DISCIPLINE GRID

1. Program:

1.1.	**CAROL DAVILA UNIVERSITY OF MEDICINE AND PHARMACY BUCHAREST**
1.2.	**FACULTY OF DENTISTRY / 1st DEPARTMENT**
1.3.	DIVISION: **Dental prosthesis technology**
1.4.	STUDY DOMAIN: **Health, sectoral regulated within European Union**
1.5.	STUDY LEVEL: **LICENCE**
1.6.	STUDY PROGRAMME: **DENTAL MEDICINE IN ENGLISH**

2. Discipline:

2.1.	DISCIPLINE NAME: **Dental prosthesis technology II**						
2.2.	LOCATION: **Eforie Clinic, 4-6 Eforie St., Sect 5, Bucharest**						
2.3.	Lectures tenure: **Lucian Toma Ciocan (DDS, DMD, PhD) – Assoc. Prof., Irina Donciu (DMD, MSc PhD) – Lecturer, Camelia Ionescu (DMD, PhD) – Lecturer, Vlad Vasilescu (DMD, PhD) - Lecturer**						
2.4.	Teaching assistants for practical lessons tenure: **Lucian Toma Ciocan (DDS, DMD, PhD) – Assoc. Prof., Irina Donciu (DMD, MSc PhD) – Lecturer, Camelia Ionescu (DMD, PhD) - Lecturer, Vlad Vasilescu (DMD, PhD) – Lecturer, Dana Pîrvu (DMD, PhD) - Assist. Prof., Cătălin Andrei (DDS, DMD, PhD) - Assist. Prof.**						
2.5. Study year	**II**	**2.6.** Semester	**4**	**2.7.** Evaluation	**Exam**	**2.8.** Type of discipline	**CD/SD**

3. Estimated total time (hours/semester)

No. hours/week	**6**	out of which	**Lectures: 2**	**Laboratory session: 4**
Total hours out of learning schedule	**84**	out of which	**Lectures: 28**	**Laboratory sessions: 56**

Time distribution	**hours**
Textbook study, lecture support, bibliography and notes	**26**
Supplementary documentation activity in the library, on online platforms	**22**
Practical activity support material, homework, portfolio and essays	**22**
Tutorial activity	**8**
Examinations	**6**
Other activities	**7**
Total hours of individual study	**91**
Total hours per semester	**175**
Credits	**7**

4. Preconditions

4.1. curriculum	Notions of morphology and function of the masticatory system Notions of technology for obtaining unitary prostheses and fixed partial dentures
4.2. proficiencies	Not necessary

5. Conditions

5.1. for lecture activity	- Amphitheatre with projection system - Telephone conversations are not tolerated during the course. - Delay of students in progress will not be tolerated, as it proves to be disruptive to the educational process.
5.2. for laboratory activity	- Laboratories with specific endowments for practical activities; - Telephone conversations are not tolerated during laboratories; - Students arriving late will not be allowed to attend the lecture, as it proves to be disruptive to the educational process. - Mandatory participation is required in laboratories, with a maximum of 10% of unrequited absences being accepted; - Recovery of absences is allowed according to the Regulation on the professional activity of students enrolled at the U.M.F. "Carol Davila", Chapter VI, Art. 53.

6. Accumulated skills

6.1. Proficiencies *(knowledge and abilities)*	**I. Knowledge (cognitive dimension)** - The ability to identify and diagnose edentulism - Ability to use specialized terminology appropriately and in context - Knowledge of the structural components of partial and total dentures - Theoretical knowledge of the clinical-technical stages in obtaining partial and total dentures **II. Abilities (functional dimension)** - Elaboration of an appropriate design adapted to the clinical case for the acrylic and skeletal partial prosthesis - Theoretical and practical acquisition of some general and special techniques for mounting teeth - Acquiring the necessary practical experience in order to go through the technical stages in making partial and total prostheses - Knowledge of modern alternative technologies through injection, milling and printing to obtain partial and total prostheses
6.2. Transversal skills *(role, professional and personal development)*	**III. Role skills** - The use of assimilated notions in new contexts - Application of theoretical notions in practical activity - Establishing interdisciplinary correlations within the studied fields **IV. Professional and personal development skills** - Development of synthesis capacity - Developing the ability to integrate and collaborate - Developing organizational capacity

7. Objectives (based on the grid of acquired specific skills)

7.1. General Objective	- Knowledge of the laboratory steps taken in order to obtain a removable partial and complete denture - The acquisition by students of the theoretical and practical notions of restoring the morphology and functions of the maxillary dento apparatus through removable and mobile dental prostheses. - Knowledge by the future dentist of the organization and activity of the dental laboratory. - Knowledge of the laboratory steps taken in order to obtain a partial or complete denture. - Development of professional communication skills for achieving an efficient collaboration within the dental technician team
7.2. Specific Objectives	- Knowledge of the types of removable dental prostheses used in dental practice - Knowledge of how to make a removable or mobile denture and the necessary clinical and technical steps - Acquiring the knowledge to cast a working model - Acquiring knowledge of design of the main types of removable dentures Acquiring knowledge of the laboratory steps required to make a partial and complete denture, how to perform them, as well as the errors that may occur in each step and how to correct them

8. Content

8.1. Lectures	**No. hrs./topic**	**Teaching method**	**Obs.**
1. **Acrylic partial denture -** General: partial acrylic prosthesis, features, advantages / disadvantages. Classification of partial edentulism, prosthetic field in extended partial edentulism.	2	Lecture, interactive systematic presentation	Oral presentation, Power-Point presentations
2. **Acrylic partial denture - component parts**: artificial dental arches, saddles, prosthetic plate, and stabilization-holding elements, clasps: classification, indications, action, advantages of use.	2		Oral presentation, Power-Point presentations
3. **Partial acrylic prosthesis –** clinical and technical: first and final impression, materials, characteristics, preliminary cast, working-final, materials-technological characteristics, individual impression trays, materials, manufacturing techniques, functional impression, occlusion rims, determination of the intermaxillary occlusal relationship of the partial edentulous.	2		Oral presentation, Power-Point presentations
4. **Acrylic partial denture -** preliminary cast: artificial teeth, classification, methods of obtaining. General and individual rules for mounting teeth. Clinical examination - preliminary cast. Final cast - modelling rules.	2		Oral presentation, Power-Point presentations
5. **Acrylic partial denture** Packaging, methods, advantages, disadvantages. Preparation and introduction of acrylate in the mold, polymerization of acrylate. Unpacking, processing, and polishing the prosthesis. Application on the prosthetic field. Alternative technologies - Partial polyamide prosthesis	2		Oral presentation, Power-Point presentations
6. **Partial skeletal prosthesis:** methods of production, characteristics, advantages / disadvantages. Component parts: artificial dental arches, prosthetic saddles, main connectors.	2		Oral presentation, Power-Point presentations

7. **Partial skeletal prosthesis** – retaining elements, support and stabilization: classification, advantages / disadvantages. Cast hooks, mixed hooks, special retainers and stabilization systems.	2		Oral presentation, Power-Point presentations
8. **Partial skeletal prosthesis** - special retainer and stabilization systems.	2		Oral presentation, Power-Point presentations
9. **Partial skeletal prosthesis -** technological stages (melting-casting method): study model, working model, parallelometer analysis, duplicate model, metal skeleton model, preparation for packaging, packaging, melting - casting of the alloy, examination of the skeleton on the model.	2		Oral presentation, Power-Point presentations
10. **Partial skeletal prosthesis -** determination of the intermaxillary relationship. Tooth mounting. Making the acrylic component. Alternative CAD-CAM technologies for obtaining the skeleton.	2		Oral presentation, Power-Point presentations
11. **Complete denture - component parts, prosthetic field in total edentulousness**. Clinical aspects and prosthetic principles in total edentulousness. Stabilization factors for total prostheses (summary)	2		Oral presentation, Power-Point presentations
12. **Complete denture** - clinical-technical stages: preliminary impression, impression methods, characteristics of the preliminary model, individual impression holder, materials, manufacturing techniques, final-functional impression.	2		Oral presentation, Power-Point presentations
13. **Complete denture -** working model (final). Occlusion patterns, determination of the intermaxillary relationship, criteria in choosing artificial teeth. PT - mechanical simulators - summary presentation, mounting of models in articulator. Preliminary model of the complete denture. General and individual rules for mounting teeth (Gysi, Pedro Saizar).	2		Oral presentation, Power-Point presentations
14. **Complete denture** - Examination of the first model, objectives, final impression, final model. Transforming the model into a prosthesis: indirect and direct packaging. Preparation, introduction and polymerization of acrylate, thermobaropolymerization of the denture base, unpacking, processing and polishing of the prosthesis. Application in the oral cavity. Alternative technologies for obtaining the base of complete dentures by printing and milling.	2		Oral presentation, Power-Point presentations

8.2 Laboratory Sessions	**No. hrs./topic**	**Teaching method**	**Obs.**
1. Partial acrylic prosthesis: exposure of the clinical-technical stages, necessary instruments. Presentation of mobile prosthetic restorations, acrylic partial denture components. Wire hooks.	4	Presentation, practical demonstrations, interactive exercises	Handicraft exercises
2. Modelling the preliminary model of the partial acrylic prosthesis in mixed edentulism, the base model	4		Handicraft exercises
3. Modelling of the preliminary model of partial acrylic denture in mixed edentulism, general and individual rules for mounting teeth, mounting jaw teeth	4		Handicraft exercises
4. Definitive modelling of the model of the partial acrylic prosthesis. Indirect packaging of the model, preparation -	4		Handicraft exercises

introduction in mold, polymerization of the acrylate, unpacking, processing, polishing of the prosthesis			
5. Partial skeletal prosthesis - component parts, main jaw connectors, presentation of crochet types, functions of crochet hooks, clinical and technical stages	4		Handicraft exercises
6. Partial skeletal prosthesis, special maintenance systems, support and stabilization, parallelometer presentation, parallelometer working and model analysis	4		Handicraft exercises
7. Presentation of maxillary skeletal prostheses, modelling of the model of the metal component of the maxillary skeletal prosthesis	4		Handicraft exercises
8. Presentation of mandibular skeletal prostheses, mandibular connectors, modelling of the model of the metal skeleton of a mandibular skeletal prosthesis.	4		Handicraft exercises
9. Preparation of the working model for duplication, duplication, packaging for obtaining the skeleton - demonstration. Direct modelling of the model on the working model - demonstration.	4		Handicraft exercises
10. Clinical-technical steps in obtaining the complete denture. Preliminary impression with alginates and silicones.	4		Handicraft exercises
11. Complete denture - clinical-technical stages. Preliminary impression. Casting the preliminary model. Manufacture of the custom tray from the base plate, self-curing acrylate and photo plate. Functional final impression. Preparation of the final impression for casting the functional model.	4		Handicraft exercises
12. Making occlusion rims. Determination of the intermaxillary-demonstration relationship. Mounting the models in the articulator. Mounting the plate of Pedro Saizar. Set-up of anterior and posterior artificial teeth.	4		Handicraft exercises
13. First set-up of the complete maxillary denture. Set-up of anterior and posterior artificial teeth.	4		Handicraft exercises
14. Practical exam	4	Practical test	Craft test

8.3. Bibliography for lectures and laboratory/practical sessions

1. Dental Prosthesis Technology II - Course Handouts, PPT format, current year of study
2. Dental Prosthesis Technology II - Course and Practical Works Notes, PDF format, current year of study
3. Att W - Digital Workflow in Reconstructive Dentistry, Quintessence 2019
4. Carr AB, Brown DT - McCracken's Removable Partial Prosthodontics, 13th Edition, Elsevier, 2016
5. Johnson T, Patrick DG, Stokes CW, Wildgoose DG, Wood DJ - Basics of Dental Technology: A Step by Step Approach, 2nd Edition, Wiley-Blackwell, 2015
6. Johnson T, Wood DJ - Techniques in Complete Denture Technology, Wiley, 2021
7. Nallaswamy D.- Textbook of Prosthodontics, 2nd edition, Jaypee Brothers Medical Publishers**,** 2017
8. Özkan YK - Complete Denture Prosthodontics: Planning and Decision-Making, Springer 2018
9. Sakaguchi RL, Ferracane J, Powers J, Powers J. - Craig's restorative dental materials, 14th ed., 2019
10. Sakar O - Removable Partial Dentures, Springer, 2015
11. Shen C, Rawls HR, Esquivel-Upshaw JF - Phillips' Science of Dental Materials, 13th Edition, Elsevier, 2021
12. Verhaeghe TV, Tan HK - Complete denture prosthodontics, A clinical and laboratory guide, E-book, 2018
13. Wismeijer D, Barter S, Donos N - ITI Treatment Guide, Vol 11: Digital Workflows in Implant Dentistry, Quintessence 2019
14. Zarb GA - Prosthodontic Treatment for Edentulous Patients, Elsevier, 2012

9. Corroborating the contents of the discipline with the expectations of epistemic community representatives, professional associations and employers in the fields representative for the program

▪ The discipline of Dental Prosthesis Technology is a fundamental discipline, mandatory for a student to become a dentist.
▪ Permanent and constructive dialogue with representatives of the dental community - in order to identify the needs and expectations of employers in the field and to adapt the analytical program to the needs of the current practical activity
▪ Permanent participation of department members in scientific events, in various forms of continuing medical education and in exhibitions of equipment and materials dedicated to the practical activity in dentistry - in order to maintain the theoretical and practical information introduced in the structure of the discipline at a high level of relevance.
▪ Maintaining contacts with other teachers in the field, with tenured professors in other higher education institutions, to coordinate the content taught with other similar programs within other higher education institutions.
▪ The studied notions are in accordance with the regulations in force and are compatible with the activities carried out at national and international level in the pre-clinical dentistry segment.

10. Evaluation

10.1 Evaluation			
Activity type	**Evaluation Criteria**	**Methods of evaluation**	**% out of final grade**
Lecture	Theoretical exam - written grid - simple and multiple complement questions both from the chapters of the analytical program **- knowledge for grade 5** – elementary knowledge of the technological stages of making removable partial and total dentures. **- knowledge for grade 10** - in-depth knowledge of the technological stages of making removable partial and total dentures - reading the entire recommended bibliography. Answer all questions correctly.	Final exam Control papers - grid tests and/or essay questions with subjects from the subject covered.	55% 15%
Laboratory Sessions	In each training session - discussions in correlation with the treatment stage of the patients The group assistant will appreciate the student's attitude during the internship (attendance, punctuality, behavior, theoretical training in accordance with the work phase, attitude towards patients and auxiliary staff)	Periodic check Seminar Attitude in internship - internship grade	15%
	Evaluation of the acquisition of practical notions regarding the technology of obtaining removable partial and total dental prostheses.	Verification at the end of the internship - Practical exam/note	15%
Minimum performance standards			
Learning the main notions of mobile and removable dentures technology ● Notions about the totally and partially edentulous prosthetic field ● Classification of partial edentulousness ● Components of partial and total prostheses			

- Clinical-technical steps in obtaining the partial acrylic and skeletal prosthesis
- Clinical-technical steps in obtaining the complete denture

Minimum grade 5 in the practical exam
Minimum grade 5 in the theoretical exam
Minimum grade 5 to the final grade point average

Date:
04.09.2023

Chair of Division,
Assoc. Prof. Dr. Lucian Toma Ciocan

Date of the approval in Department Board:

Department director
University Professor Doctor Marina Imre