



WROCLAW
MEDICAL UNIVERSITY

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

Wrocław, 30.01.2024

DENTAL MATERIALS

**Lectures & seminars, II year
Summer semester, academic year 2023/2024**

Date:

Monday 13.30 - 15.45

Lectures:

26.02.2024 & 04.03.2024 13:30-15:00

11.03.2024 13:30-14:45

Seminars:

18.03.2024 - 08.04.2024 13:30-15:45

Place:

Lectures: online

Seminars: class no. 423 (Department of Orthodontics), 4th floor, Wrocław,
ul. Krakowska 26

Teacher: dr n. med. Andrzej Małyśa

No.	Date	Topic
1.	26.02.2024	<u>Lecture I:</u> 1. General classification of dental materials. 2. Physico-mechanical properties of dental materials. 3. Biocompatibility of dental materials. <u>Lecture II:</u> 1. Impression materials.
2.	04.03.2024	<u>Lecture III:</u> Acrylic denture base resins. <u>Lecture IV:</u> Dental ceramics.
3.	11.03.2024	<u>Lecture V:</u> 1. Dental alloys. 2. Dental investments. 3. Joining techniques of ceramic covering the alloy surfaces.
4.	18.03.2024	<u>Seminar I:</u> Thermoplastic materials.
5.	25.03.2024	<u>Seminar II:</u> Digital milling and printing dental materials.
6.	08.04.2024	<u>Seminar III:</u> Composites, polymers & adhesion and luting agents.

Prepared

dr n. med. Joanna Smardz
lekarz dentywa
2969814

Checked
Uniwersytet Medyczny we Wrocławiu
KATEDRA I ZAKŁAD STOMATOLOGII
DOŚWIADCZALNEJ
adiunkt

dr inż. Joanna Weźgowiec

Confirmed

Uniwersytet Medyczny we Wrocławiu
KATEDRA I ZAKŁAD
STOMATOLOGII DOŚWIADCZALNEJ
kierownik

dr hab. n. med. Mieszko Więckiewicz



WROCLAW

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

Wrocław, 30.01.2024

DENTAL MATERIALS

Practical classes, II year
Summer semester, academic year 2023/2024

Time: Tuesday, 08.00 - 11.00, group CN 1, group CN 2

Place: Phantom class (no. 125, 1st floor), Wrocław, ul. Krakowska 26

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

Coordinator: dr n. med. Andrzej Małysa

No.	Date	Topic
1.	27.02.2024	1. Regulation and organization of classes. 2. General introduction to dental laboratory equipment and organization of dental laboratory.
2.	05.03.2024	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.	12.03.2024	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.	19.03.2024	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.	26.03.2024	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.	09.04.2024	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.	16.04.2024	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.	23.04.2024	1. Acrylic denture base resins- self-curing. Part II. 2. Repair of broken acrylic baseplate.
9.	30.04.2024	1. Finishing and polishing of acrylic denture base resins. 2. Finishing and polishing of all acrylic student's manual works.
10.	07.05.2024	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.	14.05.2024	Final test.
12.	21.05.2024	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
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Accepted
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Prof. dr hab. n. med. M.