

COURSE DETAIL

SURFACE AND COLLOID CHEMISTRY

Country

Sweden

Host Institution

Lund University

Program(s)

Lund University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Engineering Chemistry

UCEAP Course Number

148

UCEAP Course Suffix**UCEAP Official Title**

SURFACE AND COLLOID CHEMISTRY

UCEAP Transcript Title

SURFC&COLLOID CHEM

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

Surface and colloid chemistry is a knowledge area with numerous applications within all areas of chemical and biotechnological engineering. For instance almost all foods, numerous drugs, biological systems, bacterial suspensions, many polymer materials, all ceramic materials, multiphase processes and most chemical-technical consumer products are dispersions or by other means colloidal. The course is based on surface-active components. Both synthetic and natural amphiphiles are treated. Different phases (micellar, liquid crystalline and microemulsions) as well as aggregates such as vesicles are studied. A central concept is interparticular interactions in relation to colloidal stability. The role of surface activity in controlling interactions through adsorption and non-adsorption is discussed in relation to technical functionality in systems like emulsions and foams. The role of surface activity for wetting, filtration, dewetting, and sintering is discussed. A generally important aspect is how the material properties of dispersed systems are influenced by colloidal interactions and surface phenomena's. The exercise part of the course treats quantitative aspects of the theory as well as problem solving in colloid chemistry. The labs are aimed to illustrate how different surface and colloidal system might be constructed and work. The projects consist of an analysis of surface and colloidal aspects of manufacturing, formulation or application of a consumer product with relevance to the interest of the student.

Language(s) of Instruction

English

Host Institution Course Number

KFKN05

Host Institution Course Title

SURFACE AND COLLOID CHEMISTRY

Host Institution Course Details

Host Institution Campus

Engineering

Host Institution Faculty

Host Institution Degree

Host Institution Department

Engineering- Food Technology

Course Last Reviewed

[Print](#)