UCLouvain

# lbral2103a

*2020*

# Food Chemistry

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).

| 3 credits | 30.0 h | Q1 |
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| Teacher(s) | Collin Sonia ; |
| Language : | French |
| Place of the course | Louvain-la-Neuve |
| Main themes | A- Major food constituents: physico-chemical properties, reactivity, functional properties, modifications during processing. Mainly 4 families of constituents are investigated : carbohydrates and Maillard reactions, lipids and chemical/enzymatic oxidation pathways (antioxidants, especially polyphenols), proteins, and water. The experimental courses associated to this part are organized around the production of a wine and the analyses of its raw materials.<br>B- Minor food constituents: chemical structures, reactivity and functional properties of the aromas, sweeteners, imitators of fats, colouring agents, and contaminants (dioxins, PCB, mycotoxins, nitrosamines, acrylamide..). |
| Aims | *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.**<br>Written examination for the theoretical aspects. The experimental know-how and the attitude are assessed throughout practical classes, as well as by a relatively concise report. |
| Teaching methods | **Due to the COVID-19 crisis, the information in this section is particularly likely to change.**<br>Magistral lectures for the theoretical part of the course. The chocolate is used as the typical example in all chapters. The student is also brought to produce a wine, and to implement a series of protocols aiming at the analysis of grapes and wine. According to the number of students, certain aspects can be approached through the analysis of published papers. |
| Content | - Chemistry of sugars and Maillard reactions<br>- Compounds issued from lipid oxidation<br>- Chemistry of polyphenols and actions against lipid oxidation<br>- Other major constituents: proteins and water<br>- Chemical structures and synthesis pathways of the main aromas<br>- Other minor constituents: colorants, sweeteners, contaminants .. |
| Inline resources | Moodle |
| Bibliography | Polyphénols et procédés. Collin et Crouzet. 2011. Ed Tec et Doc. Lavoisier. ISBN : 978-2-7430-1338-7 |
| Other infos | This course can be given in English. |
| Faculty or entity in charge | AGRO |

| Programmes containing this learning unit (UE) | | | | |
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| Program title | Acronym | Credits | Prerequisite | Aims |
| Master [120] in Agricultural Bioengineering | BIRA2M | 3 | | |
| Advanced Master in Brewing Engineering | BRAS2MC | 3 | | |