



**DENTAL MEDICINE  
INTEGRATED  
UNDERGRADUATE AND GRADUATE  
UNIVERSITY STUDY  
PROGRAMME CURRICULUM**

**Mostar, April, 2023**

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## 1. INTRODUCTION

The curriculum of the integrated university study programme Dental Medicine is the result of the regular review process, which began with the Decision of the Senate at the session held on February 26, 2022 (No. 01-993-1/22). The regular revision procedure was carried out according to the *Rulebook on the Procedure of Adopting New and Revisions of Existing Study Programmes* (No. 01-993-1 /22). It stipulates that the Committee coordinates a revised curriculum. The Committee also includes student representatives and external users, and the Scientific-Teaching Council/Artistic-Teaching Council of the organizational unit submits their proposal to the University Senate for adoption.

In order to involve all stakeholders in the process of improving the study programme, a public discussion was held on April 11, 2023. Stakeholders and the public were informed about the public discussion via the School's website and via e-mail. The materials for the public discussion were available in advance to heads of individual Departments, heads of courses, teachers, students and external users.

On the basis of the public discussion and the conclusions reached, the Minutes of the public discussion were drafted (No. 01-563/2).

On top of the conclusions of the public discussion, when deciding on the type of changes, the relevant data of the annual report at the level of the organizational unit of the School of Medicine and the study programme Dental Medicine (no. 01-l-2216-c/21) of December 20, 2021, adopted at the session of the Scientific-Teaching Council on December 17, 2021, were analysed.

Furthermore, when deciding on the type and extent of changes, suggestions for improvements on the basis of earlier evaluations were also analysed: the last institutional accreditation from 2020 (No. 05-03-40-92-8/19). The application of the provisions of legal and internal acts on the minimum share of pre-examination requirements in the final grade in all courses was also taken into account, as well as the application of modern teaching methods with the student in the centre of the teaching process. In relation to the aforementioned, different teaching methods are used that support interactive learning and research, problem solving, and creative and critical thinking. Improvement of the Syllabus encourages different ways of teaching in accordance with the planned learning outcomes, and is achieved on the basis of evidence on achieving the prescribed learning outcomes (e.g. student tests, seminar papers, presentations, etc.).

The learning outcomes implemented in this programme were complied with the learning outcomes of the Schools of Medicine and Dental Medicine Studies in the Republic of Croatia and as such correspond to the level of CQF (Croatian Qualification Framework) and EQF (European Qualification Framework) and are in accordance with the Directive 2005/36/EC of the European Parliament and the Council of September 7, 2005 on the acknowledgement of professional qualifications.

The prescribed learning outcomes clearly define, that is, result in the competencies that students, future doctors of dental medicine, should acquire during their studies, and which are necessary for entering the labour market, continuing education or other needs of the individual/society. Recommendations of professional associations that monitor their licensing (for example, HKDM – Croatian Dental Chamber) were also accepted, with the aim of educating experts who are competitive on the national and international labour market.

The revised Curriculum has complied ECTS credits with the actual student workload based on feedback from participants in the teaching process. Achieving clear and accessible criteria and methods of evaluation and assessment of students is emphasized, in order to make the examination process more transparent, and the students were familiar with expectations of them even before the start of a particular course.

During the development of the curriculum, all strategic tasks in the strategic area of education from the *University Development Strategy 2018 – 2023*, which relate to the curriculum and teaching process, were carried out (more in the chapter "3.1. Link to the University Development Strategy").

Taking all of the above into account, several changes have been made in this revised curriculum in comparison to the existing one. The key changes (introduction of new courses and reorganization of internships in frames of the course Clinical Dental Medicine - Practice) are described in the text below, while minor changes in the form of changes in course names, corrections of time schedules and ECTS credits are presented in a table with a short explanation, as well as in the report of the Committee for the revision of this Curriculum which is attached hereto.

The new courses which were introduced for the purpose of improving competences and complying with EU programmes are as follows: Physical Education, Temporomandibular Disorders - Diagnosis and Therapy, Restorative Dental Medicine III, Clinical Dental Medicine – Practice; and they are included in the revised Curriculum. In the past period, several analyses of the previous Curricula were carried out by Committees consisting of interested experts, for example by the Schools/Faculties in the region and expert chambers, which are already part of the European Education Area. For the observed differences in the programmes, such as differences in the time schedule and student workload in the courses Dermatovenerology, Ophthalmology, Maxillofacial Surgery and Surgery, compliance was carried out in this revision. For the purpose of increasing the number of hours of practical work, the new course Restorative Dental Medicine III was included in the Curriculum in the 5<sup>th</sup> year, 10<sup>th</sup> semester.

By introducing the above mentioned courses and adjusting the time schedule, the differences between our programme compared to the programmes of EU countries (primarily the Republic of Croatia) are reduced, which will facilitate the process of evaluation of diplomas and the possibility of mobility of doctors of dental medicine upon graduation.

By reorganizing the internship into a single course called "Clinical Dental Medicine - Practice", students are provided with an opportunity to carry out the internship or practice in rotations. By doing so, they are enabled to work dynamically with patients in small groups. The total duration is sixteen weeks and 500 hours, which corresponds to the reference Schools and Studies of Dental Medicine in the area.

Since the study programme of Dental Medicine at the University of Mostar School of Medicine is a relatively new study programme, it is necessary to follow the trends to improve the study programme of Dental Medicine and make efforts in education and professional development of own personnel.

## 2. GENERAL INFORMATION ABOUT THE STUDY PROGRAMME

Study programme:	Dental Medicine
Cycle:	Integrated study programme (1 <sup>st</sup> and 2 <sup>nd</sup> cycle)
Type:	University study programme
Scientific area:	Biomedicine and Health Care
Scientific field:	Dental Medicine
Academic title:	Doctor of Dental Medicine
EQF qualification level:	7
Duration of the study programme:	6 Years, 12 Semesters
ECTS:	360 ECTS
Language:	Croatian
Mode of study:	Full-time
Awarding institution:	University of Mostar
Institution administering study programme:	University of Mostar, School of Medicine
Study programme objectives:	<ol style="list-style-type: none"> <li>1. Achieve adequate student knowledge and understanding of the sciences that form the basis of dental medicine, and to teach them how to recognize and use scientific methods, such as the concepts of measuring biological functions, assessing scientifically proven facts, and analysing data</li> <li>2. Achieve adequate student knowledge and understanding of the structures, behaviours, and connections between healthy and sick people, as well as the impact of one's social and natural environment on one's health to the extent that the aforementioned factors affect dental medicine</li> <li>3. Provide students with the understanding of clinical disciplines and procedures that will enable them to recognize and assess the anatomy and function of teeth, the oral cavity, the jaws, and related tissues in both healthy and sick patients</li> <li>4. Prepare students to critically judge, select and rationally apply preventative, therapeutic, and diagnostic techniques in accordance with guidelines for the purpose of preserving and promoting oral health or to treat diseases of the teeth, oral cavity, and adjacent tissues.</li> <li>5. Train the students in appropriate communication skills with members of their dental team, the patient and his family, other health and non-health professionals, regulatory agencies, and the public, according to appropriate legislature, as well as ethical and deontological principles</li> <li>6. Achieve an adequate student awareness on necessity of life-long learning in biomedicine, dentistry, and health in general.</li> </ol>
Study programme competencies:	<p>Upon completion of Dental Medicine programme at the School of Medicine of the University of Mostar, doctors of dental medicine acquire the following competencies:</p> <ul style="list-style-type: none"> <li>• Possession of sufficient knowledge on the sciences underpinning dental medicine.</li> </ul>

	<ul style="list-style-type: none"> <li>• Good understanding of evidence-based scientific methods.</li> <li>• Adequate knowledge of the structure, physiology, and behaviour of a healthy and sick person.</li> <li>• Understanding how the natural and social environment affects people's overall health, particularly with regard to how these factors affect dental medicine.</li> <li>• Fundamental theoretical knowledge and practical skills necessary for independent activity in a dental practice and the functioning of a doctor of dental medicine with a sense of team work and in a dental medicine team.</li> <li>• Coordinate the efforts of dental team members and/or clinic associates, be able to work together with medical professionals, complete successful interdisciplinary projects, impart knowledge to peers, and improve one's own responsibilities and teaching abilities.</li> <li>• Professional and scientific abilities that enable a fundamental approach to the creation of scientific and professional thinking.</li> <li>• They are able to take a general medical and dental history using communication appropriate to the age and prior knowledge of the patient, perform activities that include prevention, diagnosis and treatment of anomalies and diseases of the teeth, oral cavity and related tissues.</li> <li>• They possess the proper moral and deontological attitudes, understanding of how to utilize medical data appropriately, respect for patient privacy, professional secrecy, and sympathy for the patient, and appropriate patient communication.</li> <li>• They are aware of the rules and requirements set forth by the law in order to practice dentistry and carry out the duties entailed by the title of doctor of dental medicine.</li> <li>• They have knowledge about the functioning and organization, financing of health care, the need and methods of maintaining health documentation, knowledge about legal standards in relation to permanent theoretical and practical training.</li> <li>• Knowledge of the importance of working according to the principles of hygiene, asepsis and antisepsis, the necessary skills for its implementation, and being familiar with the possibility of criminal liability for violating the principles of professional conduct.</li> <li>• They are taught to differentiate between the specifics of polyvalent dental medicine according to narrow specialist branches in dental medicine, to recognize the distinctiveness of health issues in dental medicine health care, to demonstrate a connection with</li> </ul>
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	<p>patients of various ages and socioeconomic groups, and to be capable of independently making clinical decisions and prescribing therapy.</p> <ul style="list-style-type: none"> <li>• Understanding the different types, options, and applications of local and block anaesthetic, as well as the capacity to use specific dental medicine treatments.</li> <li>• Prescribe targeted pharmacotherapy based on the established condition.</li> <li>• Willingness to improve own clinical knowledge and skills, develop communication skills with patients, their families, and team members in the dental office.</li> <li>• They will be fully trained to manage planning in a dental practice, manage resources, manage documentation, know how to evaluate recorded data and statistical information, manage quality control in a dental practice.</li> <li>• They will learn to think in a systematic way, develop a structured approach to dental problems during their education, and have knowledge about the diagnostic algorithms and making therapeutic decisions.</li> <li>• They will be fully trained to work independently and to provide diagnostic and interventional procedures.</li> <li>• They will use sophisticated methods and treatment protocols based on the latest guidelines in dental medicine.</li> <li>• They will acquire knowledge on how to approach a psychiatric patient, respecting all their special needs, and be trained to provide appropriate dental-medical advice and service to pregnant women and children.</li> <li>• They will acquire basic medical knowledge to recognize emergency conditions and therapeutic procedures as well as the knowledge necessary to solve them in order to be able to provide assistance in all cases of medical emergencies.</li> <li>• They will be able to perform emergency intervention in dental medicine and implement preventive protection measures in dental medicine.</li> <li>• They will acquire knowledge about orofacial pain and anaesthesia.</li> <li>• They will be familiar with the harmful effects of ionizing radiation and methods of protection.</li> <li>• They will learn about quality control procedures, as well as standards of knowledge and how to evaluate their own knowledge and skill in the field of dental medicine.</li> </ul>
Study programme learning outcomes:	IU-DM1. Explain and relate knowledge from the basic natural and medical sciences to apply a scientific approach in solving professional medical issues.

	<p>IU-DM2. Describe and relate knowledge about the normal structure and function of organs, organ systems, and the body as a whole.</p> <p>IU-DM3. Describe and relate knowledge about molecular, biochemical and cellular mechanisms important in maintaining homeostasis in the body.</p> <p>IU-DM4. Explain the abnormal structure and function of organs, organ systems and the body to evaluate and argue the causal relationship between internal and external factors and the individual's behaviour.</p> <p>IU-DM5. Describe the various causes of diseases (genetic, developmental, autoimmune, degenerative, toxic, metabolic, and neoplastic) and the disease mechanisms.</p> <p>IU-DM6. Describe and relate knowledge about the pathohistological and clinical manifestation of oral tissue diseases and apply it in the diagnosis and treatment of the disease.</p> <p>IU-DM7. Connect and apply knowledge about clinical, laboratory and imaging manifestations of the anomalies, injuries and diseases of hard and soft dental tissues and the oral mucosa, as well as interpret and conclude in terms of differential diagnosis.</p> <p>IU-DM8. Examine and put into practice the preventive, diagnostic, and therapeutic protocols and algorithms in accordance with the most recent recommendations for maintaining and promoting oral health.</p> <p>IU-DM9. Analyse and implement therapeutic protocols and algorithms in accordance with the most recent recommendations in order to treat oral diseases.</p> <p>IU-DM10. Based on knowledge and evidence that ensure effective treatment for oral diseases, evaluate and decide on the justification and safety of pharmacotherapy.</p> <p>IU-DM11. Analyse how the patient's oral and overall health states relate to one another, and determine whether functional forms of multidisciplinary collaboration with dental and medical specialist are required.</p> <p>IU-DM12. Assess and argue the importance of socioeconomic, psychological, environmental and other non-biological determinants that contribute to the maintenance of oral health and/or disease development.</p> <p>IU-DM13. Practice effective communication with patients and their families when presenting and explaining medical information in accordance with the patient's and family members' level of health</p>
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	<p>literacy and possess the communication skills necessary to work in a dental team.</p> <p>IU-DM14. Assess, value and improve the principles of good dental-medical practice, dental ethics and deontology.</p> <p>IU-DM15. Explain the content of informed consent and argue for the reason informed consent should be obtained for the diagnostic and therapeutic methods necessary for patient treatment procedures.</p> <p>IU-DM16. Assess the risk of transmission of infection and accordingly apply appropriate protective measures for members of the dental team and the patient for the purpose of infection control.</p> <p>IU-DM17. Formulate and explain health information on the disease/diagnosis to other healthcare and non-healthcare professionals, regulatory agencies, and the interested public in an appropriate manner and in compliance with applicable regulations.</p> <p>IU-DM18. Recognize the importance of scientific methods in basic, translational and clinical research.</p> <p>IU-DM19. Apply learning methods that enable postgraduate specialist training, lifelong learning and doctoral education in the field of biomedicine and health.</p>
<p>Opportunities after graduation:</p>	<p>Upon completion of Dental Medicine, the following is possible:</p> <ol style="list-style-type: none"> <li>1. Take the professional/state examination and, after passing it, perform the duties of a doctor of dental medicine.</li> <li>2. Continue studying at the post-graduate, doctoral study (3<sup>rd</sup> cycle) and/or post-graduate specialist study</li> <li>3. After meeting the other criteria, apply for residency</li> </ol>
<p>Accreditation:</p>	<p>The University of Mostar received a Decision on Institutional Reaccreditation on January 14, 2020 from the competent Ministry of Education, Science, Culture and Sports of Herzegovina-Neretva Canton on the recommendation of the Agency for Development of Higher Education and Quality Assurance of Bosnia and Herzegovina, after which the University was registered in the State Register of Accredited Higher Education Institutions.</p>

### 3. BASIC CHARACTERISTICS OF THE STUDY PROGRAMME

#### 3.1. Connection with the Development Strategy of the University of Mostar

In the *Development Strategy of the University of Mostar 2018 - 2023*, in the strategic area of education, several strategic goals are related to the curriculum and its elements. In objective 1, it is defined that the University, in cooperation with stakeholders, will create, approve, implement and continuously monitor and improve study programmes at all levels, with clearly defined learning outcomes related to the needs of the labour market, and in accordance with the European Qualifications Framework (EQF), define the goals and expected learning outcomes of each study programme and harmonize the content of the study programme with them, in accordance with the appropriate level of the European Qualification Framework and the qualification standard, and to introduce a transparent and consistent process of revision and improvement of study programmes with the participation of students and other stakeholders, ensure a realistic allocation of ECTS points, through the defined system of ECTS coordination at all levels of study, to improve the interdisciplinary nature of study programmes by enabling the optionality of courses at the University level. Objective 3 refers to the development of a network of teaching bases, that is, organizations from different fields of activity, and to the establishment of cooperation that will enable the connection of practice, science and art, and higher education. In this sense, the goal is to increase the number of hours and the share of teaching practice in study programmes and the share of ECTS points that are acquired through professional practice, and to increase the number of Diploma (graduation) theses that have a topic and content related to clinical practice.

#### 3.2. Compliance with the Achievements of a Certain Scientific/Artistic Area and Labour Market and Connection with the Standards of Occupations/Qualifications

Objectives, competencies, and learning outcomes at the level of the study programme are defined in a way that is in line with the achievements of a particular scientific/artistic area and labour market and related to the standards of occupations/qualifications. The Employment Office regularly publishes a list of study programmes in demand on the labour market for each individual calendar year. Dental Medicine is often highly ranked on the scale of the so-called deficit professions, but the School of Medicine in Mostar is extremely careful in planning enrolment quotas and defining strategic development and management goals. Without harmonizing the fundamental principles of responsible and rational business, and the strategic support of the founder of the University of Mostar, the School of Medicine cannot respond to market challenges without satisfying the fundamental postulates of responsible management, which is the optimization of personnel, space and equipment, after which it would only be possible to comply with the request for an increase in enrolment quota at the School. In accordance with the aforementioned, enrolment quotas were not increased in the Dental Medicine study programme.

To harmonize with the achievements of the scientific/artistic area, the representatives of teachers in the Committee for the development of the revised curriculum and other teachers who participated in the development of syllabi for each course took into account current achievements and trends in scientific area of biomedicine and health, field of dental medicine, and related branches according to Frascati classification for each study programme.

Also, student representatives and external users were appointed to the Committee for the development of the revised curriculum to harmonize with the labour market. Public hearing was organized with the participation of experts from practice and economics (representatives of public health institutions, representatives of teaching bases, health centres, and general hospitals in FBiH), whose suggestions were taken into account in the development of the curriculum.

Since no occupational standard or qualification standard has been defined at any level in BiH, the following documents have been taken into account:

- Decision on the standard classification of occupations in the FBiH (Official Gazette of the FBiH, Vol. XI, No. 40, No. 8, 2004), which lists occupations under the category "Gender 2. Experts and Scientists" as doctors of dental medicine and its activities include: dental health promotion, disease prevention, disease detection, patient treatment and rehabilitation.

In addition to the above document, the following documents were also considered:

- EU Directive 2005/36/EC in accordance with the framework of EU member states with which best practice examples are exchanged with the aim of realizing the ideas of lifelong learning and mobility, increasing the quality and efficiency of education and training, promoting fairness, social cohesion and active citizenship, and strengthening creativity, innovation and entrepreneurship.

Jobs/competencies/learning outcomes from all the above documents are implemented in the competencies and learning outcomes at the level of the study programme listed in chapter 2. "General information about the study programme". They are realized in obligatory courses, in order to ensure that all students achieve them with the acquired qualification. The coverage of these learning outcomes at the level of the study programme with the learning outcomes at the level of obligatory courses is presented in the chapter 3.12. "Matrix of learning outcomes", and all with a goal to accelerate the transformation of the open and inclusive higher education system in Europe.

### **3.3. Comparability with the Study Programmes in the Country and Abroad**

The curriculum is comparable to the: study programmes in the countries of the European Union, especially with the neighboring Republic of Croatia. The corresponding ECTS credits are based on the principle of well-balanced curricula and qualification standards, focusing on acquiring knowledge, practical work and mastering the basic, clinical and public health skills of dental medicine doctors. The dental medicine study programme is related to accredited programmes in EU countries, for example, it is completely related to dental medicine studies at the School of Medicine of the University of Split, and the dental faculties in Zagreb, Rijeka and Osijek. Compliance with similar study programmes in Bosnia and Herzegovina overlaps in about 70% of the curriculum. Comparability is reflected exclusively in the competencies and learning outcomes at the level of study programmes and in the duration of studies, while the study programme retains its specifics mainly through the structure, course names, and ECTS credits.

### **3.4. Openness to Student Mobility**

Student mobility is defined by the *Rulebook on international mobility*, which refers to administrative support for students, student mobility documents, insurance, method of

application, the procedure for recognizing mobility and information package. The unique recognition methodology is defined at the University level by the Senate Decision on the adoption of a single form for the *Decision on recognition of courses, ECTS credits, grades, and professional practice during student mobility*, which is recorded in the diploma supplement. Students can find information on mobility programmes and accompanying forms on the University's website and through the Vice-Dean for International Cooperation and the coordinator at the organizational unit that forwards information from the International Relations Office to student representatives. In the past period, special attention was paid to the outgoing mobility of students, through the signing of bilateral and multilateral agreements and mobility programmes within the framework of the ERASMUS+ programme. All available information about mobility is available to students on the respective websites of the School and University, while any additional ambiguities can be resolved with the help of the coordinator for the ERASMUS+ programme. The importance of mobility is also reflected in the fact that the University has established an Office for International Cooperation, which implements mobility programmes for staff and students, and coordinates all activities related to international cooperation. Also, the mobility websites in Croatian and English have been updated. Furthermore, students and staff are regularly informed about all mobility opportunities, as well as newly signed agreements, and informal meetings were organized where exchange experiences were shared. Exchange experiences are regularly published on the social networks of the School and the University.

### **3.5. Conditions for Enrolment in the Study Programme and Transfer from other Study Programmes**

The *Rulebook on Study of the University of Mostar* defines the right to enrol in undergraduate, graduate and integrated study programmes, which is done through a public competition. The Senate, at the proposal of the Scientific-Teaching Council of the organizational unit, and with the consent of the Governing Board of the University and the competent Ministry of Education, Science, Culture and Sports of Herzegovina-Neretva Canton, announces a public tender. It is published on the website and bulletin board of the School of Medicine of the University of Mostar, which contains information on the conditions for enrolment, entrance examination, tuition fees, criteria for selecting candidates, and other information.

Conditions for admission to the School of Medicine of the University of Mostar:

The right to enrol in Dental Medicine is granted to persons who have completed a four-year secondary school, where they have attended classes in the subjects of biology, chemistry, physics and Latin for at least two years, and who have the psychophysical skills for Dental Medicine. If the applicant did not study Latin in high school, the School will allow the applicant access to the entrance examination and enrolment in Dental Medicine, provided that he/she passes the appropriate material in Latin by the end of the first year of study.

#### **The entrance procedure includes as follows:**

- Knowledge verification at the entrance examination through a written test in biology, chemistry and physics according to the curriculum of grades 1, 2, 3 and 4 of high school.
- Evaluation of performance achieved in high school: general performance in all classes and at the final examination, and performance in the subjects of biology, chemistry and physics in all high school classes.

- Evaluation of special achievements in high school and performance at the entrance examination of the previous year at the School of Medicine in Mostar. Winning first to third place in national or international competitions in the subjects of biology, chemistry and physics is considered a special performance in high school.
- Checking of psychomotor abilities.

Applications for taking the entrance examination are submitted in person to the Office for Students' Affairs of the School of Medicine.

The documentation that the applicant shall submit will be on our website [www.mef.sum.ba](http://www.mef.sum.ba) and on the notice board of the School of Medicine.

When transferring from other study programmes, an application is filed to the Dean of the School of Medicine of the University of Mostar, on the basis of which the decision on possibilities and conditions for enrolment is proposed by the Teaching Committee, and the decision is reached by the Dean.

In addition to the matching of the curricula, the conditions for the transfer to Dental Medicine are, among other things:

- passed examinations and met other conditions for regular enrolment in the higher year of studies at the School from which the student transfers,
- knowledge of one of the official languages in Bosnia and Herzegovina,
- justification of the transition,
- average of all grades at least 3.5 (8.0).

All conditions for transfer are defined and regulated by the Rulebook on the Integrated Studies, and a detailed description is also available on the School's website ([www.mef.sum.ba](http://www.mef.sum.ba)).

**Important notes:**

The student who loses his student status at his home School cannot continue his studies at the School of Medicine of the University of Mostar. The student cannot exercise the right to transfer from a study for which the entrance examination was not conducted or enrolment was not conducted based on the results of the State High School Graduation Examination. The students who graduated from a high school abroad must have their school certificates acknowledged. The student cannot exercise the right to transfer to the first and sixth year of Dental Medicine at the School of Medicine in Mostar.

**3.6. Conditions for Enrolment in the Next Semester and Year of Study and Graduation**

Conditions for enrolment in the next semester and higher year of study are defined by the *Rulebook on Study* of the University of Mostar and the Rulebook on the Integrated Studies at the School of Medicine of the University of Mostar, as well as decisions on amendments to the Rulebook.

The conditions for enrolment in the next semester and year of study are complied with the requirements of the study programme, they are clear, published and consistently applied. The condition for enrolment in the next semester is the teachers' signatures from all courses taken.

To enrol in a higher year of study, a student must attend and pass all courses from the current year of study. Certain deviations from this rule are possible when transferring from other studies in Dental Medicine.

The study programme ends with writing and defending a Diploma Thesis that carries 4 ECTS credits.

The manner and procedure of defending the Diploma Thesis and the methodology of its preparation are defined in the Rulebook on Writing and Defending a Diploma Thesis of the School of Medicine of the University of Mostar and other appropriate materials available on the School's website (roadmap, instructions for writing the thesis, outline of the thesis, instructions for ethical permission, etc.)

At the end of the study programme, students receive appropriate documents (diploma and diploma supplement). The diploma and the diploma supplement are issued in accordance with the relevant regulations. The School of Medicine issues a diploma supplement in Croatian and English.

### **3.7. Organization of Study Programme**

The study programme is organized through two semesters in the academic year, and classes are conducted according to the schedule of classes through shifts.

The programme lasts 6 years (12 semesters) and includes the following subject groups: biological sciences, pre-clinical/basic sciences, medical courses, professional subjects in dental medicine and courses in the field of public health and social sciences with rotations in Clinical Dental Medicine in the form of practice in which previously acquired knowledge and skills are integrated. Key professional subjects are verticalized and are performed throughout several years of study.

The academic year lasts from the beginning of October to the beginning of July, so that the prescribed number of hours of the programme (5.475) could be performed without breaching the recommendation that a student does not have more than 25-30 hours of direct teaching in a single week.

During the six years of study at the study programme Dental Medicine, active teaching and independent student work (10,800 hours) are achieved. The independent student work (5325 hours) includes the time the student needs for independent study, preparation of seminars, preliminary examinations, final tests, notwithstanding contact hours with teachers (lectures, seminars and exercises). The number of hours of independent work is defined in the description of the content of each course. The method of checking the acquired learning outcomes, as well as the percentage value of individual forms of checking the knowledge, are specified in the description of each course (written, oral, practical check). Attendance of classes is obligatory, while absences and consequences thereof are regulated by the Rulebook on the Integrated Studies at the School of Medicine of the University of Mostar.

Examinations are organized in the form of a partial (preliminary) examination in a particular course and a final examination. Forms of checking the knowledge can be only oral, only written (tests), tests combined with an oral examination, tests combined with a practical knowledge test and an oral examination.

The pre-term or the post-class term is scheduled after the end of classes (tournament or block), after a few days off (including weekends and holidays). This interval is determined in proportion to the length of the block of the course to which it refers. Summer and autumn examination terms are scheduled in July and September respectively (usually two examination dates for each course in both summer and autumn). In the fourth and eighth examination term, students take their examinations before the Examination Panel.

On top of this, the curriculum of each course defines the possibility of online classes, although in accordance with the decisions of the University and the School of Medicine, traditional "live" teaching is preferred and encouraged. The maximum number of online classes at the level of the study programme is 20%.

During the 6<sup>th</sup> year of studies, the final parts of the verticalized subjects and Clinical Dental Medicine - Practice are held, in which, in the form of clinical rotations and supervised exercises, students are trained for independent work.

### **3.7.1. Student organizations, associations and sections at the University of Mostar School of Medicine**

In addition to the prescribed curriculum, tuition in a somewhat informal format is available to students through the activities of student organizational units. By fulfilling the assignments within the programmes of individual unit, students may improve their skills of communication, organization, time and resource management, as well as social skills which are known to be crucial for successful work experience.

#### PULS

Journal of medical students at School of Medicine, University of Mostar – PULS, was founded in 2004. on students' initiative. PULS provides a platform that enables students to develop creativity, originality, ingenuity, and wit. By writing texts on a given topic, students learn to retrieve information from reliable sources, to discern important information and to compose them in a meaningful content. The subject matter is often diverse and includes scientific, medical, and non-medical issues, students' opinions, and attitudes as well as teaching staffs' and interviews with inspiring individuals. By collaborating with other students' magazines, PULS also enables the exchange of experiences and the creation of new student networks.

#### Association of Medical Students of Bosnia and Herzegovina - BoHeMSA

Bosnian and Herzegovinian Medical Students' Association - BoHeMSA is a non-governmental, non-profit, student organization whose membership consists of students from 4 medical faculties in Bosnia and Herzegovina: Mostar, Sarajevo, Tuzla and Zenica. It is a branch of the International Federation of Medical Student Associations (IFMSA) - a dynamic platform that, in addition to representing medical students and doctors worldwide, also provides opportunities for personal, professional, and social development of its members. The main activities of BoHeMSA are collaboration between students, representation of students and combining interests of medical students both at the national and international level. BoHeMSA carries out its activities through six active working sectors - Sector for Public Health (SCOPH), Sector for Medical Education (SCOME), Sector for Human Rights and Peace (SCORP), Sector for Sexual and Reproductive Health and Rights including HIV and AIDS (SCORA), the sector for scientific-research exchanges (SCORE), the sector for professional exchanges (SCOPE), which in turn operate through local organizational units.

### Student section for surgery - SSS

The student section for surgery was founded in 2019 on the initiative of medical students motivated to acquire new and expand and establish existing knowledge and skills in the field of surgery. Students of Medicine, Dental Medicine and Medical Studies in English are entitled to membership in the section. The section consists of mentors, leadership, and members of the section. Section is based on the volunteer work of medical doctors (mentors) who pass on their knowledge to the students who make up the leadership of the section, who in turn pass on the acquired knowledge and experience to members of the section. The section focuses on practical work in the form of surgical suturing and knotting, instructing on how to approach a patient, wound care and on providing lectures with specific surgical topics. The main goal of the section is to enable students to improve existing knowledge and acquire new knowledge and skills with the aim of facilitating the start of work after graduation and contributing to the competence and self-confidence of young doctors.

### Student Section for Dental Medicine - SSDM

The Student Section of Dental Medicine was founded in 2020 with the aim of bringing the everyday clinical practice of a Doctor of Dental Medicine closer to students and enabling extracurricular training of certain clinical procedures. By organizing workshops such as "Instruments 101", "How to take impressions", "How to apply rubber dams, clamps and matrices", "Orthopantomography analysis", "Dentition type differentiation on study models" etc., students can practice and independently improve manual skills that come as part of the protocol of clinical procedures that they previously did not improve individually during the regular classes. In addition, the section strives to raise awareness of oral hygiene among fellow citizens by organizing visits to kindergartens and schools on Oral Health Day.

## **3.8. Structure of the Study Programme**

The structure of the study programme is reflected in the number of hours of each type of teaching and teaching in total, the number of hours of practice, and the number of hours of independent student work in the total student workload of 360 ECTS credits, or 10800 hours of work (table 3.8.1 and 3.8.2).

According to the *Rulebook on the Procedure for Adopting New and Revisions of Existing Study Programmes* (No. 01-993-1/22), only obligatory courses are listed in the curriculum, while electives are adopted in the annual curriculum for each academic year. However, in our programme the number of elective courses per semester/year and their structure are pre-defined and therefore the table will show the number of hours of each type of teaching and teaching in total, the number of hours of practice, and the number of hours of independent work including both obligatory and elective courses (table 3.8.3).

In relation to the total number of ECTS credits, a sum of ECTS credits acquired in elective courses is 11, and the student can choose a total of 11 elective courses. Besides obligatory and elective courses at the level of the study programme, in addition to 30 ECTS credits per semester, a student can choose university elective courses from the list adopted by the Senate each academic year, which are recorded in diploma supplement.

The decision to introduce elective courses emerged in terms of adapting the curriculum to European universities. Elective courses were introduced in order for students to have the opportunity to get to know certain dental medical or medical courses better and thus deepen their medical knowledge in the area of interest. The purpose of elective courses at the study



programme level is a more detailed elaboration of learning outcomes already acquired in obligatory courses but following student preferences. The purpose of university elective courses is to acquire competencies not provided by the study programme, but that can help students achieve competitiveness in the market and contribute to building one's personality through education.

**Table 3.8.1 Review of teaching load, hours of theory and practice and share in load**

Type of instruction	I. year	II. year	III. year	IV. year	V. year	VI. year	In total	%
Lectures	243	205	321	269	206	55	<b>1299</b>	12.03%
Seminars	221	315	240	225	113	50	<b>1164</b>	10.78%
Exercises	296	255	374	496	556	935	<b>2912</b>	26.96%
Practice	-	-	-	-	-	100	<b>100</b>	00.93%
Independent work	1040	1025	865	810	925	660	<b>5325</b>	49.30%
<b>In total</b>	<b>1800</b>	<b>1800</b>	<b>1800</b>	<b>1800</b>	<b>1800</b>	<b>1800</b>	<b>10800</b>	<b>100 %</b>

**Table 3.8.2 Share of workload in programme considering theoretical and practical teaching**

Type of load	Number of hours	Share %
Theoretical teaching	2463	44.98%
Exercises / practical work	3012	55.02%
<b>In total</b>	<b>5475</b>	<b>100%</b>

**Table 3.8.3 Structure of the study programme including certain types of teaching, practice and independent work**

Year of study: 1									
Semester: I									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM101	Medical Biophysics	24	20	16	60	0	105	165	5.5
MFDM102	General and Social Dental Medicine	10	0	20	30	0	30	60	2
MFDM103	Anatomy	45	57	48	150	0	300	450	15
MFDM104	Medical Chemistry	35	35	15	85	0	140	225	7.5
In total		114	112	99	325	0	575	≈ 900	30
ECTS for obligatory courses									30
ECTS for elective courses									0
ECTS IN TOTAL									30

Year of study: 1									
Semester: II									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM201	Scientific Research	10	30	20	60	0	30	90	3
MFDM202	Physical Education I	0	25	0	25	0	0	25	0.5
MFDM203	Medical Biology and Genetics	30	30	30	90	0	135	225	7.5
MFDM204	Dental Morphology and Anthropology	30	65	10	105	0	135	240	8
MFDM205	Medical Biochemistry	30	20	35	85	0	140	225	7.5
MFDM206	Introduction to Dental Medicine and History of Dental Medicine	15	0	15	30	0	15	45	1.5
MFDMI01	<i>Elective course</i>	/	/	/	/	/	/	/	/
MFDMI02	<i>Elective course</i>	/	/	/	/	/	/	/	/
In total		115	170	110	395	0	455	≈ 850	28
ECTS for obligatory courses									28
ECTS for elective courses									2
ECTS IN TOTAL									30

Year of study: 2									
Semester: III									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM301	Histology and Embryology	30	35	35	100	0	125	225	7.5
MFDM302	Physiology	12	28	90	130	0	230	360	12
MFDM303	Pathology	40	30	40	110	0	145	255	8.5
MFDMI03	<i>Elective course</i>	/	/	/	/	/	/	/	/
MFDMI04	<i>Elective course</i>	/	/	/	/	/	/	/	/
In total		82	93	165	340	0	500	≈ 840	28
ECTS for obligatory courses									28
ECTS for elective courses									2
ECTS IN TOTAL									30

Year of study: 2									
Semester: IV									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM401	Neuroscience in Dental Medicine	14	20	21	55	0	75	130	4.5
MFDM402	Medical Psychology	5	11	14	30	0	30	60	2
MFDM403	Pathophysiology	30	25	35	90	0	120	210	7
MFDM404	Immunology	18	4	8	30	0	55	85	3
MFDM405	Pharmacology	20	30	40	90	0	120	210	7
MFDM406	Medical Microbiology	22	33	20	75	0	105	180	6
MFDM407	Physical Education II	0	25	0	25	0	0	25	0.5
In total		109	148	138	395	0	505	≈ 900	30
ECTS for obligatory courses									30
ECTS for elective courses									0
ECTS IN TOTAL									30

Year of study: 4									
Semester: V									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM501	Internal Medicine	45	40	20	105	0	135	240	8
MFDM502	Infectology	20	10	10	40	0	20	60	2
MFDM503	General and Dental Radiology	20	30	10	60	0	30	90	3
MFDM504	Anesthesiology and Intensive Medicine	10	15	15	40	0	20	60	2
MFDM505	Dermatovenerology	15	15	15	45	0	45	90	3
MFDM506	Oncology and Orofacial Tumors	5	15	10	30	0	30	60	2
MFDM507	Ethics in Dental Medicine I	10	0	0	10	0	20	30	1
MFDM508	Ophthalmology	12	10	8	30	0	30	60	2
MFDM509	Materials in Dental Medicine	30	0	0	30	0	30	60	2
MFDM510	Propedeutics in Dental Medicine	10	10	10	30	0	30	60	2
MFDM511	Cariesology	10	5	10	25	0	35	60	2
MFDMI05	<i>Elective course</i>	/	/	/	/	/	/	/	/
In total		187	150	108	445	0	425	≈ 870	29
ECTS for obligatory courses									29
ECTS for elective courses									1
ECTS IN TOTAL									30

Year of study: 3									
Semester: VI									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM601	Preventive Dental Medicine	10	10	10	30	0	30	60	2
MFDM602	Restorative Dental Medicine I	25	75	25	125	0	115	240	8
MFDM603	Gnathology	15	15	15	45	0	45	90	3
MFDM604	Mobile Prosthetics I	35	55	35	125	0	115	240	8
MFDM605	Fixed Prosthetics I	35	55	35	125	0	115	240	8
MFDMI06	<i>Elective course</i>	/	/	/	/	/	/	/	/
In total		120	210	120	450	0	420	≈ 870	29
ECTS for obligatory courses									29
ECTS for elective courses									1
ECTS IN TOTAL									30

Year of study: 4									
Semester: VII									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM701	Restorative Dental Medicine II	20	90	15	125	0	55	180	6
MFDM702	Neurology	10	10	10	30	0	30	60	2
MFDM703	Otorhinolaryngology	25	15	5	45	0	30	75	2.5
MFDM704	Paediatric Dental Medicine I	15	60	15	90	0	60	150	5
MFDM705	Ethics in Dental Medicine II	0	0	10	10	0	20	30	1
MFDM706	Mobile Prosthetics II	15	45	15	75	0	45	120	4
MFDM707	Mobile Prosthetics III	15	55	10	80	0	40	120	4
MFDM708	Oral Hygiene	10	7	8	25	0	20	45	1.5
MFDM709	Periodontology I	15	10	20	45	0	75	120	4
In total		125	292	108	525	0	375	≈ 900	30
ECTS for obligatory courses									30
ECTS for elective courses									0
ECTS IN TOTAL									30

Year of study: 4									
Semester: VIII									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM801	Psychiatry	10	10	5	25	0	20	45	1.5
MFDM802	Surgery	30	30	30	90	0	90	180	6
MFDM803	Orthodontics I	20	40	10	70	0	80	150	5
MFDM804	Oral Medicine I	20	5	20	45	0	75	120	4
MFDM805	Endodontics I	15	45	15	75	0	45	120	4
MFDM806	Oral Surgery I	20	60	10	90	0	75	165	5.5
MFDM807	Temporomandibular Disorders - Diagnosis and Therapy	15	0	15	30	0	30	60	2
MFDMI07	<i>Elective course</i>	/	/	/	/	/	/	/	/
MFDMI08	<i>Elective course</i>	/	/	/	/	/	/	/	/
In total		130	190	105	425	0	415	≈ 840	28
ECTS for obligatory courses									28
ECTS for elective courses									2
ECTS IN TOTAL									30

Year of study: 5									
Semester: IX									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM901	Paediatrics	20	20	0	40	0	50	90	3
MFDM902	Orthodontics II	20	30	10	60	0	60	120	4
MFDM903	Paediatric Dental Medicine II	15	45	0	60	0	120	180	6
MFDM904	Fixed Prosthetics II	15	45	15	75	0	75	150	5
MFDM905	Fixed Prosthetics III	15	55	10	80	0	70	150	5
MFDM906	Periodontology II	15	40	15	70	0	140	210	7
In total		100	235	50	385	0	515	≈ 900	30
ECTS for obligatory courses									30
ECTS for elective courses									0
ECTS IN TOTAL									30

Year of study: 5									
Semester: X									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM1001	Ethics in Dental Medicine III	0	0	10	10	0	20	30	1
MFDM1002	Oral Medicine II	15	35	10	60	0	90	150	5
MFDM1003	Oral Surgery II	30	70	10	110	0	70	180	6
MFDM1004	Maxillofacial Surgery	15	45	15	75	0	75	150	5
MFDM1005	Endodontics II	25	100	0	125	0	85	210	7
MFDM1006	Restorative Dental Medicine III	0	50	0	50	0	40	90	3
MFDMI09	<i>Elective course</i>	/	/	/	/	/	/	/	/
MFDMI10	<i>Elective course</i>	/	/	/	/	/	/	/	/
MFDMI11	<i>Elective course</i>	/	/	/	/	/	/	/	/
In total		85	300	45	430	0	380	≈ 810	27
ECTS for obligatory courses									27
ECTS for elective courses									3
ECTS IN TOTAL									30

Year of study: 6									
Semester: XI									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM1101	Organization and Economics of Dental Care	15	5	10	30	0	15	45	1.5
MFDM1102	Public Health and Epidemiology	25	15	10	50	0	25	75	2.5
MFDM1103	Fixed Prosthetics IV	0	50	0	50	0	40	90	3
MFDM1104	Mobile Prosthetics IV	0	50	0	50	0	40	90	3
MFDM1105	Oral Surgery III	0	50	0	50	0	40	90	3
MFDM1106	Orthodontics III	0	50	0	50	0	40	90	3
MFDM1107	Endodontics III	0	50	0	50	0	40	90	3
MFDM1108	Periodontology III	0	50	0	50	0	40	90	3
MFDM1109	Forensic Odontology	15	15	0	30	0	30	60	2
MFDM1110	Paediatric Dental Medicine III	0	50	0	50	0	40	90	3
MFDM1111	Oral Medicine III	0	50	0	50	0	40	90	3
In total		55	435	20	510	0	390	≈ 900	30
ECTS for obligatory courses									30
ECTS for elective courses									0
ECTS IN TOTAL									30

Year of study: 6									
Semester: XII									
Course code	Course title	Hours of teaching			I. Teaching, in total	II. Hours of practice	III. Independent work	Workload hours, in total (I.+II.+III.)	ECTS
		L	E	S					
MFDM1201	Clinical Dental Medicine - Practice	0	500	0	500	0	175	675	22.5
MFDM1202	Emergency Medicine and Dental Medicine	0	0	0	0	100	5	105	3.5
MFDM1203	Diploma Thesis	0	0	30	30	0	90	120	4
In total		0	500	30	530	100	270	≈ 900	30
ECTS for obligatory courses									30
ECTS for elective courses									0
ECTS IN TOTAL									30

### **3.9. The Optimal Number of Enrolled Students Concerning Space, Equipment and Number of Teachers**

Enrolment quotas before the beginning of each academic year are adopted by the Governing Board of the University, at the proposal of the Senate, and with the consent of the competent ministry.

Students can study as a full-time student. Full-time students are those who study according to the programme with full teaching hours. This category of students consists of full-time students who study with support (1 student) and full-time students who pay their own study costs.

The optimal number of enrolled students considering the space, equipment and number of teachers is between 20 and 30 students. A maximum of 5 places are provided for foreign nationals.

### **3.10. Resources Required to Conduct the Study Programme**

Teachers from the University and teachers from reference higher education institutions in academic ranks from the relevant scientific area, field and branch participate in the implementation of the study programme, as follows: dental prosthetics, oral medicine and periodontology, dental medicine and endodontics, oral surgery, preventive and paediatric dental medicine, orthodontics, maxillofacial surgery.

Data on the structure of the teaching staff according to title and professional training, gender and age structure, scientific research productivity, mobility and project activities of the teaching staff are regularly monitored through the bodies from the quality assurance system. The above mentioned data are processed at the level of the organizational unit and the Dental Medicine study programme and are published in annual reports.

The following resources are needed and are already used in practice for conducting studies in Dental Medicine:

Human resources: To hold the first two years of study, where the majority are basic subjects, the existing staff of the School of Medicine in Mostar is provided, for which there is the consents of all department heads. The School of Medicine in Mostar has all the necessary staff to hold classes for a large part of the third year, which in the 5<sup>th</sup> semester consists mostly of subjects from the clinical medical group. For part of the third, fourth, fifth and sixth years, there is still a current lack of scientific teaching staff for the needs of teaching in clinical dental subjects, which was resolved by an agreement on cooperation with School of Dental Medicine of the University of Zagreb, School of Dental Medicine in Rijeka, and the Study of Dental Medicine at the School of Medicine of the University of Split. The rest of the teaching for the fourth, fifth and sixth years, which includes a part of general medical clinical subjects, has sufficient staff, which motivates us to train domestic staff for the above mentioned clinical dental subjects: Dental pathology, dental prosthetics (fixed prosthetics, mobile prosthetics, materials in dental medicine, occlusion and gerontostomatology), oral surgery (implantology), periodontology, orthodontics, oral medicine and paediatric dental medicine. For all branches of dental medicine, the study currently has doctors of dental medicine, assistants who expect specialist education and further teaching, scientific and professional growth.

Material resources: Spatial resources for teaching pre-clinical and clinical subjects use the existing infrastructure of the School of Medicine of the University of Mostar (amphitheatre, seminar halls, IT classrooms, clinical skills cabinet), and the infrastructure of teaching bases: 1. University Clinical Hospital Mostar, as the largest and most important teaching base of the School of Medicine of the University of Mostar 2. Health Centre Mostar: eight dispensaries, all of which with modern equipment, orthodontic laboratory, prosthetics laboratory, X-ray for individual teeth, orthopan X-ray, amphitheatre with thirty seats and large hall of 50-100 places. 3. Private dental polyclinics and practices (Dr. Mladen Ćubela, Dr. Sanja Jurišić and Dr. Slavko Musa) have already been confirmed in the teaching process by the Scientific and Teaching Council of the School of Medicine as teaching bases.

A phantom training room with 12 workstations is used for pre-clinical exercises, enabling comfortable planning of pre-clinical classes. The Dental Clinic of the School of Medicine in Mostar is used for clinical exercises, with modern equipment, three student halls and one separate dispensary, with a total of 18 dental medicine units. It also allows the performance of several courses at the same time in well-organized groups of students. Modern multimedia and IT equipment is available at the School of Medicine and in pre-clinical and clinical training rooms.

The revision of the Curriculum encompasses further expansion of the list of teaching bases: Health Centre Čitluk and Health Centre Ljubuški, so that students have the opportunity to partially perform the professional practice in their places of residence, become acquainted with the local level of public dental health care and adapt to possible decisions after graduation.

The radiology cabinet currently has a device that can make targeted alveolar radiographs. Expansion of the radiology cabinet is planned by procuring a diagnostic CBCT device with a good panoramic package. Such a device would equate us with the professional, scientific diagnostic technological equipment of other dental medicine studies in the region and probably support the sustainability of financial resources.

At the moment, laboratory classes takes place in the laboratory for prosthetics and orthodontics. It is necessary to plan employment, modernization and development of laboratories for dental prosthetics.

The estimate of the optimal number of students who can enrol in the study programme ranges between 20 and 30 students, considering that one seminar group and two groups for exercises on pre-clinical courses can be organized with this number, or seven to ten smaller groups for exercises for individual clinical courses.

On the basis of signed agreements on cooperation in the implementation of the dental medicine study programme and in the implementation of the course Clinical dental medicine - practice and exercises, the resources of other institutions are also used: Dental Clinic - School of Medicine of the University of Mostar, Health Centre Čitluk, Health Centre Ljubuški, Health Centre Mostar, Polyclinic Jurišić, Polyclinic Musa, Dental Practice Mladen Ćubela.

Financial resources: Students participate in the costs of the study programme. Calculations of the study price per student are based on real data on the price of individual segments of the teaching process, which in any case is a significantly higher amount than the participation of students. Considering that there is already a secured space, most of the equipment, administrative support from the School of Medicine, domestic staff from general medical

courses, and expert staff from dental medicine specialist courses, there are excellent prerequisites for further development of this study programme. The maximum number of participants per generation is 30, and all students, except the first one in rank according to their enrolment results, have an obligation to pay for their studies. The tuition fees amount to 5,000.00 BAM per year.

### **3.11. Study Programme Quality Assurance System**

The purpose, goal, structure, operation and areas of evaluation of the quality assurance system of the University of Mostar are defined by the *Rulebook on the Structure and Operation of the Quality Assurance System of the University of Mostar*.

According to the *Rulebook*, the quality assurance system at the University of Mostar consists of permanent bodies of the quality assurance system at the University level: the Quality Assurance and Improvement Committee and the Quality Assurance and Improvement Office. The School of Medicine is operated by the Quality Assurance and Improvement Committee, which consists of the Vice-Dean for Academic Affairs, the Quality Coordinator, the representative of the teaching staff, the student representative, and the representative of the administrative and technical staff. The Quality Coordinator at the School of Medicine is also a member of the Quality Assurance and Improvement Committee.

The *Rulebook* defines the competencies and activities of each body from the quality assurance system. Bodies from the quality assurance system carry out regular activities defined by the *University Quality Assurance Manual at the University of Mostar*, which relate to conducting surveys and monitoring and data processing. Based on the implemented activities, annual reports are prepared at the level of the study programme, organizational unit, and the University. The annual reports include and evaluate the entire activity and all activities of the School of Medicine, which is reflected in the following:

MONITORING OF DATA ON STUDENTS - freshmen - fulfilment of quotas, structure of freshmen by status and gender, structure of freshmen by type of high school, structure of freshmen by performance in high school; students - structure of students by status and gender, passing the examinations, structure of graduated students, performance in studies and mobility of students.

MONITORING OF DATA ON TEACHING AND NON-TEACHING STAFF - structure of teaching staff by title and status, structure of teaching staff by gender and age, teaching load, scientific and research papers, mobility of teaching staff, project activities of teaching staff; structure of non-teaching staff by status, education and gender, structure of non-teaching staff by gender and age, project activities of non-teaching staff.

MONITORING DATA ON STUDY PROGRAMMES - structure of study programmes, representation of certain forms of teaching, representation of certain forms of knowledge assessment, coverage of literature in the library, structure of literature prescribed by the curriculum, infrastructure and resources.

The above mentioned annual reports are used as a source of results, analyses and conclusions which are implemented in the regular revision process for the purpose of improving the study programme.



### 3.12. Matrix of learning outcomes

COURSE TITLE	IU-sp	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	IU-DM	
	Course Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Medical Biophysics	MFDM101	x	X	x																	
General and Social Dental Medicine	MFDM102								x			x	x	x	x				x		x
Anatomy	MFDM103	x	X																		
Medical Chemistry	MFDM104	x																			
Scientific Research	MFDM201	x													x	x				x	x
Physical Education I	MFDM202													x							x
Medical Biology and Genetics	MFDM203	x		x	x	x										x				x	x
Dental Morphology and Anthropology	MFDM204		X		x		x	x													
Medical Biochemistry	MFDM205	x	X	x																	
Introduction to Dental Medicine and History of Dental Medicine	MFDM206												x		x				x		x
Histology and Embriology	MFDM301	x	X	x	x	x															
Physiology	MFDM302		X	x	x				x				x								
Pathology	MFDM303		X	x	x	x	x	x													
Neuroscience in Dental Medicine	MFDM401	x	X	x	x	x															x
Medical Psychology	MFDM402	x	X	x	x	x								x							x
Pathophysiology	MFDM403			x	x	x		x													x
Immunology	MFDM404	x	X	x	x	x	x	x					x								
Pharmacology	MFDM405	x		x									x								x
Medical Microbiology	MFDM406			x									x							x	
Physical Education II	MFDM407													x							x
Internal Medicine	MFDM501				x	x					x	x	x		x						
Infectology	MFDM502				x	x	x	x	x	x	x	x						x			x
General and Dental Radiology	MFDM503	x					x	x	x								x		x	x	
Anesthesiology and Intensive Medicine	MFDM504	x	X	x		x							x								
Dermatovenerology	MFDM505	x	X		x	x	x	x					x		x			x			
Oncology and Orofacial Tumors	MFDM506				x		x	x	x	x								x			
Ethics in Dental Medicine I	MFDM507															x					
Ophthalmology	MFDM508		X		x	x							x								
Materials in Dental Medicine	MFDM509	x	X						x			x	x								x

Propedeutics in Dental Medicine	MFDM510						x	x	x			x		x	x		x			
Cariesology	MFDM511					x	x	x	x			x	x							
Preventive Dental Medicine	MFDM601						x	x	x	x										
Restorative Dental Medicine I	MFDM602						x	x		x								x		
Gnathology	MFDM603		X				x		x	x			x							x
Mobile Prosthetics I	MFDM604		X		x			x		x										
Fixed Prosthetics I	MFDM605		X		x			x		x										
Restorative Dental Medicine II	MFDM701						x		x	x	x		x	x			x			
Neurology	MFDM702	x	X		x			x				x								
Otorhinolaryngology	MFDM703		X		x	x	x		x	x		x								
Pediatric Dental Medicine I	MFDM704	x	X		x	x	x	x	x			x		x			x			
Ethics in Dental Medicine II	MFDM705															x				
Mobile Prosthetics II	MFDM706		X		x			x	x	x			x				x			x
Mobile Prosthetics III	MFDM707		X		x		x	x	x	x		x	x				x			
Oral Hygiene	MFDM708	x	X	x	x	x	x		x		x									
Periodontology I	MFDM709		X	x	x	x	x	x	x	x	x	x								
Psychiatry	MFDM801	x			x							x	x	x						x
Surgery	MFDM802	x			x							x		x			x			
Orthodontics I	MFDM803	x			x	x			x											
Oral Medicine I	MFDM804		X	x	x	x	x	x												
Endodontics I	MFDM805		X				x	x	x	x	x									
Oral Surgery I	MFDM806						x	x		x	x									
Temporomandibular Disorders - Diagnosis and Therapy	MFDM807		X			x	x			x		x								x
Pediatrics	MFDM901	x	X	x	x	x	x	x	x	x	x	x								
Orthodontics II	MFDM902	x	X			x	x	x	x	x										
Pediatric Dental Medicine II	MFDM903		X		x	x	x		x	x	x	x	x	x	x	x				
Fixed Prosthetics II	MFDM904		X					x		x						x				
Fixed Prosthetics III	MFDM905		X		x			x		x		x		x	x	x				x
Periodontology II	MFDM906							x	x	x	x	x	x			x	x			
Ethics in Dental Medicine III	MFDM1001															x				
Oral Medicine II	MFDM1002		X	x	x	x	x	x	x	x	x	x								
Oral Surgery II	MFDM1003						x	x	x	x	x	x	x	x			x			
Maxillofacial Surgery	MFDM1004	x	X				x	x	x	x	x	x								
Endodontics II	MFDM1005	x							x	x	x	x								

Restorative Dental Medicine III	MFDM1006						x		x	x										
Organization and Economics of Dental Care	MFDM1101													x	x	x				
Public Health and Epidemiology	MFDM1102								x									x	x	
Fixed Prosthetics IV	MFDM1103								x	x			x	x	x	x	x			x
Mobile Prosthetics IV	MFDM1104								x	x			x	x	x	x	x			x
Oral Surgery III	MFDM1105								x	x	x	x								
Orthodontics III	MFDM1106								x	x		x								
Endodontics III	MFDM1107								x	x		x								
Periodontology III	MFDM1108		X	x	x		x			x	x	x	x		x	x				
Forensic Odontology	MFDM1109	x			x	x	x	x							x			x		
Pediatric Dental Medicine III	MFDM1110		X		x	x		x	x	x	x									
Oral Medicine III	MFDM1111		X		x		x	x	x	x		x		x	x	x		x		
Clinical Dental Medicine - Practice	MFDM1201							x	x	x	x	x	x	x	x	x	x	x	x	x
Emergency Medicine and Dental Medicine	MFDM1202						x			x	x	x		x		x	x			x
Diploma Thesis	MFDM1203													x	x	x		x	x	x

## 4. STUDY PLAN

Year of study: 1							
Semester: I							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM101	Medical Biophysics	obligatory	24	20	16	0	5.5
MFDM102	General and Social Dental Medicine	obligatory	10	0	20	0	2
MFDM103	Anatomy	obligatory	45	57	48	0	15
MFDM104	Medical Chemistry	obligatory	35	35	15	0	7.5
ECTS of obligatory courses							30
ECTS of elective courses							0
ECTS TOTAL							30

Year of study: 1							
Semester: II							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM201	Scientific Research	obligatory	10	30	20	0	3
MFDM202	Physical Education I	obligatory	0	25	0	0	0.5
MFDM203	Medical Biology and Genetics	obligatory	30	30	30	0	7.5
MFDM204	Dental Morphology and Anthropology	obligatory	30	65	10	0	8
MFDM205	Medical Biochemistry	obligatory	30	20	35	0	7.5
MFDM206	Introduction to Dental Medicine and History of Dental Medicine	obligatory	15	0	15	0	1.5
MFDMI01	<i>Elective course</i>	elective	/	/	/	/	1
MFDMI02	<i>Elective course</i>	elective	/	/	/	/	1
ECTS of obligatory courses							28
ECTS of elective courses							2
ECTS TOTAL							30

Year of study: 2							
Semester: III							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM301	Histology and Embryology	obligatory	30	35	35	0	7.5
MFDM302	Physiology	obligatory	12	28	90	0	12
MFDM303	Pathology	obligatory	40	30	40	0	8.5
MFDMI03	<i>Elective course</i>	elective	/	/	/	/	1
MFDMI04	<i>Elective course</i>	elective	/	/	/	/	1
ECTS of obligatory courses							28
ECTS of elective courses							2
ECTS TOTAL							30

Year of study: 2							
Semester: IV							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM401	Neuroscience in Dental Medicine	obligatory	14	20	21	0	4.5
MFDM402	Medical Psychology	obligatory	5	11	14	0	2
MFDM403	Pathophysiology	obligatory	30	25	35	0	7
MFDM404	Immunology	obligatory	18	4	8	0	3
MFDM405	Pharmacology	obligatory	20	30	40	0	7
MFDM406	Medical Microbiology	obligatory	22	33	20	0	6
MFDM407	Physical Education II	obligatory	0	25	0	0	0.5
ECTS of obligatory courses							30
ECTS of elective courses							0
ECTS TOTAL							30

Year of study: 3							
Semester: V							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM501	Internal Medicine	obligatory	45	40	20	0	8
MFDM502	Infectology	obligatory	20	10	10	0	2
MFDM503	General and Dental Radiology	obligatory	20	30	10	0	3
MFDM504	Anesthesiology and Intensive Medicine	obligatory	10	15	15	0	2
MFDM505	Dermatovenereology	obligatory	15	15	15	0	3
MFDM506	Oncology and Orofacial Tumors	obligatory	5	15	10	0	2
MFDM507	Ethics in Dental Medicine I	obligatory	10	0	0	0	1
MFDM508	Ophthalmology	obligatory	12	10	8	0	2
MFDM509	Materials in Dental Medicine	obligatory	30	0	0	0	2
MFDM510	Propedeutics in Dental Medicine	obligatory	10	10	10	0	2
MFDM511	Cariesology	obligatory	10	5	10	0	2
MFDMI05	<i>Elective course</i>	elective	/	/	/	/	1
ECTS of obligatory courses							29
ECTS of elective courses							1
ECTS TOTAL							30

Year of study: 3							
Semester: VI							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM601	Preventive Dental Medicine	obligatory	10	10	10	0	2
MFDM602	Restorative Dental Medicine I	obligatory	25	75	25	0	8
MFDM603	Gnathology	obligatory	15	15	15	0	3
MFDM604	Mobile Prosthetics I	obligatory	35	55	35	0	8
MFDM605	Fixed Prosthetics I	obligatory	35	55	35	0	8
MFDMI06	<i>Elective course</i>	elective	/	/	/	/	1
ECTS of obligatory courses							29
ECTS of elective courses							1
ECTS TOTAL							30

Year of study: 4							
Semester: VII							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM701	Restorative Dental Medicine II	obligatory	20	90	15	0	6
MFDM702	Neurology	obligatory	10	10	10	0	2
MFDM703	Otorhinolaryngology	obligatory	25	15	5	0	2.5
MFDM704	Paediatric Dental Medicine I	obligatory	15	60	15	0	5
MFDM705	Ethics in Dental Medicine II	obligatory	0	0	10	0	1
MFDM706	Mobile Prosthetics II	obligatory	15	45	15	0	4
MFDM707	Mobile Prosthetics III	obligatory	15	55	10	0	4
MFDM708	Oral Hygiene	obligatory	10	7	8	0	1.5
MFDM709	Periodontology I	obligatory	15	10	20	0	4
ECTS of obligatory courses							30
ECTS of elective courses							0
ECTS TOTAL							30

Year of study: 4							
Semester: VIII							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM801	Psychiatry	obligatory	10	10	5	0	1.5
MFDM802	Surgery	obligatory	30	30	30	0	6
MFDM803	Orthodontics I	obligatory	20	40	10	0	5
MFDM804	Oral Medicine I	obligatory	20	5	20	0	4
MFDM805	Endodontics I	obligatory	15	45	15	0	4
MFDM806	Oral Surgery I	obligatory	20	60	10	0	5.5
MFDM807	Temporomandibular Disorders - Diagnosis and Therapy	obligatory	15	0	15	0	2
MFDMI07	<i>Elective course</i>	elective	/	/	/	/	1
MFDMI08	<i>Elective course</i>	elective	/	/	/	/	1
ECTS of obligatory courses							28
ECTS of elective courses							2
ECTS TOTAL							30

Year of study: 5							
Semester: IX							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM901	Paediatrics	obligatory	20	20	0	0	3
MFDM902	Orthodontics II	obligatory	20	30	10	0	4
MFDM903	Paediatric Dental Medicine II	obligatory	15	45	0	0	6
MFDM904	Fixed Prosthetics II	obligatory	15	45	15	0	5
MFDM905	Fixed Prosthetics III	obligatory	15	55	10	0	5
MFDM906	Periodontology II	obligatory	15	40	15	0	7
ECTS of obligatory courses							30
ECTS of elective courses							0
ECTS TOTAL							30

Year of study: 5							
Semester: X							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM1001	Ethics in Dental Medicine III	obligatory	0	0	10	0	1
MFDM1002	Oral Medicine II	obligatory	15	35	10	0	5
MFDM1003	Oral Surgery II	obligatory	30	70	10	0	6
MFDM1004	Maxillofacial Surgery	obligatory	15	45	15	0	5
MFDM1005	Endodontics II	obligatory	25	100	0	0	7
MFDM1006	Restorative Dental Medicine III	obligatory	0	50	0	0	3
MFDMI09	<i>Elective course</i>	elective	/	/	/	/	1
MFDMI10	<i>Elective course</i>	elective	/	/	/	/	1
MFDMI11	<i>Elective course</i>	elective	/	/	/	/	1
ECTS of obligatory courses							27
ECTS of elective courses							3
ECTS TOTAL							30



Year of study: 6							
Semester: XI							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM1101	Organization and Economics of Dental Care	obligatory	15	5	10	0	1.5
MFDM1102	Public Health and Epidemiology	obligatory	25	15	10	0	2.5
MFDM1103	Fixed Prosthetics IV	obligatory	0	50	0	0	3
MFDM1104	Mobile Prosthetics IV	obligatory	0	50	0	0	3
MFDM1105	Oral Surgery III	obligatory	0	50	0	0	3
MFDM1106	Orthodontics III	obligatory	0	50	0	0	3
MFDM1107	Endodontics III	obligatory	0	50	0	0	3
MFDM1108	Periodontology III	obligatory	0	50	0	0	3
MFDM1109	Forensic Odontology	obligatory	15	15	0	0	2
MFDM1110	Paediatric Dental Medicine III	obligatory	0	50	0	0	3
MFDM1111	Oral Medicine III	obligatory	0	50	0	0	3
ECTS of obligatory courses							30
ECTS of elective courses							0
ECTS TOTAL							30

Year of study: 6							
Semester: XII							
Course code	Course title	Course status	Teaching hours			Hours of practice	ECTS
			L	E	S		
MFDM1201	Clinical Dental Medicine - Practice	obligatory	0	500	0	0	22.5
MFDM1202	Emergency Medicine and Dental Medicine	obligatory	0	0	0	100	3.5
MFDM1203	Diploma Thesis	obligatory	0	0	30	0	4
ECTS of obligatory courses							30
ECTS of elective courses							0
ECTS TOTAL							30