UNIVERSITY OF GOTHENBURG

FACULTY OF SCIENCE

BIO330, Genetically engineered foods, 7,5 higher education credits

Genteknisk modifiering av nyttoväxter, 7.5 högskolepoäng

First Cycle

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1. Confirmation

The course syllabus was confirmed by Faculty of Science on 2010-10-12 to be valid from 2011-07-06.

Field of education: Science 100 %

Department: Department of Biological and Environmental Sciences

2. Position in the educational system

Main field of studies	*Specialization*
Molecular Biology	G2F, First Cycle, has at least 60 credits in first-cycle course/s as entry requirements
Biology	G2F, First Cycle, has at least 60 credits in first-cycle course/s as entry requirements

3. Entry requirements

4. Course content

The course "Genetically engineered foods" aims at giving a deeper insight into present and future applications of modern biotechnology on food and food products and the present legislation around this.

An introduction of present gene modification technologies used in plants is given. Present problems in global agriculture are presented. Possible solutions to a sustainable agriculture are discussed. Present applications of GMO are presented and possible future applications discussed. Legislation, patenting and licensing of crop varieties is presented. GMOs-politics around genetically engineered foods is discussed.

The course includes lectures, including invited speakers from the private and public sector, tutorials and project work in groups of two students where specific applications of plant biotechnology are deeper penetrated.

5. Learning outcomes

1. Knowledge and understanding,
   - Technical principles behind different gene modification techniques used in plant breeding like crosses, mutagenesis, TILLING and genetic engineering.
   - Present EU definition of GMOs
   - Genetically modified food products already are on the market, technical background and cultivated areas
   - Next generation genetically modified plants
2. Skills and abilities
   - Be familiar with some of the ethical issues that surround GMOs
   - Be aware of the principles behind the present legislations of genetically engineered plants in EU, in the US and in the third world
   - Know-how of GMO risk analysis and of theoretical risks that can be associated with present and future applications of plant biotechnology both from an ecological and toxicological point of view.
3. Judgement and approach
   - Be familiar with the public debate on genetically engineered foods
   - Be capable of doing a scientific assessment of the present arguments in favor or against GMOs
   - Be able to form a scientifically based opinion on new data in the area

6. Literature

Mendel in the kitchen; A scientist's View of Genetically Modified Food. ISBN-13: 978-0-309-09738-3

Alberts m fl, Molecular Biology of the Cell, 5th edition (2008) Garlard Science, ISBN:0-8153-4106-7 (chosen chapters)

Chrispeels, Plants, Genes and Crop Biotechnology, Second Edition ISBN:978-0-763715861 (chosen chapters)

7. Assessment

Lectures and practical demonstrations are compulsory.

Presentation of project work.

Individually written exam based on lectures, group meeting and other distributed material. Examination will only be made on dates specified. However, a student who has failed a test twice has the right to, if possible, change examiner, A written application should in that case be sent to the Department.

8. Grading scale

The grading scale comprises Fail (U), Pass (G), Pass with Distinction (VG).

The grades are Pass, High Pass or Fail.

Regarding the application of ECTS scales, please see Vice-Chancellor's decision 2011-02-21, dnr O 2009/5545

9. Course evaluation

10. Additional information

Language of instruction: English.