Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
NAMED AFTER PATRICE LUMUMBA
RUDN University
Institute of Medicine

educational division (faculty/institute/academy) as higher education programme developer

COURSE SYLLABUS

Maxillofacial Prosthodontics

course title

Recommended by the Didactic Council for the Education Field of:

31.05.03 Dentistry

field of studies / speciality code and title

The course instruction is implemented within the professional education programme of higher education:

Dentistry

higher education programme profile/specialisation title

2025

1. AIM OF THE DISCIPLINE

The goal of the course "Maxillofacial prosthetics" is to acquire of theoretical knowledge and practical skills in maxillofacial prosthetics in the section of the discipline of prosthetic dentistry in the specialty "Dentistry", necessary for a dentist in clinic and hospital.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) **«Maxillofacial Prosthodontics»** is aimed at the development of the following competences /competences in part: GC-1, GPC-5, 6, PC-1, 2, 6.

Table 2.1. List of competences that students acquire through the course study

Competence code	**Competence descriptor**	**Competence formation indicators** (within this course)
GC-1	Being able to implement critical analysis of problem situations based on systems approach, develop an action strategy.	GC-1.1. Analysing the problem situation as a system identifyingits components and links between them.
GPC-5	Being able to examine patients to determine a diagnosis when solving professional tasks	GPC-5.1. Gathering anamnesis by analysing the patient'scomplaints, making a physical examination at a dental appointment.
		GPC-5.2. Formulating a preliminary diagnosis and drawing up aplan for laboratory and instrumental examinations of a dental patient.
		GPC-5.3. Compiling medical documentation for a dental patient in accordance with regulatory requirements.
		GPC-5.8. Conducting differential diagnosis diseases/conditions, including the urgent ones.
		GPC-5.9. Making a diagnosis based on the current international statistical classification of diseases and health problems.

Competence code	Competence descriptor	Competence formation indicators (within this course)
GPC-6	Being able to prescribe non-drug and drug treatment, monitor its efficacyand safety when solving professional tasks	GPC-6.1. Developing a plan for dental disease treatment taking into account the diagnosis, age and clinical picture in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the medical care standards.
		GPC-6.2. Selecting medical products (including dental materials)for drawing up a comprehensive plan for dental disease treatment. Following upthetreatment of a patient.
PC-1	Being able to make an examination of a patient in order to determine a diagnosis.	PC-1.1. Making an initial examination and/or reexamination of a patient in order to make a preliminary diagnosis.
		PC-1.2. Receiving information from patients (their relatives/legal representatives); conducting a questionnaire survey of patientsregarding their general health status; identifying concomitant diseases in order to make a preliminary diagnosis.
		PC-1.3. Detecting if patients have dentoalveolar, facial anomalies, deformities and prerequisites for their development, defects in the crowns of teeth and dentition on the basis of the patient examination; laboratory, instrumental, and additional examinations in order to make a preliminary/final diagnosis.
		PC-1.4. Detecting if patients have risk factors for oncopathology (including various background processes, precancerous conditions) based on laboratory, instrumental and additional examinations in order to make a preliminary/final diagnosis.
		PC-1.5. Making a preliminary/final diagnosis based on the patient examination; laboratory and instrumental

Competence code	Competence descriptor	Competence formation indicators (within this course)
		examinations.
PC-2	Being able to prescribe, monitor the efficacy and safety of non-drug and drug treatment	PC-2.6. Providing prosthodontic treatment for persons with defects in teeth, dentition within the temporization procedure, rehabilitation of single defects in the dentition, dental prostheses of up to three units (excluding dental implants prosthetics), partialand complete removable laminar denture using modern treatment methods approved for use in medical practice.
PC-6	Being able to analyze and present in public medicalinformation based on evidence-based medicine, participate in scientific research, introduce new methods and techniques aimed at protecting public health	PC-6.1. Searching for medical information based on evidence- based medicine, interpreting data from scientific publications and/or preparing a presentation to make medical information, the results of scientific research public.

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course refers to the core/variable/elective* component of (B1) block of the higher educational programme curriculum.

* - Underline whatever applicable.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
GC-1	GC-1. Being able to implement critical analysis ofproblem situations based on systems approach, develop anaction strategy.	• Prosthodontics (basics) • Prosthetic rehabilitation of edentulous patients • Prosthodontics (advanced) • Gnathology and functional analysis of temporamandibular joint	-
GPC-5	GPC-5. Being able to examine patients to determinea diagnosis when solving professional tasks	• Prosthodontics (basics) • Prosthetic rehabilitation of edentulous patients • Prosthodontics (advanced) Gnathology and functional analysis of temporamandibular joint	-
PC-1	PC-1. Being able to make anexamination of a patient in order to determine a diagnosis.	• Prosthodontics (basics) • Prosthetic rehabilitation of edentulous patients • Prosthodontics (advanced) Gnathology and functional analysis of temporamandibular joint	-
PC-2	PC-2. Being able to prescribe,monitor the efficacy andsafety of non-drug and drug treatment	• Prosthodontics (basics) • Prosthetic rehabilitation of edentulous patients • Prosthodontics (advanced) Gnathology and functional analysis of temporamandibular joint	-
PC-6	PC-6. Being able to analyze and present in public medical information based on evidence-based medicine, participate in scientific research,	• Prosthodontics (basics) • Prosthetic rehabilitation of edentulous patients • Prosthodontics (advanced) Gnathology and	-

	introduce new methods and techniques aimed at protecting public health	functional analysis of temporamandibular joint	

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course is 2 credits (72 academic hours).

*Table 4.1. Types of academic activities during the periods of higher education programme mastering **(full-time training)****

Type of academic activities		**Total academic hours**	**Semesters/training modules**
			10
Contact academic hours		**51**	**51**
including:			
Lectures (LC)			
Lab work (LW)		**51**	**51**
Seminars (workshops/tutorials) (S)		-	-
Self-studies		*18*	*18*
Evaluation and assessment (exam/passing/failing grade)		*3*	*3*
Course workload	academic hours_	**72**	**72**
	credits	**2**	**2**

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Course module title	**Course module contents (topics)**	**Academic activities types**
Module 1 Modern methods of diagnostics in maxillofacial prosthetics.	General concepts of maxillofacial prosthetics. Basic principles.Classification of maxillofacial and facial prostheses, retention methods. Methods of obtaining impressions and features of the manufacture of plaster model of the face, ear, intraocular space. Specifics of hygienic care of the prosthesis and prosthetic bed. Planning the retention of prostheses using dental implants. Principles, stages of rehabilitation of patients, clinical and laboratory stages of manufacturing implant-supported prostheses. Main bioadaptive polymeric materials used in manufacturing facial prostheses. Silicones of room polymerization. Platinum - silicones. Pigmented	LW

Course module title	Course module contents (topics)	Academic activities types
	silicones for inner outer colouring facial prostheses. Specifics of care of patients with defects of the maxillofacial area. Terms of control checkups. Functional disorders in injuries of the maxillofacial area. Basics of therapeutic gymnastics, mechanotherapy.	
Module 2 Specifics of prosthetic treatment of patients with injuries and post traumatic defects of the maxillofacial area.	Purposes of the orthopedic stage in complex rehabilitation ofpatients with diseases and injuries of the maxillofacial area. Immobilization and fixation of injured jaw for the patients' transfer. Various maxillofacial prosthotontic and devices for repositioning,fixation and substitution for both upper and lower jaws and also edentulous jaws. Prosthodontic approaches for rehabilitation of irregularly fused fractures. Microstomia. Gymnastics, physiotherapy and mechanical therapy.	LW
Module 3 Prosthetic treatment of patients with congenital malformations of upper jaw and palate	Peculiarities of congenital partial and full clefts of lips, palate and jaw. Stages of rehabilitation. Prosthodontic rehabilitation of elderypatients with congenital malformations using artificial external frame.	LW
Module 4 Prosthetic treatment of patients with post surgical oncological defects.	Classification of palatal defects. Stages of rehabilitation of post surgical oncological defects. Impression taking of the defect of upper jaw. Manufacturing of provisional obturator. Peculiarities ofconstruction of the obturator part of upper jaw dentures. Indicationand contraindications.	LW
Module 5 Facial prosthetics. Main principles of manufacturing nasal, auricular and orbital prosthesis.	Conventional and digital impression of auricle. Analog and digitalwax up of auricle. Basic principles of facial prostheses manufacturing, materials and methods of their retention. Nasal, auricle and orbital prosthesis. Facial prostheses and defect aftercare.	LW
Module 6 Prevention of sport injuries	Types of bite splints for sport wear. Methods of their fabrication.Heat formation method of splint fabrication.	LW

* - to be filled in only for **full** -time training: *LC - lectures; LW - lab work; S - seminars.*

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom equipment and technology support requirements

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Lab-work	A special two-seats table – 13, a chair for a docent, liquid-crystal TV, PC, a video camera on tripod, Metal furniture, garbage container 200 Ltr. Various dental and maxillofacial prostheses. Tresor for handpieces and burs.	A display with various splints and prostheses. Stone casts with various jaw defects –14 sets Various bite splints – 14 sets. Silicone impression material 900 g for each group.
Computer classroom	A computer class for conducting classes, group and individual consultations, current control and intermediate certification, equipped with personal computers (in the amount of __15__pcs.), a board (screen) and technical means of multimedia presentations.	Software: Microsoft Office: PowerPoint, Word
Lab-work	A room for laboratory workshops with 15 phantoms "Saratoga S.p.a." a stone table with a lamp. Philips monitor, two dental turbine tubes, multifunctional pistol, dental suctioning module, big suctioning module. Aspiration system Venturi, dental phantom models FRASACO on a phantom (28 pieces) Metal table for dental stone casting for 14 working places. Garbage container 250 Litre. Liquid crystal panel Dell 120 cm and BEMA Epson.	Phantom dummies – 14 pieces • Vibro-table- 4. • Dental trimmer -1. • Vacuum mixer for dental stone – 1. • Scale for gypsum - 1 • Steam flow apparatus 1. • Vacuumformer-1. Instruments • Spatula -14 • Silicone container-14, • Dental stone knife – 14 • Dental technitian spatula – 14 • Discs for vacuumformer – 1 for each student • Dental stone 2 class 250 g for each student • C-silicone 900 g
Self-studies	A classroom for independent work of students (can be used for seminars and consultations), equipped with a set of specialised furniture and computers with access to the electronic information and educational environment.	

7. RECOMMENDED SOURSES for COURSE STUDIES

Main readings:

1. Orthopedic dentistry [Electronic resource]: Textbook / Ed. I.Yu. Lebedenko, E.S. Kalivrajiyan. - M. : GEOTAR-Media, 2016. - 640 p. - ISBN 978-5-9704-3722-3.
2. Dental technology [text]: Textbook for universities / Ed. M.M.Rasulova, T.I.Ibragimova, I.Yu.Lebedenko, . - M. : MIA, 2005. - 448 p. : ill. - ISBN 5-89481-311-5: 320.00.
3. Maxillofacial orthopedic dentistry. Zhulev E.N., Arutyunov S.D., Lebedenko I.Yu. M.: Medical Information Agency, 2008. - 160 p.

Additional reading:

1. Bulgakov Vsevolod Sergeevich. Rol' dispanserizacii k klinike ortopedicheskoj stomatologii pri protezirovanii s ispol'zovaniem implantatov / V.S. Bulgakov, T.V. Lukoyanova, I.I. SHakerov // Vestnik Rossijskogo universiteta druzhby narodov: Medicina. - 2010. - №1. - S. 125 - 129.
2. Obsledovanie bol'nogo v klinike ortopedicheskoj stomatologii. Testy [Tekst] : Uchebnometodicheskoe posobie / RUDN; Sost. V.S.Bulgakov, SH.H.Saakyan. - M. : Izd-vo RUDN, 2007. - 20 s.

Resources of the information and telecommunications network "Internet":

1. RUDN ELS and third-party ELS, to which university students have access based on concluded agreements:
- RUDN Electronic Library System - RUDN EBS http://lib.rudn.ru/MegaPro/Web
- ELS "University Library Online" http://www.biblioclub.ru
- EBS Yurayt http://www.biblio-online.ru
- ELS "Student Consultant" www.studentlibrary.ru
- EBS "Lan" http://e.lanbook.com/
- EBS "Trinity Bridge"

2.Databases and search engines:
- electronic fund of legal and normative-technical documentation http://docs.cntd.ru/
- Yandex search engine https://www.yandex.ru/
- Google search engine https://www.google.ru/
- abstract database SCOPUS http://www.elsevierscience.ru/products/scopus/

Educational and methodological materials for independent work of students in the development of the discipline of the discipline "Maxillofacial prosthetics":

1. Electronic versions of textbooks
2. Presentations on the topics of the classes
3. Video materials

posted in accordance with the current procedure on the discipline page in TUIS!

1. A course of lectures on the discipline "_____".
2. Laboratory workshop on the discipline "_____" (in the presence of laboratory work).
3. Guidelines for the implementation and execution of a term paper / project in the discipline "_ " (if there is a CG / CP).
4.

* - all educational and methodological materials for independent work of students are placed in accordance with the current procedure on the page of the discipline in TUIS!

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL UPON COURSE COMPLETION

The assessment toolkit and the grading system* to evaluate the competences formation level (GC-1, GPC-5, GPC-6, PC-1, PC-2, PC-6) upon the course study completion are specified in the Appendix to the course syllabus.

* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

DEVELOPERS:

Professor of the department of prosthetic dentistry		M. V. Bykova
position, department	signature	name and surname

HEAD OF EDUCATIONAL DEPARTMENT:

Head of Department of prosthetic dentistry Professor		I. Yu. Lebedenko
name of department	signature	name and surname

HEAD OF HIGHER EDUCATION PROGRAMME:

Deputy Director of Institute of Medicine for Academic Affairs in the field of Dentistry		S. N. Razumova
position, department	signature	name and surname

Appendix №1
to the discipline “Maxillofacial prosthetics"

Fund of assessment tools for carrying out the intermediate certification for the discipline (module)

Table № 1.

Assessment tools	Quantity
Control questions	15
Tasks in the test form	50
Case study	14

Standard control tasks or other materials necessary for the assessment of knowledge and skills that characterize the stages of the formation of competencies.

Tasks in test form (example)(UC-1, GPC-5,6, PC-1,2,6)

1. **Which contraforce function is impaired by patients with congenital cleft palate**?
   1) palatal
   2) zygomatical
   3) intermaxilar

2. **Which methods are present today to restore the anatomy of the palate by cleft patients?**
   1) Bone augmentation with bony blocks and titanium plates
   2) Bone augmentation with Bio-Oss
   3) Fabrication of casted palatal appliance for providing an external frame

3. **In case of oronasal junction an sufficient number of teeth, the therapy of choice would be**
   1) Do not close the junction for drainage
   2) To fabricate a prosthesis with obturator
   3) To fabricate an appliance to close the defect

4. **In case of oronasal junction an sufficient number of teeth, the therapy of choice would be**
   1) To perform a surgical closure
   2) To make an abturator
   3) Do not close the junction for drainage

Case studies (example) (PC-2, PC-5, PC-6, PC-8, PC-9)
Case study №1
Patient K., 56 years old, appealed to the orthopedic department with complaints about the lack of frontal teeth on the lower jaw, aesthetic defect, the difficulty with chewing food.
In the anamnesis – hypertensive disease of I degree, chronic colitis, the fracture of the lower jaw in the chin, which occurred 4 years ago as a result of injury. The patient's front teeth were removed from the lower jaw and the fracture was treated.

Objectively: at the external examination the retraction of the lower lip in the chin area is revealed. The violation of diction at speaking. There is a little mobility of bone fragments in the fracture region in the middle of the chin area.
When examining the oral cavity, the mucous membrane is pale pink, moderately moist.
Absent: 4.3, 4.2, 4.1, 3.1, 3.2, 3.3, 3.4.
Occlusion – orthognathic.
On the radiograph there is a fusion of bone fragments of the lower jaw.
1. Make a diagnosis.
2. What kind of orthopedic structure may be manufactured in this clinical situation?

Case study № 2.

Patient K., 35 years old, was sent to the clinic of orthopedic dentistry from Hertsen Oncology Research Center for orthopedic preparation for the surgery on removal a malignant tumor localized on the palatine surface of the alveolar process of the upper jaw in the area of 1.5, 1.6 teeth.
In anamnesis – cancer of the upper jaw, gastritis, colitis.
Objectively: at the external examination a facial asymmetry was not detected. During the inspection of the mouth on the alveolar ridge of the upper jaw from the cervix of teeth 1.5, 1.6 before switching to the hard palate there is a tumor sized 1×1 cm; hyperemia of the mucous membrane of the gums of teeth 1.4, 1.5, 1.6, 1.7 from the palatal side.
The dentition on the upper and lower jaws is intact.
Occlusion – orthognathic.
Diagnosis: cancer of the upper jaw.
The diagnostic models were used to mark the boundaries of surgical intervention, which pass through the middle of the hard palate between the central incisors, along the transitional fold and cover the maxillary tubercle.
Which postoperative prosthesis should be manufactured for this patient?

Test questions / tasks

Question: classification of acquired defects of the upper jaw according to V.Yu.Kurlyandskiy
Answer:

- Grade I - defects of the hard palate in the presence of abutment teeth on both halves of the jaw
- Class II - defects of the hard palate in the presence of abutment teeth on one side of the jaw
- Class III - defects of the sky in the absence of teeth in the jaw
- Class IV - defects of the soft palate or hard and soft palate.

Topics for the presentations

1. General concepts of maxillofacial prosthetics. Basic principles.
2. Classification of maxillofacial and facial prostheses, retention methods.
3. Methods of obtaining impressions and features of making a plaster model of the face, ear, intraocular space.
4. Specificity of hygienic care for prosthesis and prosthetic bed.
5. Planning the retention of prostheses using dental implants. Principles, stages of rehabilitation of patients, clinical and laboratory stages of manufacturing implant-supported prostheses.
6. Main bioadaptive polymeric materials used in the manufacture of facial prostheses.
7. Specifics of care for patients with maxillofacial defects.
8. Functional disorders in injuries of the maxillofacial area.
9. Basics of therapeutic gymnastics, mechanotherapy.
10. Complications at maxillofacial prosthetics.
11. Principles of complex rehabilitation of patients with maxillofacial defects.

12. Purposes of the orthopedic stage in complex rehabilitation of patients with diseases and injuries of the maxillofacial area.
13. Orthopedic stage of complex treatment of patients with oncological diseases of organs and tissues of the oral cavity.
14. Types and clinical and laboratory stages of manufacturing prostheses for the treatment of patients with oncological diseases of organs and tissues of the oral cavity.
15. Specifics of orthopedic treatment of patients with congenital and obtained defects of soft and hard palate
16. 3D printing methods for facial prostheses fabrication

12.2 The procedure, criteria and evaluation scale of intermediate certification

Students study the discipline «Maxillofacial prosthetics» in X semester.
To assess the quality of mastering the curriculum, a point-rating system and ECTS assessment are used.
Points are accumulated by students in the process of training sessions, monitoring progress and interim assessment during semester.
Academic discipline is considered mastered if a student has scored more than 50% of the possible number of points. The maximum mark for a discipline studied during the semester is 100 points, regardless of its volume.
A student does not receive these credits if during the course of study, working with a teacher and independently, gaining less than 51 points (out of 100 possible) for each semester.
Intermediate certification for the discipline in the X semester is carried out in the form of offset.
Test consists of: testing, evaluation of practical skills of the student and interview.
The procedure for intermediate certification:
1. Conducting student testing
2. Evaluation of practical skills
3. Interview

The test is held at the end of the study of discipline in the semester.
The points scored by the student during the semester or at the end of the study of the discipline are translated into assessment according to the rules established in Table No. 9.
Таблица

Балльная система оценки знаний

Credit points	Traditional notes in RF	Final credit points	Notes	Notes ECTS
86 – 100	5	95 – 100	5+	A
		86 – 94	5	B
69 – 85	4	69 – 85	4	C
51 – 68	3	61 – 68	3+	D
		51 – 60	3	E
0 – 50	2	31 – 50	2+	FX
		0 – 30	2	F
51 – 100	Passed	51 – 100	Passed	Passed

Description of ECTS grades

A — Excellent (5+)

The theoretical content of the course has been mastered completely without gaps. The necessary practical skills with the mastered material have been formed. All the training tasks provided by the training program have been fulfilled, the quality of their implementation is assessed by the number of points close to the maximum. Student has a command of supplementary material that is not included in the training course.

B — Very good (5)

The theoretical content of the course has been mastered completely without gaps. The necessary practical skills of working with the mastered material have been basically formed. All the training tasks provided by the training program have been fulfilled, the quality of performance of most of them is assessed by the number of points close to the maximum. Command of some additional information not included in the training course.

C — Good (4)

The theoretical content of the course has been mastered completely, without gaps. Some practical skills of working with mastered material have not been sufficiently formed. All training tasks provided by the training program have been fulfilled, the quality of performance of none of them has been assessed by the minimum number of points. Some types of tasks have been completed with mistakes. Confident knowledge, limited curriculum material.

D — Satisfactory (3+)

The theoretical content of the course has been partially mastered, but the gaps are not significant. The necessary practical skills of working with the mastered material have been basically formed. Most of the training tasks included in the training program have been completed. Some of the completed tasks may contain mistakes.

E — Mediocre (3)

The theoretical content of the course has been partially mastered. Some practical skills are not formed. Most training tasks provided by the training program have not been fulfilled, or the quality of performance of some of them was estimated by the number of points close to the minimum.

FX — Conditionally unsatisfactory (2+)

The theoretical content of the course has been partially mastered. The necessary practical skills are not formed. Most educational tasks provided by the training program have not been fulfilled, or the quality of their implementation is assessed by the number of points close to the minimum. With additional independent work on the course material it is possible to improve the quality of the performance of educational tasks.

F — Certainly unsatisfactory (2)

The theoretical content of the course has not been mastered. The necessary practical skills have not been formed. All completed assignments contain blunders. Additional independent work on the course material will not lead to any significant improvement in the quality of the training tasks.