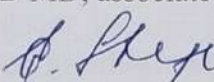


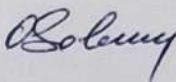


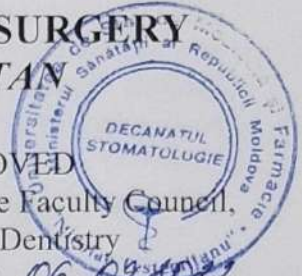
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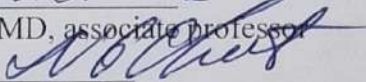
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**FACULTY OF DENTISTRY
SYLLABUS
0911.1 DENTISTRY
DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY
AND ORAL IMPLANTOLOGY ARSENIE GUȚAN**

APPROVED
at the meeting of the Committee for Quality Assurance and Curriculum Evaluation, Faculty of Dentistry
Minutes no. 6 from 23.06.2022
chairwoman of the Committee, PhD MD, associate professor
Stepco Elena 

APPROVED
at the meeting of the Faculty Council, Faculty of Dentistry
Minutes no. 1 from 06.09.2022
Dean of the faculty, PhD MD, associate professor
Solomon Oleg 



APPROVED
at the Meeting of the Department of Oral and Maxillofacial Surgery and Oral Implantology Arsenie Guțan
Minutes no. 8 of 16.06.2022
Head of the Department PhD MD, associate professor
Chele Nicolae 

CURRICULUM

SUBJECT: ACCIDENTS AND COMPLICATIONS IN ORAL IMPLANTOLOGY

Integrated studies

Course type: **Optional course**

Chișinău, 2021



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I. PRELIMINARY

- ***General presentation of the subject: the role of subject in building skills specific to the instructional and professional training programme /Speciality***

The goal of this course is to offer the students from the Faculty of Dentistry theoretical concepts related to complications in dental implantology and to be able to diagnose the situation and provide proper treatment plans; the components of an implant; various implant surgical techniques; bone augmentation in oral implantology; maintenance of the endosseous implants.

The content of this course is structured in such a way, so it could be easily acknowledged by students.

The pre-clinical and didactic courses are designed to prepare students about the practical concepts on the complications in dental implantology, diagnostics and treatment long term support of an implant.

Following this course, the Dentistry Faculty student will assess the importance of oral implantology and implant supported prosthesis, will learn about basic aspects and principles in dental implantology, the advantages and disadvantages of implantology and the limits and perspectives of this speciality.

This course has the main purpose of studying this surgical compartment more thoroughly by students in order to offer well trained specialists in the future with contemporary methods of diagnosis, planning and treatment.

- ***Curriculum purpose in the professional training***

This course aims to study the main complications of dental implantology at different stages of treatment, endosseous implant maintenance study.

It is proposed that at the end of the course students will be able to:

1. To correctly evaluate an edentulous patient correctly establishing the indications and especially the contraindications of the oral implants
2. Know the risk factors in dental implantology
3. To know the biomaterials used in oral implantology and the principles of tissue integration of oral implants
4. Know the stages of oral rehabilitation on implants and insert at least one implant into the calf crest or in a mandible model
5. Know the accidents and complications that may occur in oral implantology
6. Know the principles of patient implant dispensarisation
7. Can select patients with indications for implants
8. Have the necessary knowledge to enable them to pass as a doctor in the postgraduate courses in order to gain competence in oral implantology

- ***Languages of the discipline:*** Romanian, Russian and English.

- ***Beneficiaries:*** 4th year students, Dentistry Faculty, Dentistry specialty



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II. SUBJECT MANAGEMENT

Subject code		S.08.A.105.	
Subject name		Accidents and complications in oral implantology	
Subject leaders		Mostovei Andrei, PhD, MD, assoc.prof.	
Year	IV	Semester	VIII
Total number of hours:			30
Cours	10	Practical work	10
Seminars		Individual work	10
Forma de evaluare	CD	Number of credits	1

III. LEARNING OBJECTIVES

At the end of the course the students will be able to:

- *At knowledge and comprehension level:*
 - Know the instruments and how to use them on different implant types.
 - Know the types of implants used in oral implantology and the component parts of an implant.
 - Know the type of patient file, its content and importance, the patient doctor relationship, specific legislation.
 - To know the patient's general balance sheet, the collaboration with other specialties, the loco-regional balance with establishing the bone need and supply, the balance of the patient's oral status, the preimplantation therapy, the implant type and the type and number of implants required.
 - Know the clinical examination of patients with various types of edentations.
 - To interpret the radiological paraclinical examination used in patients with edentations (retroalveolar X-ray, OPG, CT).
 - To know the position of the specific anatomical elements such as: the menton, the mandibular canal, the maxillary sinuses, the anterior nasal spine, the nasal fossa
 - To know the medical, clinical and paraclinical evaluation, the analysis of the soft tissue of the alveolar ridges, the analysis of the bone supply, the bone resorption rate of the alveolar ridges, the structural analysis of the bone supply
 - Plan surgical treatment of patients with different types of edentations. Study of general techniques for insertion of implants, principles of bone milling, principles of gingival mucosal surgery
 - Know the patient's preparation for dental implantation.
 - Know the surgical methods in the treatment of patients with edentations.
 - Know the principles of bone regeneration, techniques and materials used, resorbable, non-resorbable membranes, the use of implants in graft fixation at the recipient bone.
 - To know the principles of lifting the sinus floor, techniques used, augmentation materials used
 - To know the errors and complications in implanto-prosthetic treatment.
- *At the application level:*



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- Interpret the results of the patient's clinical examination: inspection, palpation, percussion,
- Evaluate dento-periodontal conditions.
- Qualitative and quantitative appreciation of soft and hard tissues.
- Appreciate the primary and secondary stability of endo-dental implants.
- To perform the radiological examination (retroalveolar X-ray, OPG, CBCT).
- Be able to establish a diagnosis in different types of editions, to establish indications and contraindications in oral implantology.
- To be able to use the instrumentation, equipment and work equipment used in oral implantology.
- Possess the implant insertion technique on the simulator

- *At the integration level:*

- Understand the purpose and principles of oral implantology.
- Understand the relationships between oral implantology and other medical specialties.
- be able to evaluate the place and role of oral implantology in the clinical training of the student;
- Be competent to use the knowledge and methodology of oral implantology in the ability to explain the nature of physiological or pathological processes;
- be able to implement the knowledge gained in the research activity;
- be competent to use critically and with confidence the scientific information obtained using the new information and communication technologies;
- be able to use multimedia technology to receive, evaluate, store, produce, present and exchange information, and communicate and participate in networks via the Internet;
- be able to learn to learn, which will contribute to the management of the professional path.

IV. PRELIMINARY REQUIREMENTS

The IV-th year student requires the following:

- knowledge of the language of instruction;
- confirmed competences in sciences at the university level (biomaterials, physics, anatomy, physiology);
- digital competences (use of the Internet, document processing, electronic tables and presentations, use of graphics programs);
- ability to communicate and team work;
- qualities - tolerance, compassion, autonomy.

V. TOPICS AND APPROXIMATE HOUR DISTRIBUTION



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Nr. d/o	Topics	Numărul de ore	
		Curs	L. Individual
1.	Preoperative complications	5	2
2.	Intraoperative complications	5	2
3.	Postoperative complications	5	2
4.	Biological complications	5	2
5.	Mechanical complications	5	2
Total		20	10

VI. INSTRUCTIONAL OBJECTIVES AND CONTENT UNITS

Objectives	Content units
Chapter 1. Preoperative complications	
<ul style="list-style-type: none">• to know the mistakes at the paraclinical examination stage (OPG, CBCT)• to know the errors at the laboratory test examination stage (blood test, biochemical tests etc.)• to know the complications at the anesthesia stage• apply theoretical knowledge acquired to other disciplines• to draw conclusions	X-ray films, CBCTs . Laboratory tests. Anesthesia techniques in dental implantology Medical record (informed consent).
Chapter 2. Intraoperative complications	
<ul style="list-style-type: none">• know the types of general complications• know the types of local complications• know the types of local bleeding• management of sinus membrane perforation• management of sinus cortical perforation• management of nerve damage	Anti-shock medication Anti-allergic medication Methods of local hemostasis OPG; CT. Hemorrhage.
Chapter 3. Postoperative complications	



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Objectives	Content units
<ul style="list-style-type: none">• to know the management of the alveolar inferior/mental nerv disorders• to know the management of the sinus pathology caused by dental implantation• to know the management of the lack of implant osteointegration to know the management of flap/wound dehiscence	Surgical principles used for the insertion of endosseus implants. Nerve damage Determination of primary and secondary stability of endosseus implants. Perforation of the sinus membrane. Principles and types of incisions used in oral implantology. Lack of implant stability. Lack of osteointegration Types of sutures used in oral implantology. Postoperative management of the patient after surgery.
Chapter 4. Biological and mechanical complications	
<ul style="list-style-type: none">• to know the particularities of mucositis in implantology.• to know the particularities of peri-implantitis.• to know the management of gingival peri-implant recession .• to know the particularities of bone loss around implants• to know the particularities and management of implant overload• to know the particularities and management of crown failure on implant.• to know the particularities and management of screw failure• to know the particularities and management of implant body fracture	Peri-implantitis. Fracture of the implant. Gingival retraction.

VII. PROFESSIONAL (SPECIFIC (SS) AND TRANSVERSAL (TS) SKILLS AND LEARNING OUTCOMES

✓ **Professional (specific) skills (SS)**

CP1: Knowledge, understanding and use of terminology specific to oral implantology, as well as pathologies or types of edentations for further surgical treatment with dental implants.



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CP2: Explanation and interpretation of the clinical picture and correct assessment of paraclinical investigations in implantology; To be able to use the instrumentation, equipment that are used in oral implantology. Possess dental implant insertion technique on the simulator

CP3: Development of a diagnostic plan and choice of optimal surgical methods in oral implantology; Knowledge and simulation of the principles of surgical implant insertion techniques and preimplantary surgery; Knowledge of the principles of sinus-lifting, techniques used, augmentation materials used

CP4: Analysis of radiological clusters, assessment and description of anatomical formations based on (CBCT) cone-beam computed tomography and establishment of a implant-prosthetic treatment plan.

CP5: To know the errors and complications both intraoperative and non-operative in implant treatment, as well as methods for their prevention. Knowing the way of patient care and postoperative wound post-implantation

CP6: Demonstration and application of acquired knowledge in the clinical and paraclinical assessment of the patient. Selection and argumentation of communication techniques, data collection and patient preparation for surgical implantation and / or augmentation. Promoting the principles of tolerance and compassion towards patients.

✓ **Transversal skills (competences) (CT):**

CT1: Application of professional assessment standards, professional ethics, and applicable legislation. Promoting logical reasoning, practical applicability, assessment and self-assessment in decision-making.

CT2: Performing activities and exercising the roles specific to teamwork within the OMF cabinet / section. Promoting the spirit of initiative, dialogue, cooperation, positive attitude and respect for others, empathy, altruism and continuous improvement of their own activities;

CT3: Systematically assessing personal skills, roles and expectations, applying self-assessments to learned processes, acquired skills and professionalism needs, effective use of language skills, knowledge in information technologies, research and communication skills to deliver quality services and adapting to the dynamics of policy requirements in health and for personal and professional development.

✓ **Learning outcomes**

At the end of the course, the students will be able to:

- To know the terminology specific to oral implantology;
- To know and interpret the clinical picture and paraclinical investigations in implantology;
- Know the basic types of oral implants
- Know the stages of oral rehabilitation on implants and insert at least one implant into the calf or simulator crest
- Know the accidents and complications that may occur in oral implantology
- Know the principles of patient implant dispensarization
- Be able to implement the knowledge gained in the research activity;



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- Be competent to use critically and confidently the scientific information obtained using the new information and communication technologies.

VIII. THE STUDENT'S INDIVIDUAL WORK

Nr.	Expected product	Achievement strategies	Evaluation criteria	Deadline
1.	Work with information sources:	Read the lecture or the material in the manual to the theme carefully. Read questions on the subject, which require a reflection on the subject. To get acquainted with the list of additional information sources on the topic. Select the source of additional information for that theme. Reading the text entirely, carefully and writing the essential content. Wording of generalizations and conclusions regarding the importance of the theme / subject.	Ability to extract the essentials; interpretative skills; the volume of work	During the course
2.		Solving case problems, arguing the conclusions at the end of each practical work. Verification of the finalities and appreciation of their achievement. Selection of additional information, using electronic addresses and additional bibliography.	The quality of problem solving and clinical case, the ability to formulate and interpret clinical and paraclinical data.	During the course



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Nr.	Expected product	Achievement strategies	Evaluation criteria	Deadline
	Solving the problems of the situation		Ability to analyze selected information from national and international professional websites.	
3.	Working with online materials	Self-assessment by viewing online sources, studying on-line materials on the web page of the department, expressing your own opinions through forum and chat	Assess the correctness and succession of the analysis.	During the course
	Appreciation of radiographic examination guidelines.	The student should study the particularities of the radiographic examination and argue for the need to indicate each type of radiographic exam.	Assessing the accuracy of the information described by the student.	During the semester

IX. TEACHING- LEARNING-ASSESSMENT METHODOLOGY

• *Teaching and learning methods*

The teaching of the discipline uses different methods and didactic methods, oriented towards the efficient acquisition and achievement of the objectives of the didactic process. In the theoretical lessons, along with traditional methods (lesson-exposure, lesson-conversation, synthesis lesson), modern methods (lesson-debate, lecture-conference, problem-lesson) are also used. Practical forms of individual, face to face, group, virtual lab work are used in the practical works. In order to acquire deeper material, different semiotic systems (scientific language, graphical and computerized language) and teaching materials (tables, diagrams, photophotographs, radiographs) are used. During the lessons and extracurricular activities, Informational Technologies are used for PowerPoint presentations and online lessons.

• *Recommended learning methods*

- Analysis - Imaginary decomposition of the whole into component parts. Highlighting the essential elements. Studying each element as part of the whole.
- Scheme / figure analysis - Selection of required information. Recognition based on knowledge of structures and the selected information indicated in schemes and drawings. Analysis of the functions / role of recognized structures.
- Comparison - Analysis of the first object / process in a group and determination of its essential features. Analysis of the second object / process and the determination of its essential features. Comparing objects / processes and highlighting common features. Comparing objects / processes and determining differences. Establishment criteria for decommissioning. Formulation of conclusions.
- Classification - Identification of the structures / processes to be classified. Determining the criteria on which classification is to be made. Distribution of structures / processes by groups according to established criteria.



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- Elaboration of the scheme - Selection of elements, which must be included in the scheme. Rendering the Elements Selected by Different Symbols / Colors and Indicating Their Relationships. Wording of an appropriate title and legend of the symbols used.
- Experiment - Formulation of a hypothesis, based on known facts, on the process / phenomenon studied. Verifying the hypothesis by performing the processes / phenomena studied under laboratory conditions. Formulation of conclusions, deduced from arguments or findings.

• **Applied didactic strategies / technologies (discipline specific);**

Face-to-face, individual, brainstorming, group discussion, clinical case analysis, teambuilding, clinical exam simulation, mini-research, comparative analysis.

• **Methods of assessment (including an indication of how the final grade is calculated).**

Current:

- Tests
- Problem solving
- Case study analysis

Final: Colloquium

The final mark will consist of the average score during the course (share 0.5) and final discussion on the learned subjects (share of 0.5).

The average annual mark and the marks of all final stages of the final examination - all will be expressed in numbers according to the scoring scale (according to the table), and the final mark obtained will be expressed in Promoted/Not Promoted, results to be entered in the notes book.

Scoring scale

THE INTERMEDIATE GRADES GRILL (annual average, grades from the exam stages)	National Annotation System	ECTS Equivalent
1,00-3,00	2	F
3,01-4,99	4	FX
5,00	5	E
5,01-5,50	5,5	
5,51-6,0	6	
6,01-6,50	6,5	D
6,51-7,00	7	
7,01-7,50	7,5	C
7,51-8,00	8	
8,01-8,50	8,5	B



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8,51-8,00	9	A
9,01-9,50	9,5	
9,51-10,0	10	

Failure to attend the examination without good reason is recorded as "absent" and is equivalent to 0 (zero). The student is entitled to 2 repeated claims of the unsuccessful exam.

X. RECOMMENDED BIBLIOGRAPHY

A. Mandatory:

1. Lecture materials
2. Chele N. Implantarea dentară imediată. Riscuri și beneficii. Chișinău: S.n., 2017.
3. Mihai A.: Implantologia orală – Editura Sylvi București 2000; 9, 99-110.
4. Ioan Sârbu și colab. - Curs practic de implantologie orala, Ed.II, Editura Centrului Tehnic Editorial al Armatei, București, 2006
5. Carl Mich - Implant Contemporary Dentistry, Editura Mosby, 2007
6. Carl J. Drago - Implant Restorations: A Step-by-Step Guide, 2007, Editura Blackwell
7. Lindthe J., Karring T., Lang N. P.: Clinical Periodontology and Implant Dentistry – Blackwell Munksgaard 2003; 809-975.

B. Supplementary:

1. Джон А.Хобкек.,Роджер М.Уотсон.Руководство по дентальной имплантологии.Москва "Медпресс-информ" 2007.
2. Федерико Эрнандес Альфаро.Костная пластика в стоматологической имплантологии.
3. Etape clinice și de laborator în protezarea pe implante. Editura Sylvi 2000, București.
4. Michael S., Block Color Atlas of dental implant surgery, 3rd edition