UNIVERSITY OF BORÅS

Beer Brewing and Fermentation
Ölbryggning och fermentering
5 credits

Ladok Code: A228TG
Version: 7.0
Established by: Committee for Education in Technology 2019-12-13
Valid from: Spring 2020

Education Cycle: First cycle
Main Field of Study (Progressive Specialisation): Biotechnology (G1N)
Disciplinary Domain: Technology
Prerequisites: General entry requirements for university studies.
Subject Area: Biotechnology
Grading Scale: Fail (U) or Pass (G)

Content
We humans have produced beer at least since we started farming, which makes beer production one of the oldest technologies still in use today. While the basics of beer brewing is the same we have come a long way towards understanding what is happening and why, which allows us to improve it. During the course the modern beer production process, from raw material to finished beer, will be presented. To understand the subject the course starts with a general introduction to fermentation; why fermentation happens, what happens, and how the right conditions can be achieved for it to happen. The course then continues with the beer production process starting with the raw materials and how they change and are converted during each step of the process. Furthermore, how the raw material is influenced and influences the yeast, that is responsible for the production of alcohol and the taste is presented. The environmental impact of beer production and how the generated waste can be treated will also be discussed. After finishing the course the student should have the theoretical knowledge that is required to brew his/her own beer.

Learning Outcomes
After completion of the course, the student should be able to:

Knowledge and understanding
1.1 at a basic level describe what is happening during a fermentation process and why,
1.2 report from where taste, aroma, looks, and other qualities of beer comes from, and from which raw materials these derive from,
1.3 describe the beer production process and what occurs during each production step,
1.4 briefly describe how ethanol is produced and why,
1.5 briefly describe the production of waste from beer production and its environmental impact.

Skills and abilities
2.1 identify the most important steps in the beer production process,
2.2 identify the difference between different types of beer and the origin of these differences.

Valuation and approach
3.1 reflect over different ethical, environmental, and safety aspects of beer production

Forms of Teaching
The teaching is made up of recorded lectures and discussions via the digital teaching platform at the University of Borås.

The language of instruction is English.

Forms of Examination

The course is examined through the following examinations:

- Home exam 1
  Teaching goals: 1.1, 1.4
  Credits: 2.0
  Grading scale: Pass/Fail
- Home exam 2
  Teaching goals: 1.2-1.3, 1.5, 2.1-2.2, 3.1
  Credits: 3.0
  Grading Scale: Pass/Fail

  The grade Pass at the entire course is given when the grade Pass has been achieved in all parts.

  If the student has received a decision/recommendation regarding special pedagogical support from the University of Borås due to disability or special needs, the examiner has the right to make accommodations when it comes to examination. The examiner must, based on the objectives of the course syllabus, determine whether the examination can be adapted in accordance with the decision/recommendation.

Student rights and obligations at examination are in accordance with guidelines and rules for the University of Borås.

Literature and Other Teaching Materials

The course literature is in English.

The course literature is made up of material distributed via the digital teaching platform at the University of Borås.

Student Influence and Evaluation

The course is evaluated in accordance with current guidelines for course evaluations at the University of Borås in which students' views are to be gathered. The course evaluation report is published and returned to participating and prospective students in accordance with the above-mentioned guidelines, and will be taken into consideration in the future development of courses and education programmes. Course coordinators are responsible for ensuring that the evaluations are conducted as described above.

Miscellaneous

The course is a separate course provided at distance.