

MICRO-722

3D Printing with light

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Cursus	Sem.	Type
Advanced Manufacturing		Opt.
Photonics		Opt.

Language of teaching	English
Credits	1
Session	
Exam	Oral
Workload	30h
Hours	14
Courses	14
Number of positions	10

Frequency

Every 2 years

Remark

Next time: Fall 2025

Summary

Optical aspects of 3D printing technology. This includes optical systems for scanning and excitation, photopolymers, glass and other photoactive materials, and optical components fabricated with 3D printing technology.

Content

1. Photopolymerisation & materials suitable for printing
2. Optical scanning and Projection
3. One and two photon polymerization
4. Inkjet and UV curing for optical components
5. Fabrication of small optical components
6. Fabrication of large optical components
7. Applications

Keywords

Optics
Manufacturing - 3D printing

Learning Prerequisites**Required courses**

1. Introductory course to optics and microfabrication technologies
2. Basics of chemistry and physics

Resources**Moodle Link**

- <https://go.epfl.ch/MICRO-722>