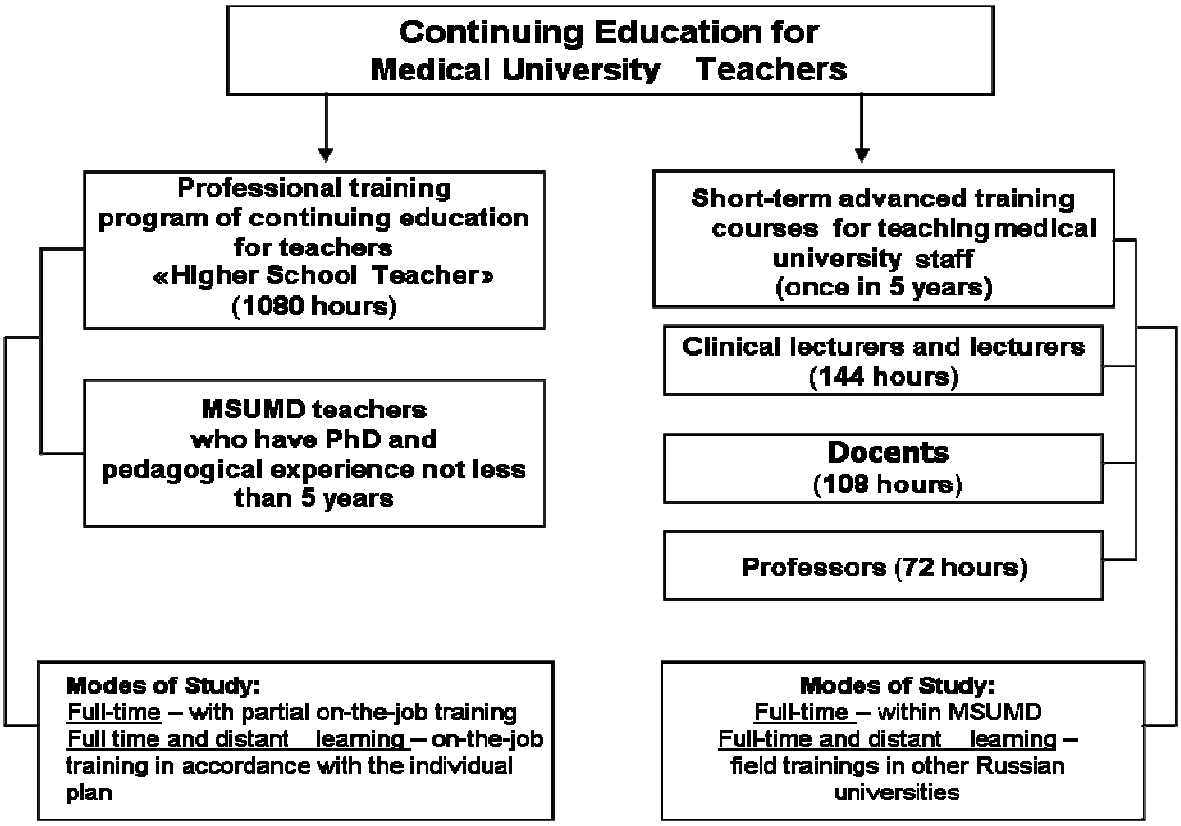
Section 4.2. Continuing Education for Medical University Teachers

Responsible person: Edith M. Kouzmina, Professor, MD, PhD Med. Sci.
Dean of Continuing Education for Dentists and Medical University Teachers of Faculty (проверить со схемой)
E-mail: nocaries@mail.ru

4.1.1. Introduction

Continuing Education for Medical University Teachers (CEMUT) is the essential part of improvement of dental education system. This training program is realized by Continuing Education for Dentists and Medical University Teachers Faculty. It is aimed at acquiring modern teaching methodology and quality control in education.

There are the following programs at the CEMUT of MSUMD:



CEMUT is carried out by Psychology and Pedagogic Department, Department of Medical Informatics, and major clinical departments of Dental and General Medicine Faculties of MSUMD.

4.2.2. Primary aims

Complex psychological, pedagogical and IT education of teachers to qualify in medical university in accordance with the State Educational Standard.

4.2.3. Main objectives

- Study by teachers of modern educational technologies for professional training;
- Implying optimal teaching strategy depending on aims and teaching phase;
- Integration of psychological, pedagogical and medical knowledge in teaching;
- Development of pedagogical thinking and personality characters necessary for individual professional teacher's work.

4.2.4. Hours in the curriculum

1) Extended program of professional education for the qualification "Higher School Teacher"- 1080 hours.

Among them:

- Psycho-pedagogical and methodological education – 600 hours;
- IT in science and education – 100 hours;
- History, philosophy and research methodology – 100 hours;
- Professional knowledge of foreign language – 140 hours;
- Preparation and defense of qualifying paper – 140 hours.
- Education in the program of qualifying examinations for PhD degree.

2) Short-term courses of advanced education for the teaching staff.

Education is conducted in accordance with the integrated program implying cooperation of teaching staff at Dental and General Medicine Faculties as well as specialists of medical, biological, and basic disciplines.

	Number of contact hours at courses of Teachers Advanced Education		
	Clinical lecturers bold **and lecturers**	**Docents**	**Professors**
Psychology and Pedagogics	27	18	9
IT in education	33	24	15
Lectures on basic sciences	9	9	9
Training at major Department	69	51	33
Round table	6	6	6
Total:	**144**	**108**	**72**

4.2.5. Methods of learning/teaching

Lectures

Seminars

Practical classes

- discussions (round table)
- case study/problem solving
- studies at computer class
- teaching practice at major Department

Individual development of learning and supervisory materials for discipline taught

Distance learning

4.2.6. Assessment methods

- interview
- case study
- defense of qualifying paper

4.2.7. Strengths

- Realization of continuous education concept for doctors-teachers, development of educational potential of teachers.
- Development of interuniversity cooperation in the area of CEMUT; exchange and generalization of experience in innovative pedagogical practice; ? strengthening advanced trainings and teachers retraining courses.
- Us of internal scientific researches made by doctors-teachers to enhance educational and pedagogical process within the University.
- Effectiveness analysis and assessment of the advanced trainings held on the basis of the questionnaire survey results.

4.2.8. Weaknesses

- Need in development of independent training base: assigning rooms for studies, equipment for trainings;
- Limited capacities for on-line learning and organization of field trainings in universities collaborating with MSUMD.

4.2.9. Innovations and best practices

- Development of psycho-pedagogical educational basic knowledge for people who have no pedagogical education.
- Projecting and implementation of models of innovative education which provide the most effective mastering of new value systems, professional thinking of doctors-teachers, development of their educational potential and motivation to continuing education.
- Development of cross-disciplinary professional programs of advanced education and retraining of teachers.
- Development of the credit system which would allow a teacher to take up on-the-job advanced trainings in accordance with the individual programme at convenient time.
- Development of forms and methods for distance learning. It would increase availability of continuous education for teachers in MSUMD and other universities.
- Attraction of expert tutors (curators of MSUMD Departments) to develop scientific and working models for the part of the learning program called “Innovative Technologies of Teaching the Profession”.
- Holding thematic seminars for the participants of advanced trainings on modern pedagogical technologies.

4.2.10. Plans for future changes

- Creation of the Centre of Innovative Technologies in the field of CEMUT in medical universities.
- Participation in upgrading of higher medical education, incorporation in the integration activities in connection with Bologna process.

- Creation and improvement of innovative pedagogical technologies optimizing educational process in medical university.

-Conducting research on general and specific issues of medical education.

Section 5. Biological sciences

The block of biological sciences consists of several disciplines: «Biology with Ecology», «General and Bioorganic Chemistry», «Biological Chemistry», «Physics», «Mathematics and Informatics», «Medical Informatics».

5.1. Biology with Ecology

Responsible person: Valerija V. Markina, professor, M.D., Ph.D. Biol. Sci.
E-mail: Biolog@msmsu.ru

5.1.1. Introduction

The course of Biology for dental students is presented during the 1st study year in the 1st and 2nd semesters. The total duration of the education is 120 hours. During the education following subjects are covered: the general biological laws of human life activity, bases of genetics, aspects of human ecology, biological bases of parasitism; oral cavity evolution of the vertebrates and human being, phylogenetic determination of defects of the maxillo-facial areas. The educational program includes modern molecular-genetic methods.

5.1.2. Primary aims

Obtaining by students of systematic knowledge about properties of biological systems; vital processes proceeding at molecular, cellular, organic levels; the basic ecological laws and mechanisms of human.

5.1.3. Main objectives

The student should have knowledge on the following aspects:

- bases of evolutionary process, anthropogeny, influence of evolutionary factors on human's populations;
- bases of heredity and variability, methods of human genetics study;
- organization of a cellular level, realization of hereditary material, mechanisms of cells reproduction;
- stages of human ontogeny, evolution of maxillo-facial systems, the reasons of congenital defects of the face, dento-maxillary system, gullet, salivary glands;
- concepts of homeostasis and regeneration;
- main properties of ecosystem, influence of biotic, abiotic and social factors on human organism;
- morphological features of human parasites, their life cycles, ways of infection.

5.1.4. Hours in the curriculum

In total 120 contact hours (lectures - 26 hours, practical sessions - 94 hours).

1st semester - lectures - 20 hours, practical sessions - 60 hours;

2nd semester - lectures - 6 hours, practical sessions - 34 hours.

5.1.5. Methods of learning / teaching

- lectures
- practical sessions
- situation tasks solving
- laboratory classes
- visiting lectures in museums of Darvinism, Zoology, Scientific Research Institute of Gelmintology.

5.1.6. Assessment methods

Testing, colloquiums (assessment based on score-rating system), students oral presentations.

Exam after 2nd semester.

5.2. General and Bioorganic Chemistry

The responsible person: Alexander S. Berljand, Professor, MD, PhD. Pharm. Sci.

E-mail: KoiBH@msmsu.ru

5.2.1. Introduction

The course is presented during the 1-st study year and consist of two parts.

The course of **General Chemistry** (96 hours) studies physical and chemical laws of biochemical processes proceeding at molecular and cellular levels (in norm and pathology). The spectrum of considered problems is optimized to professional activity of the dentist. Students study electrolytic homeostasis of oral cavity; acid-base properties of saliva, gingival liquids and dental liquor; the mechanism of hard tissues mineralization ; electric conductance of biological liquids and tissues.

The course of **Bioorganic Chemistry** (44 hours) provides theoretical basis for understanding properties and functions of organic molecules and synthetic biologically active substances.

5.2.2. Primary aims

General Chemistry - acquisition by students knowledge of physico-chemical essence and mechanisms of processes, proceeding in a human body at molecular and cellular levels.

Bioorganic Chemistry – development in students of knowledge about the relationship between structure and chemical properties of biologically important classes of organic substances.

5.2.3. Main objectives

- The student should know:
- basic types of the reactions proceeding in a human organism;
- speed and direction of chemical reactions, chemical balance;
- acid-base properties of aminoacids and proteins;
- action of buffer systems in human body and oral cavity, their role in maintenance of homeostasis;
- laws of cells existence in solutions with various osmotic pressure; requirements to the solutions used in medicine;
- basic types of electrode processes, electrochemical processes in a human body and oral cavity;
- properties of disperse systems; properties of saliva as a colloidal system;
- classification of organic substances, principles of the international nomenclature;
- biologically important classes of organic substances; biopolymers and their structural components.
- The student should have practical skills in:
- experimental determination of concentration of acids bases, salts, buffer capacity of solutions using method of titration;
- experimental determination of pH and oxidation-reduction potential of solutions;
- drawing up formulas of organic substances according to nomenclature names.

5.2.4. Hours in the curriculum

***General Chemistry*:** In total 96 hours are scheduled (24 hours of lectures, 52 hours of practical sessions, 20 hours of laboratory classes).

1st semester - lectures - 14 hours, practical sessions - 28 hours, laboratory classes – 8 hours);.

2nd semester - lectures - 10 hours, practical sessions - 24 hours, laboratory classes – 12 hours);.

Bioorganic Chemistry: In total 44 hours are scheduled (8 hours of lectures, 24 hours of practical sessions, 12 hours of laboratory classes) during 2nd semester.

5.2.5. Methods of learning / teaching

- lectures
- practical sessions
- laboratory classes
- situational tasks solving

5.2.6. Assessment methods

Testing, colloquiums, assessment of practical work in laboratory (assessment based on score-rating system), students oral presentations.

Exam in the general chemistry - after 1st semester;

final pretest in bioorganic chemistry - after 2nd semester.

5.3. Biological Chemistry

The responsible person: Tatiana P. Vavilova, Professor, M.D., Ph.D. Med.Sci.

E-mail: BioHim@msmsu.ru

5.3.1. Introduction

The course of Biological Chemistry is presented during the 1st and 2nd study years (2nd-4th semester) within 178 hours. While studying structure and functions of the basic organic molecules of human body (proteins, nucleinic acids, carbohydrates, fats); properties of biological membranes; processes of biological oxidation; biochemical essence of metabolism and mechanisms of its regulation; biochemistry of blood, bone and connecting tissues are considered.

The curriculum of 4th semester is devoted to studying of biochemistry of oral cavity: teeth, periodontium, salivary glands, saliva, gingival liquids. Biochemical processes of enamel mineralization; saliva formations , gingival liquids, dental plaque and dental calculus; regulative mechanisms of hard tissues metabolism; biochemical alterations in hard tissues and periodontium biological liquids in pathology are considered.

5.3.2. Primary aims

Provides the students with theoretical basis for understanding of metabolism, proceeding on molecular, cellular and organic levels of human body both determining health state and adaptation.

5.3.3. Main objectives

- The student should know:

- chemical structure of the substances included in live organisms;
- main principles of transformations of structural, information, regulatory and energy molecules;
- regulation of metabolism, diagnostic importance of the basic metabolites;
- basic biochemical processes proceeding in oral cavity;
- major biochemical parameters of biological liquids, their diagnostic importance.

- The student should have practical skills:

- qualitative and quantitative determination of some enzymes activity , concentration of proteins, glucose and the major metabolites in biological liquids;
- evaluation of functional condition of internal organs, tissues and cells by results of biochemical analyses.

5.3.4. Hours in the curriculum

In total 178 hours are scheduled (lectures - 40 hours, practical sessions - 138 hours).

2nd semester - lectures - 15 hours, practical sessions - 50 hours;
3rd semester - lectures - 17 hours, practical sessions - 56 hours;
4th semester - lectures - 8 hours, practical sessions - 32 hours.

5.3.5. Methods of learning / teaching

- lectures
- practical sessions
- discussion on a subject
- situation tasks solving
- laboratory classes

5.3.6. Assessment methods

Testing, oral and written questioning, colloquiums, assessment of practical work in laboratory (assessment based on score-rating system).

Exam after 4th semester.

5.4. Physics

The responsible person: V.M.Govorun, Professor, M.D., Ph.D. Biol.Sci.
E-mail: Fizic@msmsu.ru

5.4.1. Introduction

The course of Physics is presented during the 1st study year in the 1st and 2nd semester and consists of 100 hours.

Physical properties of biological tissues and liquids; biophysical mechanisms of physical factors influence on human body; methods of determination of physic-chemical properties of dental materials are studied. The curriculum includes problems of application of x-ray radiation in dentistry, dosimetry of ionizing radiations and their influence on biological tissues.

5.4.2. Primary aims

Obtaining by students of systematic knowledge and understanding of main biophysical laws and their application for diagnostics and treatment of diseases.

5.4.3. Main objectives

The student should know:

- general physical laws underlying processes proceeding in the human body and oral cavity;
- basic physico-mechanical properties of the dental materials;
- characteristics of physical factors (medical, climatic, industrial) and the biophysical mechanisms of their influence on a human body;
- purpose and principles of the diagnostic and physiotherapeutic equipment work;
- safety regulations for useof equipment.

5.4.4. Hours in the curriculum

In total 100 hours are scheduled (lectures - 40 hours, practical sessions - 30 hours, a laboratory classes – 30 hours).

1st semester - lectures - 20 hours, practical sessions - 30 hours, laboratory classes - 10 hours;

2nd semester - lectures - 20 hours, laboratory classes - 20 hours.

5.4.5. Methods of learning / teaching

- lectures
- practical sessions
- laboratory classes
- situation tasks solving

5.4.6. Assessment methods

Testing, colloquiums, assessment of practical work in laboratory (assessment based on score-rating system), students oral presentations.

Exam after 2nd semester.

5.5. Mathematics and Informatics

The responsible person: V.M.Govorun, Professor, M.D., Ph.D. Biol.Sci.
E-mail: Fizic@msmsu.ru

5.5.1. Introduction

The course of Mathematics and Informatics is presented during the 1st study year (in 1st and 2nd semester) within 60 hours.

This course prepares the student to solve various medical and biologic problems with application of correlation, regression and disperse analysis, acquaints with the basic methods of medical statistics.

5.5.2. Primary aims

Development in students of logical thinking, ability to precisely formulate the problem and find the optimum solution.

5.5.3. Main objectives

- Students should know:
- main concepts of the probability theory and mathematical statistics;
- bases of correlation, regression and the disperse analysis;
- basic technical and software resources of informatics.
- Students should have practical skills:
- to solve medical and biological problems with application of modern statistical methods;
- to edit the text and graphic information.

5.5.4. Hours in the curriculum

In total 60 hours are scheduled (practical sessions - 55 hours, laboratory classes - 5 hours).

1st semester practical sessions - 38 hours;

2nd semester practical sessions - 17 hours, laboratory classes - 5 hours.

5.5.5. Methods of learning / teaching

- practical sessions
- laboratory classes
- work in computer class under teacher's supervision.

5.5.6. Assessment methods

Written questioning, assessment of practical work in a computer class.

Final pretest – after 2nd semester.

5.6. Medical Informatics

The responsible person: Pavel L. Salmanov, Docent
E-mail: Inform@msmsu.ru

5.6.1. Introduction

The course of Medical Informatics is presented during the 3rd study year (5th semester) within 38 hours. Aspects of computer technologies application in medicine are considered. Students acquire the practical skills of work with the basic MS Office computer programs, use of Internet resources, get acquainted with potential of telemedicine.

5.6.2. Primary aims

- To give students an insight about processing ofmedical information.
- To develop practical skills necessary for application of information and telecommunication technologies in dental practice.

5.6.3. Main objectives

- Knowledge of modern software and hardware for processing and transfer of the medical information;

Practical skills:

- work with text documents, construction of tables and diagrams in MS Word and calculations MS Excel;
- use of Internet resources,e-mail and search engines to gain necessary information and communicate with colleagues;
- creation of computer presentations, use of other multimedia technologies.

5.6.4. Hours in the curriculum

In total 38 hours are scheduled (lectures - 6 hours, practical sessions - 32 hours).

5.5.5. Methods of learning / teaching

- lectures
- practical sessions
- work in computer class under teacher's supervision.

5.5.6. Assessment methods

Assessment of practical work in computer class.
Final pretest.

5.7. Strengths (for all biological sciences):

- Integral teaching of biological sciences;
- Curriculum is adapted to help application of the acquired knowledge and practical skills in dental practice;
- Conformity of educational program with the modern level of fundamental and applied science;
- In-house development and publication of manuals on biological sciences, adapted for dental students;
- Highly qualified teachers with the wide research and educational experience;
- Participation in research together with staff of dental departments;
- Students' Olympiads on biological sciences.

5.8. Weaknesses (for all biological sciences):

- Insufficient use in training of computer technologies due to limited resources;
- Necessity to modernize laboratory equipment;
- Insufficient motivation of the young scientific and educational staff because of the low salary.

5.9. Innovations and best practices

Illustrative computer programs on Biology and Biological Chemistry were created.

5.10. Plans for future changes

- Improvement of curriculum on biological sciences in accordance with modern technologies in oral diagnostics and treatment, based on newest achievements in biology, chemistry, physics.
- Development of new manuals and tests on biological sciences for dental students.

Section 6. Preclinical sciences

The block of preclinical sciences is represented by such disciplines as «Human Anatomy» (with a special course “Anatomy of Head and Neck”), «Topographical Anatomy and Head and Neck Operative Surgery », «Normal Physiology» (with a special course “Physiology of Maxillo-facial Area”), «Histology, Cytology and Embryology» (with a special course “Oral Histology ”).

6.1. Human Anatomy

The responsible person: Lev L. Kolesnikov, Professor, MD, PhD Med. Sci.
E-mail: Anatomic@msmsu.ru

6.1.1. Introduction

The course of Human Anatomy for dental students is presented during the 1st and 2nd study years (1st -3rd semester). Students study structure, function and topography of human body organs and systems: bones, joints, muscles, central nervous system, organs of sight and hearing (in 1st semester); digestive, respiratory, urinogenital systems, endocrine glands, heart, blood and lymphatic vessels, peripheral nervous system (in 2nd semester). The curriculum of 3rd semester is devoted to detailed studyof head and neck anatomy .

6.1.2. Primary aims

For student to obtain profound knowledge of human anatomy essential for medical and dental practice.

To develop ability of identifying normal structure of human body organs and systems.

6.1.3. Main objectives

- To give students knowledge of:
- normal structure and function of human body organs and systems;
- individual and age-related anatomic features, including antenatal period;
- topography of organs, their x-ray images, variability and defects of their development;
- To give an insight on relationship and unity of structure and function of human organs and systems;
- To develop in students practical skills:
- to use anatomical terminology;
- to work with anatomical specimens, using elementary instruments (scalpel, tweezers);
- to determine precisely localization of organs and their parts, their projections to the body surface;

- to foster respectful and careful attitude to human body.

6.1.4. Hours in the curriculum

In total 275 contact hours (55 hours of lectures, 220 hours of practical sessions);

1st semester - 20 hours of lectures, 80 hours of practical sessions;

2nd semester - 20 hours of lectures, 60 hours of practical sessions;

3rd semester (special course) **-** 15 hours of lectures, 80 hours of practical sessions.

6.1.5. Methods of learning/teaching

Lectures

Practical sessions

- demonstration by the teacher of practical skills with anatomic specimens;
- studying anatomic models and specimens under teacher's supervision;
- independent work in anatomic theatre;
- independent analysis of relevant literature (atlas and textbook on anatomy).

6.1.6. Assessment methods

Oral questioning, written and computer testing, assessment of practical skills.

After 2nd semester – final pretest on the General Anatomy.

After 3rd semester - exam.

6.2. Topographical Anatomy and Head and Neck Operative Surgery

The responsible person: Sergej V. Kolobov, Professor, MD, PhD Med. Sci.
E-mail: OperXi@msmsu.ru

6.2.1. Introduction

The course of Topographical Anatomy and Head and Neck Operative Surgery of is studied by dental students in the 2nd study year (4th semester).

During training the general surgical techniques are considered; the topographical anatomy of head and neck areas in detail is explored: brain region and major face regions (eyehole, nose, sinuses, parotid-masseteric region, temporo-mandibular joint (TMJ), oral cavity, dento-maxillary segments), triangles of neck. Also age-related features of those anatomic formations are discussed.

Students get acquainted with techniques of the operations carried out in head and neck areas: typical incisions at pyogenic inflammation in maxillo-facial area, principles of surgical treatment of face wounds, methods of

osteosynthesis at face bones fractures, technique of antrotomy, reposition of TMJ dislocation, operations in dento-maxillary segments. Students master methods of local anaesthesia used in dentistry and skills of teeth and roots extraction. During practical sessions students study anatomic specimens, develop technique of the basic surgical operations in head and neck areas.

6.2.2. Primary aims

For students to obtain knowledge of head and neck topography and to get acquainted with techniques of basic operations carried out in maxillo-facial area.

6.2.3. Main objectives

- Students should know:

- features of head and neck topographical anatomy , including age-related;

- surgical anatomy of bones, TMJ, cellular tissue spaces of head and neck;

- projections of nervous and blood vessels of head and neck;

- techniques of the basic operations in head and neck areas; typical incisions in maxillo-facial area and oral cavity.

- Students should master skills:

- use of the basic and additional surgical instruments for head and neck operations in ;

- suturing in maxillo-facial area and oral cavity;

- carrying out local anaesthesia, teeth and roots extraction and other operations in maxillo-facial area on anatomic specimens.

6.2.4. Hours in the curriculum

In total 40 contact hours (10 hours of lectures, 30 hours of practical sessions).

6.2.5. Methods of learning / teaching

Lectures

Practical sessions

- Discussion on subject using atlases, slides, models, anatomic preparations;

- Demonstration by the teacher of operative techniques;

- Students master practical skills using anatomic specimens under teacher’s supervision.

6.2.6. Assessment methods

Oral questioning, testing, assessment of practical skills.

Final pretest.

6.3. Normal physiology

The responsible person: Vitalij P. Degtyarev, Professor, MD, PhD Med. Sci.

E-mail: KNFZL@msmsu.ru

6.3.1. Introduction

The course of Normal Physiology is presented during the 1st and 2nd study years (2nd-3rd semester). In the general part of the course students study basic concepts of physiology, normal physiology of nervous tissues (physiological properties of neurons, muscles, receptors, synapses, gland cells), central nervous system, endocrine glands. The special part is devoted to studying physiology of the internal environment (blood, lymph) and the basic functions - metabolism, breath, digestion, thermoregulation, excretion, blood circulation and sensory systems. Also integrating activity is studied: biological basics of behaviour, supreme nervous activity, protective functions, mechanisms of adaptation and compensation of physiological functions. During practical sessions students master the modern clinical and experimental techniques of functional diagnostics.

In 4th semester dental students are presented with a special course «Physiology of Maxillo-facial Area». Students study concept of functional elements in dentistry; physiological functions of maxillo-facial area: sensory, digestive, respiratory, communicative, protective; age-related features of chewing and speech production; problems of adaptation and compensation in dentistry; interaction of maxillo-facial area with other systems of human body.

In practical sessions students implement some diagnostic procedures used in dental practice (masticatiographics, gnathodynamometrics, chewing tests, researches of flavouring, temperature, tactile sensitivity of maxillo-facial area, salivatory functions).

6.3.2. Primary aims

For students to obtain systematic knowledge about life activity of a holistic organism, its interaction with the environment, basic laws of systems functioning and mechanisms of their regulation.

To receive knowledge on the basic physiological laws of maxillo-facial area functioning; learning the methods of maxillo-facial area functions assesment.

6.3.3. Main objectives

General course:

- Formation in students of systematic approach to human physiology, concept of holistic organism;
- Knowledge of the basic physiological mechanisms underlying the normal functioning of organism, and also some boundary conditions;

- Implementation of some methods of functional diagnostics used in clinical practice and interpretation of their results.

Special course:

- To give students knowledge of:

- basic physiological functions of maxillo-facial area and mechanisms of their regulation;

- formation of specific and integrative functions of maxillo-facial area;

- relationship between functions of maxillo-facial area and other systems of human body.

- To give insight on:

- influence of environmental factors and health condition on functions of maxillo-facial area, mechanisms of adaptation and compensation;

- physiological mechanisms of pain formation and anaesthesia in oro-maxillo-facial area.

- To develop practical skills for assessment of:

- flavouring, temperature, tactile sensitivity of maxillo-facial area;
- digestion in an oral cavity (motor and secretory functions);
- locomotor's apparatus of maxillo-facial area.

6.3.4. Hours in the curriculum

In total 216 contact hours (50 hours of lectures, 166 hours of practical sessions);

2nd semester - 20 hours of lectures, 80 hours of practical sessions;

3rd semester - 22 hours of lectures, 54 hours of practical sessions;

4th semester (special course) - 8 hours of lectures, 32 hours of practical sessions.

6.3.5. Methods of learning / teaching

Lectures

Seminars

Practical sessions

- discussion on a subject;
- situational tasks solving;
- demonstration of experimental and diagnostic methods by the teacher;
- practical activity of students - performance of experiments and implementation of diagnostic methods under teacher's supervision;
- demonstration of thematic educational films and their analysis.

6.3.6. Assessment methods

Oral and written questioning, testing, assessment of practical skills.

Final pretest (after 3rd semester).

Exam (after 4th semester): testing, interview, controlled situational tasks solving.

6.4. Histology, Embryology, Cytology

The responsible person: L.V.Erofeeva , Professor, MD, PhD Biol.Sci.
E-mail: Gisto@msmsu.ru

6.4.1. Introduction

The course of Histology, Embryology and Cytology is presented to dental students during 1st and 2nd study years (2nd-3rd semester).

In section «Cytology» students study structure of cells, ways of their reproduction, methods of histological research. Section «General histology» provides studying of tissue; classification of tissues in the human body, structure and functions of epithelial, connecting, bone, muscular and nervous tissues, internal environment of an organism - blood and lymph, concept of blood formation are considered. Section «Special histology» studies microscopic structure of organs and systems in the human body, their cellular and tissue composition. Section «Embryology» is devoted to study of human embryogenesis; stages of embryonic development and factors influencing it, the critical periods of embryogenesis are considered.

The curriculum includes a special module « Oral Histology » which studies histological structure of oral mucous, teeth, periodontium, salivary glands, tongue, lymphoid formations; development of oro-maxillo-facial area, the reasons of occurrence of congenital defects.

6.4.2. Primary aims

For students to obtain systematic knowledge of morphology and development of cells, tissues and organs of the human body, especially of maxillo-facial area and oral cavity.

To develop ability of identifying normal structure of cells, tissues and organs; to diagnose alterations of oral tissues at microscopic level.

6.4.3. Main objectives

- Knowledge of histological and functional characteristics and stages of development of the main systems of a human body;
- Knowledge of age-related, functional, adaptive alterations of tissues and organs of the oral cavity;
- Mastering microscopic technique of histological specimens evaluation;
- Identification of organs, tissues, cells and not cellular structures at a microscopic level and diagnostics of age, functional, adaptive alterations.

6.4.4. Hours in the curriculum

In total 155 contact hours (30 hour of lectures, 125 hours of practical sessions);

2nd semester - 12 hours of lectures, 53 hours of practical sessions;

3rd semester - 8 hours of lectures, 25 hours of practical sessions.

3rd semester (Oral Histology**)** - 10 hours of lectures, 47 hours of practical sessions.

6.4.5. Methods of learning / teaching

Lectures

Practical sessions

- studying of histological specimens under microscope;
- reading of electronic microphotos;
- drawing microscopic structures of tissues and organs in an album;
- situational tasks solving.

6.4.6. Assessment methods

Oral and written questioning, testing, assessment of practical skills (identification s of histological specimen), controlled situational tasks solving.

Exam after 3rd semester.

6.7. Strengths (for all preclinical sciences):

- Preparation and publication by University staff of highly comprehensive manuals for dental students;
- Active attraction of students to research work;
- Presence of computer classes;
- Anatomic museum with a unique collection of preparations and X-ray images.

6.8. Weaknesses (for all preclinical sciences):

- Lack of modern equipment for full-cycle education and research process, owing to the limited financial resources.

6.9. Innovations and best practices

- Active use in educational process of computer based technologies: training and supervising computer programs, multimedia technologies.

6.10. Plans for future changes

- Supplementation of illustrative materials collection for practical sessions;
- Improvement of training program purposely to develop integrated approach in teaching of preclinical sciences.

Section 7. Paraclinical sciences

The block of paraclinical sciences consists of: «Microbiology, Immunology and Virology» (with a special course "Oral Microbiology"), «Anatomical Pathology» (with a special course "Anatomical Pathology of Head and Neck"), «Physiopathology» (with a special course "Physiopathology of Maxillo-facial Area"), «Pharmacology».

7.1. Microbiology, Immunology and Virology

The responsible person: Victor N. Tzarev, Professor, MD, PhD Med.Sci.
E-mail: KMVI@msmsu.ru

7.1.1. Introduction

The general course "Microbiology, Immunology and Virology" is presented to dental students in 1st and 2nd study years (2nd-3rd semester) with duration of 156 contact hours.

Students study: classifications, morphology and physiology of various microorganisms, composition and functions of human microflora, characteristics of virulence and pathogenicity of microbes; gain an insight about pathogenesis of infectious diseases and various types of infection-related pathologies (dysbacteriosis, opportunistic disease, reinfection, superinfection, mix-infection, carrier state), the main pathogens of human infectious diseases; get acquainted with methods of infectious diseases microbiological diagnostics , principles of their specific prevention and treatment.

In the section «Medical Immunology» factors and mechanisms of nonspecific and specific protection, basic functions of human immune system, concept of immunity, immune response, characteristics of antigens and antibodies, serum diagnostics of infectious diseases are studied. Students gain an insight about mechanism of allergic reactions, autoimmune processes, methods of immuno-prevention and immunotherapy are considered.

The course of "Clinical Oral Microbiology" is presented to dental students during 3rd study year (5th semester) and consist of 38 contact hours. Features of resident microflora composition of oral mucous, tongue, gingival sulcus, saliva, dental plaque; microflora related to oral diseases (caries, periodontal diseases, various forms of stomatitis, inflammatory processes, oral dysbacteriosis); problem of microorganisms adhesion to dental restoration materials are studied.

7.1.2. Primary aims

For students to obtain systematic knowledge about composition and properties of human microflora, mechanisms of nonspecific and specific

response, principles of diagnosis, prevention and treatment of infection-related pathology.

To acquire special knowledge of composition and properties of resident and pathogenic oral microflora, its role in initiation and advance of oral diseases.

For students to master microbiological and immunologic methods of oral diseases diagnostics.

7.1.3. Main objectives

- The student should know:

- Structure and biological features of main classes of microorganisms, features of their symbiosis with the human body;
- Characteristics of various types of infectious processes;
- Mechanisms of specific and nonspecific protection of a human body;
- Methods of microbiological and immunologic diagnostics, principles of specific prevention and treatment of infectious diseases;
- Characteristic of resident microflora in different sites of oral cavity;
- Role of microorganisms in pathogenesis of oral diseases (caries, periodontal and oral mucous diseases, inflammatory processes, dysbacteriosis).

- The student should have practical skills of:

- Sampling material for microbiological diagnostics from the patient;
- Interpretation of the microbiological and immunologic results diagnostics in patients with oral diseases;
- Determination of tactics for antibacterial drugs therapy of oral diseases based on microbiological diagnostics data (sensitivity of microflora to antibiotics).

7.1.4. Hours in the curriculum

In total 156 contact hours (36 hours of lectures, 120 hours of practical sessions).

2nd semester - lectures - 10 hours, practical sessions - 50 hours;
3rd semester - lectures - 18 hours, practical sessions - 40 hours.
5th semester - lectures - 8 hours, practical sessions - 30 hours.

7.1.5. Methods of learning / teaching

Lectures
Seminars
Practical sessions

- discussion on theoretical subject;
- demonstration of practical skills by the teacher;
- practical activity of students (implementation of microbiological and immunological methodology) under teacher's supervision;
- students oral presentations.

7.1.6. Assessment methods

Oral questioning, testing, colloquiums, assessment of practical skills.
Exam (after 3rd semester);
Final pretest (after 5th semester).

7.2. Anatomical Pathology

The responsible person: Oleg V. Zayratyantz, Professor, MD, PhD Med.Sci.

E-mail: Patan@msmsu.ru

7.2.1. Introduction

The course "Anatomical Pathology" is presented for students of 2nd, 3rd and 4th study years (4th,5th,7th semester).

In the general part of discipline classification, aetiology, pathogenesis and morphology of the basic pathological processes (alteration, cell's pathology, dystrophies, disorders of blood- and lymph circulation, inflammations, tumours) are studied. While in the special course morphological alterations evolved from pathology of human body organs and systems are considered. Students get acquainted with methods of histological research, types of biopsy, are present at post-mortem examination.

During 7th semester students study "Anatomical Pathology of Head and Neck" - morphological alterations accompanying oral diseases: caries and non-caries lesions, periodontal diseases, inflammatory processes and tumours of maxillo-facial area.

7.2.2. Primary aims

For students to develop knowledge of structural bases of human diseases, with accent on oro-maxillo-facial pathology.

7.2.3. Main objectives

- The student should know:

- Stereotyped pathological processes determining morphological signs of disease;

- Macro- and micro- alterations of organs and tissues due to various diseases, including oro-maxillo-facial pathology;

- Morphology and mechanisms of compensation and adaptation, related to influence of environmental pathogenic factors;

- Development of ability to identify pathological processes and diseases, including maxillo-facial pathology, based on studying macro- and micro- preparations or their description.

7.2.4. Hours in the curriculum

In total 152 contact hours (32 hours of lectures, 120 hours of practical sessions).

4th semester - lectures - 10 hours, practical sessions - 30 hours;

5th semester - lectures - 14 hours, practical sessions - 62 hours.

7th semester - lectures - 8 hours, practical sessions - 28 hours.

7.2.5. Methods of learning / teaching

Lectures

Practical sessions

- discussion on theoretical subject;
- studying of macro- and micro- preparations;
- demonstration in prosect room;
- situational tasks solving.

7.2.6. Assessment methods

Oral questioning, testing, colloquiums, identification of macro- and micro- preparations.

Exam after 6th semester.

7.3. Physiopathology

The responsible person: Alexander I. Volozhin, Professor, MD, PhD Med.Sci.

E-mail: KPatFiz@msmsu.ru

7.3.1. Introduction

The course “Physiopathology” is presented to dental students during 2nd and 3rd study years (4th and 5th semester). In the part «General Nosology» students get acquainted with the basic principles of medical and biologic experimental design, modern experimental techniques; study concepts of pathological reaction, pathological condition, typical pathological process, external, internal causes and risk factors of disease, basic pathogenesis units. Students study WHO classification of diseases; consider types, forms and methods of response and resistance evaluation ; role of heredity in pathology; concepts of human body biorhythms and ageing of.

In the section «Typical Pathological Processes» aetiology, mechanisms, morphological and functional signs of cell damage, disorders of peripheral blood circulation and microcirculation, an inflammation, fever, hypoxia and hyperoxia, typical metabolic disturbances; pathogenesis and basic indicators of stress, collapse, shock are considered.

The part «Physiopathology of Organs and Systems» provides studying mechanisms of typical functional disorders of human body organs and systems .

During 4th study year (in 8th semester) the special course of "Physiopathology of Maxillo-facial Area" is taught. It consists of 42 contact hours.

7.3.2. Primary aims

For students to obtain systematic knowledge of general laws and specific mechanisms of initiation, pathological processes and diseases advance and outcome , principles of their diagnostics and therapy.

7.3.3. Main objectives

- To provide students with knowledge of:

- Reasons and mechanisms of typical pathological processes and reactions, their role in diseases development;

- Reasons, mechanisms and main indications of typical functional disorders of human body organs and systems , including oral pathology, principles of etiological and pathogenetic therapy.

- relationship between oral and somatic diseases.
- physiopathological analysis of clinical-laboratory examinations results and experimental results with conclusions on possible reasons and mechanisms of diseases advance.
- basis of medical clinical thinking.

7.3.4. Hours in the curriculum

In total 158 contact hours (32 hours of lectures, 126 hours of practical sessions).

4th semester - lectures - 10 hours, practical sessions - 30 hours;

5th semester - lectures - 14 hours, practical sessions - 62 hours.

The course "Physiopathology of Maxillo-facial Area" (**8th semester**):

In total 42 contact hours (8 hours of lectures, 34 hours of practical sessions).

7.3.5. Methods of learning / teaching

Lectures

Practical sessions

- discussion on theoretical subject;
- demonstration of medical and biological experiments by the teacher;
- performance of experiments by students under teacher's supervision;
- situational tasks solving.

7.3.6. Assessment methods

Oral questioning, testing, colloquiums, controlled situational tasks solving.

Exam - after the 5th semester;

Final pretest - after 8th semester.

7.4. Pharmacology

The responsible person: Alexander G. Muljar, Professor, MD, PhD Med. Sci.

E-mail: KFarm@msmsu.ru

7.4.1. Introduction

The course "Pharmacology" is presented to dental students during 2nd and 3rd study years (4th-5th semester). Students study the general rules of prescription writing, concepts of pharmacokinetics and pharmacodynamics, factors causing their changes; classification, mechanism of action, indications and contra-indications, application, side-effects of various groups of medicines; principles of interaction between different medications and medical assistance in case of acute drug poisoning.

7.4.2. Primary aims

- For students to obtain thorough knowledge of pharmacological properties, mechanism of action, application of basic groups of medications.
- To form ability to select an optimum complex of medicaments for treatment of oral diseases and provision of emergency care.
- Development of practical skills in prescribing various forms of medicines.

7.4.3. Main objectives

- To provide students with knowledge of:

- Classification of main groups of medications, mechanism of their action, application in practice;
- pharmacological groups of medications; their pharmacokinetics, pharmacodynamics; main indications and contra-indications of use;
- medications for the general and local treatment of oro-maxillo-facial diseases (inflammatory, infectious, allergic genesis, connected to disturbance of metabolic and regenerative processes) and therapy of urgent conditions;

- Develop in students practical skills of prescriptions writing on medicaments used in dental and general medical practice.

7.4.4. Hours in the curriculum

In total 117 contact hours (28 hours of lectures, 89 hours of practical sessions).

4th semester - lectures - 14 hours, practical sessions - 45 hours;

5th semester - lectures - 14 hours, practical sessions - 44 hours.

7.4.5. Methods of learning / teaching

Lectures

Practical sessions

- discussion on theoretical subject;

- laboratory work (determination of medical products properties);
- situational tasks solving;
- students oral presentation.

7.4.6. Assessment methods

Oral and written questioning, testing, colloquiums, controlled situational tasks solving, test on prescription writing.

Exam - after 5-th semester.

7.4.7. Strengths (for all paraclinical sciences):

- Use the problem-based approach (training through controlled situation analysis);
- Presence of special courses «Oral Microbiology», «Anatomical Pathology of Head and Neck» and «Physiopathology of Maxillo-facial Area» for dental students;
- Highly comprehensive manuals for dental students developed by University staff;
- Active participation of students in research work.

7.4.8. Weaknesses (for all paraclinical sciences):

- Lack of modern equipment for educational and research purposes, owing to the limited financing.

7.4.9. Innovations and best practices

- Active use in educational process of information technologies: training and supervising computer programs, multimedia.

7.4.10. Plans for future changes

- Development of interdisciplinary training and controlled situations purposely to increase integration into teaching of paraclinical and clinical disciplines.

Section 8. Human Diseases

8.1. General Medicine

The responsible person: Raisa I. Strjuk, Professor, MD, PhD Med. Sci.
E-mail: KVBiR@msmsu.ru

8.1.1. Introduction

The course "General Medicine" is studied during 4th-8th semesters and consists of two parts:

a) "Propaedeutics of Internal Diseases"

This discipline is presented to dental students during 2nd and 3rd study years (4th and 5th semesters). Students receive fundamental information on methods of physical, instrumental and laboratory examination of the patient, symptoms and syndromes of the main internal diseases, concept of the syndrome based diagnosis and its basis.

8.1.2a. Primary aims

For students to obtain professional knowledge of diagnosing the main clinical syndromes of internal diseases, their manifestation in maxillo-facial area and in oral cavity.

For students to be able to implement medical examination of a patient using clinical and laboratory methods.

8.1.3a. Main objectives

The student must be able to:

- Understand the reasons, pathogenetic mechanisms and diagnostic indicators of the main clinical syndromes of internal diseases;
- Determine relationship between the main clinical syndromes of internal organs and oral diseases;
- Implement basic methods of physical examination (inquiry, survey, palpation, percussion, auscultation).
- Interpret results of the instrumental and laboratory examination;
- Record clinical history justifying the preliminary diagnosis;
- Diagnose life threatening conditions and provide emergency care in dental practice setting.

8.1.4a. Hours in the curriculum

In total 97 contact hours (18 hours of lectures, 79 hours of practical sessions).

4st semester: 10 hours of lectures, 30 hours of practical sessions.

5th semester: 8 hours of lectures, 49 hours of practical sessions.

b) "Internal Diseases"

This course is presented for students during 3-rd and 4-th study years (6-8-th semester). While studying aetiology, pathogenesis, clinical signs of main internal human diseases, principles of their differential diagnostics and treatment are considered. The special emphasis is made on manifestations of internal diseases in maxillo-facial area and in oral cavity, relationship of somatic and oral diseases.

8.1.2b. Primary aims

For students to obtain professional knowledge and practical skills of main internal diseases diagnostics and recognition of those in dental practice setting.

8.1.3b. Main objectives

- Provide knowledge of risk factors, clinical indicators, diagnostic methods and treatment principles of main somatic diseases;
- Determine clinical manifestation of internal diseases in maxillo-facial area and in oral cavity;
- Recognize dental patients with accompanying somatic diseases through the use of physical, instrumental and laboratory examination methods;
- Define tactics of dental care provision for medically compromised patients.

8.1.4b. Hours in the curriculum

In total 161 contact hours (33 hours of lectures, 128 hours of practical sessions).

6th semester: 15 hours of lectures, 48 hours of practical sessions.

7th semester: 6 hours of lectures, 30 hours of practical sessions.

8th semester: 12 hours of lectures, 50 hours of practical sessions.

8.1.5. Methods of learning / teaching

Lectures

Practical sessions:

- situational tasks solving
- analysis of clinical cases
- clinical practice (medical examination of patients) under teacher's supervision.

8.1.6. Assessment methods

Testing, controlled situational tasks solving, assessment of practical skills, presentation of the clinical case history.

Exams:

- "Propaedeutics of Internal Disease" - after 5th semester;
- "Internal Disease" - after 8th semester.

8.2. Surgical Diseases

The responsible person: Magomed V. Dibirov, Professor, MD, PhD Med. Sci.

E-mail: KXBiKA@msmsu.ru

8.2.1. Introduction

The course "Surgical Diseases" is studied during 4^{th}-7^{th} semester and includes two disciplines.

a) "General Surgery"

This course is presented to dental students during 2^{nd} and 3^{rd} study years (4^{th}-5^{th} semester). Students study concepts of aseptics and antiseptics, methods of anaesthesia, primary care of dislocations, fractures, bleeding, burns and frostbites, technique of blood transfusion, principles of diagnostics and treatment of soft tissue purulent inflammation, bones and joints, wound infection.

8.2.2a. Primary aims

For students to obtain thorough knowledge of the general surgery basic content.

To acquire practical skills of primary care provision for surgical patients.

8.2.3a. Main objectives

- Knowledge of modern classification, principles of diagnostics, treatment and prevention of a surgical infection, wounds, disorders of arterial and venous circulation, trophic ulcers, fistulas, non-malignant and malignant growth.
- Provide knowledge on basic principles of aseptics and antiseptics.
- Acquire basic skills of local anaesthesia provision.
- Develop practical skills of emergency care provision to patients in life threatening conditions (wound, trauma, bleeding, fractures and dislocations, long –term crash syndrome, burns, frostbite, asphyxia, respiratory and cardiac failure).
- Master blood transfusion technique.

b) "Surgical Diseases" with a course "Extreme Medicine"

This discipline is presented to students during 3^{rd} and 4^{th} study years (6^{th}-7^{th} semester) after successful fulfilment of final pretest on "General Surgery". Students study aspects of particular surgical pathology with advanced studying of acute surgical diseases, wounds, purulent complications, and also discussion of the organization and provision of medical care during mass damages.

8.2.2b. Primary aims

Develop professional knowledge and practical skills necessary for diagnostics of main surgical diseases and syndromes;

Provide first aid for acute surgical diseases and medical care at different stages of medical evacuation during mass damage.

8.2.3b. Main objectives

- Give knowledge of clinical indications, principles of diagnostics and treatment of acute surgical diseases and tumours;
- Give knowledge of organizational principals and provision of the first aid and qualified surgical assistance at different stages of medical evacuation in case of technogenic catastrophe;
- Acquire practical skills of diagnostics and provision of primary care to patients with acute surgical pathology, wound infection, traumatic shock, massive bleeding at a pre-hospital stage.

8.2.4. Hours in the curriculum

a) 'General Surgery":

In total 78 contact hours (20 hours of lectures, 58 hours of practical sessions).

4th semester: 10 hours of lectures, 30 hours of practical sessions.

5th semester: 10 hours of lectures, 28 hours of practical sessions.

b) "Surgical Diseases" with a course of "Extreme Medicine":

In total 135 contact hours (32 hours of lectures, 103 hours of practical sessions).

6th semester: 19 hours of lectures, 43 hours of practical sessions.

7th semester: 13 hours of lectures, 60 hours of practical sessions.

8.2.5. Methods of learning / teaching

Lectures

Practical sessions:

- situational tasks solving
- analysis of clinical cases
- development of practical skill of primary care on phantoms
- clinical practice under teacher's supervision (medical examination of patients, change of dressing, etc.)
- students' observation of operations.

8.2.6. Assessment methods

Testing, assessment of practical skills, presentation of the surgical case history.

Final pretest on the 'General Surgery" - after 5th semester;

Exam on "Surgical Diseases" - after 7th semester.

8.3. Radiodiagnostics and Radiotherapy

The responsible person: Alexander J. Vasiljev, Professor, MD, PhD Med. Sci.

E-mail: KLD@msmsu.ru

8.3.1. Introduction

The course "Radiodiagnostics and Radiotherapy" is presented to dental students during 3rd study year (5th-6th semester). While studying various methods of radiological exploration, with emphasis on pathology of maxillo-facial area; probable oral complications due to radiotherapy are considered. Students learn to interpret radiological evidences.

8.3.2. Primary aims

Development in students of ability to diagnose maxillo-facial pathology and oral diseases through interpretation of radiological exploration results.

8.3.3. Objectives

- Identify normal X-ray image of maxillo-facial area and internal organs;
- Give knowledge of radiodiagnostics methods and their resources for recognition of various oral diseases;
- Apply radioprotective measures in dental practice;
- Interpret different radiological methods in oro-maxillo-facial area: radiograms, orthopantomograms, computer and magnetoresonant tomograms, echograms;
- Recognize on radiograms various oral diseases (dental caries and its complications, periodontal diseases, dental and bone trauma, non-malignant and malignant growth in maxillo-facial area, salivary glands pathology and temporo-mandibular joint diseases), inflammatory processes and tumours of gastrointestinal tract and thorax;
- Study oral complications due to radiotherapy (radio ulcer, radio osteomyelitis, radio caries, indurative oedema, xerostomia).

8.3.4. Hours in the curriculum

In total 80 contact hours (20 hours of lectures, 60 hours of practical sessions).

5th semester: 10 hours of lectures, 30 hours of practical sessions.

6th semester: 10 hours of lectures, 30 hours of practical sessions.

8.3.5. Methods of learning / teaching

Lectures

Practical sessions in X-ray room: demonstration of X-ray techniques used to assess teeth and jaws on various devices (dental radiological apparatus, orthopantomograph, radiovisiograph);

- interpretation of various radiological evidences from oro-maxillo-facial area;

- situational tasks solving;

- examination of patients with tumours in maxillo-facial area, recording the clinical history.

8.3.6. Assessment methods

Testing, assessment of practical skills (interpretation of various radiograms of oro-maxillo-facial area), presentation of the clinical case history.

Exam – after 6th semester.

8.4. Ear, Nose and Throat Diseases (ORL)

The responsible person: Roman G. Anjutin, Professor, MD, PhD Med. Sci.
E-mail: KLORB@msmsu.ru

8.4.1. Introduction

The course " Ear, Nose and Throat Diseases" is presented to dental students during 3rd study year (6th semester). Anatomic, physiological, ontogenetic relationships between ORL-organs and dento-maxillary system; aetiology, clinical manifestations, principles of diagnostics and treatment of the main diseases of nose, ear, gullet and larynx and their influence on dento-maxillary system condition are studied. Students acquire practical skills of examination of ORL-organs, provision of first aid at traumas, removal of foreign bodies, bleedings and acute diseases of nose, ear, gullet and larynx.

8.4.2. Primary aims

For students to obtain professional knowledge of special diagnostic methods, principles of treatment and prevention of ORL-organs diseases.

To comprehend relationship between condition of ORL-organs and dento-maxillary system.

8.4.3. Main objectives

- The student should know:

- Clinical anatomy and physiology of ORL-organs;

- Aetiology, pathogenesis, clinical manifestations, methods of diagnostics and treatment of prevailing diseases of ear, nose, gullet and larynx, their influence on dento-maxillary system's condition;

- Relationship between oral pathology and ORL-organs condition.

- The student should have practical skills of:

- Clinical examination of patients with diseases of nose, ear, gullet and larynx;

- Provision of urgent care in case of traumas, bleedings and acute diseases of ORL-organs, removal of foreign bodies.

8.4.4. Hours in the curriculum

In total 63 contact hours (12 hours of lectures, 51 hours of practical sessions).

8.4.5. Methods of learning / teaching

Lectures

Practical sessions:

- situational tasks solving
- analysis of clinical cases
- clinical practice (examination of patients with ORL-organs diseases) under teacher's supervision.

8.4.6. Assessment methods

Testing, controlled situational tasks, assessment of practical skills, presentation of the clinical case history.

Exam - after 6 semester.

8.5. Dermatovenerology

The responsible person: Jurij N. Perlamutrov, Professor, MD, PhD Med. Sci.

E-mail: Skin@msmsu.ru

8.5.1. Introduction

The course 'Dermatovenerelogy" is presented to dental students during 3^{rd} and 4^{th} study years (6^{th}-7^{th} semester). While studying aetiology, pathogenesis, clinical indications of the main skin diseases are considered. The special part is devoted to studying oral mucous pathology and oral manifestations of skin and venereal diseases.

8.5.2. Primary aims

Studying diagnostic methods, principles of treatment and prevention of the widespread skin and venereal diseases with lesion on oral mucous and lips.

8.5.3. Main objectives

- The student should know:

- Risk factors, aetiology, clinical indicators, principles of diagnostics and treatment of the widespread skin and venereal diseases, pathology of oral mucous and lips;
- Basic methods of primary and secondary prevention aimed to decrease prevalence of contagious skin and venereal diseases.

- The student should have practical skills in:

- Clinical examination of patients with skin and venereal diseases;
- Recognition of oral manifestations of the main skin and venereal diseases, using the clinical and laboratory methods;

- Provision of the first aid in urgent conditions (nettle-rush, Quincke's oedema, etc.).

8.5.4. Hours in the curriculum

In total 80 contact hours (20 hours of lectures, 60 hours of practical sessions).

6th semester: 10 hours of lectures, 32 hours of practical sessions.

7th semester: 10 hours of lectures, 28 hours of practical sessions.

8.5.5. Methods of learning / teaching

Lectures

Practical sessions:

- situational tasks solving
- analysis of clinical cases
- clinical practice (clinical examination of patients with skin and venereal diseases) under teacher's supervision
- demonstration of slides and video films on the subject.

8.5.6. Assessment methods

Testing, controlled situational tasks solving, presentation of the clinical case history.

Final pretest.

8.6. Neurology

The responsible person: Alexeij V. Stepanchenko, Professor, MD, PhD Med. Sci.

E-mail: KNervB@msmsu.ru

8.6.1. Introduction

The course "Neurology" is presented to dental students during 4th study year (7th-8th semester). While studying, main symptoms and syndromes of neurological diseases, especially connected with face and oral cavity in patients of the different age groups, are considered. Students learn methods of prevention of nervous system pathology, owing to oral diseases and dental procedures; first aid in urgent conditions caused by pathology of nervous system; master the basic methods of nervous system examination, in-depth study of function of cranial nerves.

8.6.2. Primary aims

For students to obtain professional knowledge and practical skills necessary for provision of dental care to patients of different age groups, who have disturbances of nervous system functions.

For students to be able to diagnose neurological diseases of face and oral cavity, which simulate primary dental complaints.

8.6.3. Main objectives

- Study aetiology, clinical manifestations, principles of diagnostics and treatment of the main neurological diseases influencing efficacy of dental care;
- Develop practical skills of nervous system examination;
- Recognize symptoms of nervous system pathology, especially disorders of cranial nerves functions;
- Know definition of dental care tactics in children, teenagers and adults with various types of nervous system pathology.

8.6.4. Hours in the curriculum

In total 56 contact hours (10 hours of lectures, 46 hours of practical sessions).

7th semester: 2 hours of lectures, 16 hours of practical sessions.

8th semester: 8 hours of lectures, 30 hours of practical sessions.

8.6.5. Methods of learning / teaching

Lectures

Practical sessions:

- situational tasks solving
- analysis of clinical cases
- clinical practice (clinical examination of nervous system functioning in patients) under teacher's supervision.

8.6.6. Assessment methods

Testing, controlled situational tasks solving, presentation of the clinical case history.

Final pretest.

8.7. Obstetrics

The responsible person: Amirkhan M. Torchinov, Professor, MD, PhD Med. Sci.

E-mail: KAiG@msmsu.ru

8.7.1. Introduction

The course "Obstetrics" is presented to dental students during 4th study year (7th semester). Students gain an insight on changes in a female organism during pregnancy, its influence on an oral condition, role of odontogenic infection in development of purulent septic complications during pregnancy and in the postnatal period.

8.7.2. Primary aims

Definition of dental care tactics for pregnant women;

Ability to provide first aid to women during pregnancy, birth, the postnatal period.

8.7.3. Main objectives

- The student should know:

- Changes in a female organism during pregnancy and influence of those on oral health; factors influencing development of dento-maxillary system of foetus;
- Critical periods of pregnancy;
- Normal and abnormal development of dento-maxillary systems in the antenatal and postnatal (first year of life) periods;
- Features of medicaments application in different terms of pregnancy.

- The student should have practical skills of:

- Identification of a pregnant woman health state, examination of her cardiovascular system's condition and psychological status, studying of the pregnancy anamnesis before provision of dental care;
- Provision of first aid to pregnant women in urgent conditions (eclampsia, bleeding);
- Realization of dental health education among pregnant on aspects of prevention of major oral diseases of mother and child.

8.7.4. Hours in the curriculum

In total 54 contact hours (8 hours of lectures, 46 hours of practical sessions).

8.7.5. Methods of learning / teaching

Lectures

Practical sessions:

- discussion on the theoretical subject
- situational tasks solving
- analysis of clinical cases

8.7.6. Assessment methods

Oral and written questioning, controlled situational tasks solving.

Final pretest.

8.8. Ophthalmology

The responsible person: Christo P. Tahchidi, Professor, MD, PhD Med. Sci.
E-mail: Oftal@msmsu.ru

8.8.1. Introduction

The course "Ophthalmology" is presented to dental students during 4th study year (8th semester). The curriculum includes basic information on eye diseases, methods of examination in ophthalmology, first-aid for wounds and acute inflammatory eye diseases

8.8.2. Primary aims

Obtaining by students of professional knowledge and practical skills necessary for diagnostics and provision of the first aid to patients with eye diseases and traumas;

Provide comprehension of relationship between oral pathology and eye diseases.

8.8.3. Main objectives

- The student should know:

- Anatomo-physiological features and functions of different parts of the visual analyzer in children and adults;

- Anatomo-physiological relationship between organ of sight and dento-maxillary system; role of odontogenic infections in pathogenesis of eye diseases;

- Clinical indicators of basic eye diseases, methods of their diagnostics and principles of treatment and prevention;

- The student should have practical skills:

- Check acuteness and field of vision, intraocular pressure (palpate) in children and adults, diagnostics of eyes condition by external examination;

- Implementation of some elementary ophthalmologic procedures;

- Provision of first aid for acute attack of glaucoma, penetrating wounds and burns of eyes, inflammatory diseases of eyelids, lachrymal organs, conjunctiva, eyeball structures.

8.8.4. Hours in the curriculum

In total 38 contact hours (6 hours of lectures, 32 hours of practical sessions).

8.8.5. Methods of learning / teaching

Lectures

Practical sessions:

- examination of eyes condition under teacher's supervision;
- situational tasks solving;
- analysis of clinical cases;
- demonstration of operations by direct TV-translation from operating room.

8.8.6. Assessment methods

Testing, controlled situational tasks solving, assessment of practical skills.

Final pretest.

8.9. Psychiatry

The responsible person: Leonid M. Bardenshtejn, Professor, MD, PhD Med. Sci.

E-mail: Narcolog@msmsu.ru

8.9.1. Introduction

The course “Psychiatry” is presented to dental students during 4th study year (8th semester). Students study general psychopathology and special psychiatry, legislation regulating on psychiatric care and organization of psychiatric service in Russia. The accent is on studying features of dental care to patients with a mental pathology.

8.9.2. Primary aims

Obtaining by students of professional knowledge necessary for provision of dental care to patients with deteriorated mental condition.

Ability to provide first aid to patients with mental disorders.

8.9.3. Main objectives

- The student should know:

- Clinical manifestations of the widespread acute mental disorders;
- Basic psychotropic medicaments (i.e. tranquilizers);
- Legislation regulating psychiatric service.

- The student should be able to employ psychotherapeutic approach to patients, in view of their personal, intellectual, emotional features;
- The student should gain an insight of psychosomatic problems, "latent" mental pathology (for example, “masked depression”) which influences quality of life and efficiency of dental care.

8.9.4. Hours in the curriculum

In total 38 contact hours (6 hours of lectures, 32 hours of practical sessions).

8.9.5. Methods of learning / teaching

Lectures

Practical sessions:

- discussion on a theoretical subject
- situational tasks solving
- examination of patients with mental disorders under teacher’s supervision

8.9.6. Assessment methods

Oral questioning, testing, presentation of the clinical case history.

Final pretest.

8.10. Infectious Diseases

Responsible person: Nicolaj D. Yushchuk , Professor, MD, PhD Med. Sci.
E-mail: Infec@msmsu.ru

8.10.1. Introduction

The course “Infectious Diseases” is presented to dental students during 4th study year (8th semester). Students study general pathology of infectious diseases (properties of pathogens, main units of pathogenesis, principles of specific laboratory diagnostics, basic methods of treatment). The special attention is given to studying of widespread and dangerous infections: virus (flu and other acute respiratory diseases, herpetic infection, chickenpox, epidemic parotitis, the AIDS, viral hepatitis B, C, D) and bacterial (diphtheria, streptococcal infection, Siberian plague, cholera, plague), diseases caused by conditioned pathogens (sepsis, oral candidiasis).

8.10.2. Primary aims

For students to obtain professional knowledge necessary for recognition of manifestations of widespread infectious diseases in maxillo-facial area and oral cavity.

Define dentists tactics in case of suspicion of infectious disease presence in patient.

8.10.3. Main objectives

- Students should know:

- Aetiology, pathogenesis, clinical indicators, principles of laboratory diagnostics, treatment and prevention of common viral and bacterial infections, diseases caused by conditioned pathogens;

- Manifestations of various infectious diseases in maxillo-facial area and oral cavity;

- Cross-infection control in dental practice.

8.10.4. Hours in the curriculum

In total 45 contact hours (2 hours of lectures, 43 hours of practical sessions).

8.10.5. Methods of learning / teaching

Lectures

Practical sessions:

- analysis of clinical cases

- clinical examination of patients with infectious diseases under teacher’s supervision

- demonstration of slides and video films on the subject.

8.10.6. Assessment methods

Oral questioning, testing, presentation of the clinical case history.

Final pretest.

8.10a. Phthisiology

The responsible person: Vladimir J. Mishin, Professor, MD, PhD Med. Sci.
E-mail: KFtiz@msmsu.ru

8.10.1a. Introduction

The course "Phthisiology" is presented to dental students during 4t^{h} study year (8th semester) and assumes studies of general principles of tuberculosis development and clinical manifestation of lung, oral cavity and face bones tuberculosis.

8.10 a.2. Primary aims

For students to obtain professional knowledge and practical skills necessary for recognition of tubercular changes of maxillo-facial area; diagnostics and provision of first aid in urgent conditions.

Defining of dental care tactics for patients diagnosed with tuberculosis.

8.10 a.3. Main objectives

- Students should know:

- Sources, ways and risk factors of acquiring tuberculosis;
- Obligatory complex of diagnostic methods for tuberculosis detection;
- Principles of treatment and prevention of a tuberculosis and its complications;
- Clinical indicators of tuberculous lesions of tongue, oral mucous, salivary glands and face bones;
- Features of provision dental care to patients with tuberculosis.

- Students should have practical skills to:

-Clinically interpret results of radiological, functional and laboratory examinations for tuberculosis detection;

-Diagnose urgent conditions and provision of first aid to patients with tuberculosis.

8.10 a.4. Hours in the curriculum

In total 12 contact hours (4 hours of lectures, 8 hours of practical sessions).

8.10 a.5. Methods of learning / teaching

Lectures
Scientific - practical conferences
Practical sessions:
- analysis of clinical cases
- clinical examination of patients with tuberculosis under teacher's supervision
- studying of pathological material in laboratory

8.10 a.6. Assessment methods

Oral questioning, testing, assessment of practical skills.
Final pretest.

8.11. Paediatrics

The responsible person: Olga V. Zajtseva, Professor, MD, PhD Med. Sci.
E-mail: Pediatr@msmsu.ru

8.11.1. Introduction

The course “Paediatrics” is presented to dental students during 5th study year (9th semester). The curriculum includes studying anatomo-physiological features of child's organism, clinical manifestations and methods of diagnostics of widespread childhood diseases and their relationship with oral pathology.

8.11.2. Primary aims

For students to obtain professional knowledge and practical skills necessary to examine child’s health state, choose dental care tactics, provide the first aid care in urgent conditions.

8.11.3. Main objectives

- Knowledge of anatomo-physiological features of children's organism;
- Knowledge of clinical manifestations, methods of diagnostics and principles of treatment of the widespread childhood diseases;
- Interpretation of the results of clinical, instrumental and laboratory methods of child’s examination;
- Giving recommendations on a diet for healthy and diseased child;
- Provision of first aid to children in urgent conditions.

8.11.4. Hours in the curriculum

In total 72 contact hours (12 hours of lectures, 60 hours of practical sessions).

8.11.5. Methods of learning / teaching

Lectures

Practical sessions:

- situational tasks solving
- analysis of clinical cases
- interpretation of results of instrumental and laboratory methods of children’s examination

8.11.6. Assessment methods

Oral questioning, testing, controlled situational tasks solving.

Final pretest.

8.12. Clinical pharmacology

The responsible person: Arkadij L. Vertkin, Professor, MD, PhD Med. Sci.
E-mail: KClF@msmsu.ru

8.12.1. Introduction

The course "Clinical Pharmacology" is presented to dental students during 5th study year (10th semester). The general part of discipline includes studying pharmacological parameters of medical products, principles of dosing, methods of evaluating clinical efficiency and safety of medical therapy.

In the special part of discipline standards of medicamentous therapy of oral diseases, pharmacological properties, mode of dosing, main local and system side effects of medical products most frequently used in dental practice and urgent medicine are considered.

8.12.2. Primary aims

Development in students of theoretical bases and practical skills to choose effective, safe, economically justified medical products for provision of rational medical therapy of oral disease and urgent conditions.

8.12.3. Main objectives

- The student should know:

- Group belonging, the mechanism of action, mode of dosing, the main local and system side effects of medical products most frequently used for therapy of oral diseases and provision of first-aid care for urgent conditions in dental practice;

- Medicaments for therapy of somatic diseases which have side effects influencing oral condition;

- The student should have practical skills:

- Choice and prescription of medicaments for therapy of oral diseases in view of individual characteristics of the patient (health state, presence of somatic diseases, allergic anamnesis, interaction of drugs);

- Recognizing side effects of medical products in an oral cavity.

8.12.4. Hours in the curriculum

In total 36 contact hours (6 hours of lectures, 30 hours of practical sessions).

8.12.5. Methods of learning / teaching

Lectures

Practical sessions

- situational tasks solving;
- studying efficiency and safety of medical products in laboratory;
- students oral presentations.

8.12.6. Assessment methods

Oral questioning, testing, controlled situational tasks solving.

Final pretest.

8.12.7. Strengths (for Human Diseases block)

- Students have practical sessions in versatile city clinical hospitals and in specialized medical institutions, being clinical bases of University; thus, students have an opportunity to observe patients with the wide variety of nosologies.
- Coordination and integration in teaching of Human Diseases and their relationship with dental disciplines.
- Provision of students with manuals to practical sessions.
- Supervising programs (tests, situational tasks) for dental students are developed.

8.12.8. Weaknesses (for Human Diseases block)

- Practical sessions with big student's groups (13-15 person).
- Lack of auditorium in some departments;
- Necessity of improving material resources: modernization of the equipment, purchase of modern means.

8.12.9. Innovations and best practices

- All departments have wide collections of illustrative materials (slides, multimedia presentations, video films) on various nosologies;
- Direct TV-translation from operative rooms for students (on Department of Ophthalmology).
- Department of Neurology has personal library.

8.12.10. Plans for future changes

- Enlargement of use of computer technologies in studying, creation of training and supervising computer programs on Human Diseases.

Section 9 Paediatric Dentistry and Orthodontics

9.1. Children's Therapeutic Dentistry.

The responsible person: Larisa P. Kiselnikova, Professor, MD, PhD Med. Sci.

E-mail: KDTS@msmsu.ru

9.1.1. Introduction

The course “Children's Therapeutic Dentistry” is presented in 3rd, 4th and 5th study years (6th - 10th semesters) with duration of 149 contact hours. In practical sessions students under teacher’s supervision provide dental care to children from 6 months till 18 years of age.

While studying the discipline topics of oral examination for children in different age groups, of current diagnostic and treatment methods (covering dental caries and its complications, non-caries lesions, periodontal and oral mucosa diseases, traumatic defects of teeth) are considered.

In 10-th semester part of the training program is devoted to questions of urgent dental care to children, anaesthesia in children's dentistry.

9.1.2. Primary aims:

- Development in students of practical skills of carrying out diagnostics, treatment and prevention of oral diseases in children of different ages;
- Development in students of communicative skills and experience to get into psycho-emotional contact with children and their parents.

9.1.3. Main objectives:

- Give knowledge of anatomy-physiological features of development, structure and function of maxillo-facial area of children in prenatal and postnatal periods;
- Give knowledge of how hereditary and environmental factors influence the formation of hard teeth tissues;
- Studying features of dental caries and its complications, periodontal and oral mucosa diseases development in children of different age;
- Provide knowledge of errors and complications while treating dental caries and its complications in primary teeth and permanent teeth with formed and unformed roots, how to avoid those;
- Development of modern instrumental and laboratory methods of diagnostics of the widespread oral diseases in children;
- Acquire practical skills of hard teeth tissues, periodontal and oral mucosa diseases treatment in children of different age.

9.1.4. Hours in the curriculum.

In total 149 contact hours (20 hours of lectures, 129 hours of practical sessions).

6th semester: 3 hours of lectures, 18 hours of practical sessions;
7th semester: 3 hours of lectures, 15 hours of practical sessions;
8th semester: 4 hours of lectures, 34 hours of practical sessions;
9th semester: 5 hours of lectures, 31 hours of practical sessions;
10th semester: 5 hours of lectures, 31 hours of practical sessions.

9.1.5. Methods of learning/teaching

- Lectures;
- Seminars;
- Practical session:

- situational tasks solving;
- analysis of clinical cases;
- clinical practice under teacher's supervision;
- role games.

9.1.6. Assessment methods

Testing, interview, controlled situational tasks solving, practical skills demonstration (with assessment on score-rating system).

Final exam on discipline (after 9-th semester).

9.1.7 Strengths

- Student works in clinics of children's therapeutic dentistry with children of different age (from 6 months till 18 years);
- Use of computer technologies in training.

9.1.8 Weaknesses

- Absence of phantoms and simulators for mastering of modern methods of children's dental diseases treatment;
- The department does not have academic auditorium for seminars.

9.1.9 Innovations and best practices

- Development of computer manuals for practical sessions on topics: «Dental Caries», «Non-caries Lesions», «Anxiety in Children», «Oral Mucosa Diseases in Children»;
- Creation of computer data bank of clinical situations for student studies;
- Computer testing, use the visualized computer tasks at final exam.

9.1.10. Plans for future changes

- Development of computer manuals for practical sessions on the remaining subjects.
- The organization of a phantom class for more effective development in students of practical skills of treating oral diseases in children.

9.2. Children's Oral and Maxillo-facial Surgery

The responsible person: Orest Z.Topolnitskij, Professor, MD, PhD, Med.Sci.

E-mail: KDHSiCHLH@msmsu.ru

9.2.1. Introduction

The course “Children’s Oral and Maxillo-facial Surgery” is taught to students during 4th and 5th study years (7th-10th semesters) with duration of 128 contact hours. Clinical training of students is provided in a polyclinics and a hospital on the base of University. Special attention is given to development in students of communicative skills, ability to come into psycho-emotional contact with children and their parents.

The training program of 7th semester is devoted to the study of odontogenic inflammatory processes in maxillo-facial area of children, principles of their diagnostics and treatment. Students get acquainted with rules of aseptics and antiseptics, master algorithm of medical examination of children in oral surgery clinic, methods of local anaesthesia and extraction of primary and permanent teeth.

In 8th semester students study diseases of salivary glands, TMJ, traumatic lesions of teeth and soft tissues of maxillo-facial area in children. Ambulatory surgery under local anaesthesia and surgical manipulations in hospital setting under general anaesthesia are shown to students.

During 9th semester students study classification, clinical manifestations and methods of surgical treatment of congenital anomalies in maxillo-facial area, tumours of soft tissues and face bones in children. Students supervise patients in hospital and register clinical case history.

In 10th semester questions of urgent care provision to children with acute odontogenic inflammation in maxillo-facial area are considered; aspects of diagnostics, treatment and prevention of urgent conditions in children's dental clinic are discussed. Students actively take part in carrying out operations on patients (assist; independently carry out separate stages of operation).

9.2.2. Primary aims

- give students professional knowledge and skills, which are necessary for realization of diagnostics, treatment and preventive care; consultation and organization of ambulatory care for children with the widespread surgical diseases of maxillo-facial area.

- Provide knowledge of principles of preventive medical surveys and opportunities of medical and social rehabilitation for children of different ages.

9.2.3. Main objectives

- Knowledge of anatomy-physiological features of child's organism and their influence on course of the widespread oral diseases at children and teenagers;

- Studying of features of diagnostics and surgical treatment of dental diseases in children of different age;

- Knowledge of opportunities and ways of children's rehabilitation (medical and social) after the treatment;

- Development of oral examination algorithm in clinic of children's oral surgery, interpretation of results of laboratory and radiological examination, scheduling of treatment, registration of the clinical case history of ambulatory and stationary patients;

- Development of practical skills of providing the ambulant oral surgery to children (techniques of local anaesthesia, primary and permanent teeth extraction, dressing);

- Definition of indications to hospitalization of children and registration of the necessary documentation;

- Diagnostics and providing of medical care to children in urgent conditions (faint, shock, collapse, acute cardiovascular disorders).

9.2.4. Hours in the curriculum

In total 128 contact hours (18 hours of lectures, 110 hours of practical sessions).

7th semester: 3 hours of lectures, 15 hours of practical sessions
8th semester: 4 hours of lectures, 34 hours of practical sessions
9th semester: 5 hours of lectures, 31 hours of practical sessions
10th semester: 6 hours of lectures, 30 hours of practical sessions

9.2.5. Methods of learning/teaching

• Lectures
• Seminars
• Practical sessions:
- situational tasks solving;
- analysis of clinical cases;
- clinical practice under teacher's supervision in University polyclinics and hospital settings;
- assisting in operations and dressing patients in polyclinics and hospital during free time from other practical activities.

9.2.6. Assessment methods

Testing, interview, situational visualized tasks solving (assessment on score-rating system).

After 9th semester - final exam on discipline with presentation of the clinical case history of a supervised patient.

9.2.7. Strengths

- Opportunity of supervision of children with congenital anomalies of maxillo-facial area in hospital departments;
- Observation a wide range of surgical operations performed by teachers of department, acquiring practical skills to assist on operations and to carry out dressing;
- Use in training of the video films created by department staff.

9.2.8. Weaknesses

- Absence of a computer class;
- Lack of academic auditoriums for theoretical studies and subsidiary rooms (cloak-rooms for students);
- Lack of the didactic literature.

9.2.9. Innovations and best practices

- Department created a number of video films and computer presentations on subjects, showing various types of maxillo-facial pathology, operating techniques.
- Students have an opportunity to participate in operations and dressing in polyclinics and hospital during free time for performance of research.

9.2.10. Plans for future changes

- Equip a computer class;
- Providing teachers with computers for realizing visual teaching methods;
- Development of manuals and textbooks on children's oral surgery.

9.3. Orthodontics and Children's Prosthetic Dentistry

The responsible person: Leonid S. Persin, Professor, MD, PhD Med. Sci.
E-mail: KOiDP@msmsu.ru

9.3.1. Introduction

Discipline «Orthodontics and Children's Prosthetic Dentistry» is studied during 4^{th} and 5^{th} study years (7^{th}-10^{th} semesters). The general duration of training is 123 hours.

During 7^{th}-8^{th} semester students study classification of malocclusions, methods of their diagnostics and principles of treatment.

The training program of 9^{th} and 10^{th} semester is devoted to specifics of diagnostics, treatment and prevention of various dento-maxillary anomalies, including the orthodontic care to patients with congenital anomalies, traumas of maxillo-facial area and rehabilitation of children after extensive operations in maxillo-facial area.

9.3.2. Primary aims

Students should known methods of diagnostics of various anomalies of dento-maxillary system, be able to define patient's need for the orthodontic care and plan treatment and preventive measures for patients of different age.

9.3.3. Main objectives

- Students should know:

- Characteristics of physiological occlusion during the different age periods;
- Classification of dento-maxillary anomalies;
- Aetiology of anomalies and deformations of dento-maxillary system;
- Basic methods of diagnostics, treatment and prevention of malocclusions.

- Students should master:

- Algorithm of oral examination in orthodontic clinic;
- Clinical, anthropometrical and radiological methods of diagnostics of a teeth, dental arches, maxillary bones, occlusion anomalies and interpretation of their results;
- Indications for choice of methods of various dento-maxillary anomalies treatment in children, teenagers and adults.

9.3.4. Hours in the curriculum

In total 128 hours contact hours (18 hours of lectures and 110 hours of practical sessions).

7th semester: 3 hours of lectures, 15 hours of practical sessions;
8th semester: 4 hours of lectures, 34 hours of practical sessions;
9th semester: 5 hours of lectures, 31 hours of practical sessions;
10th semester: 6 hours of lectures, 30 hours of practical sessions.

9.3.5. Methods of learning/teaching

- Lectures;
- Seminars;
- Practical sessions:

- situational tasks solving;
- anthropometrical measurement of diagnostic models and interpretation of results of radiological diagnostics;
- clinical practice under teacher's supervision;
- use of computer training programs.

9.3.6. Assessment methods

Testing, controlled situational tasks solving (assessment on score-rating system).

Exam (after 9th semester):

- computer testing (tasks are visualized);
- exam on practical skills (anthropometrical measurement of diagnostic models);
- interview.

9.3.7. Strengths.

- Students have practical sessions in orthodontic clinic, branch of functional diagnostics, phantom and computer classes with modern audio and video equipment.
- In training computer technologies are widely used.
- In orthodontic clinic students have an opportunity to observe patients with wide variety of dento-maxillary anomalies, master modern methods of diagnostics and treatments applied in orthodontics.
- Students conduct active research, presenting the results at university and interuniversity conferences.
- In 2006 the Department of Orthodontics and Children's Prosthetic Dentistry received the Grant of the President of the RF as a Leading Research School.

9.3.8. Weaknesses

- Insufficient number of contact hours.
- Lack of academic auditoriums for theoretical studies and workplaces in a phantom class.

9.3.9. Innovations and best practices

On Department are available:

- collection of the computer lectures, training programs, visualized test tasks;
- computer based case history, allowing students to master algorithm of examination of an orthodontic patient;
- bank of computer diagnostic programs.

The workplace of each teacher is provided with a computer.

9.3.10. Plans for future changes

Foundation of Institute of Orthodontics.

Section 10. Public Dental Health and Prevention

10.1. Public Health

The responsible person: Georgij A. Komarov, Professor, MD, PhD Med. Sci.

E-mail: KOZiZ@msmsu.ru

10.1.1. Introduction

The course «Public Health» is intended for dental students of 3rd study year (6th semester). During this course the next questions are viewed: organization of public health services - principles of health protection, legislative base of activity of medical institutions; aspects of management, organization and financing of public health and dental services; medical insurance in dentistry, accreditation and licensing of dentists, dental care quality assurance. The special part considers questions of the dentist activity organization in various departments of dental clinic.

Also the following groups of factors are investigated: the biological, sociohygienic and physical factors determining individual and public health; levels and structure of somatic and oral diseases; aspects of medical statistics.

10.1.2. Primary aims

To provide students with theoretical base and practical skills for application of principles and methods of the public health organization and observance of professional standards in conditions of public and private dental practice.

10.1.3. Main objectives

- The students should know:

- Legislative acts regulating public health services of the RF;
- Core concepts and principles of the somatic and dental disease;
- Organizational base of dispensary system in conditions of general dentists activity;
- Bases of planning and organization of dental service in system of the primary medical care to various population groups;
- Methods of quality assurance in medical care (licensing, accreditation of dental clinics and personnel, standardization of dental services);
- Forms and principles of medical insurance in dentistry.

- The student should have practical skills to:

- Register and analyze the accounting documents of dental clinic;
- Perform statistical analysis of oral health rates in the population;
- Calculate and assess activity parameters of dentists of main specializations and the same of dental clinic;
- Perform calculation of cost of dental services;
- Use deontological principles in dental practice.

10.1.4. Hours in the curriculum

Totally 63 contact hours (12 hours of lectures, 51 hours of practical sessions).

10.1.5. Methods of learning/teaching

Public health concepts are presented in lecture format, including multimedia presentations.

Practical sessions consist of:

- discussions;
- business games;
- statistical and situational tasks solving;
- analysis of scientific publications on dentistry;
- students oral presentations.

10.1.6. Assessment methods

Testing, written questioning, controlled situational tasks solving.
Exam.

10.1.7. Strengths

- Providing students with necessary didactic materials;
- Use of computer technologies in training;
- Business games raise motivation of students to study.

10.1.8. Weaknesses

- It is necessary to improve supervising materials.

10.1.9. Innovations and best practices

10.1.10. Plans for future changes

- To equip a computer class.

10.2. General Hygiene

The responsible person: Andrej M.Lakshin, Professor, MD, PhD Med. Sci.
E-mail: KOG@msmsu.ru

10.2.1. Introduction

The course "General Hygiene" is presented to dental students in 2nd and 3rd study year (4th-5th semester). While learning the concept of hygiene as a basis of preventive medicine, its content and problems, the methods used to study environment and increase availability and resistibility of an organism to harmful external factors are considered.

In special parts of discipline problems of relationship between environment and person's health are discussed: influence of air, water, ground, climate condition on human health; hygienic aspects of urbanization.

In the section «Hygiene of Nutrition» students study principles of balanced diet, physiological needs of various groups of population for food substances and energy; get acquainted with methods of sanitary-hygienic evaluation of the main foods, receive insight on diseases connected to incorrect nutrition, food poisonings and principles of their prevention.

In the part «Occupation Health» some diseases and intoxications connected to harmful action of professional factors (ergonomics, influence of dust, vapours and gases, radiation, noise) are considered. Special emphasis is given to study of dentist's and dental technician's professional hygiene, hygienic requirements to organization and equipment of dental clinics, methods of sanitary inspection of clinical offices and dental laboratories.

Also students study aspects of healthy lifestyle: hygienic value of physical training, sleep, balanced diet, harmful habits; bases of personal hygiene, hygienic requirements to the means of skin and oral care, clothes and footwear.

10.2.2. Primary aims

Knowledge acquisition of various environmental factors influence on personal health.

Provide knowledge of hygienic aspects of infectious and noninfectious diseases prevention, including professional harmful factors in dental practice.

10.2.3. Main objectives

- The student should know:

- Main natural and anthropogenic environmental factors, their influence on health and life expectancy of the population;
- Air pollution factors (dust, chemical and microbial) and their evaluation;
- Quality standards of drinking water and the main food;
- Express-methods of dental clinic's hygienic condition inspection;
- Risk factors and main principles of prevention of the diseases connected to disturbance of hygienic quality standards of air, water, foods, influence of professional harmful factors;
- Hygienic requirements to working conditions of dentists and other medical personnel of dental clinic.

- The student should be able to:

- analyze results of instrumental and laboratory inspection of air, drinking water, foods quality;
- assess radiation accident and organize urgent measures for protection of the population;
- calculate daily energy consumption, composition and caloric content of an individual diet;
- realize measures of cross infection control in dental practice (disinfection and sterilization of instruments and equipment, sanitary treatment of dental clinic);

- promote healthy lifestyle, make individual recommendations on health maintenance, personal hygiene, diet correction.

10.2.4. Hours in the curriculum

In total 78 contact hours (18 hours of lectures, 60 hours of practical sessions).

4th semester - 10 hours of lectures, 30 hours of practical sessions;

5th semester - 8 hours of lectures, 30 hours of practical sessions.

10.2.5. Methods of learning / teaching

Lectures

Practical sessions:

- discussion on subject;
- independent studying by students of the manual on a topic;
- demonstration by the teacher of principles of work with instruments, tables, reactants for determination of various hygienic parameters;
- implementation of a laboratory work under teacher's supervision;
- students oral presentations.

10.2.6. Assessment methods

Testing, controlled situational tasks solving, assessment of laboratory works.

Final pretest.

10.2.7. Strengths

- Didactic materials for each practical session of dental students are developed;
- Special attention is given to independent work of students.

10.2.8. Weaknesses

- Necessity to modernize equipment for laboratory classes.

10.2.9. Innovations

- Training program on discipline contains the special part devoted to questions of professional hygiene of dentists and auxiliary personnel of dental clinics.

10.2.10. Plans for future changes

- Improvement of training material support.

10.3. Preventive Dentistry and Epidemiology

The responsible person: Edith M.Kouzmina, Professor, MD, PhD Med. Sci.
E-mail: nocaries@mail.ru

10.3.1. Introduction

The course «Preventive Dentistry and Epidemiology» is intended for dental students of the 2nd, 3rd and 5th study years. Duration 142 contact hours. This discipline provides the integrated study of oral diseases prevalence, methods of its prevention and public dental health programs.

On 2nd and 3th year of study (4th-6th semester) the training program is concentrated on risk factors and modern methods of oral diseases (dental caries and non-caries lesions, periodontal and oral mucous diseases, malocclusions) prevention. During this course students should learn the international criteria of oral examination; develop practical skills in revealing risk factors of oral diseases occurrence; demonstrate preventive measures among patients at different age on individual and group levels; train children and adults skills in oral hygiene, carry out individual selection of oral hygiene means.

On 5th year (9th semester) study is focused on the questions of the organization and the unified technique of epidemiological oral survey by WHO criteria. Students get acquainted with principles of the development and application of the differentiated complex preventive programs among different contingents of the population and monitoring of their efficiency.

10.3.2. Primary aims

- Giving students the professional competences in:

– Primary ethio-pathogenetic prevention of oral diseases among patients of different age;

– Healthy lifestyle motivation of patients to preserve dental health;

- Studying the principles of the development and evaluation of public dental health programs based on situational analysis of oral diseases prevalence.

10.3.3. Main objectives

To provide students with the thorough knowledge and practical skills in the following aspects:

- oral examination by the international criteria;
- Identification of the risk factors of oral diseases;
- Oral hygiene instruction of children and adults; principles of individual selection of oral hygiene means;
- Application of contemporary methods and means of oral diseases (caries and non-caries lesions, periodontal and oral mucous diseases, malocclusions) prevention;
- Application of the dental education methods, concerning the risk factors and preventive care of the basic oral diseases among various groups of the population; motivation to maintenance of oral health;
- Principles of the organization and technique of carrying out epidemiological oral survey of the population by criteria of the WHO;

- Planning, introduction and monitoring of the differentiated complex programs for oral diseases prevention among various groups of the population on individual, group and population levels.

10.3.4. Hours in the curriculum.

In total 142 contact hours (lectures – 19 hours, practical sessions - 123 hours).

Distribution of hours:

4th semester - 8 hours of lectures, 32 hours of practical sessions.

5th semester - 4 hours of lectures and 29 hours of practical sessions.

6th semester - 3 hours of lectures and 30 hours of practical sessions.

9th semester - 4 hours of lectures and 32 hours of practical sessions.

Practical sessions during a 4th-6th semester are organized once a week, in 9th semester as a week cycle.

10.3.5. Methods of learning / teaching.

Lectures;

Seminars;

Practical sessions;

- situational tasks solving;
- students oral presentations;
- preparation of the materials for Oral Health Promotion programs;
- developing of complex preventive program design for the certain age group of the population on the basis of the situational analysis of oral diseases;
- clinical practice under teacher's supervision;

Practice on Preventive Dentistry in dental clinics - within 2 weeks on completion of 4th semester .

10.3.6. Assessment methods

Testing, controlled situational tasks solving, assessment of practical skills on score-rating system.

Final pretest in 9th semester.

There is no separate exam on discipline: supervising materials (tests, situational tasks) are part of Final State Certification of graduates.

10.3.7. Strengths

- The curriculum consolidates the newest scientific research results of Department employees. On 5th study year students learn complex programs of oral diseases prevention among certain groups of the population (children with a congenital pathology of maxillo-facial area, patients with brackets and after teeth-bleaching, workers of harmful manufactures, etc.)
- Using in training of problem-based method - analysis of clinical situations and searching for the decision of problems.

- Students work in kindergartens and schools, where they train children in oral hygiene, design preventive programs and make lectures for parents and teachers.

- Each student should be able to design a complex preventive program for main oral diseases in certain age groups.

- Highly qualified teaching staff.

10.3.8. Weaknesses

- Lack of the modern equipment and dental units for clinical practice.

10.2.9. Innovations and best practices

- The integrated clinical training of dental students and dental hygienists for the development of team-work skills.

- Lectures for students are provided by the Russian and foreign experts

10.3.10. Plans for future changes

- Introduction in the training program of legislative and economic questions of dentists' activity is planned;

- Publication of manuals «Prevention of Oral Diseases for Patients with Dental Implants» and «Prevention of Oral Diseases for Mentally Retarded Persons».

- Using the methods of evidence-based medicine;

- Improvement of the technical resources (workplaces for students, modern dental equipment, phantoms and simulators).

10.4. Integrated Course of Dental Hygienists Training

The responsible person: Edith M.Kouzmina, Professor, MD, PhD Med. Sci.
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10.4.1. Introduction

In 2001 Preventive Dentistry Division has been created at the Department of Auxiliary Personnel Training. The aim is to educate dental hygienists during 2nd years of study.

Training process on special disciplines is provided by teachers of Preventive Dentistry Department. The training program of hygienists includes the following disciplines: «Dental Materials» - 1st study year (1st semester); «Oral Diseases with Bases of Prevention», «Oral Hygiene», «Oral Health Education» - 1st and 2nd study years (2nd-4th semester).

Hygienists acquire practical skills in cooperation with dental students of 2nd and 3rd years, studying discipline «Preventive dentistry and Epidemiology». The important point is to develop between them a team-work approach, which is necessary in joint professional work of dentists and dental hygienists.

10.4.2. Primary aims

The primary aim consists of gaining by future hygienists of professional competence, necessary for realization of oral diseases prevention, dental education and promotion of healthy lifestyle among various contingents of the population. Development of team-work skills for successful professional cooperation with the dentists.

10.4.3. Main objectives

- Knowledge of federal laws, recommendations and instructions, regulating professional activity of dental hygienist;
- Mastering of principles of professional ethics and deontology, realization of an individual approach to the patient;
- Development of critical thinking and ability to analyze all the facts for solving professional problems;
- Comprehension of necessity to inform patients and get a consent to carrying out planned procedures;
- Getting skills in cooperation with the patient and his relatives; team-work with dentist and other medical staff;
- Getting skills in keeping safety of patients and hygienists during preventive procedures;
- Knowledge of risk factors of oral diseases and methods of their elimination;
- Getting skills in gathering full medical, family, social, general and dental health history;
- Getting skills in oral examination, interpretation of the diagnostic information, evaluation of risk factors of oral diseases;
- Planning complex preventive measures, based on hygienic condition of oral cavity, presence of risk factors of oral diseases;
- Learning of algorithm of preventive procedures for elimination and control of local risk factors of caries and non-caries lesions, periodontal and oral mucous diseases and malocclusions;
- Control pain and discomfort during preventive procedures (within the limits of the dental hygienist competence);
- Develop skills in evaluation of the results of preventive measures on the basis of clinical examination and patient's comments;
- Checking of patients need in other kinds of medical care;
- Getting practical skills in urgent care in conditions of dental practice;
- Develop skills in exact and consecutive registration of the medical documentation during patient examination; in planning, realization and evaluation of preventive procedures efficiency;
- Getting skills in dental education and motivation of people to oral health maintenance, respecting patient's values and preferences;
- Getting knowledge and skills necessary for checking of populations need in the dental care, maintenance of dental disease monitoring, planning and evaluating results of preventive programs;

- Formation of the necessity in continuing improvement of professional skills.

10.4.5. Methods of learning / teaching

Lectures

Seminars

Practical sessions

- Situational tasks solving;
- Analysis of clinical cases;
- Clinical practice under teacher's supervising;
- Implementation of preventive procedures, training of oral hygiene skills, realization of dental education in kindergartens and schools;
- Team-work with dental students in the university dental clinic.

10.4.6. Assessment methods

Oral questioning, testing, controlled situational tasks solving, assessment of practical skills.

Exams on special disciplines, at the end of 2nd study year - Final State Certification of graduates.

10.4.7. Strengths

- Development of team-work skills;
- Using of the problem-based method - analysis of clinical situations and searching for the problem solution;
- Work in kindergartens and schools with children of different age groups, their parents and teachers;
- Use of multimedia technologies for visualization of subjects; creation of slides collection, computer presentations, educational video films.

10.4.8. Weaknesses

Lack of the modern equipment and dental units for clinical practice.

10.4.9. Innovations and best practices

Lectures for students are provided by the Russian and foreign experts.

10.4.10. Plans for future changes

Publication of the next textbook for dental hygienists is planned.

Section 11. Restorative Dentistry

A. PRECLINICAL COURSE

11.1. Dental Materials

The responsible person: Pavel V. Dobrovolskij
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11.1.1. Introduction

The discipline "Dental Materials" is a preclinical course which gives students general information of composition, structure, properties and use of dental materials.

This course is scheduled for the 1st study year (1st and 2nd semester). It consists of 80 contact hours.

The lectures on "Dental Materials" are divided into 2 types: basic, concerning theory (structure of material, physical, mechanical and chemical properties, biological compatibility and adhesion), and applied, studying composition and properties of different dental materials, their ability to interact with dental tissues. At practical sessions and laboratory classes students manipulate with models of basic and additional dental materials, evaluating indices, which characterize their properties.

11.1.2. Primary aims

Acquiring theoretical knowledge and practical skills of work with different dental materials for correct choice and rational use of them in clinical practice.

1.1.3. Main objectives

- Student has to learn:

- Classification of dental materials by function and chemical structure;
- Terminology used in the science;
- preclinical (in vitro) evaluative methods for physical, mechanical and chemical properties of dental materials;
- Evaluative methods for biocompatibility and inactivity of dental materials;
- Evaluative criteria and methods for dental material's properties;
- Practical skills of work with different dental materials (technique of dosage, mixing, polymerization).

The student has to know influence of working conditions and methods on dental material's properties.

11.1.4. Hours in the curriculum

In total contact 80 hours (30 hours of lectures, 40 hour of practical session and 10 hours of laboratory practice).

1st semester: 20 hours of lectures, 16 hour of practical session and 4 hours of laboratorial practice.

2nd semester: 10 hours of lectures, 24 hour of practical session and 6 hours of laboratory practice.

11.1.5. Methods of learning/teaching

- Lectures;
- Practical sessions;
- Situational tasks solving;
- Practice in laboratory (training in practical skills of work with different dental materials, evaluation of their properties and quality in vitro);

11.1.6. Assessment methods

Assessment of theoretical knowledge and practical skills is realized through score-rating system, using methods of testing, quality of controlled situational tasks solving and making laboratory practice.

Exam at the end of the 2nd semester.

11.1.7. Strengths

Since 1st study year students get acquainted with properties and function of various dental materials, master skills necessary in clinical practice.

11.1.8. Weaknesses

Distant location of building. where practical sessions are being held.

11.1.9. Innovations and best practices

Students getting an insight about the "know-how" of dental materials since the Department is located on the base of production company.

11.1.10. Plans for future changes

Development of new manuals and supervising materials.

11.2. Propaedeutic Dentistry

The responsible person: Ernest A. Bazikyan, Professor, MD, PhD Med. Sci.
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11.2.1. Introduction

“Propaedeutic Dentistry” is a preclinical integrated course, which is designed for students to study theoretical bases and gain primary practical skills in the main areas of dentistry: therapeutics, oral surgery, prosthetic.

The propaedeutic dental course is scheduled for the 2nd year of training (3d and 4th semesters). In total 195 contact hours.

In the 3rd semester the students study questions of the organization and equipment of various departments of dental clinic, dental ergonomics, anatomy and histology of primary and permanent teeth, biomechanics of masticator's apparatus. They are also trained in patient examination. The biggest part of this course concerns dental restorations: instruments, filling materials, methods of tooth preparation and filling cavities of different Black's classes, principles of inlays, crowns and fixed dental prostheses manufacturing.

In the 4th semester training program gives to the students knowledge of the local anaesthesia methods, endodontic treatment (endodontic instruments and materials, methods of root canal cleaning and filling), tooth extraction. They study possible mistakes and complications caused by dental treatment and methods of their removal.

In practical sessions students work on phantoms with artificial and natural extracted teeth. They modulate crowns of teeth from wax and also practice dental restorations.

11.2.2. Primary aims

- Getting basic professional skills necessary for training in the main areas of dentistry: therapeutic, oral surgery and prosthetic.
- Mastering of the main manual skills, needed for their further clinical practice, on phantoms.

11.2.3. Main objectives

- Introduce the students to the bases of deontology, principles of diagnostics and treatment of the widespread oral diseases;
- Improve knowledge of anatomy and physiology of oro-maxillo-facial area;
- For students to master:

- rules of use of main dental equipment, dental instruments and materials, according to the principles of ergonomics and safety measures;
- methods of infection control in dental clinic;
- main and additional methods of patient examination in dental clinic and their registration in dental patient's medical record;
- main manual skills, needed for starting their dental practice on phantoms (dental plaque removal, preparation and filling of decayed cavities of different Black's classes, root canal cleaning and filling, methods of local anaesthesia and tooth extraction, odontopreparation for different types of fixed dentures).

11.2.4. Hours in the curriculum

In total 195 contact hours (30 hours of lectures and 165 hours of practice).

3rd semester: 15 hours of lectures and 80 hours of practice.

4th semester: 15 hours of lectures and 85 hours of practice.

11.2.5. Methods of learning/teaching

- Lectures;
- Practical sessions:

- practice on phantoms (training for practical skills of dental plaque removal, preparation and filling of decayed cavities, odontopreparation for prosthetic restorations, endodontic manipulations) and simulators (training for anaesthesia and tooth extraction);
- practice in clinic (training on methods of oral examination and registration of results, studying principles of ergonomics and the infection control);
- modelling on wax different groups of teeth and dental restorations;
- painting (for strengthening knowledge of anatomy and physiology of oro-maxillo-facial area);

11.2.6. Assessment methods

Theoretical knowledge tested by score-rating system;
Practical skills tested by score-rating system;
Exam (summarized assessment of theoretical knowledge and practical skills).

11.2.7. Strengths

- The students gain the basic professional skills in the main areas of dentistry that are necessary for starting their clinical practice;
- Use of computer technology in training.

11.2.8. Weaknesses

There is a need of material resources improvement in the Department.

11.2.9. Innovations and best practices

The students are trained in the innovation methods of dental diagnostics, treatment of carious lesion and endodontic space.

11.2.10. Plans for future changes

- Improvement of providing the training with modern equipment, instruments and materials;
- Manuals development and publication.

B. CLINICAL COURSE

11.3. Therapeutic Dentistry

The responsible persons: Jurij M. Maksimovskiy, Professor, MD, PhD Med. Sci.

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Garry M. Barer, Professor, MD, PhD Med. Sci.
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11.3.1. Introduction

The course of Therapeutic Dentistry is scheduled for 3rd, 4th and 5th study years (5th-10th semesters). It has 597 contact hours.

The training of this discipline is carried out at the Department of Department Therapeutic Dentistry (3rd-4th year students) and Department of Hospital Therapeutic Dentistry (5th year students). Students are trained on clinical bases of University, treating patients with teeth, periodontal and oral mucosa diseases.

In the 5th, 6th, 7th semester students study the oral examination methods in the Clinic of Therapeutic Dentistry and register the results in a dental patient's medical record. Supervised by the teachers they are also trained in methods of diagnostics and treatment of caries and its complications, non-carious lesions of teeth.

In the 8th, 9th, 10th semesters students study the methods of diagnostics and treatment of periodontal and oral mucosa diseases. They treat patients with caries and non-carious lesions of teeth, strengthening their practical skills from previous semesters.

In educational process a great importance is given to development of the student's communicative skills, their abilities to adapt to working conditions of dental clinic and medical personnel.

11.3.2. Primary aims

- Form and develop in students clinical thinking and medical behaviour;
- Let the students gain professional competences in the area of diagnostics and therapeutic treatment of teeth, periodontal and oral mucosa diseases that is necessary for their activity as a general dentist.

11.3.3. Main objectives

- Adaptation of the students to working conditions of dental clinic;
- Studying by the students of the main principles of dental ethics and deontology;
- Forming of clinical thinking for diagnostics and planning of therapeutic treatment;
- Studying of the main and additional methods of patient examination in the Clinic of Therapeutic Dentistry, newest diagnostic methods;

- Studying of the modern methods of diagnostics and therapeutic treatment of dental caries and non-carious lesions, periodontal and oral mucosa diseases;
- Knowledge of possible mistakes and complications during therapeutic treatment and methods of their removal;
- Mastering of skills of writing medical documentation.

11.3.4. Hours in the curriculum

The course of Therapeutic Dentistry in total 597 contact hours (70 hours of lectures and 527 hours of practical sessions).

5th semester- dental caries and its complications - 76 hours: 6 hours of lectures and 70 hours of practical sessions;

6th semester- dental caries and its complications - 84 hours: 14 hours of lectures and 70 hours of practical sessions;

7th semester- non-carious lesions of teeth- 71 hours: 10 hours of lectures and 61 hours of practical sessions;

8th semester- periodontal diseases- 114 hours: 14 hours of lectures and 100 hours of practical sessions;

9th semester- periodontal diseases- 108 hours: 15 hours of lectures and 93 hours of practical sessions;

10th semester- oral mucosa pathology - 144 hours: 11 hours of lectures and 133 hours of practical sessions.

11.3.5. Methods of learning/teaching

- Lectures;
- Seminars;
- Practical sessions:

- situational tasks solving;
- analysis of clinical cases;
- clinical practice under teacher's supervision;
- attendance of students of patient's consultations provided by professors and associate professors;

After the 6th semester the students have 3 weeks dental therapeutic practice in clinics of Moscow, where they work as an assistant of a dentist.

11.3.6. Assessment methods

The current control:

- discussion on subject;
- testing;
- situational tasks solving;
- assessment of student's practical skills.

The final control:

- after 7th semester - assessment of practical skills, testing, interview;

- after 10th semester – the exam during the Final State Certification of graduates.

11.3.7. Strengths

- Continuity in teaching the discipline at the departments of Department and hospital Therapeutic Dentistry;
- Mastering of practical skills of diagnostics and therapeutic treatment of dental diseases and application of this knowledge on patients in clinic.

11.3.8. Weaknesses

- Lack of material resources at the departments;
- Lack of workplaces for students in clinic;
- Lack of patients.

11.3.9. Innovations and best practices

- Teaching of newest technologies of dental therapeutic restoration, using lightcured composite materials and glass-ionomer cements. Mastering of direct restorative method (veneering) for a high esthetic result;
- Studying of modern endodontic instruments and materials (profiles, retrofiles, protapers) and methods of root canal filling (cold lateral condensation, thermofills);
- Learning of new methods of periodontal diseases treatment.

11.3.10. Plans for future changes

- Improvement of material resources of the departments;
- Renewal of students clinic (dental practice of a students in their free time under teacher's supervision);
- Providing the training with modern informational technologies in a combination with highly qualified teaching staff.

Section 12. Prosthetic Dentistry

The responsible persons: Alexander J. Maliy, Professor, MD, PhD Med. Sci.

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12.1. Introduction

The course "Prosthetic Dentistry" is scheduled for 3rd, 4th and 5th study years (5th-10th semester). It has 507 contact hours in total.

The training program of the Department of Prosthetic Dentistry (5th - 8th semesters) introduces the students to biomechanics of dento-maxillary system, the main nosological forms in prosthetic dentistry. Students are trained for the patient examination methods in the clinic of prosthetic dentistry, principles of diagnostics and planning of treatment. They study specifics of prosthetic treatment of teeth with crown's defects, partial or total adentia, clinical and laboratory stages of fixed and mobile dentures manufacturing. Special training cycle concerns prosthetic methods of periodontal diseases treatment.

During the course "Hospital Prosthetic Dentistry" (9th-10th semesters) the students study methods of examination, diagnostics and treatment of patients with pathological teeth abrasion, deformations of dental arches, anomalies of dento-maxillary system, diseases of temporo-mandibular joint. They get knowledge in prosthetic treatment of total adentia, maxillo-facial prosthetic, implantology. Students also study specifics of prosthetic treatment of oral mucosa diseases, allergic reactions and intolerance to dental prostheses' materials, mistakes and complications in prosthetic treatment, topics of aesthetics in prosthetic dentistry.

12.2. Primary aims

To let the students gain professional competence in providing diagnosis and prosthetic treatment of patients with defects of tooth crown, deformations of dental arches and different pathologies of dento-maxillar system that is necessary for general dentist's activity.

12.3. Main objectives

- Forming of clinical thinking for diagnostics and planning of prosthetic treatment;
- Forming ability to integrate knowledge of basic, medico-biological and dental disciplines into dental prosthetic practice;
- Ensuring the students master theoretical knowledge and practical skills on the following aspects:
  - principles of dental prosthetic clinic work and organization;

- methods of patient examination with teeth defects, partial or total adentia, different pathologies of dento-maxillary system (periodontal diseases, pathological teeth abrasion, deformities of dental arches and jaws, diseases of temporo-mandibular joint) in prosthetic dentistry.
- clinical and laboratory manufacturing stages of fixed and removable dentures, temporary and constant splinting prosthetic construction;
- possible mistakes and complications dental prostheses manufacturing and methods of their removal and prevention;
- standards and algorithms of providing diagnostics, treatment and preventive procedures in prosthetic dentistry.

12.4. Hours in the curriculum

The course of prosthetic dentistry consists of 507 hours (72 hours of lectures and 435 hours of practical sessions).

5th semester - 6 hours of lectures and 51 hours of practical sessions.

The training program includes theoretical bases of condition and functioning of dento-maxillary system being normal or pathological. The students study tooth crown and dental arch defects restoration with fixed dentures.

6th semester - 12 hours of lectures and 51 hours of practical sessions.

The subject: dental arch defects restoration with partial mobile dentures.

7th semester - 10 hours of lectures and 62 hours of practical sessions.

The subject: prosthetic treatment of total adentia.

8th semester - 10 hours of lectures and 85 hours of practical sessions.

The subject: diagnostics and complex treatment of periodontal diseases with splinting prostheses.

9th semester - 10 hours of lectures and 80 hours of practical sessions.

The subject: diagnostics and prosthetic treatment of pathological teeth abrasion, deformations of dental arches, anomalies of dento-maxillary system in adults.

10th semester - 24 hours of lectures and 106 hours of practical sessions.

The subject: diagnostics and prosthetic treatment of patients with diseases of temporo-mandibular joint; maxillo-facial prosthetic, prosthetic treatment with implants; specifics of prosthetic treatment of oral mucosa diseases, allergic reactions and intolerance to dental prosthetic materials; mistakes and complications in prosthetic treatment, topic of aesthetics in prosthetic dentistry.

12.5. Methods of learning/teaching

- Lectures;
- Seminars;
- Practical sessions:

- laboratory demonstration and practice under teacher's supervision;
- situational tasks solving;

- analysis of clinical situations;
- clinical practice under teacher's supervision;

After the 8th semester the students have 3 weeks summer practice in prosthetic department of dental clinic.

12.6. Assessment methods

Theoretical knowledge: testing on score-rating system.
Practical skills: case history presentation, score-rating system of clinical practice assessment.

The final control:

- exam after the 7th semester - assessment of practical skills, testing, interview;
- after 10th semester – the exam within the framework of Final State Certification of graduates.

12.7. Strengths

- Continuity in theoretical and practical training on Prosthetic Dentistry in 5th-10th semester;
- Practical sessions in small groups (5-6 students);
- Use in training of problem-based method - analysis of clinical situations and search of problem solution;
- Qualitative training in the area of clinic functional diagnostics;
- Well-qualified teaching staff with high research and clinical experience.

12.8. Weaknesses

- Lack of phantoms for mastering of practical skills;
- Lack of material resources for student's clinical practice (workplaces, modern equipment, dental instruments and materials);
- Lack of bases for summer clinical practice.

12.9. Innovations and best practices

- Use in training of new computer technologies and internet resources with materials from Russian and foreign universities;
- Use in training of visual situational tasks;
- Training of students in methods of dental risk management in prosthetic dentistry.

12.10. Plans for future changes

- Use in training of facts received by methods of evidence-based medicine;
- Development and publication of manuals for independent training of students ;

- Improvement of providing the training process with modern diagnostic equipment, instruments and phantoms;
- More intensive use of thematic materials from prosthetic department’s museum.

Section 13. Oral and Maxillo-facial Surgery

13.1. Oral and Maxillo-facial Surgery. Maxillo-facial Traumatology

The responsible persons: Andrej M.Panin, Professor, MD, PhD Med. Sci.
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13.1.1. Introduction

The course “Oral and Maxillo-facial Surgery” is studied by students on 3rd, 4th and 5th courses (5th-10th semester).

In the course “Department Oral Surgery” (5th-7th semester) students master algorithm of patients examinations in clinic of oral surgery, methods of anaesthesia, tooth extraction; study odontogenic inflammation processes in maxillo-facial area, diseases of salivary glands. Under teacher’s supervision students provide ambulatory surgical care, assist at operations, study how to register medical documentation in oral surgery clinic.

In 7th-8th semester students study topics of maxillo-facial traumatology: types of traumas (including fire) of the face and jaw bones, their diagnostics, a clinical signs, principles of treatment, represent the clinical case history of the maxillo-facial hospital patient.

Aspects of maxillo-facial surgery are studied in 9th and 10th semester. During training topics of diagnostics and treatment of tumours in maxillo-facial area, types of defects and deformations and principles of plastic surgery, using local tissues, methods of periodontal and TMJ diseases surgical treatment, dental and maxillo-facial implantology are considered. Under teacher’s supervision students have clinical practice - providing oral surgical care to ambulatory patients.

13.1.2. Primary aims

For students to acquire professional competences in the field of diagnostics and providing of the ambulatory oral surgical care to patients within the limits of the general dentist’s functions.

13.1.3. Main objectives

- Development of methods of clinical, instrumental and laboratory diagnostics of the main surgical diseases (odontogenic inflammation in maxillofacial area, traumatic defects of face and jaws, tumours, salivary glands pathology);

- Mastering of practical skills in main ambulatory surgical manipulations (local anaesthesia, teeth and roots extraction, opening of

subperiostal abscesses and superficial abscesses of maxillo-facial area, dissection of hood above third lower molar, root resection, prescribing medicamentous treatment at maxillo-facial inflammation processes, dissection of superficial non-malignant growths on oral mucous and skin);

- Understanding indications to hospitalization of patients with oral and maxillo-facial pathology to the specialized hospital;

- Development of skills to perform various techniques of immobilization in case of mandible dislocation or jaws and face bones fractures;

- Knowledge of principles of the organization and providing of specialized medical care to wounded in the face during military operations at all stages of medical evacuation;

- Acquiring skills of providing urgent care to patients in surgical branch of dental clinic;

- Observance of principles of oral cancer awareness;

- Acquaintance with the basic principles of plastic surgery for various types of defects and deformations of maxillo-facial area;

- Knowledge of principles of patient's rehabilitation in case of oral and maxillo-facial surgical diseases.

13.1.4. Hours in the curriculum

In total 486 contact hours (lectures - 74 hours, practical sessions - 412 hours).

Department Surgical Dentistry:

5th semester: 6 hours of lectures, 32 hours of practical sessions.

Subjects - methods of local anaesthesia, operation of teeth and roots extraction, odontogenic inflammations of maxillo-facial area (periodontitis, periostitis, osteomyelitis);

6th semester: - 14 hours of lectures, 70 hours of practical sessions.

Subjects - teeth eruption diseases, odontogenic inflammations of maxillo-facial area (abscesses and phlegmons of various localization, lymphadenitis, maxillae sinusitis);

7th semester - 6 hours of lectures, 30 hours of practical sessions.

Subjects - specific inflammations of maxillo-facial area (actinomycosis, tuberculosis, syphilis), salivary glands diseases, complications of inflammations in maxillo-facial area (sepsis, mediastinitis, thrombophlebitis).

Maxillo-facial Traumatology

7th semester - 6 hours of lectures, 30 hours of practical sessions.

Subjects - traumatic defects of maxillo-facial area (dislocations and fractures of teeth, dislocation of the mandible, fractures of jaws, zygomatic and nasal bones).

8th semester - 12 hours of lectures, 64 hours of practical sessions.

Subjects - military damages and fire wounds; main principles and measures of specialized medical care at various stages of medical evacuation.

Maxillo-facial Surgery:

9th semester - 10 hours of lectures, 62 hours of practical sessions.

Subjects - diagnostics of tumours in maxillo-facial area, pre-cancerous diseases of lips and oral mucous, jaw cysts, non-malignant tumours in maxillo-facial area.

10th semester - 20 hours of lectures, 124 hours of practical sessions.

Subjects – oral and jaws cancer, non-malignant and malignant tumours of salivary glands; types of defects and deformations of maxillo-facial area; plastic surgery usage of local tissues; surgical treatment of TMJ and periodontal diseases; dental and maxillo-facial implantology.

13.1.5 Methods of learning / teaching

- Lectures
- Seminars
- Practical sessions:

- discussion on theoretical subject;
- situational tasks solving;
- analysis of clinical cases;
- clinical practice in University policlinics under teacher's supervision;
- assisting on the ambulatory operations;
- demonstration of surgical operation under the general anaesthesia;
- demonstration and analyzing of thematic video films and slides.

On completion of 7th semester students have an 2 weeks clinical practice in surgical branch of dental clinics of Moscow.

13.1.6 Assessment methods

Theoretical knowledge: testing, controlled situational tasks solving (on score-rating system);

Practical skills: clinical practice and presentation of the clinical case history of supervised patients (on score-rating system).

Exam after 7th semester: testing, assessment of practical skills, interview.

Exam after 10th semester - within the framework of Final State Certification of graduates.

13.1.7 Strengths

- Use in training of modern information technologies;
- Clinical practice in the specialized maxillo-facial hospital;
- Highly qualified teaching staff, most of teachers have a PhD degree;

- Staff of department develops innovations in treatment of oral and maxillo-facial surgical diseases, for example, method of compression-distraction osteosyntehisis for treatment of face bones traumas;
- Department of Oral and Maxillo-facial Surgery of MSUMD is a unique centre on research and treatment of salivary glands diseases in the RF, providing consultative and treatment care to population of Moscow and Russian regions.

13.1.8 Weaknesses

- Lack of the new manuals and training computer programs;
- Insufficient number of contact hours in the curriculum.

13.1.9. Innovations and best practices

- Publication of textbooks on diagnostics and treatment of fire wounds and trauma and a manual for students on a topic "Mechanical and Thermal Damages of the Face";
- Creation of computer bank of visualized clinical cases;
- Creation of video films on subjects.

13.1.10. Plans for future changes

- Direct TV-translation of operations for the big audience;
- Developing of a manual on Oral and Maxillo-facial Surgery for students' practical sessions;
- Widening of video films and slides collection;
- Creation of training and supervising computer programs;
- Creation of new educational films on traumatology of maxillo-facial area.

13.2. Dental Implantology

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13.2.1. Introduction

The course "Dental Implantology" for dental students is presented during the 4th study years (7th semester) and consists of 21 contact hours.

At lectures students learn the potentials of implant dentistry, its history, physiological bases and the principles of implants osseointegration.

At the seminars students get acquainted with different implant systems and operating techniques, they study indications and contraindications to the implant treatment. Also the course presents information on the reconstructive operations, which may precede the implant treatment, and the maintenance

care. Besides, students learn the bases of implant prosthetics. Special attention is given to the use of modern methods of computer diagnostics, modelling of different clinical situations, treatment planning and control.

During practical sessions students attend and assist at the operations and also observe the prosthetic part of the treatment.

13.2.2. Primary aims

Acquaintance of students with bases of dental implantology, its significance in the complex of dental sciences and in the dental care system.

13.2.3. Main objectives

Give students an insight on:

- Fundamental bases of dental implantology;
- Clinical application of dental implants in the complex of surgical treatment;
- Principles of implant prosthetics.

13.2.4. Hours in the curriculum

In total 21 contact hours (lectures - 6 hours, practical sessions - 15 hours).

13.2.5. Methods of learning/teaching

- Lectures;
- Seminars;
- Practical sessions:

- practice on phantoms;
- demonstration of clinical cases;
- attending on consultations of the implantologists;

- Participation in students scientific society on oral surgery and implantology;
- Participation in the research projects and their presentation in the students scientific conferences.

13.2.6. Assessment methods

Discussion on theoretical subject;

Testing;

Situational tasks solving.

13.2.7. Strengths

This course provides the comprehensive understanding of the dental sciences on the highest level, helps to form the integrated clinical and scientific thinking.

13.2.8. Weaknesses

- Insufficient material support of the department and its divisions.
- Lack of modern digital equipment.

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13.2.9. Innovations and best practices

- Teaching surgical techniques, using various implant systems and jaw models.
- Practice in clinical and technical stages of implant prosthetics.

13.2.10. Plans for future changes

- Providing a special academic auditorium for the course of dental implantology.
- Additional equipment with surgical and prosthetic instruments and computers.

Section 14. Oral Medicine and Oral Pathology

The responsible person: Alexander I. Volozhin, Professor, MD, PhD Med.Sci.

E-mail: KPatFiz@msmsu.ru

14.1. Introduction

The course "Oral Pathology" is presented for dental students of 4th study year (8th semester) as a special course «Physiopathology of Maxillo-facial Area» as a part of discipline « Physiopathology» (see section 7).

During the course following topics are considered:

- aetiology and pathogenesis of inflammatory processes in maxillo-facial area, principles of their correction;
- physiopathology *of*: inflammatory and dystrophic alterations of periodontal tissues and salivary glands; wounds of maxillo-facial area; disturbance of calcium and phosphoric metabolism (osteoporosis, osteomalacia);
-pH-balance in the oral cavity;
- mechanisms of oral alterations at somatic diseases, at disorders of blood and endocrine systems;
- significance of immunodeficiency and allergy in advance of oral pathology;
- physiopathology of drug addiction and its connection with oral diseases;
- influence of ecological factors on oral diseases.

14.2. Primary aims

Knowledge acquisition of the basic mechanisms of oral diseases advance necessary for a choice of rational treatment and preventive methods in dental practice.

14.3. Main objectives

- Analysis of character and degree of morpho-functional disturbance at different stages of oral disease.
- Revealing correlation between pathogenesis of oral disease and its clinical manifestations.
- Determination of pathological process influence on a target organ, and also on other organs and systems of human body.
- Use of functional-diagnostics methods in oral examination for evaluation of functional disorders degree and choice of pathogenetic treatment.

14.4. Hours in the curriculum

In total 42 contact hours (8 hours of lectures, 34 hours of practical sessions).

14.5. Methods of learning / teaching

Lectures

Practical sessions:

- discussion on theoretical subject;
- situational tasks solving;
- interpretation of the results of functional-diagnostic examination in pathology of oral cavity and maxillo-facial area;

14.6. Assessment methods

Oral questioning, testing, controlled situational tasks solving.

Final pretest.

14.7. Strengths

- Learning on the program «Oral Pathology» is conducted by the high-qualified teachers with wide pedagogical and research experience.

14.8. Weaknesses

- Insufficient integration of teaching programs with clinical dental departments.

14.9. Innovations and best practices

- Arranging of cycles of professional continuing education for teachers of clinical dental departments.
- There is a collection of educational films on oral pathology.
- Receiving of University grant by the teachers, who participated in elaboration of new topics in Oral Pathology course.

14.10. Plans for future changes

- Correction of the training program, creation of supervising computer programs, new educational films.

Morphological aspects (including cycle of autopsy) of oral and maxillo-facial pathology are considered, while studying discipline «Anatomical Pathology» (see section 7) in special part «Anatomical Pathology of Head and Neck» - 3rd study year, 7th semester (8 hours of lectures, 28 hours of practical sessions).

Aspects of "**Oral medicine"** (diagnostics, prevention and treatment of oral mucous diseases) are considered integrated while studying disciplines:

- «**Therapeutic Dentistry»** - 5th study year, 10th semester;
- «**Children's Therapeutic Dentistry**» - 5th study year, 9th semester;
- **«Dermatovenerology»** - 4th study year, 7th semester.

Section 15. Integrated Patient Care and Dental Emergencies. Special Patient's Needs

15.1 First Medical Aid

The responsible person: Nikolaj V. Jarigin, Professor, MD, PhD Med. Sci.
E-mail: KMK@msmsu.ru

15.1.1. Introduction

The course "First Medical Aid" is studied by the 1st year students (in the 1st semester).

15.1.2. Primary aims

- Let the students know the main symptoms of widespread emergency states caused by accidents, catastrophes and deleterious environmental effects;
- Gain basic practical skills of first medical aiding.

15.1.3. Main objectives

- Acquaintance with structure and principles of medical emergency service's organization;
- Knowledge of the main symptoms of terminal states, clinical and biological death, different types of injuries (wounds, traumas, burns, poisoning);
- Learning the principles of medical behavior in urgent situations;
- Mastering practical skills of first medical aid for different injuries, know the basic methods of reanimation at terminal state and clinical death.

15.1.4. Hours in the curriculum

In total 40 contact hours (6 hours of lectures and 34 hours of practical sessions).

15.1.5. Methods of learning/teaching

- Lectures;
- Practical sessions:

- discussion on subject;
- mastering practical skills of first medical aiding on phantoms and manikins under teacher's supervision.

15.1.6. Assessment methods

Theoretical knowledge: testing on score-rating system;
Practical skills on score-rating system.
Final pretest.

15.1.7. Strengths

The presence of special classes (for educational film's demonstration, cardiopulmonary resuscitation, desmurgy and immobilization) with modern audio- and video equipment, phantoms, manikins, facilities for first medical aiding and reanimation.

15.1.8. Weaknesses

The lessons are realized in big student's groups that decrease possibility of individual approach in training.

15.1.9. Innovations and best practices

There are many educational films at the department.

15.1.10. Plans for future changes

Development of manuals for practical sessions and improvement of supervising materials.

15.2 Reanimatology and Intensive Care

The responsible person: Sergey J.Ivanov, Professor, MD, PhD Med. Sci.
E-mail: KGHSiCHLH@msmsu.ru

15.2.1. Introduction

The course "Reanimatology and Intensive Care" is carried out at the 5^{th} study year (10^{th} semester). The students are introduced to aspects of anesthesiological and reanimatological provision in dentistry, algorithms of medical emergency care at dangerous complications, occurring during dental visit. They are also trained in methods of resuscitation and intensive therapy at critical states of human's life on phantoms and manikins.

15.2.2. Primary aims

- Training in emergency aid at critical states of human's life;
- Knowledge of the dentist's tactics at urgent and planned dental care of patients with concomitant pathology and risk factors.

15.2.3. Main objectives

- Be acquainted with international standards and algorithms of cardiopulmonary resuscitation;
- Knowledge stages and steps of cardiopulmonary and cerebral resuscitation;
- Knowledge diagnostic characteristics of clinical death;
- Training in skills of initial cardiopulmonary resuscitation;

- Training in skills of resuscitation and intensive care in case of asphyxia.

15.2.4. Hours in the curriculum

In total 18 contact hours (6 hours of lectures and 12 hours of practical sessions).

15.2.5. Methods of learning/teaching

- Lectures;
- Practical sessions:
- discussion on subject;
- demonstration and analysis of educational films and slides;
- solving of situational tasks and exercises;
- mastering practical skills of first medical aiding on phantoms, manikins under teacher's supervision;
- demonstration of operations made under general anaesthesia; attendance at anaesthetist's consultations;

15.2.6. Assessment methods

Testing, oral questioning, controlled situational tasks solving, assessment of practical skills (all assessment methods are realized on score-rating system).

Final pretest.

15.2.7. Strengths

Use of modern informational technologies in training.

15.2.8. Weaknesses

- Lack of modern manuals for the dental students;
- Lack of contact hours for training in the curriculum.

15.2.9. Innovations and best practices

- Use of subject educational films in training;
- Use of visualized situational tasks.

15.2.10. Plans for future changes

- Acquire some new modern phantoms for training in skills of initial cardiopulmonary resuscitation;
- Increase the number of educational films;
- Create training and supervising computer programs.

The algorithms of medical emergency care for patients with concomitant pathology during a dental visit are studied integrated with disciplines of "Human Diseases" section.

15.3 Exercise Therapy

The responsible person: Sergey J.Ivanov, Professor, MD, PhD Med. Sci.
E-mail: KGHSiCHLH@msmsu.ru

15.3.1. Introduction

Exercise therapy is one of medical rehabilitation stages. Its aimed to quicken the rehabilitative process and prevent or decrease disability level. This course is scheduled for the 5th study year (in 9th semester) after studying by the students the main courses of acquired and congenital maxillo-facial pathology.

15.3.2. Primary aims

- Let the students gain professional knowledge and skills in the field of therapeutic physical training that is necessary for rehabilitation of the patients with different maxillo-facial pathology;
- Form student's motivation towards healthy lifestyle.

15.3.3. Main objectives

- Studying the main methods of initial, basic and final stages of exercise therapy;
- Training in general methods of medical massage.

15.3.4. Hours in the curriculum

In total 36 contact hours (10 hours of lectures and 26 hours of practice).

15.3.5. Methods of learning/teaching

- Lectures;
- Practical sessions:
- discussion on a subject;
- studying of the general methods of exercise therapy and medical massage;
- independent conducting by the students of physiotherapy exercises as instructors in their training groups;
- conducting by the students of lessons on exercise therapy in hospital under teacher's supervision;

15.3.6. Assessment methods

Oral questioning, assessment of practical skills (as instructors of exercise therapy in groups of students and patients).

Final pretest .

15.3.7. Strengths

- Students have practical sessions on exercise therapy in the specialized hospital;
- Demonstration of the positive influence of physical training.

15.3.8. Weaknesses

- Lack of modern manuals for the dental students;
- Lack of specially equipped classes for practical lessons.

15.3.9. Innovations and best practices

Some part of training is carried out in the clinic of oral and maxillo-facial surgery.

15.3.10. Plans for future changes

- Increase the number of subject educational films;
- Develop visualized situational tasks;
- Equip a clinic for exercise therapy.

15.4 Forensic Medicine (Dentistry)

The responsible person: Pavel O.Romodanovsky, Professor, MD, PhD Med. Sci.

E-mail: KMP@msmsu.ru

15.4.1. Introduction

The course “Forensic Medicine” is studied on the 5th study year (in the 10th semester). A dentist should be acquainted with this discipline as according to Russian legislation he can be involved in for carrying out forensic medical examination and private legal expertise: assessment of dento-maxillar system injury, size and quality of dental care, personal identification through dental status.

15.4.2. Primary aims

Let the students gain professional knowledge in the area of forensic medicine, that is necessary for carrying out forensic medical examination and drawing up conclusions in accordance with dentist’s competence.

15.4.3. Main objectives

A student must know:

- legislative regulation and principles of forensic medical examination organization;
- signs of death verification and identification of its time;

- feathers of diagnostics and evaluation of soft tissue injuries, facial bones and teeth damage, due to mechanical trauma, fire wounds, exposure to physical and chemical factors;
- principles of personal identification by dental records use;
- dentist's responsibility in case of damage to patient's health and professional offence.

15.4.4. Hours in the curriculum

In total 36 contact hours (12 hours of lectures and 24 hours of practical sessions).

15.4.5. Methods of learning/teaching

- Lectures;
- Practical sessions:
- discussion on subject;
- solving of situational tasks.

15.4.6. Assessment methods

- Testing;
- Solving of controlled situational tasks.
- Final pretest.

15.4.7. Strengths

- The Department of Forensic Medicine is a training and expert union. Forensic medical examination Bureau of Moscow Public Health Committee functions on its base;
- The teaching staff develops manuals tools for dental students.

15.4.8. Weaknesses

- Lack of working hours for training in this discipline.

15.4.9. Innovations and best practices

- The Department of Forensic Medicine hase computer version of lectures and practical topics.

15.4.10. Plans for future changes

- Supplementation of illustrative materials collection for students.

Section 16. Behavioural Sciences

The block of Behavioural Sciences includes Humanitarian and Socio-economic disciplines: «Philosophy», «Bioethics», «Psychology and Pedagogics», «Latin», «Foreign languages», «Medical Law», «Economy», «History of Medicine», «Physical Training», «Healthy Lifestyle». Study of those disciplines develops in students communicative skills, ability of critical thinking and situational analysis, creative approach to problem solving; increases their cultural level; forms responsibility and active approach towards life, appropriate civic position and motivation to maintenance of own and patient's health.

16.1. History of Medicine

The responsible person: Konstantin A.Pashkov, Assoc. professor, PhD Med. Sci.

E-mail: HistMed@msmsu.ru

16.1.1. Introduction

Dental students are presented with "History of Medicine" course in the 1st study year (1st-2nd semester) and consists of 40 contact hours.

16.1.2. Primary aims

For students to obtain knowledge of ways and level of development medicine and dentistry went through in various socioeconomic backgrounds.

For students to gain comprehension of relationship between medicine and other scientific areas, culture and art.

16.1.3. Main objectives

- Develop sustainable knowledge of medicine and dentistry historical stages of development in relation with achievements in other scientific areas;
- Form ability of objectively evaluating levels that medicine and dentistry reach, knowledge of different socioeconomic groups about health, illness and hygiene;
- Cultivate in students moral and ethical qualities: patriotism, humanism, respect for the chosen profession.

16.1.4. Hours in the curriculum

In total 40 contact hours (6 hours of lectures, 34 hours of seminars).

16.1.5. Methods of learning / teaching

- Lectures
- Seminars
- Students oral and written presentation
- Visiting of art and history-medical museums
- Independent analysis of relevant literature

16.1.6. Assessment methods

Oral questioning, testing, colloquiums, presentation of course paper. Final pretest.

16.2. Philosophy

The responsible person: V.I.Moiseev, Professor, MD, PhD in Philosophy
E-mail: Philosof@msmsu.ru

16.2.1. Introduction

The discipline «Philosophy» is studied by dental students in the 2nd study year (3rd-4th semester) and consists of 116 contact hours. This course includes history of philosophy from ancient times till now; analysis of the basic terms - existence, cognition; assessment of public and cultural issues from philosophical perception; giving students an insight on the role of philosophical viewpoint, social and moral aspects of individual life and health.

16.2.2.Primary aims

Develop in students interest towards fundamental knowledge, critical thinking, creative approach to the problem's solving through use of philosophical approach.

16.2.3. Main objectives

- Form integral concept of the world and place of the individual in it, development of scientific-philosophical outlook;
- Develop ability to formulate logically and to argue ones point of view on philosophical problems;
- Present students with the idea of cognition in relation to medicine.

16.2.4. Hours in the curriculum

In total 116 contact hours (54 hours of lectures, 62 hours of seminars).
3rd semester: 38 hours of lectures, 26 hours of seminars.
4th semester: 16 hours of lectures, 36 hours of seminars

16.2.5. Methods of learning / teaching

- Lectures;
- Seminars:
- problem-bases learning;
- discussions;
- students oral presentations;
- independent analysis of relevant literature.

16.2.6. Assessment methods

Oral and written questioning;
Exam - after 4th semester.

16.3. Bioethics

The responsible person: V.I.Moiseev, Professor, MD, PhD in Philosophy
E-mail: Philosof@msmsu.ru

16.3.1. Introduction

Bioethics is studied by dental students in 2nd study year (3rd semester) as a section "Practical Philosophy" course and consists of 40 contact hours. While studying the basic ethical theories and principles, doctor's moral duties and patient's rights, special problems of bioethics (euthanasia, organ's transplantations, reproductive technologies, medical genetics) and also ethical problems in dentistry are considered.

16.3.2. Primary aims

To form in students ability of making decision in difficult moral situations of medical practice and building ethical relationship with patients.

16.3.3. Main objectives

- Give knowledge of the basic ethical terms and concepts, norms and principles of professional etiquette, the basic national and international ethical documents;
- Form skills of analyzing professional situations from ethical position, of making independent decisions and of defending one's point of view;
- Build relationship with patients and colleagues on the basis of ethical principles.

16.3.4. Hours in the curriculum

In total 40 contact hours (8 hours of lectures, 32 hours of seminars).

16.3.5. Methods of learning / teaching

- lectures
- seminars:
- discussions;
- situational tasks solving;
- the written analysis of the certain clinical cases;
- independent analysis of relevant literature.

16.3.6. Assessment methods

Oral and written questioning, assessment of situational tasks solving.
Final pretest.

16.4. Latin and Foreign Language

Studying of languages includes two disciplines: «Latin» and «Foreign language».

16.4.1. Latin Language

The responsible person: Valentina F.Novodranova, Professor, MD, PhD in Philology.

E-mail: Latin@msmsu.ru

16.4.1.1. Introduction

The course "Latin Language "is presented for dental students during 1st study year (1st-2nd semester) and consists of 80 contact hours.

16.4.1.2. Primary aims

Studying international medical terminology and principles of its development.

16.4.1.3. Main objectives

- Provide knowledge of Latin grammatical norms and main principles of medical terms development;
- Acquire knowledge of professional terminology (anatomical, clinical, pharmaceutical) and develop skills of its active use.

16.4.1.4. Hours in the curriculum

In total 80 hours of practical sessions.
1st semester: 40 hours of practical sessions;
2nd semester: 40 hours of practical sessions.

16.4.1.5. Methods of learning / teaching

- practical sessions:
- discussion on theoretical subject;
- work with the dictionary;
- independent learning of medical terms.

16.4.1.6. Methods of assessment:

Oral and written assessment of terminological minimum, computer testing.

Final pretest.

16.4.2. Foreign Languages

The responsible person: Ludmila N.Berzegova, Docent, PhD in Philology.

E-mail: Inyaz@msmsu.ru

16.4.2.1. Introduction

The course "Foreign Language" is presented for dental students during 1st and 2nd study years (with 1st on 4th semester) and consists of 198 hours. Students have a choice of studying English, German or French.

16.4.2.2. Primary aims

Provide skills of oral and written operation in foreign languages.

To motivate students to use foreign language in professional activity - exploring special literature and communicating with foreign colleagues.

16.4.2.3. Main objectives

- Gain knowledge of medical terminology in foreign language and ways of its use in practice;

Develop practical skills:

- using dictionaries, reading and translating of the professional literature;
- using foreign language in written and verbal forms for personal and professional communication.

16.4.2.4. Hours in the curriculum

198 hours of practical sessions, independent work.
1st semester: 60 hours of practical sessions;
2nd semester: 60 hours of practical sessions.
3rd semester: 38 hours of practical sessions;
4th semester: 40 hours of practical sessions.

16.4.2.5. Methods of learning / teaching

Practical sessions:
- active language practice (oral and written dialogue)
- lexical and grammatical praxis
- audition
- text translation
- presentation of the clinical cases in foreign language.

16.4.2.6. Assessment methods:

Oral and written questioning, testing.
Final pretest.

16.5. Psychology and Pedagogics

The responsible person: Michael A. Lukatskiy, Professor, MD, PhD in Psychology

16.5.1. Introduction

The course "Psychology and Pedagogics" is presented to dental students during 3rd study year (5th-6th semester) and consists of 60 contact

hours. While studying aspects of personal and professional development, specificity of interpersonal relations and interaction of individual and society, resources of psychological and pedagogical skills in medical practice are considered.

16.5.2. Primary aims

Form an insight into individual psychological characteristics, develop ability of evaluating personal potential and finding optimal ways of achieving personal and professional ambitions.

16.5.3. Main objectives

- Introduce different schools of psychology and pedagogies;
- Provide knowledge of the fundamental concepts, describing various spheres of individual mental activity;
- Develop skills of analysis in educational and professional environment, participation in professional communication, discussion, individual and multiparty problem-solving;
- Develop professional thinking and creative approach to the problem-solving.

16.5.4. Hours in the curriculum

In total 60 contact hours (20 hours of lectures, 40 hours of seminars).
5th semester: 14 hours of lectures;
6th semester: 6 hours of lectures, 40 hours of seminars.

16.5.5. Methods of learning / teaching

Lectures
Seminars:
- discussions;
- psychological testing;
- problem-based learning (analysis of training and professional situations);
- situational tasks solving;
- students oral presentations;
- independent analysis of relevant literature.

16.5.6. Assessment methods

Oral and written questioning, controlled situational tasks solving.
Final pretest after 6th semester.

16.6. Economy

The responsible person: Irina V.Podporina, Professor, MD., PhD Econom. Sci.
E-mail: KFiniInv@msmsu.ru

16.6.1. Introduction

The course “Economy” is presented for dental students during 2nd study year (4th semester) and consists of 78 contact hours. While studying students gain an insight of modern economic theories, basic economic models, rale of economic in medical scientific and practical achievements.

16.6.2. Primary aims

Give students understanding of Russian and international economic models and ways of implementation of acquired knowledge in personal life and professional development.

16.6.3. Main objectives

- Give insight of basic economic models in the developed countries; various aspects of national economic affairs; macro- and microeconomics; role of currency; competition; efficiency of foreign and national economic affairs.
- Form in students the ability to analyze economic situation, search necessary information and interpret it, using received knowledge of economics.

16.6.4. Hours in the curriculum

In total 78 contact hours (28 hours of lecture, 50 hours of seminars).

16.6.5. Methods of learning / teaching

Lectures
Seminars:
- discussion
- situational tasks solving
- students oral presentations
- independent analysis of relevant literature.

16.6.6. Assessment methods

Oral recitation, tests, controlled situational tasks solving.
Exam.

16.7. Medical Law

The responsible person: Pavel O.Romodanovsky, Professor, MD, PhD Med. Sci.
E-mail: KMP@msmsu.ru

16.7.1. Introduction

The course “Medical Law” is presented to dental students during 5th study year (9th semester). While studying the legislation regulating citizens right to life, health and human respect; rights and guarantees of medical and social care provision, health protection of different population groups; concept of medical confidentiality, types of physical legal examination; rights

and social protection of the medical personnel, health care facilities; amenability for patient rights infringement are considered.

16.7.2. Primary aims

Provide students with knowledge necessary for adequate appraisal of legal relationships with: the patient or his representative, the medical personnel, the health care facilities, the insurance companies and the state authorities in course of professional activity.

16.7.3. Main objectives

- The student should know:

- Fundamental regulations in the field of health protection of citizens, medical insurance in RF;

- Rights of the citizens, certain population's groups and patient's;

- Fundamental legal mechanisms and their maintenance whilst providing dental care;

- Rights and duties of medical personnel, principles of their social legal protection;

- Criteria of a medical and legal assessment of failures in dental practice, the responsibility of the dentist for damnification to health, professional and official misconduct, professional risk management;

- The student should be able to:

- file medical documentation correctly, to prepare the documents needed to prove the right of practicing medicine;

- analyze specific situations in dental professional activity and to make optimum legal decisions.

16.7.4. Hours in the curriculum

In total 36 contact hours (12 hours of lectures, 24 hours of seminars).

16.7.5. Methods of learning / teaching

Lectures;

Seminars:

- situational tasks solving;
- studying and analysing normative, medical and expert documents;
- independent analysis of relevant literature.

16.7.6. Assessment methods

Testing, controlled situational tasks solving, presentation of course paper.

Final pretest.

16.8. Physical Training

The responsible person: Oleg I. Samusenkov, Professor, MD, PhD Pedagog. Sci.

16.8.1. Introduction

This course is presented to students during 1st and 2nd study years (with 1st on 4th semester) and consists of 198 hours. This discipline aims to form in students motivation to healthy lifestyle, habit of regular physical training, skills of control over own psychophysical condition, development of physical potential.

16.8.2. Primary aims

To motivate towards healthy lifestyle, recognize necessity for health maintenance to increase of efficiency educational and business activity of students.

16.8.3. Main objectives

- Gain knowledge of a social role of physical training in a personal development and preparation for professional activity, of biological bases of a healthy life;
- Master methods of promoting health maintenance and psychophysical well-being;
- Get into the habit of regular physical training.

16.8.4. Hours in the curriculum

In total 198 contact hours (practical training).

1st semester: 4 hours of lectures, 76 hours of practical training;
2nd semester: 2 hours of lectures, 38 hours of practical training;
3rd semester: 4 hours of lectures, 34 hours of practical training;
4th semester: 2 hours of lectures, 38 hours of practical training.

16.8.5. Methods of learning / teaching

Students implement various physical exercises and go in for sports under teacher's supervision.

16.8.6. Assessment methods

Implementation of sports guidelines.
Final pretest.

16.9. Healthy life-style

The responsible person: Konstantin G.Gurevich, Professor, MD, PhD Med. Sci.

E-mail: Unesco@msmsu.ru

16.9.1. Introduction

The course «Healthy Life-style» is presented for dental students during 3rd study year (5th semester) on the basis of UNESCO Department, created at the University. While studying aspects of psychological health, family planning, social rehabilitation of disabled people, dental ergonomics, principles of widespread diseases prevention, aspects of a healthy lifestyle (hygiene, physical training), influence of ecological factors and harmful habits on health are considered.

16.9.2. Primary aims

To give students an insight on main principles of a healthy lifestyle and motivation to their realization in personal and professional activities.

16.9.3. Main objectives

- The student should know:

- Basic components of a healthy lifestyle;
- Factors injurious to health and ways of their elimination;
- Main principles of widespread diseases prevention;

- The student should be able to:

- implement principles of healthy lifestyle;
- organize professional activity rationally.

16.9.4. Hours in the curriculum

In total 20 contact hours (4 hours of lecture, 16 hours of practical sessions).

16.9.5. Methods of learning / teaching

Lectures

Practical sessions:

- discussion on subject
- situational tasks solving.

16.9.6. Assessment methods

Oral questioning, testing, controlled situational tasks solving.

Final pretest.

16.7. Strengths **(for all behavioural sciences)**

- Highly qualified teachers (mainly Professors and Docents);
- Full supply of educational literature written by leading experts;

- Provision of training by means of audio and video equipment, multimedia;

- Participation of students in conferences and seminars on the humanitarian and behavioural sciences organized by leading scientific research institutes.

16.8. Weaknesses **(for all behavioural sciences)**

- Insufficient coordination of teaching behavioural sciences at all departments involved;
- Impossibility of educating teaching staff by own means of MSUMD;
- Insufficient involvement of students in research work.

16.9. Innovations and best practices

Use in training of innovative teaching models.

16.10. Plans for future changes

- Develop elective courses on the behavioural sciences allowing students to understand a problem of the human factor while practising medicine;
- Organize continuing education of the staff.

Section 17. Exams, Assessment and Competences

The responsible person: Igor V. Maev, Professor, MD, PhD Med. Sci.
First Vice-rector of MSUMD
E-mail: Maev@msmsu.ru

17.1. Assessment of learning

Students receive the diploma in specialty "Dentistry" after fulfilling 5-years curriculum and passing a complex exam test. All exams and final pretests are carried out, according to laws of the RF and MSUMD Charter.

In 2006/2007 academic year Dental Department introduced a score-rating system of knowledge and practical skills assessment for undergraduate students.

During training semester student should collect certain number of points to be considered achieved knowledge in the discipline. The following general criteria are applied through the Score-rating system:

- Less than 70 points - " unsatisfactory" (for passing the pretest in the discipline student should collect additional points);
- From 70 up to 80 points - "satisfactory";
- From 81 up to 90 points - "good";
- From 91 up to 95 points - "excellent";
- From 96 up to 100 points - "superior".

Process of training in each discipline is reflected in the "Academic Calendar of the Student", available to students of each course.

Students are allowed to sit exams after passing all the final pretests on the disciplines studied during the semester. In MSUMD exams are conducted twice a year - in the winter and in the summer, within 2 weeks upon termination of training semester. In this period students pass from 2 to 4 examinations. For some of the disciplines exams are carried out during semester - after the cycle of studying of discipline ends.

Students of Dental Department sit the State regulated exams in the following disciplines: Human Anatomy; Histology, Embryology, Cytology (after 3rd semester); Normal Physiology; Biological Chemistry (after 4th semester).

According to score-rating system, the exam rating is calculated on 30-mark scale. For reception of a positive rating at the exam, it is necessary for student to collect from 10 up to 30 points. The points received at the exam are summarized with rating received during the semester.

In case of reception of unsatisfactory mark at the exam students have opportunity to repeat it in the terms established by Dean's office.

The final control of knowledge and practical skills on dental disciplines

Students pass exams in disciplines of specialty according to the following time-table.

Preclinical course:

- Dental Materials (1st study year, after 2nd semester);
- Propaedeutic Dentistry (2nd study year, after 4th semester).

Clinical course

3rd study year, after 7th semester:

- Department Therapeutic Dentistry;
- Department Oral Surgery;
- Department Prosthetic Dentistry.

5th study year, after 9th semester:

- Combined exam in Paediatric Dentistry (including topics of Children's Therapeutic Dentistry, Children's Oral and Maxillofacial Surgery, Orthodontics).

- Exams in dental disciplines include assessment of practical skills, testing and interview.

According to the present curriculum of Dental Department, students sit final pretests on disciplines: "Preventive Dentistry and Epidemiology" (5th study year, after 9th semester) and "Maxillo-facial Traumatology" (4th study year, after 8th semester). Test questions and situational tasks on this disciplines are included into the program of Final State Certification of graduates.

Final State Certification of graduates

Final State Certification (FSC) is a concluding and obligatory stage of training process for the Dental Department graduates during which professional knowledge and practical skills, level of clinical thinking, ability to analyze and synthesize training and scientific material are assessed.

FSC is carried out in 3 stages:

- evaluation of practical skills (on phantoms and in clinic);
- Federal written test;
- appraisal of professional knowledge of the graduate through interview with use of visualized clinical situational tasks.

Members of examination committee are professors of Dentistry and General Medicine and the staff of interfaculty preclinical departments, due to necessity for assessment of the integrated knowledge of graduates.

Students are informed on the examination program, the form and conditions of certified tests passing. Before carrying out the FSC consultations of students by teachers of dental departments are organized.

17. 2. How much does the school rely on exams to motivate students?

Students have an opportunity to continue training in the next semester only in a case of successful passing of the exams.

The progressive form of student's motivation is introduction of score-rating system for assessment of knowledge and practical skills. The rating of the student will be taken into account at his assignment upon termination of undergraduate course. A lot of points collected by student during training, increases freedom in choosing, including enrolment on the most prestigious dental specialties in residency.

17.3. Strengths

- Final State Certification is carried out with attraction of external chairman.
- Test tasks for Final State Certification of graduates are annually renewed.
- For interview the illustrated clinical situational tasks are developed on the basis of the problem-based approach to the professional problems solving.

17.4. Weaknesses

- The enclosure to the diploma, reflecting student's exam rating is not yet developed.
- It is necessary to improve digital methods for assessment of student's knowledge.

17.5. Innovation and best practices

Final State Certification includes (at a stage of interview) clinical situational tasks on General Medicine and Otorhinolaryngology for assessment of graduates' ability to the integrated clinical thinking.

17.6. Plans for future changes

Development of the new educational standard allows introduction of credit system for assessment of student's study. One credit is equal to 36 contact hours. The student should receive not less than 60 credits within one academic year and not less than 300 credits – within 5-years undergraduate course.

Due to MSUMD participation in the National Innovative Project, the primary objective - to increase IT- technologies usage for assessment of student's knowledge and practical skills. Now in the University system «Electronic Dean's Office» is created, allowing to trace student's progress on all grade levels (from entry to University till Final State Certification of the graduate) in on-line mode.

17.7. Explain to what level external examiners are involved

The external auditor is involved as Chairman of examination committee at carrying out of Final State Certification of graduates.

17.8. What formal completion of an exam is required from the University for Students to qualify and register as dentists?

After successfully passing Final State Certification graduates of Dental Department are awarded with the diploma on a specialty "Dentistry". Within the next year they are obliged to obtain primary specialization on General Dentistry in internship (see section 20). Upon termination of training and passing qualifying exam, interns are awarded with certificate on General Dentistry and have the right to provide dental care within the framework of general dentist's competency. This certificate should be acknowledged once in 5 years. For specialization in certain area of dentistry it is necessary to be trained in residency within two years.

17.9. The extent to which the school seeks those competencies recommended by EU Advisory Committee on the Training of Dental Practitioners

Now all teachers and students of Dental Department of MSUMD are acquainted with the document «Profile and Competences for the European Dentist». On each dental discipline there exists a list of the major (according to recommendations of the Association of Dental Education in Europe) and supporting competences.

Now the project of the Federal State Educational Standard on a specialty "Dentistry" based on competences, necessary for the beginning of independent general dental practice, is developed. It is supposed, that this standard of training will come into force in 2008-2009 academic year.

Section 18. Other Influences

18.1. Regional Oral Health Needs

The responsible person: Edith M. Kouzmina, Professor, MD, PhD Med. Sci.

Director of Collaborating Centre of the WHO on Dentistry
E-mail: nocaries@mail.ru

Now, according to results of national dental epidemiological study of the population of the RF, prevalence of major dental diseases (dental caries and inflammatory periodontal diseases) among children and adults remains high enough.

Prevalence of dental caries among the population of Russia (data bank of oral diseases, 1999)

Age	Prevalence of teeth decay (%)	DMFT	D	F	M
Primary teeth					
6	73%	**4,76**	3,47	1,15	0,14
Permanent teeth					
6	22%	**0,30**	0,24	0,06	-
12	78%	**2,91**	1,63	1,19	0,09
15	88%	**4,37**	2,17	1,96	0,24
35-44	98%	**13,14**	3,27	4,35	17,29
65 и older	99%	**21,79**	2,52	1,98	17,29

Prevalence of periodontal diseases CPI index (data bank of oral diseases, 1999)

Age	Prevalence (%)	Number of periodontal sextants with attributes of defect
12	48,2%	2,5
15	56,8%	3,0
35-44	86,2%	4,6
65 и older	97,8%	5,7

The amount of people of advanced age (65 years and over) with full absence of a teeth in various regions of Russia varies from 22 % up to 30 %.

Results of dental epidemiological study of the population have formed a basis for development and introduction of complex preventive programs for the major oral diseases in a number of regions of the RF. Evaluation of their efficiency which has been carried out after 3-5 years showed appreciable

reduction of dental caries and periodontal diseases prevalence in children and teenagers. Educational programs of dental diseases prophylactics are actively implemented in Russian schools.

Realization of the next national dental epidemiological study by WHO criteria and updating of a data bank of oral diseases of the population of the RF is planned in 2007-2008 years.

18.2. Evidence Based Care

The responsible person: Yurij A. Vasyuk, Professor, MD, PhD Med. Sci.
Vice-rector for Educational and Clinical Affairs of MSUMD
E-mail: yvasyuk@yandex.ru

During lectures students get acquainted with results of scientific research of leading Russian and foreign experts, including University staff. The didactic material is constantly supplemented with the data on the newest clinical and laboratory research in dentistry, implemented according to principles of evidence based medicine. Also students get an insight on methods of evidence based approach to treatment during the lectures devoted to this subject.

At practical sessions special emphasis is given to registration of the case history where data of clinical, laboratory and radiological examination of the patient, diagnosis and treatment plan should be systematized. Accuracy of case history record is supervised by the teacher.

18.3. Involvement in other university activities and sport

The responsible person: Kazbek G. Dzugaev, Professor, MD, PhD Med. Sci.
Vice-rector for Pedagogical Affairs of MSUMD
E-mail: Dzugaev@msmsu.ru

Major role in the organization of non-learning activity of students belongs to the **Students Trade Committee** – a public organization created by the initiative of students of the University.

Structure of Students Trade Committee includes the following committees:

- Educational and Administrative Committee - realization of competitions "Student of the Year", "Teacher of the Year", organization and participation in seminars and trainings "City School of Leadership", "City School of Student's", cards ISIC Network;
- Cultural Committee - organization and realization of University and interuniversity bowling, paintball, Q-Zar, parachuting, carting, network games and tournaments; organization of excursion programs; granting of

tickets for preferential visiting by students of museums, theatres, galleries; organization and support of „KVN" games, academic chorus;

- Social Committee - support of students with special passes for municipal transportation, program of material support for students, organization of trips to youth camps for the period of winter and summer vacations;
- Sports Committee - section of basketball, rock climbing, female hand-to-hand fight; autumn and spring tournament on mini-football "MSUMD Rector's Cup";
- Employment Committee - assistance to students in employment (secondary employment).

At University several clubs are organized:

- Medical/Social Club "Smile" –support of orphanages, realization of preventive actions;
- Medical/Pedagogical Club "DNA" - training of students in leaders skill ("School of Leaders");
- Club of rescuers "Scalpel" - training of rescuers on the basis of the Ministry of Emergency Measures, work in saving groups.

Student's Councils function at the University:

- Student's Scientific Organization - organization of conferences, round tables, scientific seminars, systematisation of information from scientific publications and participation in scientific projects (direct organization of research work of students is carried out in student's scientific groups at University Departments which are supervised by teachers);
- Council of Foreign Students;
- Council of a Student's Hostel;
- Councils of Faculties.

18.4. Student selection procedures

The responsible person: Igor V. Maev, Professor, MD, PhD Med. Sci.
First Vice-rector of MSUMD
E-mail: Maev@msmsu.ru

The students (individuals graduated from secondary school or having secondary vocational training) are enrolled to the Dental Department of MSUMD on a competitive basis by results of the following entrance examinations:

- *Biology* (main) - in writing (testing and questionnaire);
- *Russian* - results of Uniform Graduation Examination (UGE) of graduates of secondary schools are taken into account or written testing is provided;
- *Chemistry* - in writing (testing and questionnaire).

On budgetary basis 65 % of students are taught, competition at entry 4,5 persons per place.

On contract (commercial) basis 35% of students are taught, competition at entry 1,5 persons per place.

On Dental Department of MSUMD annually 25-30 foreign students are enrolled after entrance examinations in Biology, Russian, Chemistry in the form of interview.

At Dentistry Department of MSUMD it is possible to obtain **second higher education** on contract basis. In the presence of a first higher medical degree students are trained by reduced program (according to individual plans).

On **Department of Auxiliary Personnel Training** of MSUMD the persons graduated from secondary school or having secondary medical education (for the last a reduced course is possible) are enrolled.

At the Department training is provided for following specialties:

- *Dental technicians* - on contract basis;
- *Dental hygienists* - on budgetary and contract basis.

Entrance examinations are delivered in a form of interview in Biology, Russian and Chemistry. Competition at entry is 1,2 - 1,5 person per place.

By results of interview on Department of Auxiliary Personnel Training usually 10 foreign students are enrolled.

18.5. Labour market perspectives

The responsible person: Ernest A. Bazikian, Professor, MD, PhD Med. Sci.
Vice-rector for Educational Affairs and Strategic Development of MSUMD
E-mail: prof.bazikian@gmail.com

After finishing the undergraduate course at Dental Department of MSMSU, graduates should pass primary specialization in internship on General Dental Practice within 1 year (in dental clinics on basis of Department of General Dental Practice).

On completion of study 70-80% of graduates are employed, including specialists who are participating in intentional learning by requests from Russian regions.

Section 19. Students Affairs

19.1. Basic student data

The responsible person: Igor V. Maev, Professor, MD, PhD Med. Sci.
First Vice-rector of MSUMD
E-mail: Maev@msmsu.ru

Contingent of students of Dental Department of MSUMD (on 1.06.2007)

Year of study	Budgetary basis		Contract basis		Total number of students
	Number of students	%	Number of students	%	
I	260	60%	170	40%	430
II	253	63%	149	37%	402
III	261	63%	153	37%	414
IV	244	70%	104	30%	348
V	241	68%	115	32%	356
At all	**1259**	**65%**	**691**	**35%**	**1950**

Number of foreign students at the Dental Department of MSUMD (on 01.06.2007)

1 course – 58
2 course – 49
3 course – 42
4 course – 45
5 course – 24
Total – 218

Percentage ratio of the students who have been enrolled to the 1st year of Dental Department of MSUMD and graduates

Academic year	Number of 1st year students	Number of graduates	%
1999-2004	344	320	93%
2000-2005	336	302	90%
2001-2006	353	332	94%
2002-2007	387	356	92%

Length of course in years and/or semesters: 5 years / 10 semester

Is there a separate period of vocational training following graduation as a dentist in your country? YES (Clinical internship in General Dental Practice - within 1 year).

If yes, is that organized by the University? YES (Department of Postgraduate Education of MSUMD).

19.2. Postgraduate Courses (for details - see section 20)

- **General Dental Practice** – 1 year (necessarily)
- **Therapeutic Dentistry** – 2 years
- **Prosthetic Dentistry** – 2 years
- **Paediatric dentistry** – 2 years
- **Orthodontics –** 2 years
- **Oral Surgery –** 2 years

Postgraduate study - 3 years (after defending a thesis a scientific degree of the Candidate of Medical Sciences - PhD is acquired)

19.3. Auxiliary/Technology Courses

The responsible person: Ernest A. Bazikian, Professor, MD, PhD Med. Sci.
Vice-rector for Educational Affairs and Strategic Development of MSUMD
E-mail: prof.bazikian@gmail.com

The responsible person: Edith M. Kouzmina, Professor, MD, PhD Med. Sci.
Dean of Department of Continuing Education for Dentists and Medical Universities Teachers of MSUMD
E-mail: nocaries@mail.ru

Programs of Auxiliary Medical Personnel Training

At Department of Auxiliary Personnel Training of MSUMD training is carried out of *Dental Technicians* and *Dental Hygienists*.

Course of training on a specialty «Preventive Dentistry» (Dental Hygienist) on basis of secondary school takes 1 year and 10 months, for a persons having secondary medical education - 10 months. In 2006-2007 study year number of graduates was 25. In total since 2001 - 144 hygienists have been trained.

Course of training on a specialty «Prosthetic Dentistry» (Dental Technician) takes 2 years and 10 months. In 2006-2007 study year number of graduates was 26. In total since 1999 - 200 dental technicians were trained.

Subjects of refresher courses for dentists

1. *Therapeutic Dentistry and Periodontology:*

- diseases of teeth, periodontium and oral mucous (2 months);
- periodontology: modern approaches in diagnostics and treatment of periodontal diseases (2 months);
- application of newest technologies in surgical treatment of periodontal diseases (1 month);
- reconstructive periodontology: restoration of the lost periodontal structures (2 months);
- tissue engineering in periodontology: modern approaches to restoration of the lost periodontal tissues (1 month);
- geriatric dentistry, topical questions of dental treatment of elderly and senile patients (2 months);
- topics of aesthetics and mastication in complex treatment of periodontal diseases (1 month).
- methods of conservative treatment of periodontal diseases (1 month).

2. *Oral Surgery:*

- oral cancer (0,5 months);
- dental implantology (0,5 months).

3. *Prosthetic Dentistry:*

- whole-cast ceramic-metal and clasp dentures (1 month);
- topics of prosthetic treatment (1 month) (Department of Dental Technicians Training).

4. *Paediatric Dentistry and Orthodontics:*

- topics of therapeutic dentistry for children (1,5 months);
- topics of oral surgery for children (1,5 months);
- congenital and hereditary diseases of maxillo-facial area in children and teenagers (1,5 months);
- application of functional apparatus in orthodontics. Newest fixed orthodontic technique (0,5 months).

5. *Prevention of Oral Diseases:*

- epidemiological dental survey of the population by criteria of the WHO (0,5 months);
- modern aspects of oral diseases prevention (1 month).

6. *Anaesthesia and First Aid in Dentistry* (0,5 months).

7. *Stomatoneurology:*

- neuro-stomatological diseases and syndromes (1,5 months).

8. Short-term Thematic Courses (from 1 till 6 days):

- endodontics;
- restoration;
- periodontology (including a master-class);
- medical-legislative aspects of medical care provision in dental practice;
- professional oral hygiene; newest sound and ultrasonic methods of dental plaque removal;
- teeth whitening; indications, contra-indications, prevention of complications;
- main principles of instrumental and medical treatment of root channels;
- preparation of teeth for whole-cast restorations.

Also conducted short-term technology courses to master technique of work with certain dental equipment, instruments and materials.

19.4. Student counselling services

Solving academic problems of students. Each month data on poorly performing students are provided by teaching department into Dean's Office of Dental Department. Students have an opportunity to fulfil the missed practical studies ore on receiving unsatisfactory mark (after the end of semester with approval of the Dean's Office sanction). For realization of working off on each department watch of teachers is organized. In case of reception of unsatisfactory mark at examination, students have an opportunity to retake it in the terms established by Dean's Office. Under the decision of the Dean of Dental Department, the academic holiday may be given to the student.

Before realization of Final State Certification of graduates consultations for students by teachers of major dental departments are organized.

Solving social problems of students: Students Trade Committee assists students in employment (secondary employment), carries out the program of material support to those at need.

Section 20. Postgraduate Dental Education

Clinical Internship on General Dentistry

The responsible person: Olga G. Bugrovetskaya, Professor, MD, PhD Med. Sci.

Dean of Department of Postgraduate Education of MSUMD

20.1.1. Introduction

The internship is an obligatory primary specialization of the graduates of Dental Department in RF. Training of interns is realized by Department of General Dentistry within one study year (1728 hours).

Training is directed on formation of clinical thinking, ability to evaluate clinical situation as a whole and to provide qualified dental care (including urgent) to children and adults. Interns finalize development of practical skills in diagnostics, prevention and treatment of the widespread oral diseases, received at undergraduate level.

Upon finishing the training and passing qualifying exam interns are certificated as a General Dentists and have the right to realize independent dental general practice.

20.1.2. Primary aims

Development of professional knowledge and the practical skills, received during undergraduate training, necessary for provision of qualified dental care to children and adults (preventive, therapeutic, surgical, prosthetic) setting within the limits of general dentist's competence.

20.1.3. Main objectives

- Formation of the integrated clinical thinking.
- Development and application of comprehensive oral health promotion programs.
- Mastering practical skills of diagnostics, treatment and prevention of the widespread oral diseases.
- Increase professionalism of interns and assure their readiness for realization of independent dental practice.

20.1.4. Hours in the curriculum

In total 1728 hours are scheduled.

Vocational training (specialization in General Dentistry) - 1106 hours (87 hours of lectures, 983 hours of practical training, 36 hours of independent studies).

Sections of vocational training:

Prevention of oral diseases - 100 hours

Aseptics and antiseptics in dental practice - 8 hours

Local anaesthesia - 28 hours

Bases of reanimation and intensive care - 18 hours

Methods of oral diseases diagnostics - 10 hours

Anomalies of teeth and maxillo-facial area development - 64 hours

Dental caries and its complications - 376 hours

Acquired defects and deformations of teeth and jaws - 220 hours

Inflammations in maxillofacial area (including of periodontal and oral mucous diseases) - 154 hours

Diseases and injuries of facial nerves and temporo-mandibular joint - 36 hours

Traumas of a teeth and maxillo-facial area - 70 hours

Oral cancer - 22 hours

Interdisciplinary sciences (occupational diseases, skin and venereal diseases, forensic medicine, infectious diseases, radiology) - 276 hours.

Fundamental sciences (physiopathology, medical psychology, pharmacology, medical informatics) - 122 hours.

Public health, legislative basis of professional activity - 52 hours

Elective courses - 172 hours.

20.1.5. Methods of learning / teaching

Lectures (once a week);

Practical training (five days a week) in dental clinics of the University:

- clinical practice under tutor's supervision;
- situational tasks solving;
- analysis of clinical cases;
- attendance on consultations of patients by teachers of General Dentistry Department;
- participation in scientific-practical conferences, symposiums, visiting of dental exhibitions;

Independent studying of the professional literature.

20.1.6. Assessment methods

- Assessment of practical skills to implement certain manipulations on diagnostics, treatment and prevention of the widespread oral diseases;
- Verification and discussion of the case history record;
- Tests;
- Solving of controlled situational tasks.

Final State Certification:

- exam on practical skills;
- testing
- interview.

20.1.7. Strengths

Continuity of undergraduate and postgraduate education.

20.1.8. Weaknesses

Insufficient number of dental units in University clinics for independent clinical practice of interns.

Absence of a phantom class.

20.1.9. Innovations and best practices

Mastering of modern technologies of teeth restoration and endodontics on phantoms and in clinical practice.

20.1.10. Plans for future changes

Improvement of practice equipment.

Equipping of a phantom class.

20.2. Postgraduate Clinical Training (Residency)

The responsible person: Olga G. Bugrovetskaya, Professor, MD, PhD Med. Sci.

Dean of Department of Postgraduate Education MSUMD

20.2.1. Introduction

Residency is a 2-years postgraduate clinical training of dentists with the purpose of providing the specialized dental care in certain area of dentistry. In residency dentists who finished internship on General Dentistry or who practiced in public dental health services and wish to continue education on specific dental area are enrolled.

In residency dentists are trained in the following specialties:

- Therapeutic Dentistry;
- Prosthetic Dentistry;
- Paediatric Dentistry;
- Orthodontics
- Oral Surgery.

Specialization of dentists is realized in major dental departments of undergraduate or postgraduate education.

20.2.2. Primary aims

Formation in residents of high standard professional knowledge and practical skills, to provide specialized dental care in institutions of public dental health services.

20.2.3. Main objectives

- Extending professional knowledge on dental specialty, interdisciplinary and basic sciences.

- Mastering of practical skills on diagnostics, treatment and prevention of dental diseases according to qualifications requirement of the selected specialty.

- Increase of a professional standard of residents, their readiness for realization of independent professional activity in the certain dental specialty.

20.2.4. Hours in the curriculum

Postgraduate clinical training takes 3456 hours. It is realized on educational programs developed by major dental departments according to the State Standard of Postgraduate Education and the Qualification Characteristics of the Dental Specialties.

Distribution of study hours:

- 80% on vocational training (including 5% on studying of interdisciplinary sciences)

- 7% on studying of basic sciences;

- 3% on aspects of the organization, economy and management of public dental health services;

- 10% on elective courses.

20.2.5. Methods of learning / teaching

- Lectures (once a week);
- Seminars (once a week within 3 hours);
- Practical training:

- mastering of practical skills on phantoms;

- clinical practice under tutor's supervision;

- participation in clinical cases analysis and consultations of patients provided by teachers of major dental departments;

- participation in scientific-practical conferences, symposiums, visiting of dental exhibitions.

- Independent study of the professional literature.

20.2.6. Assessment methods

- Assessment of practical skills on initial level; comparative evaluation of certain diagnostic, treatment and preventive manipulations implementation during study period;

- Verification and discussion of the clinical history record;

- Comparative testing (initial, intermediate, final) at different stages of training;

- Controlled situational tasks solving.

Final State certification:

- exam on practical skills;
- tests;
- interview.

20.2.7. Strengths

Continuity of undergraduate and postgraduate education.

20.2.8. Weaknesses

Insufficient number of phantoms and dental units in major dental departments necessary for independent clinical practice of residents.

20.2.9. Innovations and best practices

Mastering of the newest dental technologies of the elected specialty.

20.2.10. Plans for future changes

Improvement of practice equipment.

Increase of resident's independent training time in phantom class and dental clinic.

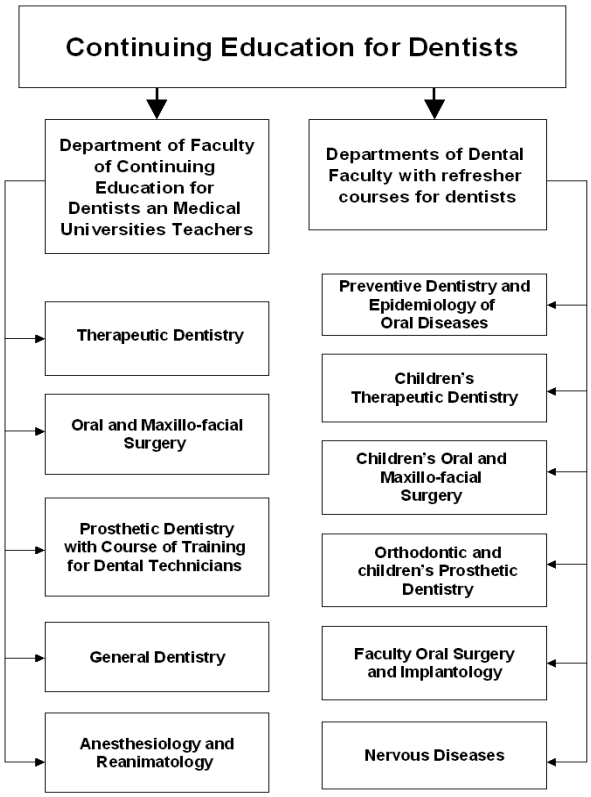
20.3. Continuing Education for Dentists

The responsible person: Edith M. Kouzmina, Professor, MD, PhD Med. Sci.
Dean of Department of Continuing Education for Dentists and Medical Universities Teachers of MSUMD
E-mail: nocaries@mail.ru

20.3.1. Introduction

Refresher Courses are the obligatory form of continuing training for dentists. Dentists pass these courses no less than once in 5 years, while professionally active. On completion of training they are awarded Professional State Certificate, giving the right of practicing dentistry.

Training of dentists is realized by departments of Department of Continuing Education for Dentists and Medical Universities Teachers (FCEDMUT) and some departments of Dental Department, where special refresher courses for dentists are organized.



20.3.2. Primary aims

Improve professional competencies of practicing dentists; realize the concept of continuous training during the whole period of their professional activity.

20.3.3. Main objectives

- Extending of theoretical knowledge and practical skills necessary for the professional problems solving.

- Mastering of innovative technologies in diagnostics, prevention and treatment of oral diseases.

- Motivation of continuous improvement of professional skills.

20.3.4. Hours in the curriculum

FCEDMUT offers the following activities:

- The obligatory form of training – general refresher courses (certified) once a 5 years. Their duration is 144, 216 or 288 hours.

Distribution of contact hours:

80 % - vocational training (including 5 % on interdisciplinary sciences);

10% - basic sciences and aspects of public health services;

10% - elective courses.

- Specialization for obtaining an additional dental specialty certificate (504 or 864 hours). Under this program (as full time and full time + distance learning form) dentists certificated in one of dental specialties are trained.

- Specific topics (72 hours) for the profound studying of certain actual aspects of dentistry.

- Short-term courses (6-36 hours) for dental practitioners purposely aiming to master any innovative dental technology with no damage to their every-day professional activity.

20.3.5. Methods of learning / teaching

Lectures

Seminars (up to 60 % of contact hours)

Practical training:

- demonstration by the teacher of newest methods and means for diagnostics, prevention and treatment of oral diseases, master-classes;
- mastering innovative dental technologies on phantoms;
- analysis of clinical cases;
- situational tasks solving;
- participation in consultations of patients provided by teachers of FCEDMUT.

20.3.6. Assessment methods

Certified exam:

- testing
- interview
- controlled situational tasks solving
- presentation of qualifying paper.

20.3.7. Strengths

- Informing dentists about innovations in diagnostics, prevention and treatments of oral diseases.
- An opportunity to master modern dental technologies in the clinical training centre of FCEDMUT.

20.3.8. Weaknesses

Mainly theoretical courses, insufficient number of practical training.

20.3.9. Innovations and best practices

Lectures and master-classes of the leading Russian and foreign experts in different areas of dentistry.

20.3.10. Plans for future changes

Increase number of practice hours on phantoms for mastering of new dental technologies.

Section 21 Research and Publications[1]

21.1 Publications in refereed journals

1. Department of Children's Oral and Maxillo-facial Surgery - 24
2. Department of Children's Therapeutic Dentistry - 28
3. Department of Propaedeutic Dentistry - 37
4. Department of Preventive Dentistry and Epidemiology of Oral diseases - 99
5. Department of Hospital Therapeutic Dentistry – 150
6. Department of Maxillo-facial Traumatology -47
7. Department of General Dentistry and Anaesthesiology – 11
8. Department of Internal Diseases of Dental Department – 85
9. Department of Physiopathology - 85
10. Department of Physiotherapy - 29
11. Department of Medical Informatics -15
12. Department of Infection Diseases and Epidemiology -15
13. Department of History of Medicine – 1
14. Department of Histology, Embryology and Cytology – 28
15. Department of Ear, Nose and Throat Diseases - 45
16. Department of Latin and Foreign Languages - 3
17. Department of Dermatovenerology - 86
18. Department of Human Anatomy -87
19. Department of Pharmacology -15
20. UNESCO Department – 34
21. Department of Microbiology, Immunology and Virology - 42
22. Department of Psychiatry and Narcology – 25
23. Department of Biological Chemistry - 43
24. Public Health Department - 32
25. Department of Ophthalmology - 59

[1] Publication of all Departments involved in training dental students. Including General Medicine Faculty.

21.2 Textbooks published by staff

№	*Publication*	*Title*	*Authors*	*Year, place of publishing*
Humanities and socio-economic sciences				
Philosophy and Bioethics				
1	Textbook	Philosophy	Yu. M. Khrustalev.	M. 2005
2	Textbook	Short course of Philosophy	Yu. M. Khrustalev.	M. 2006
3	Textbook	Medical Ethics: Translation from English	A. Campbell, G. Gillett, G. Jones	M. 2005
4		J.R. Williams: Guidelines for Medical Ethics	Yu. M. Lopuhin	M. 2006
5	Textbook	Medical Ethics	Yu. M. Lopuhin, G. Yudina	M. 2003
Psychology and Pedagogics				
1	Textbook	Pedagogics in Medicine	N.V. Kudryavaya	M. 2006
2	Textbook	Psychological Aspects of Medical Profession	R. Peres Lovelle, N.V. Kudrayvaya	M. 1999
3	Textbook	Psychological Aspects of Medical Profession	N.V. Kudryavaya	M 1999
4	Guidelines	Training for Medical Psychology	N.D. Tvorogova	M 1997
Medical Law				
1	Textbook	Conflicts in Dental Practice	E.S. Tuchik	2005
2	Textbook	Compulsory Medical	L.A. Melamed,	2004

		Insurance in the Period of Health Care Reforms	G.A. Komarov	
3	Textbook	Legal Aspects of Medical Profession	O.V. Leont'ev	M, 2003
4	Textbook	Science of Law	O.V. Leont'ev	M, 2003
History of Medicine				
1	Textbook	History of Medicine	T.S. Sorokina	M.: 2005
2	Textbook	Textbook for Seminars on Medical History		M. 2004
3	Textbook	Medicine and New Time in the 19-20 Centuries	K. A. Pashkov, E.V. Alekseeva	M. 2005
Foreign Language				
1	Textbook	English for Dentists	E.N. Ovsyannikova	M.: 1998
2	Textbook	German for Dentists	I.V. Dneprova	M.: 2002
3	Textbook	English for Dentists	I.Yu. Markovina, Z.K. Maksimova, M.B. Vainshtein.	M. 2003
4	Textbook	German for Dentists	V.A. Kondratjeva	M. 2002 2003

Latin				
1	Textbook	Latin and Basic Medial Terms	V.F. Novodranova, T.L. Bukharina	Ekaterinburg 2005
2	Textbook	Explanatory Latin-Russian Dictionary on Restorative Dentistry	A.G. Kochkareva, V.F. Novodranova, Z.A. Ryzhkina	2006
Physical Training				
1	Textbook	Textbook on Physical Training for Medical Higher Educational Institutions	V.V. Ponomareva, N.A. Lebedeva	M, 1999
2	Textbook	HIV/AIS Prevention in the Adolescences in Educational Medium	K.G. Gurevich	2006
Economics				
1	Textbook	Economic Theory	I.P. Nikolaeva	M.: 2001
Mathematic and Natural Sciences				
Physics				
1	Textbook	Textbook on Medical and Biological Physics	A.N. Remizov	M., 2004
2	Textbook	Guidelines for Practical Training in Physics	G.M. Stjureva	M. 2005

3	Task book	Medical and Biological Physics	A.N. Remizov	M., 2001
Mathematics and Informatics				
1	Guidelines	Guidelines for General Informatics	V.P. Omelchenko	M, 2003
Medical Informatics				
1	Guidelines	Medical Informatics	V.G. Kudrin	M, 2000
2	Guidelines	Guidelines for Medical Informatics	V.P. Omelchenko A.A. Demidova	M., 2001
General Chemistry				
1	Textbook	General Chemistry	A.S. Berlyand	M. 2006
Bioorganic Chemistry				
1	Textbook	Guidelines for Practical Classes on Bioorganic Chemistry	N.A. Tjukavkina	M. 2004
2	Textbook	Theory of Bioorganic Chemistry. Hydrocarbons.	I.Yu. Lebvina, A. S. Berlyand	M. 2004
3	Textbook	Bioorganic Chemistry	N.A. Tjukavkina, Yu. I. Baukov	M. 20032005
4	Textbook	Guidelines for Practical Classes on Bioorganic Chemistry	N.A. Tjukavkina	M, 2004
Biology with Ecology				

1	Textbook	Biology: 2 volumes	V.N. Yarygina	M. 2001
2	Guidelines	Biology: Guidelines for Practical Classes: 4 parts	V. V. Markina	M. 2000, 2001
3	Textbook	General and Medical Genetics	V. P. Shcipkov, G. N. Krivoshein	M, 2003
4	Textbook	Ecology of a Human Being	Yu. P. Pivovarov, S. V. Alekseev, O.I. Yanushanets	M, 2002
Medico-biological sciences				
Biological Chemistry				
1	Textbook	Biochemistry	E. S. Severina	M., 2004
Human Anatomy				
1	Textbook	Human Anatomy	L. L. Kolesnikova	M., 2004
2	Atlas	Human Anatomy Atlas: 4 volumes	R. D. Sinelnikov	M., 1996
3	Atlas	Atlas on Normal Anatomy of a Human Being	M. P. Sapin, D.B. Nikotjuk , E. V. Shvetsov	M. 2004
3	Textbook	Human Anatomy	S. S. Mikhailova , L.L. Kolesnikova	M.1999
4		Anatomy of Teeth	L. L. Kolesnikov A.V. Chukbar	2006
Histology, Embryology, Cytology				
1	Textbook	Histology, Cytology and Embryology	Yu. I. Afanas’ev N.A. Yur’eva	M, 1999, 2002

2	Atlas	Atlas on Histology, Embryology, Cytology	S.L. Kuznetsov N. N. Mushkambarov, V. L. Goryachkina	M., 2001
3	Atlas	Atlas of Blood Cells and Connective Tissues	G. G. Kruglikov , M. I. Pekarsky	M., 2004
4	Textbook	Atlas on Histology and Embryology of Oral Cavity and Teeth .	V. V. Gemonov	M., 2003
5	Textbook	Histology and Embryology of Oral Cavity and Teeth	V. V. Gemonov E. N. Lavrova	M., 1999
6	Textbook	Development and Structure of Oral Cavity and Teeth	E. N. Lavrova, L. I. Falin	M., 2000
7	Textbook	Oral Histology and Embryology	V. L. Bykov	M., 2001
8	Atlas	Atlas of Oral Cavity and Teeth Histology and Embryology	V. V. Gemonov	M., 2003
Normal Physiology				
1	Textbook	Normal Physiology	V. P. Degtyareva, S. M. Budylina	M., 2006
2	Textbook	Guidelines for Practical Classes on Normal Physiology.	S. M. Budylina, V. M. Smirnova	2006
3	Textbook	Human Physiology	B. I. Tkachenko	2003
4	Textbook	Physiology of Maxillofacial	S. M. Budylina	M., 2000

		Area	V. P. Degtyareva	
Microbiology, Virology, Immunology				
1	Atlas	Atlas on Medical Microbiology, Virology and Immunology	A. A. Vorob'eva A. S. Bykova	M.,2003
2	Textbook	Introduction into Microbiology and Desinfectology	V. N. Tsarev and others	2005
3	Textbook	Microbiology and Immunology	A. A. Vorob'eva	M, 1999
Pharmacology				
1	Textbook	Pharmacology	D. A. Kharkevich	M., 2005
2	Textbook	Guidelines for Practical Classes on Pharmacology	D. A. Kharkevich	M., 2005
3	Textbook	Clinical Pharmacology	V. G. Kukes	M., 2006
Anatomical Pathology. Section Course				
1	Textbook	Anatomical Pathology	M. A. Paltsev	M.,2005
2	Guidelines	Guidelines for Practical Classes on Anatomical Pathology	M. A. Paltsev	M.,2002
3	Guidelines	Pathology of Dentition, Soft Tissues of Oral Cavity, Face, Neck and Salivary Glands	L. E. Kremenetskaya and others	M., 2003

Physiopathology				
1	Textbook	Physiopathology : 3 volumes	A. I. Volozhin	M., 2006
2	Textbook	Physiopathology	A. I. Volozhin , G. V. Poryadina	2006
3	Monograph	Salivary glands. Saliva. Part III. Regeneration of Greater Salivary Glands.	A. B. Denisov	2005
Medical preventive sciences				
General Hygiene				
1	Textbook	General Hygiene and Ecology of a Human Being	A. M. Lakshin V. M. Kataeva	M., 2004
2	Textbook	General Hygiene and Ecology of a Human Being	A. M. Lakshin V. M. Kataeva	2006
Public Health				
1	Textbook	Public Health and Healthcare	V. K. Yur'ev G. I. Kutsenko	SPb., 2005
Preventive Dentistry and Epidemiology				
1	Textbook	Prevention of Dental Diseases	E. M. Kuzmina	M., 2001
2	Guidelines	Prevalence and Severity of Dental Diseases Among the	E. M. Kuzmina	M., 1999

		Population of Russia		
3	Guidelines	Prevention of Dental Diseases at Pregnant Women and Children of Early Age	E. M. Kuzmina	M., 1999
4	Guidelines	Fluorides in Clinical Dentistry	E. M. Kuzmina	M., 2001
5	Textbook	Hypersensitivity of Teeth	E. M. Kuzmina	M., 2003
6	Textbook	The Dental Hygienist	E. M. Kuzmina	M., 2005
7	Textbook	Prevention of Dental Diseases	E. M. Kuzmina	M., 2006
Clinical Sciences				
General Medicine				
1	Textbook	Internal Diseases	V.I. Makolkin, S.I. Ovcharenko.	M., 1999
2	Manual	Diseases of a Thyroid Glands	A.E. Radzevich, V.V. Korenkov, L.I. Markova	M., 2001
3	Guidelines	Diagnostics of Illnesses of Cardiovascular System	I. V. Maev	M., 2004

4	Guidelines	Diagnostics of the Basic Syndromes and Symptoms of Gastroenterological Diseases	I. V. Maev	M., 2004
4	Guidelines	Diagnostics of Illnesses of Blood System.	I. V. Maev	M., 2004
Propaedeutics of Internal Diseases				
1	Textbook	Propaedeutics of Internal Diseases.	V. T. Ivashkin	M., 2005
Clinical Pharmacology				
1	Textbook	Clinical Pharmacology	V. G. Kukes	M., 2006
Topographical Anatomy and Operative Surgery of Head and Neck				
1	Textbook	Operative Surgery and Topographical Anatomy	V. V. Kovanov	M., 2001
2	Guidelines	Guidelines for Topographical Anatomy and Operative Surgery for Dental Students	V. I. Sergienko and other	M., 2002
Surgical Diseases				
1	Guidelines	Surgical Diseases	I. V. Fedorov, S. I. Yemelyanov	M., 2005

2	Guidelines	Surgical Diseases	A. I. Stanulis, N. V. Kuzmin, B. I . Pljusnin	M., 2005
General Surgery				
1	Guidelines	General Surgery	V.K. Gostishchev	M.:GEOTAR-MED, 2006
Radiodiagnostics, Radiotherapy				
1	Textbook	Medical Radiology and Roentgenology (Basics of Beam Diagnostics and Beam Therapy)	L. D. Lindenbraten, I. P. Koroljuk	M.: Medicine, 1999
2	Monograph	Magnetic-resonant Tomography in Osteology	A.V. Brjuhanov, A. J. Vasilev	2006
3	Guidelines	Radiodiagnosis in Dental Practice	J. I. Vorob'yov	2004
4	Atlas	The Atlas of Roentgenograms of Maxillofacial Area and the Teeth	J.I. Vorob'yov, V. P. Truten'	MIA, 2001
Infectious Diseases				
1	Guidelines	Infectious Diseases	N. D. Yushchuk , U. V. Martynov	M..: Medicine, 2003
2	Textbook	Problems of a HIV-infection in Dentistry	N. D. Yushchuk , U. J. Vengerov	M..: Vedi, 2003

Dermatovenerology				
1	Guidelines	Infectious diseases	N. D. Yushchuk , U. V. Martynov	M..: Medicine, 2003
2	Guidelines	Atopic Dermatitis at Children	V. M. Deljagin, A. G. Rumjantsev	2004
Neurology				
1	Textbook	Illnesses of Nervous System	V. E. Grechko and other	M.: B. i, 1989
2	Guidelines	Odontogenic Defeats of System of a Trigeminal Nerve	V. E. Grechko, M. N. Puzin, A. V. Stepanchenko	M.: Publishing house UDN, 1988
Otolaryngology				
1	Textbook	Otolaryngology	V. T. Palchun M. M. Magomedov L. A. Luchihin	M.: Medicine, 2002
2	Textbook	Otolaryngology	I. B. Soldatov	M.: Medicine, 2000
Ophthalmology				
1	Textbook	Eye Illnesses	N. S . Jartseva, A. O. Ismankulov	M.: New in medicine, 2005

Psychiatry				
1	Textbook	Psychiatry and Narcology	N. N. Ivanets, J. G. Tjulpin, V. V. Chirko, A. M. Kinkul'kina	M.: 2006
2	Monograph	Pathological Aggression of Teenagers	L. M. Bardenshtejn, J. B. Mozhginskij	2005
3	Guidelines	Basic Theories and Methods of Psychotherapy	H.A. Orphan, T.V. Vorobyova	2007
4	Guidelines	Social Stress and Mental Health	T. B. Dmitrieva	GOUVUNMC, 2001
Forensic Medicine (Dentistry)				
1	Textbook	Forensic Medicine	G. A. Pashinjan, G. M. Harina	M.: 2000
2	Textbook	Forensic Medicine for Dental Faculties	G. A. Pashinjan, G. M. Harina	M.: 2000
3	Guidelines	Forensic Medicine in Schemes and Figures	G. A. Pashinjan, P. O. Romodanovskij	M.: 2003
Obstetrics				

1	Textbook	Obstetrics and Gynecology	G. M. Saveleva	M.: 1998
2	Guidelines	Medical Tactics at Urgent Conditions in Obstetrics	V. O. Lopuhin, O. B. Nevzorov	2006
Paediatrics				
1	Textbook	Children's Illnesses.	L. A. Isaeva, L. K Bazhenova.and other	M.: Medicine, 1986
2	Guidelines	Diseases of Children of Early Age.	L. T. Tebloeva, V. I. Kirillov	M.: 2005
3	Manual	The Manual on Children's Infectious Diseases	V. F. Uchajkin	M.: 2001
4	Textbook	Children's Illnesses	L.A. Isaeva	Medicine, 2002
Phthisiology				
1	Textbook	Phthisiology	M. I. Perelman	M.: Medicine, 2004
2	Guidelines	Tuberculosis and HIV-infection	N. D. Yushchuk and other	2006
Dental Sciences				

Propaedeutic Dentistry				
1	Textbook	Propaedeutic Dentistry	M. M. Pozharitskaja, T. G. Simakova	M.: 2004
2	Guidelines	Practical Guidance on Endodontics	E. A. Bazikjan, L. V. Volchkova, G. I. Lukina	2007
Therapeutic Dentistry				
1	Textbook	The Phantom Course of Therapeutic Dentistry	J. M. Maksimovskij	M.: 2005
1	Textbook	Therapeutic Dentistry	E. V. Borovskij	M.: 2003
Prosthetic dentistry				
1	Textbook	Prosthetic Dentistry	V. N. Kopejkina, M. Z. Mirgazizova	M.: 2001
2	Manual	The Manual to Practical Training on Prosthetic Dentistry in two parts.	B. P. Markov, I. J. Lebedenko	M.: 2001
Therapeutic Dentistry				
Hospital Therapeutic Dentistry				

1	Guidelines	Diseases of a Mucous Membrane of an Oral Cavity and Lips	E. V. Borovskij, A .L. Mashkillejson	M.: Medicine, 1984
2	Textbook	Therapeutic Dentistry	G. M Barer	M.: 2006
3	Textbook	Therapeutic Dentistry	L. A. Dmitrieva	Medpres-INFORM 2002
4	Atlas	The Phantom Course of Therapeutic Dentistry	J. M. Maksimovskij	Medicine, 2004
5	Guidelines	Periodontal Diseases. Clinic, Diagnostics and Treatment.	G. M. Barer, T. N. Lemeckaja	M.: 1996
6	Guidelines	Periodontal Diseases.	N. F. Danilevskij, S. D. Magid, N. A. Mukhin	Medicine, 1999
7	Guidelines	Diseases of a Mucous Membrane of an Oral Cavity	E. V. Borovskij, A .L. Mashkillejson	Medpres-INFORM 2002
Oral and Maxillo-facial Surgery				
Department oral surgery				
1	Textbook	Surgical Dentistry	T. G. Robustova	M.: Medicine, 2003
2	Guidelines	Surgical Dentistry	V. V. Afanasev, G. A. Pashijan,	2006

			V. N. Novoselskaja	
3	Guidelines	Surgical Dentistry	T. G. Robustova	M.: Medicine, 2003
4	Guidelines	Malignant and Non-malignant Tumours of Soft Tissues and Bones of the Face	A. G. Shargorodskij, N. F. Rutskij	M.: 1999
5	Guidelines	Inflammatory Diseases of Face and Neck	A. G. Shargorodskij	M.: 2001
6	Atlas	The Atlas of tumours of soft tissues and bones of the face	A. G. Shargorodskij, N. F. Rutskij	M.: 1999
Hospital Oral Surgery (Anesthesiology)				
1	Textbook	Anesthesiology and Reanimatology	V. D. Malyshev, S. V. Sviridov	Medicine, 2003
2	Textbook	Modern Methods of Anaesthesia on the Basis of Articain-containing Anaesthetics	S. A. Rabinovich and other	M.: 2002
3	Manual	The Manual to Practical Training on Anaesthesiology, Reanimatology and Intensive Care	N. M. Fedorovskij	Medicine, 2002
4	Guidelines	Features of Anaesthesia at Treatment of Dental Diseases at Children	S. A. Rabinovich, E. G. Kiseleva, E. V Vasmanova	2005

			and other	
Prosthetic Dentistry				
Department Prosthetic Dentistry				
1	Manual	The Manual on Prosthetic Dentistry. Prosthetics at Full Edentulous Patients.	I. J. Lebedenko, E. S. Kalivrdzhijana, T. I. Ibragimova	2005
2	Guidelines	Methods of Examination, Diagnostics, Preventive Maintenance and Prosthetic Treatment of Edentulous Patients with Partial Removable Dentures	B. P. Markov	2006
3	Textbook	Prosthetic Dentistry	V. N. Kopejkin, M. Z. Mizgazizova	Medicine, 2001
4	Textbook	Prosthetic Dentistry	A. S. Shcherbakov, V. N. Trezubov, L. M. Mishnev	SpecLit, 2003
5	Manual	The Manual on Prosthetic Dentistry (Prosthetics in a Full Absence of Teeth)	I. J. Lebedenko, E. S. Kalivradzhijan	MIA, 2004
6	Guidelines	Laboratory Prosthetic Techniques.	I. J. Lebedenko, M. N. Rasulov	MIA, 2004

7	Manual	The Manual to Practical Training on Prosthetic Dentistry in two Parts.	B. P. Markov and other	M.: 2001
Paediatric Dentistry				
Children's Therapeutic Dentistry				
1	Textbook	Dentistry of Children's age	L. S. Persin, V. M. Elizarova, S. V. D'jakova	M.: Medicine, 2003
2	Textbook	Dentistry of Children and Teenagers	T. F. Vinogradova	MIA, 2003
3	Guidelines	Inflammatory Diseases of Maxillofacial Area at Children	V. V. Roginskij	Medicine, 1998
Orthodontics and children's prosthetic dentistry				
1	Guidelines	Orthodontics. Diagnostics and Treatment of Anomalies of the Teeth and Jaws	L. S. Persin	M.: Medicine, 2003
2	Textbook	Orthodontics. Treatment of Anomalies of the Teeth and Jaws by Modern Orthodontic Devices. Clinical and Technical Stages of their Manufacturing. The book 1: Anomalies of the Teeth and	L. S. Persin, F. J. Horoshilkina	M.: 1999

		Dental Arches		
3	Textbook	Orthodontics. Part 1. Diagnostics. Types of Anomalies of the Teeth and Jaws.	L. S. Persin	Nauchno-izd . Centr Inginer, 1998
4	Textbook	Orthodontics. Part 2. Treatment of Anomalies of the Teeth and Jaws.	L. S. Persin	OOO Ortodent-Info, 1999
Maxillo-facial Traumatology				
1	Guidelines	Traumas of Soft Tissues and Bones of the Face.	A. G. Shargorodskij	M.: 2004
Implantology				
1	Manual	Implantation of the Teeth: Surgical Aspects	T. G. Robustova	M.: Medicine, 2004
2	Guidelines	Dental Implantology	S. U. Ivanov and other	M.: 2000

21.3 Presentation at International Meetings

Department of Children's Oral and Maxillo-facial Surgery
RF – 78
Foreign countries – 5

Department of Children's Therapeutic Dentistry
RF – 137
CIS countries – 5

Department of Propaedeutic Dentistry
RF – 6
CIS countries – 1
Foreign countries – 1

Department of Preventive Dentistry and Epidemiology of Oral Diseases
RF – 86
CIS countries – 2
Foreign countries – 6

Department of Hospital Therapeutic Dentistry
RF – 131
Foreign countries – 2

Department of Maxillo-facial Traumatology
RF – 19
Foreign countries – 6

Department of General Dentistry and Anesthesiology
RF – 54
Foreign countries – 10

Department of Infection Diseases and Epidemiology
RF – 43
Foreign countries – 6

Department of Histology, Embriology and Cytology
RF – 21
CIS countries – 3

Department of Ear, Nose and Throat Diseases
RF – 28
CIS countries – 2
Foreign countries – 8

Department of Latin and Foreign Languages
RF – 8

Department of Internal Diseases of Dental Department
RF – 32
CIS countries – 1
Foreign countries – 3

Department of Dermatovenerology
RF – 70
Foreign countries – 4

Department of Human Anatomy
RF – 3
Foreign countries – 9

UNESCO Department
RF – 18
CIS countries – 2
Foreign countries – 1

Department of Microbiology, Immunology and Virology
RF – 54
Foreign countries – 3

Department of Physiotherapy
RF – 43
Foreign countries –1

Department of Psychiatry and Narcology
RF – 13
CIS countries – 5

Department of Biological Chemistry
RF – 44
Foreign countries – 4

Public Health Department
RF – 26
CIS countries – 6

Department of Ophthalmology
RF – 110
Foreign countries – 46

21.4 Grants received

№	Year	The name of the grant	Topic of the grant	Operator	Distributing authority	Volume of financing
1	2006-2007	The Grant of the President of RF in Support of Young Candidates of Sciences МК-3643.2006.7	Treatment of a Cervical Precancer and Reproductive Function	Firchenko S.V. Department of Obstetrics and Gynaecology	Federal Agency on Science and Innovations	150000,00
2	2006-2007	The Grant of the President of the RF in support of Young Doctors of Sciences МД-3622.2006.7	Experimentally-clinical System Engineering of Forecasting and Preventive maintenance of Progressing of a Primary Glaucoma on the Basis of Results of Complex Research of a Plaintive Liquid and Hemodynamic Orbital Pool.	Koledintsev. M .N Departments of Eye Diseases	Federal Agency on Science and Innovations	250000,00
3		The Grant on the Publishing Project	The monograph: « Nominal Word-Formation in Latin Language and its (his) Reflection in Terminology »	Department of Latin Language and Bases of Terminology	RHSF (the Russian Humanitarian Scientific Fund)	
4	2006	MHSD RF Grant Contract №Н04-006 from July, 26th	The Hot Line for HEPATITES	Department of Infectious Diseases with course Epidemiology	Federal agency on Science and Innovations	123000,00
5	2006	The State Program MHSD RF Grant	Studying HIV activity and properties	Department of Infectious Diseases with a Rate Epidemiology Course	Department of Public Health Services of Moscow	200000,00
№	**Year**	**The name of the**	**Topic of the grant**	**Operator**	**Distributing**	**Volume of**

		grant			authority	financing
6	2006	Program “MKNT”	Development of installation for NRL monitoring of an insult in the block of intensive therapy	Department of Nervous Diseases	Department of Public Health Services of Moscow	
7		Program “MKNT”.	The portable electrodynamic processor for stimulation of a vestibular reflex.	Department of Nervous Diseases	Department of Public Health Services of Moscow	
8	2006	The Grant of Branch of Biological Sciences	Research on Integral Processes in Ontogenesis	Department of Normal Physiology	Russian Academy of Sciences.	
9	2006	The Grant of RFFI 06-04-486-45	Influence of Censor Surge on Nervous Processes in Early Ontogenesis	Department of Normal Physiology	RFFI	
10	2006	The Grant of RFFI 06-03-32128	Matrix Metal Prosthesis and their Tissue Inhibitors as Regulators of Processes Metastasing, Invasion and Angionenesis	Department of Clinical Biochemistry and Laboratory Diagnostics of FPDO	RFFI	
11	2006	The Grant of RFFI 03-04-49053	Dependent Regulation of Cellular Answers in About Pro and an Anti-inflammatory Phenotype of Alveolar Macrophages	Department of Pathological Physiology	RFFI	
12	2006-2007	The Grant of the President of the RF in support Young Doctors of Sciences MD-2834.2005.7	Development of Ways of Diagnostics and Treatment of TMJ Pathology Rheumatic	Grinin .V.M. Department of Therapeutic Dentistry	Federal agency on Science and Innovations	
№	**Year**	**The name of the grant**	**Topic of the grant**	**Operator**	**Distributing authority**	**Volume of financing**

13	2006-2007	The grant of the President of the RF in Support of Leading Scientific Schools NSH-3606.	School: “Dental Implantology”. Perfection of Osteointegration Process in Dental Implants.	Ivanov S.Y., Department of Surgical Stomatology and Implantology	Federal agency on Science and Innovations	
14		The Branch Program № 04-0448104	Infringement of Positive Selection T-lymphocytes in System Autoimmune Pathologies of the Person	Goloviznin.M.V. Department of Internal Illnesses and Rheumatology	RFFI	
15	2006-2007	The grant of the President of the RF in support of Leading Scientific Schools NSH-4367.2006.7	Radiological Diagnostics and Treatment of Traumas and Diseases of Musculoskeletal System	Department of Radiological diagnostics	Federal Agency on Science and Innovations	510000,00
16		The Grant of President of RF in Support of Young Candidates of Sciences MK-1801.2005.7	Radiological Diagnostics of Traumatic Damages of Maxillofacial Area		Federal Agency on Science and Innovations	150000,00
№	**Year**	**The name of the grant**	**Topic of the grant**	**Operator**	**Distributing authority**	**Volume of financing**
17	2006-	The grant of the	Crises of an Elbow Joint and their Treatment	Babovnikov A.V.	Federal Agency	150000,00

	2007	President of RF of Support of Young Candidates of Sciences MK-9503.2006.7		Department of Traumatology, Orthopedy and Field Surgery	on Science and Innovations	
18	2006	Research Project №04-03-00371a	It is a Modern Science (Philosophical Analysis)	Kiyaschenko L.P. Department of Philosophy, Biomedical Ethics and the Humanities	RNGF	
19	2006	Research Project №05-03-913-11\Ukraine	Postnonclassical Methodology: Becoming, Development, Principles, Prospects. The Analysis of Shape of Formation of Transdisciplinary of Philosophy.	Moiseev V.I. Kiyaschenko L.P. Department of Philosophy, Biomedical Ethics and the Humanities	RGNF	
20	2006-2007	The grant of the President of RF to Young Doctors of Sciences MK-5442.2006.7	Pharmacological Laws of Action of Biologically Active Substances in Small Dozes	Gurevich.K.G. Department of UNESCO" Healthy Image of a Life-Mortgage of Successful Development"	Federal Agency on science and innovations	250000,00
№	**Year**	**The name of the grant**	**Topic of the grant**	**Operator**	**Distributing authority**	**Volume of financing**
21	2006-2007	The Grant of President of	Studying of Oral Health Related Quality of Life	Fabrikant. E.G. Department of UNESCO	Federal Agency on Science and	150000,00

		RF in Support of Young Candidates of Sciences MK-5401.2006.7		Chair «Healthy life-style for successful development».	Innovations	
22	2006	Priority National Project in Sphere of Public Health	Complex of prophylactic activities, aiming at counteraction of HIV\AIDS epidemic in RF.	Department of UNESCO Chair «Healthy life-stile for successful development»		10000000,00
23	2006	Grant UNESCO	The academic exchange with University Oslo	Department of UNESCO Chair «Healthy life-stile for successful development»	UNESCO	61808,00
24	2005-2006	Grant UNESCO	Adaptation of the FRESH Program	Department of UNESCO. Healthy image of a life-mortgage of successful development	UNESCO	276380,00
25	2006	Federal Goal Scientific-technical Program	Estimation of Psychological Properties of Drug Addicted Teenagers and Approbation of Measures of Preventive Maintenance of Narcotic Dependence	UNESCO Chair «Healthy life-stile for successful development»	Federal agency on Science and Innovations	877000,00
№	**Year**	**The name of the grant**	**Topic of the grant**	**Operator**	**Distributing authority**	**Volume of financing**
26	2006-2007	The Grant of the President of RF in support of	School of Orthodontics	Persin L.S. Department of Orthodontics and	Federal agency on Science and Innovations	510000,00

		Leading Scientific Schools NSH-3644.2006.7		Children Prosthetics		
27	2006-2007	The Grant of the President of the RF to Young Doctors of Sciences MD-3644.2006.7	Development of New Technologies and Materials on the Basis of polyurethanefor Manufacturing Orthopedic Stomatological Designs	Ogorodnikov M.U. Department of Propaedeutics of Dental Diseases	Federal Agency on Science and Innovations	250000,00
28	2006	Federal Goal Scientific-Technical Program RI-112.0\001\322	Development of systems of leading scientific schools as a sphere of generation of knowledge and preparation of scientific-pedagogical cadres of high qualification. Reproductive health of women	Adamian L.V. Department of Reproductive Medicine and Surgery FPDO	Federal Agency on Science and Innovations	1280000,00
29	2006-2007	The Grant of President RF in Support of Young Candidates of Sciences MC-1167.2006.7	Polyzoospermia as the Factor of Decreasing Fertility in Men	Grishina. E.M. Department of Reproductive Medicine and Surgery FPDO	Federal Agency on Science and Innovations	150000,00
№	**Year**	**The name of the grant**	**Topic of the grant**	**Operator**	**Distributing authority**	**Volume of financing**
30	2006-2007	The Grant of President of RF in Support of Young	Development of Protocol of Genetic Examination of Patients with Disturbance of Sexual Development and\or Reproductive Function	Chernikh.V.B. Department of Reproductive Medicine and Surgery FPDO	Federal Agency on Science and Innovations	150000,00

		Candidates of Sciences MC-277.2006.7				
31	2006-2007	The Grant of the President of RF in Support of Leading Scientific Schools RF 7245.2006.7	Modern Possibilities, Complex Therapy and Rehabilitation in Pathology of Organs of Reproductive Systems.	Adamian L.V. Department of Reproductive Medicine and Surgery FPDO	Federal Agency on Science and Innovations	
32	2006	State Program	Urgent Measures of Warning the Spread of Disease Caused by HIV. Clinical Studies and Immune-morphological Peculiarities of Malignant Tumours of Patients with AIDS.	Selchuk V.Yu. Department of Oncology FPDO, Department of Infectious Diseases and Epidemiology	Federal Agency at Public Health and Social Development	400000,00

Section 22. Quality Development or Continuing Improvement Policies/Schemes

The responsible person: Igor V. Maev, Professor, MD, PhD Med. Sci.
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Strategy of quality development of Dental Department of MSUMD includes the following basic directions.

1. Development of the State Educational Standard of new generation on specialty "Dentistry". Its cardinal difference from the previous educational standards is competence approach to training. During 5 years students should receive a set of competences - professional qualities necessary for the beginning of independent dental practice.

As a result of training clinical thinking, knowledge and practical skills are acquired to solve out professional problems and apply algorithmical approach to dental care provision in the field of diagnostics, prevention, treatment and rehabilitation, to render emergency medical care to patients.

At present for each dental discipline the list of the major (in accordance with recommendations of the Association of Dental Education in Europe) and supporting competences was designed.

Also the project of the new curriculum on a specialty "Dentistry" was designed. In comparison with the curriculum applied now, lot of hours are planned to allocate on studying of dental disciplines. The basic education program should take not less than 90% contact hours, variable part consisting of disciplines at students' choice - not less than 10%. For assessment of mastering students professional knowledge and skills develop system of credits is developed.

It is supposed, that the new State Educational Standard and the curriculum will be authorized and will come into force in 2008-2009 academician year.

2. Improvement of educational programs on disciplines of the Dental curriculum:

- acceptance as a basis of a modular system of training;
- strengthening horizontal and vertical interdisciplinary integration;
- use of the problem-based method in training;
- more detailed acquaintance of students with principles and methods of evidence-based medicine.

3. Realization of the life-long learning concept in dentistry. The aim of this educational stage - maintenance and improvement of professional experience (knowledge, skills and attitudes) of each doctor necessary for meeting varied requirements of patients and health care system. For its realization in MSUMD there is a system of regular (not less than once in 5 years) refresher courses for dentists in a form of certifying cycles of the general and thematic improvement on various areas of dentistry, an opportunity of professional retraining of existing specialists (see sections 19.3, 20.3). On completion of a certifying cycle and after successful testing dentists have the right to continue professional activity during the following 5 years.

4. Continuing education for teachers from MSUMD and other medical universities of the RF. This program is realized as regular integrated cycles of professional skills improvement for various categories of teaching staff (professors, senior lecturers, teachers), including pedagogical training, information technologies, fundamental lectures, training in major department. The positive moment is participation in cycles of teachers from different departments: dental, general medicine, preclinical, which allows developing interdepartmental integration in teaching various disciplines of the curriculum.

Perspective direction in training of University teachers is the program "Teacher of the Higher School" - full-time and distance learning with awarding by the diploma of additional professional qualification at the end of course (see section 4.2).

Now a score-rating system for assessment of teacher’s work is being developed. It is planned, that each teacher will have to report at a meeting of department at certain period (3-5 years) on their teaching, clinical practice and research activities. According to efforts and quality the rating of the teacher will be defined.

5. Realization of the integrated training Dental Department (Faculty of Auxiliary Personnel Training) with those of dental hygienists of students, on special dental disciplines. This approach promotes development of team-work skills, when providing dental care to patients and adaptation of students to operating conditions of dental clinic.

6. Presence of feedback from students on assessment of strengths and weaknesses in training - by annual questioning of the final study year students and the analysis of results with the purpose of revealing and correction of drawbacks.

7. Development of the international collaboration:

- organization of lectures and master-classes for undergraduate and postgraduate students, dentists, teachers of University with invited foreign experts in the field of dentistry and dental education;

- realization of training programs for students and teachers at the European dental schools;
- organisation of the International Dental Marathons for students and young dentists.

8. Active use of information technologies:

- creation of "Electronic Dean's Office", including electronic history of training of each dental student, since entering the University and till Final State Certification of the graduate;
- on-line information exchange with on score-rating systems data assessing knowledge and practical skills of students;
- Development of distant learning, using telecommunication technologies.

Section 23. Visitors Executive Summary on the School

The visitors comments are contained in the following pages

Association for Dental Education in Europe

Part II Visitors Comments

Faculty of Dentistry

Moscow State University of Medicine and Dentistry

11-14th November 2007

FACULTY OF DENTISTRY
MOSCOW STATE UNIVERSITY OF MEDICINE AND DENTISTRY

PART II VISITORS COMMENTS

CONTENTS

Preface

ADEE is an educational organization established in 1975 in order to:

- promote the advancement and foster convergence towards higher standards of dental education
- promote and help to co-ordinate peer review and quality assurance in dental education and training
- promote understanding between European dental schools
- agree on common competences and a profile of the European dentist
- promote evidence based teaching and treatment of patients
- promote the sharing of peer reviewed interactive programmes
- share innovations and best practices.

To fulfil these goals one of the activities of ADEE is the establishment of a programme of peer visits to EU dental schools.
With these visits the aim is to understand each others systems of education by:

- identifying and sharing innovations and best practices
- promoting greater exchange of ideas, staff and students
- promoting the pooling of intellectual resources in dental education
- breaking down barriers

The visits are not to impose a single educational approach or a single dental curriculum.

Presently over 160 dental schools are member of ADEE http://www.adee.org

Amsterdam, December 2007

Visitation team

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Executive Summary

The Faculty of Dentistry (FoD) of Moscow State University of Medicine and Dentistry (MSUMD) is overall a good dental educational facility according to the standards set out by the European Union and the DentEd thematic network considering the tremendous changes that occurred in the country for the last 20 years. The school is the leading institute in dental education in the country with a lot of respect towards the Russian tradition in dental education.

This report is a result of a three day visitation based on a self assessment report from the FoD. The report contains a number of minor and major suggestions to further strengthen the success of the faculty and suggestions to the challenges facing the FoD.
The school has a long history of prestigious stomatological training of dental students. The first 2-3 years are predominantly spend on biological and medical subjects, from there on dentistry is included.

The visitation was requested by the MSUMD and has been organized through ADEE (Association for Dental Education in Europe, www.adee.org) after the principles set out by the DentEd thematic EU project (www.dented.org).

Overview and methodology

This report is based in part on the self assessment report and in part on the three-day visitation**.** This report focuses primarily on areas which has been found to be commendable or areas where change could be appropriate. The report will not repeat information already contained in the self assessment report. Due to the nature of the visitation program the present report may appear critical.

Acknowledgement

The visitors were impressed by the quality and clarity of the site visit report which contained a great deal of valuable information. The program for the visit was well prepared and where changes were requested, these were made in a positive and constructive and helpful way. The University and the FoD must be congratulated for the open manner in which it identified its strengths and weaknesses.

The Visitation team would like to thank everybody involved with our visit. We have enjoyed the Russian hospitality and friendly atmosphere.

Special thanks due to the President Professor Yushchuk, the Rector Professor Yanushevich and the Dean Professor Ivanov.

For the planning and carrying out the visits and producing the self assessment report, we warmly acknowledge all the activities of Doctor Fabrikant and Professor Kuzmina.

1. Introduction and general description (mission)

The MSUMD has a history that dates back to more than 80 years while the first dental surgery schools in Russia appeared in the 19th century. Its present status MSUMD received in 1999. It has 11 faculties with together 105 departments teaching approximately10,000 undergraduate and graduate students in 11 programmes.

The dental programme comprises five years. After graduation one year of general dentistry is mandatory for every graduate to get registered as an independent practitioner.

The Mission of the Faculty of Dentistry is to promote oral and general health in Russian regions by providing these regions with highly qualified dentists by:

- undergraduate teaching
- graduate teaching
- improving professionals skills of dentists and university teachers
- training of auxiliary dental personnel
- research
- care to patients and high quality consultation to patients and dentists.

This mission is not formally expressed as a Mission Statement. A mission statement should place the appropriate focus on research as a fundamental element for all activities within the FoD. Also the focus on patient care should be included in the mission statement so that the triad of education, research and patient care provides a solid framework for dental training.

2. Physical facilities

The FoD Is housed in three different buildings of which, due to the distance and heavy traffic, one is not easy to reach from the two other buildings that are close to each other. Student schedules prevent students from traveling between buildings during day time. It might however, hinder staff in their daily contact. It also causes double clinical departments in order to have two fully equipped dental facilities. This also can easily cause a waste of resources and the introduction of overlap in the teaching of different subjects.

Clinical Facilities
The Visitation Team was impressed by the renewed facilities in the clinical diagnostic centre. Likewise the dental hospital is in the process of refurbishing.
The team was impressed by the new modern dental units. As was mentioned above, we noticed a loss in efficiency due to two separate and remote educational buildings. We see two possible solutions: either reorganize all activities in one (new) compound, or split up all activities into two separate independent but cooperating dental schools.

Teaching Facilities
The educational facilities present, seem to be well equipped with modern audio-visual modalities. However, in view of the number of students we observed a shortage of small seminar rooms. Although the number of computers is quite low, we did not notice a shortage, probably due to the fact that every student, as they stated themselves, has personal access to a computer.

Research Laboratories
Although we noticed that relatively many members of academic staff are engaged in research there is no research facility available in one of the teaching/clinical buildings of the dental school except for some minor possibilities in using equipment of patient labs for research work. As a consequence, laboratory research staff has to travel to another building where research facilities of the University are housed, again causing loss of time. On the other hand bringing research people together and concentrating supporting facilities is a modern prerequisite for any dental school in order to reach high quality and quantity in research.

Library
There is a very good central library shared with the medical school, which has access to mainly Russian journals and books. There is access to computers and Internet in the library in a separate room but the Committee could not judge if this facility was sufficient. Students, however did not complain about any scarcity.
We acknowledge the easy availability of Russian textbooks to students. Facilities of the library are also spread between the dental departments on specific topics, international and national journals, which gives greater access to students during research. However, to further increase access to present knowledge, we recommend to:

- locate independent library services in the two dental hospitals
- increase the free access to international dental literature.

3. Organizational and administrative structures

The description of the programme is teacher-centered and the organization of the school is departmentally structured. The departmental structure seems confusing and not fully serving contemporary educational activities and philosophy. According to the Visitation Team the doubling of some departments like Oral Surgery, Prosthetic Dentistry and Therapeutic Dentistry must cause overlap, confusion among students, loss of time spend on consultation and negotiations, and fragmentation of staff as well as curriculum time. The team has the opinion that less departments with more than one professor in the same discipline in such a department could generate a more efficient and effective management of educational and research processes. Due to tradition and law there is certain inflexibility in independent decision making at all administrative levels.

The team suggests a matrix organization in which on the one ‘axis’ people and knowledge are organized in departments and on the other ‘axis’ education, research and care are organized in institutes. In these institutes’ people from different departments work together and are managed by acknowledged leaders.

4. Staff

Numbers

The availability of trained staff is to our opinion in accordance with the tasks the programme dictates. Group teaching is a dominantly teaching method in the programme and nevertheless we did not see groups bigger than ten students to one teacher. This obviously is one of the reasons students seem to be satisfied with the programme.

We are impressed about the dedication and enthusiasm of staff. We positively recognize a present positive attitude among staff members towards change, facilitating to meet future challenges. The educationally trained junior staff and their obvious interest in research is an important asset for the further development of the school.

Quality and Qualification

The staff is balanced in age and gender. The team acknowledges the high number of staff members that either has research experiences or is active in research. Also the high number of full time young teaching staff that is trained as a specialist and active in research and care must produce ample support to meet for present and future challenges. This, together with the structured pedagogic training of teachers creates an extraordinary academic strength that is not seen very often.

5. Biological Sciences
Biology with Ecology, General and Bioorganic Chemistry, Biological Chemistry, Physics, Mathematics and Informatics, Medical Informatics

General comments
We understand that the federal law on higher education demands certain subjects and numbers of hours in the curriculum with respect to biological sciences, but presently there seems to be room for change. We have the opinion that too many curriculum hours are spend on subjects like physics, biology, chemistry and anatomy, with little or no integration into dental subjects.

The FoD must take the overall responsibility of the content of basic science, the number of hours in the curriculum and the educational methods to be used, without paying too much attention to history and tradition. The development of a new curriculum opens an excellent opportunity for the dental faculty to adapt the curriculum to the latest international standards remaining ample room to maintain the school's specific character.

It was obvious to the team that the overload of non-relevant basic and biological subject content leads to late patient contact and at the same time a lack of integration between medical and dental subjects, which easily can undermine students' motivation for basic and biological sciences. Integration between as well as within subjects should preferably be seen not only in a horizontal but also in a vertical direction. This should be addressed by reviewing the basic and biological subject content and introducing earlier patient contact.

Specific comments
The basic and biological sciences seem to have qualified staff with a positive attitude towards dental students. The Medically trained faculty appreciate the relevance of their subject in dental education and is interested in providing quality education for the dental students.

We appreciate the course on statistics (mathematics) but there seems to be lack of research methodology as a subject or track throughout the curriculum.
In most countries with a five-year dental curriculum, students enter the dental programme right after secondary school. It means that the entry level of students is mainly dictated through the national educational system. Higher education following secondary school only has the entry requirements and selection available to link up both levels of education. We understood that the MSUMD selects students for the dental programme based on entrance examination on the subjects Russia, Biology and Chemistry. We also understood that those subjects can be chosen in secondary school on a higher than average level by the student in order to get prepared for medical or dental training. We were wondering if this selection could be extended to physics and English and we were wondering about the level to which biology, chemistry and physics are taught in secondary school since over 300 contact hours are spent to these subjects in the curriculum. Compared to the 195 contact hours taught in propaedeutic dentistry in which the basis of all dental problems and therapeutic treatments, the attention to the afore mentioned basic subject seems to be out off balance.

6. Preclinical Sciences
Human Anatomy, Topographical Anatomy and Operative Surgery of Head and Neck, Normal Physiology, Histology, Embryology, Cytology

General comments
The different subjects of preclinical sciences seem to be taught separately, however we learned that for the future the wish is to integrate the teaching. This the Visitation Team supports wholeheartedly. Much that we noticed on the biological sciences also concerns the preclinical sciences; dedicated staff and many hours in the curriculum (686 contact hours). The difference with biological sciences however, is that these subjects normally do not form part of secondary schools' curriculum.

Specific comments
Among the main objectives of Human Anatomy it is stated that students should get knowledge on individual and age-related anatomic features, x-ray images of organs, variability in organ development and skills in working with anatomical specimens and using elementary instruments.

The team refers to the international standard of dental education in which knowledge and skill in human anatomy concentrates on regular body function, broadly knowledge of anatomical topography and a focus on head and neck anatomy and the relationship of oral and general pathology. The above mentioned subjects take a lot of curriculum hours and seem to contribute only limitedly to this international standard. Moreover we question the objective of getting skilled in using the essential surgical instruments on corpses, since conserved tissues are so different in their texture compared to living tissues. Compared to the 130 contact hours on anatomy of head and neck, the 275 hours in general anatomy seem to be rather overexpressed. We advocate less hours on anatomy in total and transfer of hours from general to head and neck anatomy.

The hours spend on physiology seems high but part of it is used for teaching the physiological functions of the maxillo-facial area. In view of this it may be acceptable. However, we wondered how these dental functions will be picked up by the students because in the fourth semester they yet know so little about dentistry.

7. Paraclinical Sciences
Microbiology, Immunology and Virology, Anatomical Pathology, Physiopathology, Pharmacology

General comments
We have the opinion that the para clinical disciplines as seen by the school are important for the understanding of contemporary dentistry. However, in our opinion they could be better integrated into teaching of dental and medical subjects and scheduled to support clinical training. In any case we were happy to find that this is part of future plans.

From the self study we learned that a problem-based approach is used in the teaching of the para clinical sciences. Although we did not had the opportunity to get more informed on this, we acknowledge this as a strength and certainly as a good example of contemporary teaching method.

Specific comments
We highly appreciate the special courses on Oral Microbiology, Pathology of Head and Neck and Physiopathology of the Maxillo-facial area.

We wonder if the subject of pharmacology as part of the para clinical sciences is sufficiently tuned with clinical pharmacology as the teachers of these subjects are different.

8. Human Diseases
General Medicine, Surgical Diseases, Radiodiagnostics and Radiotherapy, Eat, Nose and Throat Diseases (ORL), Dermatology, Neurology, Obstetrics, Ophthalmology, Psychiatry, Infectious Diseases, Phthisiology, Pediatrics, Clinical Pharmacology

General comments
We appreciate the significance of medical subjects in the curriculum. However the number of hours is very high (817 contact hours) and also very fragmented over 13 disciplines, among which some are very small. In order to save curriculum time for new developments we believe that there is plenty of room for reduction and integration within Human Diseases.

The place in the curriculum and the sequence of subjects are well chosen and support the possibility of increased integration with dental subjects.

Specific comments
Apart from the scheduled number of hours,the logic of splitting up Surgical Diseases and General Surgery into two separate subjects is not clear. The total amount of time for these subjects (213 contact hours) , as well as for Dermatovenerology seems to be rather extensive. The rational for teaching Obstetrics and Ophthalmology for future dentists eludes us.

On the other hand Psychopathology integrated with behavioural sciences, could use, according to our opinion, more hours since the dental treatment of patients with disturbed mental conditions is becoming more and more prominent.

The team was wondering if the teaching of ‘infection and infectious diseases’ over the disciplines Microbiology, General Medicine, Infectious Diseases and Phthisiology is very efficient since it is likely that in this way unnecessary overlap is introduced.
Our concern goes to the same sort of overlap between Clinical Pharmacology and Pharmacology as mentioned earlier.

We could not find any argument why resuscitation is not given within the discipline of General Medicine. Resuscitation should be rehearsed every year from the moment students treat patients, but we could not find proof for that. On the other hand adjoining subjects like Reanimatology/Intensive Care and First Medical Aid are taught independently at the start and the end of the curriculum, respectively. We recommend having them joined into the same discipline and teach it regularly.

9. Pediatric Dentistry and Orthodontics

Children's Therapeutic Dentistry, Children's Oral and Maxillo-facial Surgery, Orthodontics and Children's Prosthetic Dentistry

General comments

The team was not able to find out where the border is between Children's Therapeutic Dentistry, Children's Oral Maxillo-facial Surgery and Children's Prosthetic Dentistry and we have some doubt on the benefit of splitting up the subject of paediatric dentistry. On the contrary we believe that there are ample possibilities for integration, e.g. through the topic of prevention.

It seems as if Orthodontics is a minor subject in the curriculum considering the difference in hours spend on Orthodontics and Children's Prosthodontics (128 contact hours) compared to those spend on Pedodontics (267 contact hours).

Specific comments

We fully support the strong emphasis on diagnosis in Orthodontics, and the team acknowledges initiatives introducing computer-based teaching and learning in Orthodontics. However, we hope that the department carefully considers their plans to possibly extend the orthodontic teaching towards treatment.

We have noticed that in Children's Oral Maxillo-facial Surgery students might see a lot of interesting cases but we question the extent of the course and the effectiveness of all the watching hours with respect to develop competency for every day dental practice.

10. Public Dental Health and Prevention

Public Health, General Hygiene, Preventive Dentistry and Epidemiology

General comments
The topics in these subjects are well covered. However, we wondered if the subject of dental care system is not scheduled too early in the curriculum (third year) and if the interval between the basics of Statistics (first year) and the statistical task solving is too long.

Specific comments
Prevention should be the basis for all dental care; subsequently it should be applied systematically in all clinical activities. Although prevention is taught in the second, third and fifth year parallel with other dental disciplines, we have some doubt if an attitude of prevention is sufficiently present in staff and students. Teaching prevention in a somewhat isolated environment can easily give arguments to other departments that prevention is somebody else's problem. We recommend that teaching preventive dentistry should be more integrated into other clinical dental subjects with ample curriculum time in order to consolidate this over the different semesters.

We believe that the number of contact hours available for teaching Public Health is insufficient and recommend transferring some hours from General Hygiene to Public Health. At least a fair amount of integration could be applicable to these disciplines.

The subject healthy lifestyle within General Hygiene is already taught in a separate discipline Healthy Lifestyle. We believe that this is a waste of precious curriculum time.

11. Restorative Dentistry

Dental Materials, Propaedeutic Dentistry, Therapeutic Dentistry

General comments
Within Restorative Dentistry the sub disciplines of diagnostics, periodontology, cariology and endodontics are taught but not recognized as independent entities. There seems to be integration of these sub disciplines which is fully supported by the team.

Specific comments
The team acknowledges the integrated teaching on all dental diseases by Propaedeutic Dentistry. However, it remained unclear how this teaching relates to clinical training in practise later in the curriculum. Also we have some doubt if the number of teaching hours in Propaedeutic Dentistry is sufficient to deal with all these different subjects thoroughly.

Therapeutic Dentistry comprises the theory and clinical practise of caries, diseases of the pulp, periodontology, non-carious lesions and oral mucosa pathology. We question the sufficiency of contact hours (597) on these different subjects, knowing that this knowledge and skills represent about 60% of daily practice. In contrast with the 817 hours on Medical Diseases and the 486 hours on Oral Surgery, both offering cases to the general dentist very infrequently, Restorative Dentistry seems to be undervalued. All clinical activity in the treatment of caries and pulp diseases comprises not more than a maximum of 160 hours.
During the visit we noticed in clinical situations that much more frequently students acted as assistant or watched a teacher or student in operation, than that they actually treated patients themselves. MSUDM should pay particular attention to the selection of educationally justified patients in sufficient numbers.

Because oral mucosa pathology, the biomechanics of masticator's apparatus and the principles of inlays, crowns are taught here there seems to be overlap with either Oral Surgery or Prosthetic Dentistry, which rises a special concern in the team.

12. Prosthetic Dentistry

Comments

There is knowledge and wide understanding of contemporary prosthetics. In the department, Prosthetic Dentistry has the availability of the services of a big dental Lab which seems to work well.

For the team it remained unclear if and how far the two prosthetic departments in the different clinical buildings cooperate and where the borderline is between respective activities in the 9th and 10th semester.

With respect to the fact that in Restorative Dentistry some items of prosthetics are already taught, the number of hours for Prosthetic Dentistry seems to be sufficient. Although it remained unclear how many hours students actually independently treat patients considering the time spend as assistant and the many hours of watching a teacher or student in operation.

In this discipline again the principles of diagnostics and treatment planning are taught, which also are in the programme of Restorative Dentistry; there may be some overlap.

13. Oral and Maxillo-facial Surgery

Oral and Maxillo-facial Surgery and Traumatology, Dental Implantology, Oral Medicine and Oral Pathology

General comments
We acknowledge the strong leading position and expertise of the departments of Oral Surgery and Oral Maxillo-facial Surgery particularly in postgraduate teaching.
We wonder however, if the available number of curriculum hours is in accordance with the daily practise of the general dentists in the country. In this respect the time for oral Surgery seems to be more than sufficient.

Specific comments
The objectives of teaching Oral Surgery in undergraduate teaching remained unclear. Should the graduate be able to do surgery more than a surgical removal of a broken root or a third molar? The impression acquired during the visit was that the undergraduate students watch the graduate students or the surgeons operate? We understood that the general dentists in most cases refer extractions even sometimes in easy cases, which might reflect their present practical training.

In Oral Medicine and Pathology the physiopathology of inflammation of periodontal tissues, salivary glands, wounds, etc are taught. Some overlap, respectively with Restorative Dentistry, Oral Surgery and General Surgery remained unclear to the team.

14. Integrated Patient Care

First Medical Aid, Reanimatology (Resuscitation) and Intensive Care, Exercise Therapy, Forensic Medicine and Dentistry

General comments
Clinical teaching in FoD is mainly departmentalised. However, provided that the aim of the clinical education is a general dentist, the concept of comprehensive patient care is of paramount significance. We recommend strongly the introduction of this approach earlier and wider in clinical activities.
Reallocating the number of hours in case of a curriculum change, should primarily be devoted to integrated comprehensive patient care.

Specific comments
Starting early in the curriculum with first medical aid is acknowledged as a good practice. However the combination with the subjects' reanimatology and resuscitation is recommended.

We seriously question the existence or at least the extent of independent subjects as Exercise Therapy/Physiotherapy and Forensic Medicine and Dentistry (both 36 hours) in the curriculum. It causes fragmentation of curriculum hours and the number of hours seems to be extensive. We recommend to include these subjects in respectively Oral Surgery and Oral Pathology, or in elected courses.

The introduction of comprehensive care seminars in European dental schools where the students present cases of these integrated care patients with discussions on treatment planning and/or evaluation of the treatment outcomes has shown to be beneficial in acquiring clinical competences. This approach is strongly recommended for FoD.

15. Behavioral Sciences

History of Medicine, Philosophy, Bioethics, Latin and Foreign Language, Psychology and Pedagogics, Economy, Medical Law, Physical Training, Healthy Lifestyle

General comments
Under this heading there are 826 contact hours available. The hours scheduled are very fragmented and allocated to 10 different subjects. Without any doubt there is room for reevaluation and integration among these subjects. The team has the opinion that there are several subjects not to be included in a contemporary dental curriculum. Among these are;

- foreign language, especially when a language can be chosen
- economy, other then management skills
- physical training
- healthy lifestyle, which moreover is part of Public Health, according to the self study.

Specific comments
The teaching hours of other subjects that could be shortened are: History of Medicine, (since dentistry is an independent science) and Latin.

The team wonders why Bioethics and Philosophy are not integrated .

We did not find any sign, nor in the self study or in the interviews, of communication being part of the curriculum. In modern dentistry that is seen as an omission. We recommend scheduling time to include communication training. This should include general rules in communication, communication under stressful circumstances and communication with specific groups of patients (e.g. elderly, mentally handicapped, very anxious patients).

16. Exams, Assessment and Competences

Comments

It was not possible for the Committee due to lack of time to get a clear view of the way examination was structured. What is clear is that different methods are used which is in accordance with modern educational standards. Also, in by far most subjects more than one moment in the course student are assessed, which is also a good practice.

Heavy reliance on oral exams takes a lot of teachers' time and these assessments may rise questions related to objectivity.

17. Other influences

Student affairs
Students and new graduates were found well motivated, having a positive attitude and being appreciative of their education. There is a very collegial atmosphere between students and staff. This was particularly evident in the clinics. There is an active 'Student Trade Committee', an initiative of students, that organizes all sorts of learning motivating and social activities.
There seems to be a variety of students' activities on voluntary basis in the programme.

Students indicated reasonably high levels of satisfaction with the present feedback mechanism and opportunities to participate.
The students' participation in decision-making processes at all levels of faculty activities are highly encouraged. It remained unclear if and how students have organized themselves to represent their interests officially. In addition to the Students Trade Committee that vocalizes students needs towards administration, we recommend that students be represented in curriculum committees, evaluation committees and other dental school activity committees

Quality control
There are evaluations done by the students through the teachers, but it is a little unclear if these are formal routine and if appropriate feedback comes from these evaluations. Also it is unclear what happens with the feedback and what is communicated to the students. According to accreditation standards, students must evaluate courses and faculty in an anonymous way. These data should only be available to designated individuals and is used to improve courses and to promote deliberations.

Research
There seems to be a substantial research output among the staff members. To increase the scientific achievements we encourage interaction with the scientific global dental community by publishing in international peer reviewed scientific journals.
To further strengthen the dental research output a certain minimum time for most dental staff members should be allocated for research and when grants are approved extra time should be granted accordingly.
Structured research training across dental disciplines' borders including seminars where researchers of all levels can share research experiences and outcomes are encouraged.

Scientific clubs represent the research interests of the most active students. Although this is a good start in research training, an independent research track for all students concluding with a (small) research project, is recommended in the new curriculum to increase critical and scientific thinking of the future professionals

18. General remarks

The FoD has a long history of prestigious stomatological training of dental students. The first 2-3 years are predominantly spend on biological and medical subjects, from there on dentistry is included. The school is the leading institute in dental education in the country with a lot of respect towards the Russian tradition in dental education.

The FoD has a qualified and diversified faculty from very different disciplines in the medical world that brings together ideas and input from different angles, but also creates challenges in getting agreement and team work.

The educational approach seems to be based heavily on factual knowledge in a teacher centered model with limited time and incentives for the students to seek and apply knowledge and gain deep learning through independent learning and self reflection. This is not a good foundation for self directed and life long learning. We missed in the documents the existence of an educational philosophy on which the curriculum is based, also we did not find a curriculum system in use for grouping subjects and for scheduling.

The very discipline oriented structure and the high fragmentation means that overlap and redundancy exists as is indicated in the different paragraphs. Also the lack of cooperation between disciplines makes diagnosis, treatment planning and prevention in general difficult to structure. Interdisciplinary meetings on regular basis are advocated. There seems also to be too little emphasis on diagnostic performance such as discussions on observer variability, and the reliability and validity of diagnostic tests.

There seems to be no attention in the curriculum or clinics to dental anxiety, which seems inappropriate. The evident oral health care needs and need for prevention in the community/population must be reflected in the curriculum and the school should strengthen the continued focus on preventive oral health care.

A set of competency statements to describe the graduating dentist should be developed. It would be beneficial to the institution if such statements were related to the level of specified sets of competency statements as used in European dental education. We refer to the DentEd publication ‘European Convergence in Dental Education’, Dented III, 2004-2007.
In relation to the competency statements an institution of higher education must ask themselves a set of questions and develop mechanisms to answer them. We will mention a few of such questions: Are we doing what we say we are doing? If we do, how do we know that? What standardized measures do we use to find out that students learn what they are supposed to learn instead of that we teach them what **we** want to teach them. If we collect outcomes data, what do we do with this data (knowledge)? Do we analyze the data to make sure that we set new criteria and standards for our education as indicated by the data?

Evidence based dentistry is being referenced several times in the self study report in different ways and meanings. We recommend an internal review of the term and discussions on how to implement this concept correctly in the education including students working more independently evaluating literature with a primary focus on systematic literature reviews such as Cochrane studies. The students must be

encouraged to seek information from literature using literature searches. This is an important part of training for the concept of life long learning or continuing professional development.
The present curriculum is defined in teacher hours and reflects a very teacher centered approach to dental education. A more modern approach is a student-centered approach, where a credit system is used that is based on student workload. Every course in the curriculum should be defined in terms of total study load for the 'average' student, comprising contact time and self study time. One of the challenges is to introduce in the development of the new curriculum this more student centered approach.

The dental faculty is at present in the phase of developing a whole new curriculum. At the time of visitation this was not yet concluded but during the visit and shortly after, the Visitation Team has learned that most of the comments on the present curriculum will get the proper attention in this new curriculum, which is principally in accordance with the ADEE guidelines on curriculum content and structure.

19. Strengths, Weaknesses and Recommendations

Every school has its weaknesses and strengths and every school should work on its weaknesses without loosing its strengths.

Strengths
Among lots of good things happening in the FoD the Visitation Team found the following extraordinary strengths in which the school distinguishes itself from most other emerging dental schools:

- the school has available an extraordinary number of locally produced contemporary textbooks
- the school is blessed with a dedicated and enthusiastic staff well trained an well balanced
- the structured continuing pedagogic training that is a rule in the MSUMD is not seen very often in other dental schools
- the obvious strive among staff and management for innovations both in education and facilities is a prerequisite for successful change
- the appreciative students are well motivated, their success-rate is relatively high
- the school obviously has the leading status among the 50 dental schools in the country
- the school offers students an interesting innovative learning opportunity with its Olympic Game.

Weaknesses
Under this heading we mention the weaknesses that could stand in the way of future developments and progress towards international standards and acknowledgement:

- In this large University and as a consequence in the Dental School there is a powerful top-down administrational structure that however, offers limited operational flexibility
- the educational activities are too much fragmented over too many autonomous departments and are subsequently fragmented in the curriculum
- biological and medical specialist subjects are overrepresented
- the present curriculum shows insufficient horizontal and vertical integration of educational subjects with fragmentation and overlap
- active learning opportunities, like problem-based or project-based learning are underrepresented, the teaching method of students just watching is too frequently used
- as reported in the self study report there is a shortage of modern high-tech learning tools.

Recommendations
Based on the self study report and on the many interviews the Team has formed a notion in which way MSUMD and the dental school want to develop the dental programme and its related the possibilities and constrains related to it. In order to work towards this future we think the next recommendations are particularly important:

- the process of development of a new curriculum started is fully encouraged. To succeed in this demanding task means that time for developers is needed,

support from the fast majority of staff is needed and resources for implementing changes should be made available
- following the guidelines given in the Profile and Competencies for European Dentists document is will be helpful to plan and realize a modern educational approach
- a set of competencies, a modular structure, integration of disciplines and the introduction of the ECTS credit point system should be essential elements of the new curriculum
- re-evaluate assessment methods, develop a policy on the goals of examination and create a Provision Document on Examination with rules and guidelines
- create more individual and active (clinical) learning opportunities for the undergraduates in the curriculum
- create the first patient contact as early in the curriculum as possible
- integrate biologic sciences in the medical as well as in the dental subjects. The elective component in the curriculum should be considerably expanded in order to give room for research projects and reduce the number of hours in biology subjects without losing the possibility for students to deepen an widen their knowledge in these
- make mandatory that each student should complete a research project and identify within the curriculum the minimal number of devoted hours.