SYLLABUS OF THE EDUCATIONAL COMPONENT
BASIC TECHNOLOGIES OF PRODUCTION OF DENTURES

Specialty**: 221 "Dentistry"**
Educational and professional program: **Dentistry**
Component code in the educational program: **EC 23**
Higher education level: **second (master's)**
Form of education: **full-time (daily)**
Year of study: 2
Semester(s): **III (autumn)**
Type of educational component: **elective**
Academic year: **2025-2026**

Volume: **3 ECTS credits (90 hours)**
Training sessions: **lections, practical classes, independent work, consultations**
Final control: credit
Prerequisites: **GC 1; GC 3; GC 4; GC 6; GC 7**

Department/Unit: **Department of Prosthetic Dentistry**, Peremohy Ave., 51, UDC KhNMU, 4th floor
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Page of the educational component in the Distance Learning System of KhNMU (Moodle):http://distance.knmu.edu.ua/course

DESCRIPTION OF THE EDUCATIONAL COMPONENT

"Basic technologies of production of dentures" is an educational component that forms knowledge about the sequence of clinical and laboratory procedures, the properties of dental materials, methods of modeling, casting, polymerization, and quality control of orthopedic structures.

PURPOSE OF THE COURSE: familiarizing students with the main technological processes used for the manufacture of fixed and removable orthopedic structures. Laying the foundation for studying propaedeutics of orthopedic dentistry and orthopedic dentistry involves integrating teaching with these disciplines and developing the skills to apply the acquired knowledge in the process of further education.

LEARNING OUTCOMES:

- Explain the technological stages of manufacturing removable and fixed dentures, their sequence and relationship with the clinical stages of orthopedic treatment.
- Determine the properties, indications, and processing methods of basic dental materialsused in dental practice.
- Apply knowledge of anatomy, occlusion, and biomechanicsin modeling, casting, and designing orthopedic devices and prostheses.
- Analyze possible defects in dental prosthetic structuresand justifies ways to prevent and eliminate them.
- Use modern dental equipment and toolsin accordance with safety and process requirements.
- Assess the quality of manufacturing prostheses and their compliance with biomechanical, aesthetic, and functional criteria.
- Demonstrate interdisciplinary interaction skillsbetween the dentist and the dental technician to ensure effective and safe orthopedic treatment.

CONTENT OF THE EDUCATIONAL COMPONENT

List of topicsecciand(2 hours):

1. Basic materials for the manufacture of fixed denture structures.

List of topics of practical lessons (28h):

1. Basic and auxiliary materials for the manufacture of dentures.
2. Technology of manufacturing inserts. Technology of manufacturing pin structures.
3. Technology for manufacturing artificial crowns.
4. Technology for manufacturing bridge prostheses.
5. Technology for manufacturing partial removable dentures.
6. Technology for manufacturing a complete removable lamellar prosthesis.
7. Final lesson.

List of topics of independent work of the student (60 hours)

1. History of the development of orthopedic dentistry.
2. Contribution of Ukrainian scientists to the development of orthopedic dentistry. Kharkiv School of Orthopedic Dentists.
3. Anatomical features of the structure of the temporomandibular joint.
4. To master the ability to draw the muscular apparatus of the upper and lower jaws and explain the mechanisms of the main and additional functions of the masticatory muscles.
5. Vertical and transverse movements of the lower jaw.
6. Additional methods of examining patients in the orthopedic dentistry clinic.
7. Physicochemical properties of the main and auxiliary materials used in the manufacture of cast crowns.

The IWS is aimed at deepening and consolidating the theoretical knowledge gained during classroom training and contributing to the formation of professional competencies. The results of the IWS are subject to control and are included in the final control of knowledge.

Consultations:online, according to the schedule of the educational department.

Teaching methods:lecture, story-explanation, conversation, illustration, demonstration, presentation, videos, video films, discussion, modeling of processes and situations, case method, project method, debate, "Brainstorming" method.

Current Learning Activities (CLA)- is the educational activity of a student during the semester, which is controlled by a scientific and pedagogical worker conducting classes in a group. CLA is considered completed if the student has completed all missed classroom lessons and lectures in the current semester, and the average score for all PC topics is 3 points or higher, in which case the report is marked "completed" and the average score in a 4-point system is indicated (calculated automatically within the functionality of the ASM electronic journal), or "not completed", if the student has missed classroom lessons and lectures in the current semester, or the average score is below 3 points.
Independent work of the student (IW) The educational material of the discipline, intended for the student to master in the process of independent work, is submitted for final control together with the educational material studied during classroom training sessions.
General Educational Activities (GEA)- is considered completed if student has completed all missed classroom lessons and lectures, and the average score for all PC topics is 3 points or higher. Points for the GEA for disciplines with the form of control "differentiated credit" are calculated as the arithmetic average of PC points for all topics of all semesters, throughout the entire period of studying the discipline (with an accuracy of one hundredth) according to Table 1 "Recalculation of the average score for current control into a multi-point scale, automatically within the functionality of the electronic journal of the ASM. GEA is determined in points from 70 to 120. GEA is determined in

points from 120 to 200, in accordance with the "Instructions for assessing the educational activities of higher education applicants at KhNMU".

Individual tasks(IT) contribute to a more in-depth study of theoretical material by the student, the formation of skills in using knowledge to solve relevant practical tasks. IT is performed by the student independently, receiving the necessary consultations from a scientific and pedagogical worker.

- repor tstudent's essay on a practical lesson 0-2 points;
- presentation report in the practical lesson 0-3 points,
- report at scientific and practical conferences, writing abstracts, articles 0-5 points;
- participationin the All-Ukrainian Olympiad – 5-10 points

IT are evaluated in points (no more than 10), which are added to the points scored for the LND upon completion of the discipline, during the "credit test."

The total score for GEA and IT cannot exceed 200 points.

Final control. Admission to the DC is calculated in terms of GEA scores from 70 to 120 points. The DC itself is evaluated from 50 to 80 points.

Grade in subject (GS). The grade for the discipline is the sum of the points for the CLA, IT and DC and ranges from 120 to 200 points.

Appealing the results of the final control is carried out in accordance with the procedure established in KhNMU (https://knmu.edu.ua/wp-content/uploads/2021/05/polog_apel_kontrol.pdf).

EDUCATION COMPONENT POLICIES

Recommendations for working on the course: To successfully complete the relevant course, you must regularly attend practical classes; have theoretical preparation for practical classes according to the topic; not be late or miss classes; complete all necessary tasks and work in each class; be able to work with a partner or as part of a group; contact the course supervisors for help on various issues related to the subject of the classes and receive it when you need it. The participation of education seekers in conducting scientific research and conferences on this topic is encouraged.

Attending classes. Attendance at lectures and practical classes is mandatory. The uniform for offline classes is a white medical gown. If you are more than 5 minutes late, you may not be allowed to attend the class. Missed classes are made up in accordance with the Regulations on the procedure for students of KhNMU to complete classes (https://knmu.edu.ua/wp-content/uploads/2021/05/polog_vidprac_zaniat.pdf).

Academic integrity. KhNMU stands on the positions of zero tolerance to manifestations of academic dishonesty. Any violations of the principles of academic integrity entail responsibility in accordance with the procedure established by KhNMU (https://knmu.edu.ua/wp-content/uploads/2021/05/polog_ad-1.pdf).

Use of electronic gadgets and artificial intelligence tools. Copying, using various kinds of software, hints, using a mobile phone, tablet, or other electronic gadgets during class for purposes unrelated to the educational process are not allowed.

Policy on individuals with special educational needs. Applicantswith special educational needs should contact a teacher to develop an individual educational trajectory.

Teacher response time:24 hours.

Technical requirements for the course:

- access to a computer, laptop, tablet or smartphone
- corporate Google account with your own photo
- skills in working with Google Workspace (Google Meet, Docs, Sheets, Slides, Forms) and Moodle

Technical support: ASM (ev.shevtsov@knmu.edu.ua), Google (tehotdelknmu@gmail.com), Moodle (al.korol@knmu.edu.ua)

RECOMMENDED SOURCES

1. Dentistry. Textbook. In 2 books. – Book. 1 /M.M.Rozhko, Z.B.Popovich, V.D.Kuroyedova and others..; edited by Prof. M.M.Rozhko. – K.: VSV “Medicine”, 2020. – 872 p.
2. Rozhko M.M., Nespryadko V.P., Mykhailenko T.N. and others. Prosthetic technique. – K.: Kniga-plus, 2018. – 604 p.
3. Vlasenko A.Z., Strelkovsky K.M., ed. Flis P.S. “Dental Materials Science”. - Kyiv “Zdorov ya” 2017. – 332 p.
4. Basic technologies for manufacturing dentures: teaching aids / Vinnytsia. NMU named after M.I. Pirogov, Ukr. med. stomat. academy, Ternop. State Medical University named after I.Ya. Gorbachevsky; compiled by E.V. Belyaev and others. - Vinnytsia: Works, 2019. - 104 p.
5. Gasyuk P.A., Kostenko E.Ya., Machogan V.R., Rosolovska S.O., Vorobets A.B., Radchuk V.B. Stud Book on Orthopedic Dentistry. Ternopil-Uzhgorod. 2018. – 369 p.
6. Gasyuk P. A. Almanac of Orthopedic Dentistry // P. A. Gasyuk, E. Ya. Kostenko, V. R. Machohan, S. O. Rosolovska, A. B. Vorobets // Ternopil: Bohdan – 2018. – 352p.
7. Gasyuk P. A. Technological aspects of manufacturing orthopedic structures // P. A. Gasyuk, D. M. Korol, S. O. Rosolovska, L. S. Korobeynikov, V. B. Radchuk, R. V. Kozak // Ternopil: FOP Parkhin R. A. – 2017. – 140p.
8. Korol D. M. Fundamentals of clasp prosthetics / D. M. Korol, D. D. Kindiy, L. S. Korobeynikov, O. D. Odzhubeyska, R. V. Kozak, T. P. Malyuchenko // Poltava. – 2019 – 139p.
9. Korol M. D. Dental materials science / M. D. Korol, O. D. Odzhubeyska, D. M. Korol, I. M. Tkachenko, V. M. Petrushanko, M. O. Ramus, A. D. Dorubets, D. D. Kindiy, L. S. Korobeynikov // Poltava: FOP Myron I. A. – 2018. – 176p.
10. Fastovets O. O. Fixed dental prosthetics: educational and methodological manual / O. O. Fastovets, R. A. Kotelevsky, S. S. Kobylyak // Dnipro: DMA. – 2017. – 212p.

Methodological guidelines:

1. Replacement of partial defects of dentition with bridge-like prostheses. Indications and contraindications. Yanishen I.V., Pogorila A.V., Pereshivaylova I.O., Shepenko A.G. – 2017. http://repo.knmu.edu.ua/handle/123456789/22228
2. Aesthetic crowns: plastic, composite, metal-ceramic, metal-free. Indications and contraindications. Yanishen I.V., Pereshyvailova I.O., Pohorila A.V., Yaryna I.M. – 2018. http://repo.knmu.edu.ua/handle/123456789/22274

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