

## 3D Printing in Pharmaceutics

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Department/Faculty	Department of pharmaceutical technology, Faculty of Pharmacy	Field/Keywords	3D printing, Pharmacy, SLA, SSE, FDM, bioprinting
Academic Level	Master;PhD;		
Credit value	3 ECTS	Academic contact	Jan Elbl <a href="mailto:elblj@pharm.muni.cz">elblj@pharm.muni.cz</a>

### Course Description

3D printing is gaining attention as the manufacturing tool not only in the engineering industry but also in the field of pharmacy. This intensive course aims to introduce students to different types of 3D printing technologies (FDM, SLA, SSE) with respect to possible uses in pharmacy, mainly pharmaceutical technology. Each module comprises of theoretical base followed by practical preparation of selected drug dosage form and its evaluation.

3 ECTS credits

### Lecture Topics

- 1) Basic principles of 3D printing, workflow, input data and software preparation
- 2) SSE printing of drug dosage forms
- 3) SLA printing of drug dosage forms
- 4) FDM printing of drug dosage forms
- 5) Inkjet printing of pharmaceuticals
- 6) FDM and SLA printing hacks for easier and efficient lab life
- 7) 3D printing in relation to individualized therapy

### Pre-Requisites

- Generally no pre-requirements. Course is made for students interested in wide base of 3D printing methods usable in pharmaceuticals field