lbirc2107

2020

Bibliographical team project: chemistry and bio-industries

Due to the COVID-19 crisis, the information below is subject to change, in particular that concerning the teaching mode (presential, distance or in a comodal or hybrid format).

5 credits	45.0 h	Q1 and Q2

Teacher(s)	Declerck Stephan ;Gaigneaux Eric ;Gerin Patrick (coordinator) ;Ghislain Michel ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	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 students program options. The learning activity is based on putting into practice the principles of project management, team management and peer review
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; 1 - 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. At the end of this activity, the student is also able to contribute adequately (attitude and productions) to the success of the functioning of a team, to carry out a long-term project. - - - - *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	**Due to the COVID-19 crisis, the information in this section is particularly likely to change.** 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 defense. A peer assessment is taken into account to weight individually thenotes of the team work. 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 theubject - Mastery of the subject (capacity to answer questions)
Teaching methods	**Due to the COVID-19 crisis, the information in this section is particularly likely to change.** 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)an introduction to project and team management (in classroom); 4) alternating personal work (bibliographic research and writing) and team work ; and 5) common oral presentations of the project progress. The composition of the students teams is organised by the course coordinator. 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 with respect to the scientific content and communication skills. The students teams are coached by voluntary scientists who can give advices on the team management aspects. 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. Peer assessment of the contribution of each member to the success of the team is organized several times during the work progress.
Content	The students have to describe the scientific and technological state of the art on multidisciplinary subjects (questions) related to environmental bioengineering. 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 3-8 (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.
Inline resources	Moodle Autre: bibliographic databases accessible via the UCL libraries
Bibliography	La recherche bibliographique utilise les bases de données accessibles à l'UCL et est guidée par les enseignants en fonction du problème posé. Des documents de base et des recommandations de rédaction sont mises à disposition sur Moodle.
Other infos	The course is organised from mid- first semester to mid second semester. It is therefore not accessible to students who are not present at Louvain-la-Neuve during one single semester(eg. mobility 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 project in chemical and biochemical engineering, master thesis This course can be given in English.
Faculty or entity in charge	AGRO

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Chemistry and Bioindustries	BIRC2M	5		