Faculty of Science

FYSK02, Physics: Bachelor´s Degree Project, 15 credits

Fysik: Examensarbete för kandidatexamen, 15 högskolepoäng

First Cycle / Grundnivå

Details of approval

The syllabus is an old version, approved by Study programmes board, Faculty of Science on 2014-10-07 and was valid from 2014-10-07 , spring semester 2015.

General Information

The course is an elective course (the alternatives consist of ASTK02 and FYTK02) for first-cycle studies for a Bachelor of Science in Physics.

Language of instruction: Swedish and English

Main field of studies	*Depth of study relative to the degree requirements*
Physics	G2E, First cycle, has at least 60 credits in first-cycle course/s as entry requirements, contains degree project for BA/BSc
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Learning outcomes

The aim of the degree project is that the student through an individual assignment should show knowledge understanding, skills, ability, judgement and approach in accordance with the requirements that are set to receive a Bachelor of Science in physics. The student should be able to:

Knowledge and understanding

1. describe, use and discuss physics that is included in the undergraduate education including its disciplinary foundation

2. use and apply the methods of physics

3. describe for current research issues in a subarea of physics at a general level

4. describe and account for a specialisation within some subarea of physics

Competence and skills

5. critically search, collect, evaluate and interpret relevant information for a physical problem

6. discuss phenomena and problems within physics

7. independently formulate, delimit and solve problems within physics

8. carry out assignments within given time frames

9. present orally and discuss information, problem and solutions within physics in dialogue with different groups

10. present in writing and discuss information, problem and solutions within physics in dialogue with different groups

11. work independently within the field of physics

Judgement and approach

12. identify, discuss and make assessments considering relevant scientific, social and ethical aspects of Physics

13. identify and discuss Physics role in the society and the responsibility of people for how it is used

14. identify, discuss and plan ones own need of additional knowledge

15. develop ones skills within the field of physics or other fields.

Course content

The student chooses in consultation with supervisors and examiner an independent examination assignment that includes 15 credits. The assignment can be experimental or theoretical. The assignment can either be linked to current scientific projects at the Department of Physics or to problems within the subject area at companies or other departments within or outside the university. If the work is carried out outside the department, an internal supervisor should also be assigned. Proposals of assignments are posted on the webpage of the department.

Course design

Degree Project requires a literature survey and specialised studies. Furthermore, a number of compulsory activities are included, in the form of teaching sessions and seminars that treat e.g. scientific writing, academic writing in English and Swedish, popular writing, academic hederlighet and the use of library resources.

The work should correspond to ten weeks of qualified full-time studies. During the span of the project, usually one semester, the department should appoint a qualified supervisor. If the work is carried out under supervision outside the department or the supervisor is not a "docent", the department should appoint an extra supervisor which has reached the docent level.

At the beginning of the course, the student and the supervisor should sign up for the degree project to responsible person for this course. A plan that contains a definition of the assignment, a problem analysis and a time plan should be attached. The plan should be prepared in cooperation between the student and the supervisor. The plan should be accepted by an examiner.

During the work, the student should prepare a workbook, where the student analyse and discuss their own learning.

At least one progress report, after for example half the planned working hours, should be prepared and reported to the examiner. The progress report consists of a written report from the student about the progress of the work. The report is written under supervision of the supervisor(s) and are accepted by the examiner.

The work is presented in the form of a project report in English, with a popular description in Swedish or English. The work is also presented orally in English or Swedish, at a public seminar for discussion, criticism and analysis. Before the presentation the student should together with the supervisors review the work based on the expected learning outcomes in this course syllabus and/or in the Higher Education Act for Bachelor's degree.

Assessment

The examination and the compulsory parts that are required to pass are (in brackets is stated which learning goals that the different parts examines):

- a passed plan that is established early (aim 1 and 7),
- participation in all compulsory parts (prepare for aim 9 and 10),
- progress report that is accepted of the examiner (aim 3, 4, 7, 8, 10, 11, 14),
- a scientific, written report (aim 1-8, 10-15),
- an oral presentation of the work before an examining committee consisting of examiner and at least one assessor, specialized in the field of study. Supervisors have attendance and participation right when the examining committee meets and determines grades (aim 1-9, 11-15)

- a popular description of the work (aim 10, 12-13)
- a brief description of the implementation and reflection over the student's learning that is accepted by the examiner (aim 10 and 14)

The written report should be handed in to the examiner in a version that is possible to review at least two weeks before the seminar. Before this the report should be accepted by the supervisor. The department is responsible for the publication of the report according to the requirements of the university and the faculty. The student is responsible for uploading the report to the universities system for archiving.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass, Pass with distinction.
The final grade is determined by combining the results of the different parts of the examination. The examiner decides the grade in consultation with the examining committee. The supervisor has the right to attend and speak at the meetings of the examining committee. If the examiner assesses that the work can not be accepted the student should be given the possibility to complete the work for a renewed assessment within approximately half a semester. It is important, however, that this extended time do not violate the learning outcome 8. If the work does not satisfy the expected learning outcomes after this renewed assessment, the examiner can determine that the student has failed. This can imply that work must be entirely redone, to satisfy all the learning outcomes.

Entry requirements

For admission to the course,the basic block of 120 credits in physics and mathematics is required according to the programme syllabus of Bachelor of Science in physics. Dependent on the specialisation of the degree project, additional course requirements can be specified by the supervisor.

Further information

Also see rules and recommendations for degree projects at the faculty of natural sciences (Dnrs N 2011/130)

Subcourses in FYSK02, Physics: Bachelor´s Degree Project

Applies from V15

1501 Bachelor's Degree Project, 15,0 hp
Grading scale: Fail, Pass, Pass with distinction