

## BIO- AND ALLOPLASTIC MATERIALS IN DENTISTRY LECTURE

2013/2014, 1<sup>st</sup> semester, 3<sup>rd</sup> year, Dental students  
Fall semester: 2 September – 7 December 2013

Place: Faculty of Dentistry, B Building, Yellow Room  
Time: Monday 17.00-19.00 (2 hours/week)  
Exam: Examination  
Credit: 2

Date	Lecture	Lecturer
02. 09. 2013.	1. Introduction to biomaterials science. Historical overview. Classes of biomaterials used in dentistry and medicine	Dr. Kinga Turzó associate professor
09. 09. 2013.	2. Bulk and mechanical properties of materials and investigation methods (chemical bonds and structure, mechanical testing methods)	Dr. Kinga Turzó
16. 09. 2013.	3. Surface characteristics of materials and investigation methods (contact angle, ESCA, SIMS, SEM, IRS, STM, AFM)	Dr. Kinga Turzó
23. 09. 2013.	4. Metals (stainless steels, Co-Cr alloys, Ti alloys)	Dr. Kinga Turzó
30. 09. 2013.	5. Dental amalgams. Corrosion of metals. Hydrogels, bioresorbable and bioerodible materials	Dr. Kinga Turzó
07. 10. 2013.	6. <b>Written test (I.)</b>	Dr. Kinga Turzó
14. 10. 2013.	7. Polymers, types of polymers, polymerization, mechanical and thermal properties	Prof. Dr. Zoltán Rakonczay professor
21. 10. 2013.	8. Ceramics, glasses and glass-ceramics (bioinert, calcium-phosphate ceramics, bioactive glasses)	Dr. Kinga Turzó
28. 10. 2013.	9. Composites and natural materials (proteins, polysaccharides, polynucleotides)	Dr. Kinga Turzó
04. 11. 2013.	10. Host reactions to biomaterials and degradation of biomaterials in the biological environment	Dr. Kinga Turzó
11. 11. 2013.	11. Titanium implants and biointegration. Thin films, coatings and fabrics	Dr. Kinga Turzó
18. 11. 2013.	12. <b>Written test (II.)</b>	Dr. Kinga Turzó
25. 11. 2013.	13. Testing biomaterials ( <i>in vitro</i> , <i>in vivo</i> assessment and animal models). Biocompatibility and biomechanical tests	Dr. Kinga Turzó
02. 12. 2013.	14. Consultation	Dr. Kinga Turzó

Recommended literature:

B.D. Ratner, A.S. Hoffman, F.J. Schoen, J.E. Lemons: Biomaterials Science: An Introduction to Materials in Science. Academic Press, 1996

Conditions of accepting the credits/semester:

- Active participation on lectures based on the study and exam regulations of the University and of the Faculty of Dentistry,
- Requirements of participation on lectures and replacement of absenteeism based on the study and exam regulations of the Faculty of Dentistry

- Method of proof of the absence on lectures based on the study and exam regulations of the University and of the Faculty of Dentistry
- It is mandatory the fulfillment of the ***WRITTEN TESTS (1<sup>st</sup> and 2<sup>nd</sup>)***. The average mark of the tests should be at least 2.0. Unsatisfactory test should be corrected; there is only ONE possibility for the correction during the semester! The date of this correction Test is given by the responsible of the subject.
- **The mark of the Examination (Lectures)** is established in the following way:  
If the average of the written test is between 4.0 and 5.0 then an **offered mark** can be given to the student.
- Calculation of the average:  $[1^{\text{st}} \text{ Written test} + 2^{\text{nd}} \text{ Written Test}] / 2$ .
- If the average is between 4.0-4.50 then good (4) is given, if the average is between 4.51-5.0 then excellent (5) can be given. In case the average is below 4.0 the student will perform an oral exam (Examination).