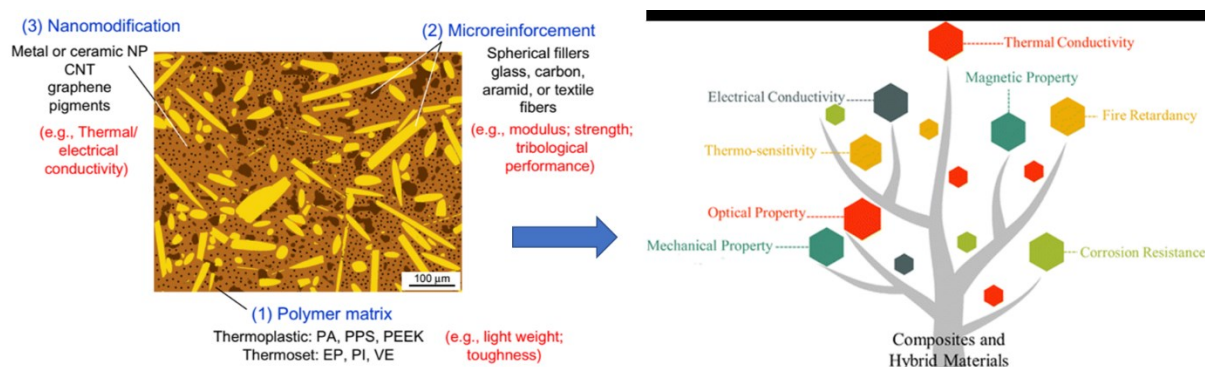


No. CHE.570UF, Summer semester 2022, Semester hours: 1.33

## Macromolecular Materials and Material Technologies III - Composite Materials

**Dates:** The course starts on Monday, 4 April 2022, 2–4 pm.

Synthesis/production and processing of phase-separated plastics; high-performance composites; nano-composites; duromers; fibre reinforced plastics; interactions between different phases, e.g. polymer/fibres; dispersion and compatibilization of the components of a composite.



### Core topics to be covered

- Introduction – definition of advanced composites and hybrids.
- Multifunctionality in reinforced polymers and composite structures.
- A new perspective in multifunctional composite materials.
- Multifunctional polymer composites using natural fiber reinforcements.
- Composite materiomics: Multi length scale hierarchical composites for structural and tissue engineering applications.
- Applications of polymer composites in electromagnetic, construction, medical, aerospace, coatings, sensing, intelligent structures, etc.

### Previous knowledge expected

Students with knowledge in polymers, physical chemistry, material science, medical science, and printing technology are welcome to participate.

### Objective of the course

After successful completion of the course, the students are familiar with macromolecular composite materials. They understand structure/property correlations, and they can select materials for specific applications.

### Language and teaching method

All lectures and notes will be provided in English and online

### Contact and further details

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