Kursnamn: **Ion Beam Analysis**  
Name of course

**Omfattning (högskolepoäng): 7.5**  
ECTS credits

**Tidsperiod: March through April 2013 2014**  
Course period

**Antal platser: ~15**  
Maximum number of participants

**Undervisningsspråk: english**  
Language of instruction

**Kursens syfte samt motivering till varför den bör vara fakultetsgemensam (max 150 ord)**  
Aim of course and motivation as to why it should be considered “multidisciplinary” to the extent that the faculty should allocate extra financing.

The course aims to present and interactively explain the underlying fundamental physics necessary to enable PhD-students to plan, perform and analyze experiments using energetic ion beams and to make decisions on the applicability of the individual methods for their research problems. At present, students from chemistry, physics and technical science departments are organized in a small user-group performing Ion beam analysis. These activities which are part of their thesis work show the potential of the methodology.

**Kursinnehåll, kursens uppläggning samt examinationsform (max 150 ord)**  
Contents, study format and form of examination

**Fundamentals of Ion-Surface interaction: interaction with target nuclei, interaction with target electrons; Rutherford backscattering spectrometry (RBS), Medium-energy ion scattering (MEIS), Elastic recoil detection analysis (ERDA), Particle induced X-ray emission (PIXE), micro beam applications, Nuclear reaction analysis (NRA), Software for evaluation of IBA experiments, Instrumentation for IBA experiments, RBS and ERDA laboratory exercises (preferably using samples from the course participants), exercises, short quizzes and presentations (assignments) of selected topics by the participants.**

**Målgrupp/er (specifiera ämnen/inriktningar) samt rekommenderade förkunskaper**  
Target group/s (specify, if possible, subject/specialization) and recommended background

**Physicists (solid state physics, materials science), Engineers (electronics, solar cells), Chemists (manly inorganic chemistry), Biologists (environmental research), Geology (trace element analysis), Biology (element analysis in biological materials)**

**Huvudansvarig institution: Physics and Astronomy**  
Department with main responsibility

**Andra inblandade institutioner (specifiera hur).**  
Other departments involved (specify how).

**Kontaktperson/er (namn, e-postadress)**  
Contact person (name, e-mail address)
Anmälan om kursdeltagande till
Application from course participants should be sent to
Daniel Primetzhofer

Senast
Not later than