

School of Chemistry

Aims and Objectives: Session 2023-2024, Semester 1

Module CH4514: Advanced Metal Chemistry

Course Title: Green Chemistry

Duration: 6 hours

Lecturer: Dr A. Kumar

Aims: This course will give an overview of the principles of green chemistry, and various applications of organometallic catalysts in the development of sustainable chemical processes to impact organic synthesis, hydrogen economy and circular economy.

Objectives:

- To understand the principles of green chemistry, sustainable chemistry and life cycle assessment.
- To study organometallic catalysts and their mechanisms for the dehydrogenation and hydrogenation reactions as the green alternative to conventional oxidation/reduction reactions in organic synthesis as well as for hydrogen storage materials.
- To study various routes for the chemical recycling of plastics catalysed by transition-metal complexes in the context of circular economy.