



WROCLAW

## MEDICAL UNIVERSITY

Department of Experimental Dentistry  
Head: Prof. Mieszko Więckiewicz DMD, PhD, DSc

Wrocław, 30.01.2025

### DENTAL MATERIALS

**Practical classes, II year**  
**Summer semester, academic year 2024/2025**

**Time:** Tuesday, 08.00 - 11.00, group 1A & 1B

**Place:** Phantom class (no. 109, 1<sup>st</sup> floor), Wrocław, ul. Krakowska 26

**Teachers:** dr inż. Joanna Weźgowiec prof. UMW, dr n. med. Andrzej Małysa

**Coordinator:** dr n. med. Andrzej Małysa

No.	Date	Topic
1.	25.02.2025	1. Regulation and organization of classes. 2. General introduction to dental laboratory equipment and organization of dental laboratory.
2.	04.03.2025	1. Gypsum products and other die materials. 2. Isolating materials. 3. Mixing of model plaster and performance of gypsum cube (dim. 3x3x3cm). Knives and mechanical trimming. 4. Mixing of high – strength dental stone and performance of die stone cube (dim. 1,5x1,5x1,5cm). Knives and mechanical trimming.
3.	11.03.2025	1. Flexible Dental Impression Materials – irreversible. 2. Flexible Dental Impression Materials – reversible. 3. Measurement of the total setting time for alginate impression material. 4. Taking the impression of edentulous maxillary or mandibular arch phantoms. 5. Pouring the gypsum model and mechanical trimming.
4.	18.03.2025	1. Rigid Dental Impression Materials - reversible and irreversible. 2. Impression trays. 3. Preparation of impression trays to taking an impressions (adhesive layer). 4. Low viscosity-high viscosity impression with silicones materials. 5. Measurement of total setting time for silicones impression materials: addition type and condensation type. 6. Measurement of the total setting time for polyether impression materials.
5.	25.03.2025	1. Dental waxes – type of waxes, properties and applications. 2. Isolating materials for acrylic denture base resins. 3. Performance of models wax cube (dim. 1x1x1cm) for Acrylic base resins polymerization.
6.	01.04.2025	1. Acrylic denture base resin – heat-curing: properties and applications. 2. Initial polymerization of acrylic resins. 3. Placing acrylic resin in the mold of flask.

		4. Compressing and placing flask in the polymerization frame. 5. Short – time polymerization.
7.	08.04.2025	1. Acrylic denture base resins—self-curing: properties and applications. Part. I 2. Performance of self-curing acrylic resin baseplate on the edentulous maxillary or mandibular models.
8.	15.04.2025	1. Acrylic denture base resins- self-curing. Part II. 2. Repair of broken acrylic baseplate.
9.	29.04.2025	1. Finishing and polishing of acrylic denture base resins. 2. Finishing and polishing of all acrylic student's manual works.
10.	06.05.2025	1. Dental alloys, thermoplastic and composite materials used in dentistry. 2. Demonstration of making occlusal splint base from Erkodur. 3. Casting a die from a low-melting alloy.
11.	13.05.2025	Seminar I
12.	20.05.2024	Seminar II
13.	27.05.2025	Seminar III
14.	03.06.2025	Final test.
15.	10.06.2025	Summary and credit.

**Forms of completing the course:** credit

**Basic literature:**

1. Craig's restorative dental materials / edited by Ronald Sakaguchi, Jack Ferracane, John Powers. -Fourteenth edition. -St. Louis : Elsevier, cop. 2019.

2. Dental materials : properties and manipulation / John M. Powers, John C. Wataha. -10th ed. -St. Louis : Elsevier Mosby, cop. 2013.

**Additional literature:**

1. Clinical aspects of dental materials : theory, practice and cases / Marcia (Gladwin) Stewart, Michael Bagby. - Fifth edition. -Philadelphia : Wolters Kluwer, cop. 2018.

2. Phillips' science of dental materials / [ed.] Kenneth J. Anusavice, Chiayi Shen, H. Ralph Rawls. -12th ed. -St. Louis : Elsevier Saunders, cop. 2013.

**Conditions to receive credit for the course:**

Pass of the manual training and final test (multiple choice test, 20 questions, 60% to pass) – at the end of semester.

The course is a part of *the Exam of Preclinical Dentistry*.

Prepared

Checked

Accepted