**Summary**

The course presents the main classes of photopolymers and key factors which control photopolymerization. It explains how to select the right formulation and optimize processes for a given application. Standard and novel characterization methods, new materials and new applications are also presented.

**Content**

1. Introduction to radiation processing  
2. Fundamentals of free-radical systems  
3. Components of photocurable formulations: photoinitiators, monomers, additives  
4. Analytical methods: state of the art and new developments  
5. Structure-property relations in UV curable polymers  
6. Advances in UV-induced polymerization research  
7. Application to UV inks and coatings, nanostructures and devices

**Learning Prerequisites**

Recommended courses  
Polymer science, organic chemistry

**Assessment methods**

The course provides 1 ECTS, based on a written report (maximum 10 pages) on a topic relevant to UV polymers. The report should synthesize three technical papers A, B and C from open scientific literature and develop a short case study (for example using equation from paper A and data from paper B to model results from paper C, or designing a process method (formulation, UV intensity, time) using inputs from the 3 papers).

**Resources**

Notes/Handbook  
A copy of the course slides is provided at the start of the course.