

[Medicinski fakultet u Rijeci]

Curriculum 2022/2023

[Za kolegij]

Additive Technology

Study programme: **Medical Studies in English (R)** (elective)
[Sveučilišni integrirani prijediplomski i diplomski studij]
Department: **[Centar za biomodeliranje i inovacije u medicini]**
Course coordinator: **izv. prof. dr. sc. Maričić Sven**

Year of study: **3**
ECTS: **1.5**
Incentive ECTS: **0 (0.00%)**
Foreign language: **Possibility of teaching in a foreign language**

Course information:

Application of new technologies in biomedicine. Historical development of technology. Digital production of personalized medicine products. Development of additive technologies. Manufacturing applications. Input materials for high-precision technologies - photopolymers. The concept and application of various systems that are most commonly used today, such as stereolithography (SL/SLA), selective laser sintering (SLS), fused deposition modeling (FDM), 3D printing (eng. 3D printing - 3DP), lamination (eng. laminated object manufacturing - LOM), hybrid process - combination of SLA and 3DP (PolyJet).

List of assigned reading:

- Gibson I., Rosen D., Stucker B., Khorasani M.: Additive Manufacturing Technologies, 2021, ISBN: 978-3030561260
- Wimpenny D., I., Pandey P., M.: Advances in 3D Printing & Additive Manufacturing Technologies, 2016, ISBN: 978-9811008115
- Kalaskar D., M.: 3D printing in Medicine, 2017, ISBN: 978-0081007174
- Zhang L., G., Fisher J., P., Leong K.: 3D Bioprinting and Nanotechnology in Tissue Engineering and Regenerative Medicine, Elsevier 2015, ISBN: 978-0128005477

List of optional reading:

- Chua C., K., Yeong W., Y.: Bioprinting: Principles and Applications (Wspc Book Series in 3D Printing), World Scientific Publishing Company 2015, ISBN: 978-9814612104
- Atala A., Yoo J., J.: Essentials of 3D Biofabrication and Translation 1st Edition, Academic Press 2015, ISBN: 978-0128009727

Curriculum:

Student obligations:

Regular attendance at classes, writing a seminar paper.

Exam (exam taking, description of the written/oral/practical part of the exam, point distribution, grading criteria):

Other notes (related to the course) important for students:

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COURSE HOURS 2022/2023

Additive Technology

List of lectures, seminars and practicals:

EXAM DATES (final exam):
