UCL Université catholique de Louvain

LMAPR2016

2015-2016

Project in Polymer Science

5.0 credits	0 h + 45.0 h	2q

Teacher(s) :	Jonas Alain ; Fustin Charles-André ;
Language :	Anglais
Place of the course	Louvain-la-Neuve
Inline resources:	> http://moodleucl.uclouvain.be/course/view.php?id=3443
Prerequisites :	*The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Main themes :	The project is based on a real problem inspired from industry, from research, or from our socio-culturo-economical environment, in the field of polymers. The specific theme is defined every year. For instance, the students might receive a virtual budget allowing them to analyze a complex object ("reverse engineering"). The project could also consist in selecting a polymer material for a specific application. It might be related to the issue of recycling (including, e.g., chemical, mechanical, technical, economical and ecological aspects). It might center on the analysis of an emerging issue of interest to the general public. It might also explore an emerging application of polymer materials. In all cases, the project will help students to discover and use the main characterization techniques of polymer science and technology. It will contribute to have them learn how to analyze a complex issue, and to produce deliverables respecting precise specifications while respecting a quality-oriented methodology. Preferably, the deliverables should include the use of collaborative communication tools such as wikis, e-portfolios, etc.
Aims :	Contribution of the course to the program objectives This course contributes to the development of the following learning outcomes : 2.1, 2.2, 2.3, 2.4, 3.1, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 6.4, with variable emphasis on some of the learning outcomes depending on the specific project. Specific learning outcomes of the course This course aims to have students facing practical problems related to the synthesis, the processing, the use and the life-cycle of polymer materials. The specific learning outcomes of the project vary yearly. The need to acquire new notions and concepts by a personal work, and to use and apply techniques not described in previous courses, is intrinsic to the project. At the end of this project, the students will have acquired a practical ability to handle problems related to research, quality control, selection, or customer management in the field of R& mp;D or technical business, as would befit a young engineer or scientist hired by a polymer company. *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Evaluation methods :	The course is not based on lectures, but on the personal work of students in groups supervised by a teacher. At the end of the project, the students will present their results. A significant fraction of the final note will be attributed for this presentation; the rest will be based on the deliverables of the project.
Teaching methods :	Project-based learning.
Content :	The content of the project varies yearly.
Bibliography :	The required documentation is updated yearly on the website of the course, depending on the topic of the project. The documents are available freely for download.
Other infos :	It is highly recommended to have attended an introductory course on polymer physics and chemistry.
Faculty or entity in charge:	FYKI

Programmes / formations proposant cette unité d'enseignement (UE)

Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Master [120] in Chemistry	CHIM2M	5	-	
Master [120] in Chemical and Materials Engineering	KIMA2M	5	-	
Master [120] in Chemistry and Bioindustries	BIRC2M	5	LMAPR2019	