

Mass Spectrometry KA7010KA/7011 Autumn 2022

Preliminary schedule 2022-10-05

Course meetings, all compulsory for KA7010, * compulsory for KA7011

Mon	31/10	09.00-09.50	* Roll call, Introduction to the course	UN	B237
		10.00-12.30	Lab safety and risk assessment of lab work 1-4	PP/AD	B237
		13.30-16.30	Risk assessments	PP/AD	B237
Tue	1/11	09.00-12.00	* MS instrumentation, analyzers	UN	B237
		13.00-14.00	Lab exam	PP/AD	B237
Wed	2/11	09.00-12.00	* MS instrumentation, analyzers continued	UN	B237
Thu	3/11	09.00-12.00	* MS instrumentation, analyzers continued	UN	B237
Fri	4/11		Homework		
Mon	7/11	09.00-12.00	* Scan techniques and LC/MS: ESI, APCI, APPI	UN	B237
Tue	8/11	09.00-12.00	* Continuation LC/MS techniques	UN	B237
Wed	9/11	09.00-12.00	* GC/MS EI, PICI, ECNI	UN	B237
Thu	10/11		Homework		
Fri	11/11	09.00-12.00	* Continuation of GC/MS techniques	UN	B237
Mon	14/11	09.00-12.00	* Quantitative MS/Choice of projects	UN	B237
Tue	15/11	09.00-12.00	* Fragmentation and interpretation	UN	B237
Wed	16/11	09.00-12.00	* Fragmentation and interpretation	UN	B237
Thu	17/11	09.00-12.00	Homework		
Fri	18/11	09.00-12.00	* Fragmentation and interpretation	UN	B237
Mon	21/11	09.00-12.00	* MALDI/ToF and Orbitrap	UN	B237
Tue	22/11	10.00 -16.00	* Demo	PP/AD	MS lab
Wed	23/11	10.00 -16.00	* Demo	PP/AD	MS lab
Thu	24/11	09.00-12.00	* Fragmentation of peptides	UN	B237
Fri	25/11	09.00-12.00	* Biomolecular MS	UN	B237
Mon	28/11	09.00-12.00	* Fragmentation and interpretation	UN	B237
Tue	29/11	09.00-12.00	* Fragmentation and interpretation	UN	B237
Wed	30/11	09.00-12.00	* Interpretation and other MS exercises	UN	B237
Thu	1/12	09.00-12.00	* Interpretation and other MS exercises	UN	B237
Fri	2/12	09.00-12.00	* State of the art MS, direct MS, non-target screening	UN	B237
Mon	5/12	09.00-12.00	Presentations of results from lab 1-4/peer review	UN	B237
Tue	6/12	09.00-12.00	Project work all day	AD/PP	MS lab
Wed	7/12	09.00-12.00	Project work all day	AD/PP	MS lab
Thu	8/12	09.00-17.00	Project work all day	AD/PP	MS lab
Fri	9/12	09.00-17.00	Project work all day	AD/PP	MS lab
Mon	12/12	09.00-12.00	* MS exercises and consultation	UN	B237
Tue	13/12	10.00-12.00	* MS exercises and consultation	UN	B237
Wed	14/12		Extra day for project/Exam prep		
Thu	15/12		Exam prep		
Fri	16/12		Exam prep		
Mon	19/12		Exam prep		
Tue	20/12	09.00-14.00	Exam		
Mon	2/1	Week 1	Report writing and preparation of oral presentation		
Mon	9/1	09.00-17.00	Submission deadline of report and preparation of oral presentation		
Tue	10/1	09.00-17.00	Preparation of oral presentation		
Wed	11/1	09.00-17.00	Preparation of oral presentation		
Thu	12/1	09.00-17.00	Submission deadline of revised report and ppt-presentation		
Fri	13/1	09.00-14.00	Oral presentation of projects, end of course		

LAB SCHEDULE

Lab groups 1-4			Max 4 students/group		
			Lab 1	Lab 2	
			PP	AD	
Mon	7/11	13.00-17.00	1	4	Submit risk assessments and answers to lab questions before lab!
Tue	8/11	13.00-17.00	1	4	
Wed	9/11	13.00-17.00	2	3	
Thu	10/11	Homework			
Fri	11/11	13.00-17.00	2	3	
Mon	14/11	13.00-17.00	3	2	
Tue	15/11	13.00-17.00	3	2	
Wed	16/11	13.00-17.00	4	1	
Thu	17/11	Homework			
Fri	18/11	13.00-17.00	4	1	
			Lab 3	Lab 4	
Mon	21/11	13.00-17.00	1	4	
			Demo 1	Demo 2	
Tue	22/11	10.00-16.00	1,2	3,4	
Wed	23/11	10.00-16.00	3,4	1,2	
			Lab 3	Lab 4	
Thu	24/11	13.00-17.00	2	3	Project planning and literature research before project lab work starts
Fri	25/11	13.00-17.00	3	2	
Mon	28/11	13.00-17.00	4	1	
Project lab work					
Tue	29/11	13.00-17.00			
Wed	30/11	13.00-17.00			
Thu	1/12	13.00-17.00			
Fri	2/12	13.00-17.00			
Mon	5/12	13.00-17.00			
Tue	6/12	09.00-17.00			
Wed	7/12	09.00-17.00			
Thu	8/12	09.00-17.00			
Project lab work					
Fri	9/12	09.00-17.00			
Mon	12/12	13.00-17.00			
Tue	13/12	13.00-17.00			
Wed	14/12	09.00-17.00			

Lab 1: Scan techniques with LC/MS triple-quad, microLC

Lab 2: Scan techniques with GC/MS, identification and quantification

Lab 3: ESI/MS, peptides and proteins, sequencing, QToF

Lab 4: LC/ESI-MS, ion pair chromatography, interpretation, LC/MS triple-quad

Demos: MALDI/MS and ion mobility MS, Orbitrap MS

Note: This course is fulltime work from 9 am to 5 pm

UN= Ulrika Nilsson, teacher

PP= Pilleriin Peets, lab assistant

AD= Awat Dostberg, lab assistant