DISCIPLINE SHEET

1. Study program

1.1.	**"CAROL DAVILA" UNIVERSITY OF MEDICINE AND PHARMACY BUCHAREST**
1.2.	FACULTY: **Dentistry**
1.3.	DEPARTMENT: **Dentistry I**
1.4.	DISCIPLINE: **Dental prosthesis technology**
1.5.	FIELD OF STUDY:Health **- Sectoral regulated within the European Union**
1.6.	CYCLE OF STUDIES: **I (bachelor' s degree)**
1.7.	STUDY PROGRAM: **Dental Medicine**

2. Discipline Data

2.1.	Name of the subject in the curriculum: **PROFESSIONAL PRACTICE**					
2.2.	Discipline Code: **MD02PS17EN**					
2.3.	Type of discipline (DF/DS/DC):**DS**					
2.4.	Subject Status (DOB/DOP/DFA): **DOB**					
2.6.	Holder of seminar activities/**LP: Prof. Univ. Dr. Ciocan Lucian Toma, Head. Work. Dr. Irina Ioana Donciu, Head. Work. Dr. Camelia Ionescu, Head. Work. Dr. Vlad-Gabriel Vasilescu, Assistant. Dr. Dana Aurelia Pîrvu, Assistant. Dr. Constantin-Cătălin Andrei, Assistant. Dr. Tudoran Stefan**					
2.7. Year of study	**II**	**2.8.** Semester	**IV**	**2.9.** Type of assessment (E/C/V)		**C**

3. Total estimated time (hours/semester of teaching activity and individual preparation/study)

I. University training (teaching, practical application, assessment)						
3.1. Number of hours per week	**-**	of which:	**3.2.** Course	**-**	**3.3.** Seminar/Laboratory	**-**
3.4. Total hours in the curriculum	**160**	of which:	**3.5.** Course	**-**	**3.6.** Seminar/ **Laboratory**	**160**
II. Individual training/study						
Time Pool Distribution						**Hours**
Study of course materials, textbooks, books, study of the recommended minimum bibliography						**0**
Additional documentation in the library, documentation via the Internet						**0**
Carrying out specific activities of preparation for the project, laboratory, preparation of homework, reports						**0**
Preparation for presentations or verifications, preparation for final examination						**0**
Consultations						**0**
Other activities						**0**
3.7. Total hours of individual study						**0**
3.8. Total hours per semester (3.4.+3.7.)						**160**
3.9. Number of credits						**2**

4. Preconditions

4.1. Curriculum	Notions of elementary biology (*Physiology*) Notions of Dental Embryology and Head Anatomy (*Anatomy and Embryology*) Notions of Fixed and Mobile Denture Technology (*Denture Technology I*)

4.2. Competences	**Scientific skills:** - Ability to **integrate knowledge** of elementary biology to understand the complex architecture of oro-dental tissues - **Familiarity with the basics of** fixed and mobile denture technology - **Knowledge of the pathophysiological basis** of the main conditions requiring oral rehabilitation through appropriate technologies **Digital skills:** - Ability to use a computer at a basic level: surfing the internet, using an e-learning platform, editing text, making presentations **Language skills:** - Knowledge of the Romanian language (level C1). It is recommended to know English at level B1-B2 in order to be able to access the additional international bibliography.

5. Conditions

5.2. carrying out LP activities	**Location and organization**: Practice in the dental office. Eforie Clinic, Bucharest, 4-6 Eforie Street, Sector 5 **Attendance: Attendance at the practical internship is mandatory.** The motivation of absences is made according to the university regulations, and their recovery is necessary for participation in the final exam. **Mandatory Individual Equipment:** Each student must wear **a clean white robe,** a practical workbook, and writing instruments. **Safety and conduct rules:** - Punctuality is mandatory. - Strict compliance with labor protection rules and specific hygiene rules. - It is forbidden to consume food and drinks in the dental office. - A respectful working environment conducive to academic debate will be maintained. **Training and participation:** Students have an active participation, get involved in the performance of practical tasks and show interest in all activities of the specialized internship.

6. Learning Outcomes

Knowledge
K1: Definition and appropriate description in order to correctly diagnose the lesions of the masticatory system and the type of edentation.
K2: Ability to use specialist terminology appropriately and in context.
K3: Knowledge of the structural components of fixed, removable and mobile dentures
K4: Practical knowledge of the clinical-technical stages in obtaining fixed and mobile prostheses
K5: Knowledge of digital dentistry. Advantages and limits
Skills
S1: Acquires the practical experience necessary to go through the technical stages in making fixed and mobile dentures.
S2: Knowledge of the technologies for obtaining fixed dentures by melting-casting, sintering, milling, polymerization and printing.
S3: Acquisition of the practical experience necessary to go through the technical stages in the realization of partial and total dentures
S4: Elaboration of a conceptual plan for a clinical case, justified choice of materials and workmanship by describing the therapeutic purpose.

S5: The student demonstrates a good understanding of the use of digital technology and artificial intelligence in dentistry.
Responsibility and autonomy
RA1: Awareness of the importance of correlating theoretical knowledge with clinical therapies, in order to substantiate an evidence-based medical practice.
RA2: Developing ethical and responsible behavior, understanding the implications and limits of current therapies.
RA3: Exercising a critical thinking and scientific curiosity, by formulating pertinent questions and by critically analyzing the information presented in case studies and in the literature.
RA4: Ability to work effectively in a team (in practical work) to analyze cases, debate solutions and achieve common learning objectives.
RA5: The student/graduate applies digital technology and artificial intelligence in dental practice, safely.

7. Objectives of the discipline (correlated with learning outcomes)

7.1. General objective	**PS-OG:** The discipline aims to provide second-year dentistry students with the framework and knowledge necessary for the practice of restoring the morphology and functions of teeth and dental arches, through fixed and mobile dental prostheses; It offers the possibility for the future dentist to know the way of organization and interaction of the dental technique laboratory with the dental office; Contributes to the development of professional communication skills for effective collaboration within the dental technician team
7.2. Specific objectives	**PS-OS1:**To familiarize the student with the practice of rehabilitation of the functions of teeth and dental arches through fixed and mobile dentures. **PS-SO2:**To ensure an understanding of the biological bases, objectives and specific terminology for the main oral rehabilitation therapies. **PS-SO3:** Knowledge of the ways to make a fixed, removable or mobile dental prosthesis, and the necessary clinical-technical steps to obtain it. **PS-OS4:** Acquiring knowledge of casting a working model in fixed and mobile prosthetics **PS-SO5:** To develop the skills of conceptual analysis of a clinical case. **PS-SO6:** Cultivate professional responsibility, critical thinking and autonomy in learning and in the application of theoretical knowledge. **PS-SO7:** Acquire knowledges regarding the laboratory steps necessary to make a fixed, removable or mobile dental prosthesis.

8. Contents

Seminar/Practical **Paper**	**Teaching methods**	**Observations**
PS-LP1. Noting in the consultation sheet the lesions and indirect restorations in the oral cavity.		
PS-LP2. Identification of the types of indirect restorations (crowns, inlays, bridges, R.C.R., mobile prostheses).		
PS-LP3. Establishing the prosthetic diagnosis (edentulous) on clinical cases (exercises).		

PS-LP4. Assisting the doctor in the preparation of dental abutments (knowledge of the types of drills, preparation features).	.	
PS-LP5. Arch impressions with alginates (preliminary and for the antagonist model).		
PS-LP6. Conditioning of the prosthetic field and arch impressions with synthetic elastomers.		
PS-LP7. Materials and Methods of Imprinting in Fixed Restoration Technology.		
PS-LP8. Segmental arch impressions for temporary restorations		
PS-LP9. Temporary restorations with acrylate or composite, Scutan method.		
PS-LP10. Types of models used in the stages of obtaining prosthetic restorations.		
PS-LP11. Assisting the physician in the examination and adaptation of fixed prosthetic restorations.		
PS-LP12. Preparation of fixed prosthetic restorations for fixation (depending on the type of cement and restoration).		
PS-LP13. Preparation of the prosthetic field for cementing fixed restorations.		
PS-LP14. Ways to restore dental abutments (restorative materials, fiberglass pivots, metal R.C.R.).		
PS-LP15. Materials and impression methods used in removable denture technology		
PS-LP16. Materials for individual fingerprint holders.		
PS-LP17. Repairs and conditioning of removable dentures		

Bibliography:

Minimum bibliography (recommended):

1. L. T. Ciocan, I. I. Donciu, C. Ionescu, Vlad Gabriel Vasilescu, etc., Dental Prosthesis Technology, Vol.I/Fixed Dental Prosthesis Technology, Handbook for Students and Residents, First Edition, "Carol Davila" University Publishing HouseBucharest 2024, ISBN: 978-606-011-293-8; 978-606-011-294-5; 978-606-011-295-2.
2. L. T. Ciocan, I. I. Donciu, C. Ionescu, Vlad Gabriel Vasilescu, etc., Dental Prosthesis Technology, Vol.II/Removable Prosthesis Technology, Handbook for Students and Residents, First Edition, "Carol Davila" University Publishing House, Bucharest 2024, ISBN: 978-606-011-293-8; 978-606-011-294-5; 978-606-011-295-2
3. Act W - Digital Workflow in Reconstructive Dentistry, Quintessence 2019
4. Johnson T, Patrick DG, Stokes CW, Wildgoose DG, Wood DJ – Basics of Dental Technology: A Step by Step Approach, 2nd Edition, Wiley-Blackwell, 2015
5. Shen C, Rawls HR, Esquivel-Upshaw JF – Phillips' Science of Dental Materials, 13th Edition, Elsevier, 2021

Additional bibliography and educational resources (optional):

6. Randall MG - Sintering: From Empirical Observations to Scientific Principles, Elsevier, 2014
7. Rosenstiel SF, Land MF - Contemporary Fixed Prosthodontics, 5th Edition, Elsevier, 2015

8. Sailer I, Fehmer V, Pjetursson BE - Fixed restorations, A clinical guide to the selection of materials and fabrication technology, Quintessence 2021
9. Wismeijer D, Barter S, Donos N - ITI Treatment Guide, Vol 11: Digital Workflows in Implant Dentistry, Quintessence
10. Carr AB, Brown DT -McCracken's RemovablePartialProsthodontics, 13th Edition, Elsevier, 2016
11. Johnson T, Wood DJ - Techniques in Complete Denture Technology, Wiley, 2021
12. Nallaswamy D.- Textbook of Prosthodontics, 2nd edition, JaypeeBrothers Medical Publishers**,** 2017
13. Özkan YK - Complete DentureProsthodontics: Planning and Decision-Making, Springer 2018
14. Sakaguchi RL, Ferracane J, Powers J, Powers J. - Craig's restorativedentalmaterials, 14th ed., 2019
15. Sakar O – Removable Partial Dentures, Springer, 2015
16. Verhaeghe TV, Tan HK - Complete denture prosthodontics, A clinical and laboratory guide, E-book, 2018
17. Wismeijer D, Barter S, Donos N - ITI TreatmentGuide, Vol 11: Digital Workflows in Implant Dentistry, Quintessence 2019
18. Zarb GA - ProsthodonticTreatment for Edentulous Patients, Elsevier, 2012

Specialized periodicals

- International Journal of Oral Science (ISSN: 2049-3169)
- Journal of DentalResearch (ISSN: 0022-0345)
- Dentistry Journal (ISSN: 2304-6767)
- Frontiers in Dental Medicine (ISSN: 2673-4915)\

Online resources for research and in-depth:

- PubMed: the fundamental database for searching medical scientific literature
- Educational platforms (for recapitulating and deepening fundamental concepts): Khan Academy, Osmosis, Ninja Nerd.

9. Evaluation

Type of activity	**9.1. Evaluation criteria**	**9.2. Assessment methods**	**9.3. Weighting of the final grade**
9.4. Practical work	Assessment of acquired knowledge	Written exam and/or essay questions	**55%**
	Evaluation of the work carried out during the traineeship	Awarding grades in the evaluation sheet	**45%**
Minimum performance standard (requirements for obtaining grade 5)	In accordance with the university regulations in force, the promotion of the discipline is conditional on the **promotion of the internship activity**, a mandatory condition to be able to participate in the final colloquium. Promotion implies **full attendance** at the internship and: - obtaining an average of at least 5 in the evaluations along the way. **- obtaining a minimum grade of 5 at the final colloquium.** Failure to comply with **any** of these conditions automatically leads to non-promotion of the discipline.		
	Knowledge (reflected in the final colloquium): The student should correctly defines and knows the central notions of denture technology: - the acquisition of the main notions related to the technology of fixed and mobile dentures		

	- knowledge of the technological stages of realization of the main current variants of uni- and multidental fixed metal prostheses: model, mounting in articulator, model, packaging, casting of metal alloys, sintering, milling. - technical stages of laboratory realization of ceramic fixed prostheses (sintering, melting-pressing and milling of ceramics) and polymer (self-curing, photopolymerization, milling, printing) - treatment of partial and total edentulousness by fixed, removable and mobile partial dentures – principles of realization, component elements, materials used. - technology for the production of mixed metal-polymer, metal-ceramic and all-ceramic bridges. - the student correctly defines and knows the central notions of mobile and removable denture technology: - the technological steps for the realization of partial removable and total dentures - total and partial edentulous prosthetic field - classification of partial edentation - components of partial and total dentures - the clinical-technical steps in obtaining the acrylic and skeleton partial prosthesis - the clinical-technical stages in obtaining the total prosthesis