Department of Physics

Stockholm University

Education plan

for

Bachelor´s Programme in Physics
Kandidatprogram i fysik

180.0 Higher Education Credits
180.0 ECTS credits

Programme code:	NFYSK
Valid from:	Autumn 2008
Date of approval:	2006-10-18
Changed:	2007-11-19
Department:	Department of Physics

Decision

Prerequisites and special admittance requirements

Swedish upper secondary school courses Physics B, Chemistry A and Mathematics D, or equivalent.

Programme structure

Whithin the compulsory part of the Program during the first two Years courses in Physics and Mathematics are given which are a necessity for further successful studies in Physics
Mathematical methods are being implemented to study and solve different problems in Physics. During third Year two different possibilities are being offered:one is more oriented toward basic physics and another oriented toward applied Physics. To be admitted to third year a minimum grade E is required for the first two years courses.

Goals

For a Bachelor's degree in Physics the student shall prove to have good knowledge and understanding of Physics including deeper knowledge of a specific selected area of the field as well as being familiar with the actual research topics in the field including the ability of collecting, evaluating and critically assessing relevant information in the fields of Physics,the ability to communicate both oral and in writing to discuss and argue in front of different groups at national and international events is also a necessity.
Ability to participate in an independent manner in different research and development work, to take into consideration different relevant scientific, socio-political and ethical aspects and show understanding about the possibilities and limitations of Physics to provide answer to different questions as well as the role and answer of scientists in how these methods are being utilised and indentifying the need of new knowledge and take responsibility for a meanings full development of new knowledge.

Courses

First Year: Compulsory courses: Mathematics(MM2001)30credits*
Mechanics(FK3003)12credits*, Experimental Methods in Physics(FK3001)12credits*.Optional:The foundations of Quantum Physics (FK3002)6credits*,Introduction to galaxies and cosmology (AS3001)6credits*,The Physics of Climatic systems (MO3001)6credits*, Use of computers in Physics (FK4002)6credits*.

Second Year: Compulsory courses:Matematical analysis III(MM5001) 7,5credits*,Mathematical analysis IV(MM5002)7,5credits*,Algebra II(MM5004)7,5credits*, Numerical methods for

Physicists(BE3002)7,5credits*,
Electromagnetism (FK4010)12credits*, Optics and waves (FK4009)10,5credits*, Thermodynamics and statistical physics (FK4008)7,5credits*.

Third Year: Compulsory courses:
Quantum mechanics I(FK5011)7,5credits*,Quantum mechanics II(FK5012)7,5credits*,Quantum phenomena and Physics(FK5014)7,5credits*, Experimental Quantum Physics(FK5013)7,5credits*,
Independent work(applied physics)(FK6001)15credits* or Quantum mechanics I(FK5011)7,5credits*,
Statistical methods in physics GN 7,5credits*, Detection systems in physics GN 7,5credits*. Independent work GN,15credits*
Free selection of courses 15credits*.

Degree

Bachelor

Misc

Students who have been admitted to the program but have not finished the program can ask for dispense to finish the program even after the program is ended. In this case limitations specified in the course plan are implemented. The Departments of Mathematics and Department of Numerical Analysis and Datalogy at Stockholm University are being involved in the program.