ME2806 From Science to Business 7.5 credits

From Science to Business

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

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

Establishment

Course syllabus for ME2806 valid from Autumn 2007

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Industrial Management

Specific prerequisites

Students must have a minimum of 80 university points (120 ECTS respectively). Graduate students in medicine, engineering, humanities & sciences, law, and business are especially encouraged.

Language of instruction

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

Intended learning outcomes

Biomedicine is becoming more interdisciplinary, yet more specialized at the same time. How to identify and integrate key ideas from the rapidly expanding primary literature becomes a critical skill not only to students and faculty in academia, but also to scientists and leaders in industry. The aim of this course is to introduce the students to some key concepts (Business models, Financial Strategies, Intellectual property, Product development, Ethics) as well as to key scientific areas in biotechnology. Through presentations by entrepreneurs who have brought science to business, the practical side of the concepts are made clearer. To provide some hands-on experience, the students will analyse the concepts in combination with specific science areas in multi-disciplinary team-projects.

Course contents

This course combines weekly back-to-back lectures from leaders in biotechnology with a team project. It will introduce students to several current biotechnology-related research areas with a particular focus on their emergence and future directions. Case presentations of biotech companies specializing in these areas will complement each week's lectures. Students will also work on a group project under the guidance of a mentor with extensive experience in biotech business. The student project aims to identify an unmet need, analyze the business opportunity and the potential influence of the external environment in a potential pursuit of the opportunity. Analysis of the business opportunity includes assessing the potential market and how to penetrate it, as well as the estimated cost, time and risk inherited in developing the product. The key concepts discussed in the course should all be addressed in the analyses: Business model, Financial strategy, IP, Product development, Ethics.

Structure

There will be approximately 2 weekly session lasting 3 hours each for 9 weeks. In addition to these sessions, the students will work with their team project outside of class.

Teaching methods

This course consists of 6 hours of class/week, and a team-project that students work on outside of class. In order to enhance the students experience and increase their understanding of business opportunities within biotechnology, each team will have one or more mentors with extensive experience within biotech business, in particular with evaluating and following-up on new business opportunities.

Course literature

Preliminary Literature

Principles of Biotechnology, by David F. Betsch

Evolutionary Innovations - The business of Biotechnology, by Maureen McKelvey

Biotechnology Unzipped - promises and realities, by Eric S. Grace

Biotech Patents, by Li Westerlund

Current articles published in scientific journals on the issues of

Biotechnology business (product development, financing)

Several websites that present data and analyses, for ex

www.bio.com/industryanalysis, www.bioworld.com

Examination

- PRO1 - Project, 7.5 credits, grading scale: A, B, C, D, E, FX, 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.

Other requirements for final grade

The end product of the team-project is a 10-page paper and an oral presentation for a team of judges.

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.