BB101U Microbiology for QA 7.5 credits

Mikrobiologi för QA

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for BB101U valid from Spring 2012

Grading scale

P, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

The course is a contract education.
The entry requirements are assessed individually of the company with recommended entry requirements from responsible on BIO school/KTH.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

On completion of the course, the course participants should have a hygiene thinking and enough general knowledge about microorganisms and terminology to independently use literature and other available information to understand, prevent and solve microbiology-related problems.

When the section about the structure, metabolism and growth of prokaryotes is completed, the course participants should be able to draw conclusions where microorganisms can grow or survive in AstraZeneca's production environment.

In the next stage, the course participants with his knowledge of control of growth should be able to create a working environment and process that prevents origin of microbial contamination. You should be able to analyse what separate prokaryotes from eucaryotes and thereby draw simple conclusions for example about treatment of infections. Through basic understanding of the genetics of the microorganisms, the course participants should be able to see the relationship between genetics and antibiotics resistance, and how regulation of the expression of genes sticks together with the metabolism.

On completion of the course, you should be able to account for important microorganisms of different affiliation when you have completed the sections about eukaryotic microorganisms and virus. The modern technology for identification of microorganisms has led to new classification and naming and on completion of the course, you should find right in the systematics when you identify and characterise an organism that has been isolated in some part of your field.

Finally, you should be able to put the microorganisms in a larger global perspective and start to think strategic around how we can apply microbiology for environment and sustainable development, inter alia in industrial manufacturing processes. With good knowledge of common infectious diseases, normal flora and toxins, you should be well equipped for discussions that concern risk preventive and impact assessment at drug production/distribution.

Course contents

Disposition

Lectures
The course comprises total 16 lectures. In connection with each lecture, you will get more detailed level learning outcomes for the subject area that is presented and reading instructions to the prescribed book. You should use the detailed learning outcomes as guidance when you read in the book and for your learning of microbiology.

Practical assignments
During the course, you will continuously work with exercises that intend to understand our microorganisms and help you to make professional assessments at the drug production.

Course literature

"Brock Biology of Microorganisms", 13th edition, 2012. M. Madigan, J. Martinko, D. Stahl and D. Clark. ISBN 978-0321-73551-5.

In addition to timetabled time, you are expected to read the chapters that is prescribed under the teaching sessions.

Examination

- HEM1 - Assignments, 7.5 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

The entire home assignments should be completed of you alone, both regarding contents, text and conclusions. Correct citations should be stated where appropriate. The course applies KTH's policy at occurrence of plagiarism and cheating.

During the course, you will obtain three home assignments which function as examination. It is important that you hand in your assignments to Lennart Rankov (rankov@kth.se) at the stated date.

Other requirements for final grade

Attendance and passed home assignments.

Compulsory attendance at all seminar days.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.