UCL Université catholique de Louvain

LBIRC2107

2015-2016

Bibliographical team project: chemistry and bio-industries

4.0 credits	45.0 h	1 + 2q

Teacher(s) :	Ghislain Michel ; Gerin Patrick (coordinator) ; Declerck Stephan ; Gaigneaux Eric ;
Language :	Français
Place of the course	Louvain-la-Neuve
Inline resources:	Icampus Bibliographic databases accessible via the UCL libraries
Prerequisites :	Knowledge and skills acquired throughout the whole science and engineering courses of the BIRC programme.
Main themes :	1. Concepts vus au cours : The integrated exercise require the students to synthesize the scientific and technological state of the art of a multidisciplinary subject relevant to chemical and biotechnological engineering on the basis bibliographical research. These exercises involve the use of bibliographic search methods, the identification of the relevant sources of information, the collection of the documents and of the relevant data, their understanding, their analysis, their structuring and their synthesis. The result of this synthesis is communicated as a written report and as an oral presentation, which must be understandable by a reader with a general scientific background, but not a specialised one. These exercises require the students to organize themselves as a team to be able to handle in a sufficiently complete way the various aspects of their subject. Wherever possible, the subjects are offered in various areas related to the fields of the BIRC program options.
Aims :	a. Contribution de l'activité au référentiel AA (AA du programme) 1.1, 1.4, 1.5 2.1, 2.4 3.1., 3.2, 3.6, 3.7, 3.8 5.3 6.1, 6.2, 6.4, 6.5, 6.6, 6.7, 6.8 b. Formulation spécifique pour cette activité des AA du programme (maximum 10) At the end of this activity, the student is able to synthesize the state of scientific and technological knowledge available on a complex issue related to chemical and biochemical engineering, i.e: - Collect relevant bibliographic information by using bibliographical research tools; - Cite and refer to this information in a scientific text according to the bibliographic citation rules accepted in the scientific community; - Understand scientific articles and critically use their content; - Identify, acquire and integrate the new knowledge needed to complete the project; - Distinguish the key elements of a complex problem, reformulate objectives and define the limits of the project; - Communicate in a structured, rigorous and synthetic way, orally and in writing; - Formulate recommendations and argue; - Orally defend his claims. *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 :	Final written report of each the student team, that has to define the initial questions in their context, and build and argue answers to these questions. Oral presentation and defence (answer to questions and justifications) of this report, as a team. criteria: - Respect of the bibliographic citation rules - Relevance and rigour in the presentation and structuring of the subject - Relevance and extent of information search - Clarity and completeness of the communication, quality of writing - Critical analysis of scientific and technological aspects - Synthetic communication of the subject
Teaching methods :	To help students to efficiently achieve the course objectives, learning is based on 1) an introduction to the course (in classroom) ; 2) an introduction to bibliographic search tools (in computer room) ; 3) alternating personal work (bibliographic research and writing) and team work ; and 4) common oral presentations of the project progress. The formation of teams , the organization of team work and the frequency of their meetings are managed by the students themselves. The students' work is completed under the weekly guidance of one teacher who can advice them. At one third and two thirds of the work , joint sessions allow each team of students to present orally its progress, to hear the work of other teams and get comments and suggestions (feedback) from all the teachers, on both the content and the form of their presentation.

Content :	The students have to describe the scientific and technological state of the art on multidisciplinary subjects (questions) related to chemical and biochemical engineering. The subjects are proposed by the teachers (according to their fields of interest and competences) as concrete and open questions. The tools that can be used at UCL for the bibliographic research are presented to the students. The later organise themselves as teams of 3-7 (preferably 4-5) students and to organize their work : 1. to seek and gather the relevant information concerning their subject; 2. to analyse, structure and synthesize this information; 3. to write a structured and synthetic final report that answer the initial questions; 4. to present and defend orally this report.
Bibliography :	The literature search uses the databases available at UCL, and is guided by teachers according to the question/subject raised. Basic documents and recommendations on writing reports are available on icampus.
Other infos :	The course is organised through the first and second semester. It is therefore not accessible to students who are not present at Louvain-la-Neuve during one single semester(eg. exchange students). It is strongly recommended to BIR22 students who would have to participate to this course during their last year to contact the course coordinator no later than at the beginning of the first semester in order to better connect this course with their master thesis. Activities following this activity: LBIRC2201 Industrial Chemistry Project, master thesis
Faculty or entity in charge:	AGRO

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Master [120] in Chemistry and Bioindustries	BIRC2M	4	-	