FYST20 – VT 2012 – Schedule

	Date + Place	Lecturer	Subject / Description	Assignments	
Week 3	Monday, 16th January, 15 – 17, H322	MG, JS, SS, MT	Start meeting Overview		
	Tuesday, 17th January, 15 – 17, H322	MG	What is spectroscopy? What is photoelectron spectroscopy? What is x-ray absorption spectroscopy?	*First hand-in problem sheet*	
	Friday, 19th January, 15 – 17, H322	MG	Presentation of projects / Written and oral scientific reporting		*Beginning of the project*
Week 4	Tuesday, 24th January, 15 – 17, H322	MG	Interaction of radiation with matter	*Deadline for first hand-in problem sheet*	
	Thursday, 26th January, 14 – 16, L208	MG	Interaction of radiation with matter	*Experiment at MAX-lab* *Date to be determined, JS*	
Week 5	Tuesday, 31st January, 15 – 17, H322	MG	Interaction of radiation with matter Selection rules and spectroscopy on atoms		
	Thursday, 2nd February, 14 – 16, L208	MG	Selection rules and spectroscopy on atoms	*Deadline for experiment report*	
Week 6	Tuesday, 7th February, 15 – 17, H322	SS	Selection rules and spectroscopy on atoms Introduction to Chemical bonding, symmetry and spectroscopy in molecules	*Second hand-in problem sheet*	
	Thursday, 9th February, 14 – 16, L207	SS	Chemical bonding, symmetry and spectroscopy in molecules		
Week 7	Tuesday, 14th February, 15 – 17, H322	SS	Chemical bonding, symmetry and spectroscopy in molecules	*Deadline for second hand-in problem sheet*	
	Thursday, 16th February, 14 – 16, L208	MG	Chemical bonding, symmetry and spectroscopy in molecules Project description	*Project Vibrational structure in molecular spectra*	
Week 8	Tuesday, 21st February, 15 – 17, H322	MG	Correction Hand-in problems		
	Thursday, 23rd February, 14 – 16, H322	MT	Cluster Spectroscopy		
Week 9	Tuesday, 28th March, 15 – 17, H322	JS	Quantum description of solid materials	*Deadline for project Vibrational structure in molecular spectra*	

	Thursday, 1st March, 14 – 16, H322	JS	X-ray absorption and photoelectron spectroscopy on solid materials		*Deadline for the first version of the report*
Week 10	Tuesday, 6th March, 15 – 17, H322	JS	X-ray absorption and photoelectron spectroscopy on solid materials		
	Thursday, 8th March, 14 – 16, H322	JS	Spectromicroscopy, Scanning tunnelling microscopy and electronic structure		
	Friday, 9th March, 15-17, H322	MG, SS			*Individual appointments for feedback*
Week 11	Tuesday, 13th March, 15 – 17, H322		Cancelled		
	Friday, 16th March, 15 – 16, H422	MG, SS, JS	Project presentations		
Week 12	Tuesday, 20th March, 15 – 17, H322	MG, JS	Project presentations		*Deadline for handing in final version of report*

Teachers

Mathieu Gisselbrecht (MG), mathieu.gisselbrecht@sljus.lu.se, phone: 046 – 2220184
Joachim Schnadt (JS), joachim.schnadt@sljus.lu.se, phone: 046 - 2223925
Stacey Sörensen (SS), stacey.sorensen@sljus.lu.se, phone 046 - 2227265
Maxim Tchaplyguine (MT), maxim.tchaplyguine@maxlab.lu.se, phone: 046 – 2224710

Form of teaching

Lectures: The teacher will typically give a rather brief presentation and then we will discuss both in smaller groups and with the entire course. *This requires that you read the material, which is handed out during the preceding lecture, prior to the meeting*.

Hand-in problems: During the course you will receive two exercise sheets with problems to be solved. The solutions should be handed in by the dates indicated in the schedule.

Project Vibrational structure in molecular spectra. Written report.

Project: You should investigate a particular subject with the realm of modern spectroscopy. You may choose a subject by yourself, but this has to be agreed upon by the teachers. Alternatively, you choose a subject from a list provided by the teachers. The list from last year is reproduced below. In the course of the project you are responsible for finding suitable material by yourself, although you will be provided with a starting point. You should go through the material and try to understand it, in order to then prepare a written report as well as an oral presentation to be given in front of your fellow students.

Examination

Hand-in problems + Experiment report (25% of the final grade).

Report on Vibrational structure in molecular spectra (25% of the final grade).

Written report and oral presentation of the project (one project per participant) (together 50% of the final grade). Each report is examined by one of the other course participants, who also should “oppose” during/after the oral presentation.

Active participation in the meetings is compulsory. If you are not active you will be assigned an additional written task.

Grades

ECTS grading:
A - 90% to 100% (Väl godkänd)
B - 80% to 89.99% (Väl godkänd)
C - 70% to 79.99% (Godkänd)
D - 60% to 69.99% (Godkänd)
E - 50% to 59.99% (Godkänd)
F (fail) - below 50% (Underkänd)