

## COURSE SYLLABUS

### Semmelweis University Faculty of Dentistry, Dentistry

**Name of the course:** General Dental Materials

**Credit value:** 1

**Lessons (*in hours in the whole semester*):** 1 from this, lectures: 0 practicals: 0 seminars: 1 x 45 min

**Type of the course:** compulsory

**Semester in which it is announced according to the curriculum:** spring

**Frequency of announcement (*per semester or year*):** year

**The responsible educational and research organizational unit for teaching the subject:** Department of Prosthodontics

**Academic year:** 2025/2026 II. semester

**Subject (Neptun) code:** FOKOFPK364\_1A

**Lecturer of the course:**

Dr. Judit Borbély, Professor

**Contact:**

Semmelweis University Faculty of Dentistry Department of Prosthodontics

[borbely.judit@semmelweis.hu](mailto:borbely.judit@semmelweis.hu)

Opening hours of the Secretariat:

Monday: 8:00 – 12:00

Tuesday: 8:00 – 12:00

Wednesday: 8:00 – 12:00

Thursday: 8:00 – 12:00

Friday: Closed

Students are welcomed only in the office hours. Please be aware of it!

**The goals and place of the course in regards to the education of dental students:**

General Dental Materials introduces those materials employed in prosthodontics, in dental technology and in restorative dentistry. The origin, the chemical structure, the physical properties of the dental materials and their biological effects onto the living tissues are discussed in the seminars, furthermore the history and the methodology of the use of these materials are evaluated.

**Location of the course (*address of lecture hall, seminar room etc.*):**

Seminars: Dr. Árkövy József lecture hall (1088 Budapest, Szentkirályi street 47. groundfloor) Dr. Varga István classroom and Dr. Balogh Károly classroom (1088 Budapest, Szentkirályi street 47. 1<sup>st</sup> floor)

**Competences acquired by completion of the course:**

Understanding the chemical composition and physicochemical properties of materials based on the subject "Physical Bases of dental materials science".

**Pre-study requirements and prerequisites of course registration and completion, in case of a multi-semester subject, the standpoint of the educational-research unit on the concurrent subject registration and on the requirements of permission thereof :**

Macroscopic anatomy and embryology I., Physical Foundations of Dental Materials Science

Concurrent subject registration is not possible.

**Number of students required for announcement of course (min., max.), method of selection:**

In accordance with the number of 1<sup>st</sup> year students.

**Method of course registration:**

Neptun system

**Detailed course/lecture description<sup>1</sup>:** *(to facilitate credit recognition in other institutions)*

**Themes for the seminars:**

1. Introduction to the subject, introductory seminar
2. Online moodle learning module: impression and modell materials
3. Seminar material which requires personal attendance: impression and modell materials
4. Online moodle learning module: metals (implant materials)
5. Seminar material which requires personal attendance: metals (implant materials)
6. Online moodle learning module: polimers (resin materials and acrylic)
7. Seminar material which requires personal attendance: polimers (resin materials and acrylic)
8. Online moodle learning module: ceramics
9. Seminar material which requires personal attendance: ceramics
10. Online moodle learning module: luting cements
11. Seminar material which requires personal attendance: luting cements
12. Online moodle learning module: CAD/CAM materials
13. Seminar material which requires personal attendance: CAD/CAM materials
14. Consultation

**Courses (compulsory and obligatory elective) which in part or entirely overlap the topics of above course:**

Odontotechnology and Prosthodontics Preclinical Course I – III.

Prosthodontics I – V.

Clinical Dentistry I – II.

**The application of artificial intelligence in teaching of the course:**

The use of artificial intelligence is not allowed during the practices, demanstrations and exams. The use of artificial intelligence in the dental machine/devices used for patient care is allowed. Artificial intelligence may be used to assist students' preparation/learning.

**Special academic work required for completion of the course<sup>2</sup>:**

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**Attendance on practices and lectures, replacement in case of missed sessions:**

Attendance at seminars requiring personal attendance and the weekly practices is compulsory. Absences from any title, even with a doctor's certificate, cannot exceed 25% of the number of seminars requiring personal attendance/ weekly practices.

No more than a 25% of the practices are allowed to be missed for any reason – not even with a doctor's note – otherwise the semester will not be accepted.

Doctor's notes can only be accepted after an individual evaluation. The medical notes will be sent back to the supervisory section of the issuing medical institutions for verification.

If there are 6 seminars requiring personal attendance per semester, the maximum number of absences from seminars requiring personal attendance is 1.

If there are 7 or 8 seminars requiring personal attendance per semester, the maximum number of absences from seminars requiring personal attendance is 2.

Students must arrive for the seminars on time, otherwise they will disturb the lecturer and the audience.

No extra seminars will be provided for missed sessions.

**Method of checking acquired knowledge during the study period<sup>3</sup>:**

6 topics per semester are covered in the seminars. The seminars are taught in a blended learning format. 50% of the seminars are online, in weakly rotation, the other 50% is in the form of small group (max. 25-30 participants) classroom training requiring personal participation.

The online learning module always precedes the personal seminar within the same subject area.

The teaching material corresponding to the topics of the seminars is available online in moodle platform.

The course material is assessed and checked during the six two-week seminar blocks using a mobile phone

application (Voovo). During each block, groups of questions are opened 3–5 times, each time containing 8–15 questions. These questions may reappear throughout the block; incorrectly answered questions are repeated more frequently by the app. Once a question is answered correctly, the previous incorrect attempt will not reduce the final consistency score.

However, the Voovo application also contains a “**Knowledge Score**”, which measures the proportion of correct versus incorrect answers. If this score drops below a critical threshold, students will not be eligible to receive the highest marks—even if their consistency score remains high. As a result, each grade level is defined not only by consistency, but also by a minimum required level of knowledge.

The application sends a push notification to the user’s device whenever a new question group becomes available. Until the questions are answered, students also receive daily reminder notifications. Once the two-week block expires, **it is no longer possible to answer the questions.**

### Scoring and Conversion Formula

Student performance is measured through an average percentage result recorded in the Voovo app (**Consistency Score**). This semester average is converted into a partial seminar grade using the following formula:

Grade	Consistency Score	Minimum Knowledge Score
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1	0% – 49%	min. 0%
2	50% – 63%	min. 40%
3	64% – 76%	min. 50%
4	77% – 89%	min. 60%
5	90% – 100%	min. 65%

The partial seminar grade (based on Voovo results) accounts for **50% of the total practical grade**, alongside the partial grade earned during the practice sessions.

### Impact on Final Examination

Students whose average scores in the Voovo application (average of Voovo performance over several semesters) are within the top 5 percentage of their class, get the score of 5 (excellent) for one item they have chosen from the drawn ones during the kollokvium.

The end of semester grade is unsatisfactory if the student's average is below a 2.0.

The grade is "failing" if the student's absence from seminars exceeds the permitted 25 %.

### Requirements of an accepted semester (*signature of the lecturer*):

If there are 6 seminars requiring personal attendance per semester, the maximum number of absences from seminars requiring personal attendance is 1.

If there are 7 or 8 seminars requiring personal attendance per semester, the maximum number of absences from seminars requiring personal attendance is 2.

In case of absence is above this number, the semester will not be signed by the faculty, which means - according to the current Studies and Examination Regulation (TVSZ)- that the student can not apply for the exam.

### Type of the exam:

Examination (Semi – final exam). Failure to pass any part of the examination will result in an unsatisfactory mark.

The use of artificial intelligence is not allowed during the exam.

### Requirements of the exam<sup>3</sup>:

Topics of the semester.

The exam is a review of the semester's course material according to the list of items available on the on the clinic

website and moodle.

The use of artificial intelligence is not allowed during the exam.

**Grading of courses<sup>4</sup>. The possibility and requirements of an offered grade:**

The end of semester grade: In seminars requiring personal attendance, student performance is assessed in the form of an average percentage. The average percentage achieved during the semester is the basis for the end of semester grade (1-5).

The end of semester grade is unsatisfactory if the student does not achieve a 2.0 average.

In case of an unsatisfactory partial seminar grade, the signature at the end of the semester will be refused.

Examination (semi-final exam): oral examination

The examination (semi-final exam) is graded on a scale of 1-5. Oral semi-final examination based on theoretical questions.

Students whose average scores in the Voovo application (average of Voovo performance over several semesters) are within the top 5 percentage of their class, get the score of 5 (excellent) for one item they have chosen from the drawn ones during the kollokvium.

No offered grade.

**Exam registration:**

Neptun system, according to Semmelweis University Study and Examination Regulations

**Rules of repeating exams:**

Neptun system, according to Semmelweis University Study and Examination Regulations

**List of textbooks, lecture notes and recommended textbooks, online material:**

**Textbooks:**

Wilson, Mansfield, Heath, Spence: Dental Technology and Materials for Students. Blackwell Scientific Publications.

Powers, Wataha: Dental Materials Properties and Manipulation. Mosby

**Lecture notes**

**Recommended textbooks:**

Fogpótlástan I-II. Szerk.: Hermann Péter és Kispélyi Barbara (Semmelweis Kiadó, 2022)

**Other study aids:**

Moodle

On the Website of Department of Prosthodontics: <https://semmelweis.hu/fogpotlastan/en/angol/>

Seminar content



Signature of course lecturer:

*[Handwritten signature]*

Signature of head of department:

*[Handwritten signature]*

Date of submission: February 16, 2026

Opinion of OKB:

Notes from the Dean's Office:

Signature of Dean:

<sup>1</sup> Detailed and numbered for each week of theoretical and practical lessons one by one. In an annex, cannot be attached appendix!

<sup>2</sup> Eg. homework, report, midterm exam etc. Topics, dates, method of retake and replacement

<sup>3</sup> List of topics in case of theoretical exam, thematic and method in case of practical exam

<sup>4</sup> Method of inclusion of theoretical and practical exams. Method of inclusion of midterm assessments.