

Course title:	Organic Chemical Technology
Institute/Division:	FACULTY OF CHEMICAL ENGINEERING AND TECHNOLOGY
Number of contact hours:	30 hours (lectures)
Course duration:	1 semester (spring)
ETCS credits:	2
Course description:	Lectures content: Raw materials – manufacture of methyl alcohol, ethyl alcohol, ethylene, 1,3-butadiene, acetylene – ethyl benzene, cumene, linear alkyl benzenes alkyl phenols/ Selected oxidation, halogenation, hydration, dehydration and esterification processes. Chemicals derived from ethylene – polyethylene, ethylene oxide, ethylene dichloride chlorinated hydrocarbons – chemicals derived from propylene – isopropyl alcohol, polypropylene, acrylonitrile, propylene oxide – oxidation of butane – esters – maleic anhydride – acetone – ethyl methyl ketone – bisphenol – DDT – aniline. Methods of polymerization: addition polymerization, condensation polymerization and modification methods. Modified natural polymers: modified cellulose and chitosan. Recycling of polymers: challenges and solutions (examples)/ Anionic surfactants synthesis and manufacture. Nonionic surfactants- synthesis and manufacture. Cationic surfactants - synthesis and manufacture/ Zwitterionic and amphoteric surfactants - synthesis and manufacture. Colloid systems and interfaces. Renewable raw materials/ The role of Organic Chemical Technology in pharmaceutical., agriculture and cosmetic industry.
Literature:	[1] Martin B. Hocking — Handbook of Chemical Technology and Pollution Control (3rd Ed.), 2005, Elsevier; [2] Salah M. El-Haggar — Sustainable Industrial Design and Waste Management,, , 2007, Elsevier Ltd; [3] P.H. Groggins, Unit Processes in Organic Synthesis, McGraw Hill Book Co., Kogakusha (1984; [4] Peter Wiseman, An Introduction to Industrial Organic Chemistry, 2nd Edition, Applied science publishers Ltd., London (1979).
Assessment method:	presentation of own projects, final tests, presence on lectures,
Prerequisites:	Basic knowledge on general, inorganic and organic chemistry
Primary target group:	Chemical technology/engineering students
Lecturer:	dr inż. M.Miastkowska
Contact person:	dr inż. M.Miastkowska, e-mail: malgorzata.miastkowska@pk.edu.pl
Deadline for application:	15 th of January
Remarks:	The course runs regularly