Nazwa w jęz. angielskim: Fine Chemicals

Dane dotyczące zajęć:
Information on course:

Jednostka oferująca: Wydział Chemiczny // prof. dr hab. inż. Beata Orlińska
Course offered by: Faculty of Chemistry // prof. dr hab. inż. Beata Orlińska

Język wykładowy:

angielski

Language:

English

Strona WWW:
Course homepage:

Skrócony opis:

Short description:

The aim of the course is to present the fine chemicals industry, taking into account current trends. Selected fine chemicals and industrial methods of their production will be discussed.

Opis:

Description:

Lecture 15 h:
1. Fine chemicals characterization
2. Dyes – clasiffication, production, application
3. Surfactants - clasiffication, production, application
4. Cosmetics chemistry – types of cosmetic emulsions, composition of cosmetic emulsions
5. Alternative solvents in fine chemicals synthesis
6. Catalysis in fine chemicals synthesis

Laboratory 75 h:
1. Dyes – synthesis of selected azo dyes and their application in dyeing processes (wool, cotton)
2. Surfactants - synthesis of selected surfactants and determination of basic properties
3. Cosmetics chemistry – preparation of cosmetic emulsions O/W and W/O
4. Catalytic oxidation processes in fine chemicals synthesis
5. Ionic liquids – synthesis and application as solvents
6. Phase transfer catalysis – application in fine chemicals synthesis
7. Esterification – synthesis of selected fragrances

Seminar 15h:
1. Vitamins production
2. Selected pharmaceuticals production
3. Fragrances
4. Active ingredients of cosmetics

Contact hours:
Lecture 15 h,
Laboratory 75 h,
Seminar 15 h
Number of ECTS credits: 7

Literatura:

Bibliography:

1. Ullmann’s Encyclopedia of Industrial Chemistry, VCH
2. Williams, W.H. Schmitt, Chemistry and Technology of the Cosmetics and Toiletries Industry”, Blackie Academic & Proffessional, New York 1996.
3. Selected current scientific papers
4. Chemistry and Technology of Surfactants, Ed. R.J. Farn, Blackwell Publishing Ltd, 2006.
5. M.R. Porter, Handbook of Surfactants, Springer, 2012

Efekty uczenia się:

Learning outcomes:

Student has knowledge about selected methods of fine chemicals manufacture.
Student has knowledge about current tendency in fine chemicals manufacture.
Students are able to design and carried out chemical process in laboratory scale.

Metody i kryteria oceniania:

Assessment methods and assessment criteria:

Lecture: written test; laboratory: written report; seminar: presentation

Przynależność do grup przedmiotów w cyklach:
Element of course groups in various terms:

Opis grupy przedmiotów Course group description	Cykl pocz. First term	Cykl kon. Last term
przedmioty obieralne studia stacjonarne i niestacjonarne stopień studiów – dowolny kierunek studiów – dowolny, semestr dowolny elective courses full-time and part-time studies degree - any field of study - any semester - any	2023/2024	