

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).

4 credits	30.0 h + 15.0 h	Q1
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Teacher(s)	Liégeois Catherine (coordinator) ;Slabbinck Julien ;
Language :	French
Place of the course	Louvain-la-Neuve
Aims	<i>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".</i>
Evaluation methods	<p>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</p> <p>Participation in all laboratory practical work sessions is mandatory and is subject to ongoing evaluation. The TP-laboratory note is 20% of the final note. The TP-laboratory note takes into account individual preparation, know-how and attitude throughout the practical work as well as the laboratory report (structuring of the report, clarity and rigor of the reported and commented results, critical analysis of the results, conclusions) . Any absence to the TP-laboratory must be justified by an official document. Any unjustified absence is sanctioned by a score of 0/20 for the laboratory session concerned. In case the number of absences (justified or not) becomes significant, the professor has the right to use the article of RGEE allowing the jury to forbid the inscription to the exam.</p> <p>The written exam covers all the concepts seen during the theoretical courses and within the TP-laboratories. The note of the written exam is 80% of the final note.</p>
Teaching methods	<p>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</p> <p>The theoretical part is given in the form of a lecture (classroom) with materials available on the Moodleucl platform or notes on the board. Some aspects can be addressed through the analysis of scientific articles or through a visit to a malt house and a microbrewery.</p> <p>Theoretical instruction is supplemented by practical training which includes laboratory sessions (3 sessions of 4 hours each). Participation in the practical laboratory sessions is mandatory. Materials presenting the handling protocols allow the student to prepare each laboratory session individually. The student will write a laboratory report.</p>
Content	<p>Theoretical concepts :</p> <ul style="list-style-type: none"> - Physiology and composition of barley - Study of malting barley varieties, controls and impact on malt production and quality - Enzymology of germination - Enzymatic activities during malting - Malting technology (steeping, germination, kilning) - Problem of mycotoxins in malting plants - Production of specialty malts - Enzymatic activities during brewing - Technologies in brewhouse and mash filtration <p>Practical work in the laboratory:</p> <ul style="list-style-type: none"> - Official methods of malt analysis - Pilot test / production in brewhouse and mash filtration
Inline resources	Moodle
Bibliography	<ul style="list-style-type: none"> - Hough J.S, Briggs D.E., Stevens R., Malting and brewing science. Vol. 1 (2nd édition). Malt and sweet wort. Chapman and Hall, London, 1981. - Briggs D.E., Malts and malting. Blackie Academic & Professionnal, London, 1998. - Kunze W., Technology brewing and malting. (4ème édition)VLB, Berlin, 2010. - Analytica EBC, European Brewery Convention, 1997 (ou version plus récente lorsque la méthode a été corrigée).
Faculty or entity in charge	AGRO

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Advanced Master in Brewing Engineering	BRAS2MC	4		