

## KAROLINSKA INSTITUTE'S STUDY PROGRAMME IN AUDIOLOGY, SIGNAL THEORY, HT 2024

## Signalteori för audionomer 2024

Events marked with a \* are compulsory. Color code: Lectures; Student activity/Lab/Exercise, Student presentation/examination

Vecka	date	time	place	event	teacher
35	Mon 2/9	n 2/9 *8.30-12 4I Takterassen ANA 8, plan 4		Introduction and Lecture 1: Signals	ME+NE
		13-16	301 Ursula ANA 23, plan 3	Intro to Audacity;	ME
		*17		Lab 1 Wave analysis (tasks 1-2), Exercises 1 (tasks 1-3)	
		*		Quiz Signals	
	Tue 3/9	*9-12	4C Takterassen ANA 8, plan 4	Follow-up on lab 1; Lecture 2: Signals and spectrum	NE
		*13-15	S301 Ursula ANA 23 plan 3	Lab 1 Wave synthesis: building signals (exercise in Excel)	ME
				Lab 1 Wave synthesis: upload to Canvas before 5 pm	
		*		Quiz Signals and Spectra	
	Wed 4/9	*9-12	4I Takterassen ANA 8, plan 4	Follow-up in Quiz; Lecture 3: Power and sound level of acoustic signals	NE+ME
		*13-15	S301 Ursula ANA 23 plan 3	Lab 1 Wave analysis (tasks 3-7)	ME
	Thu 5/9	9-12	Zoom	Lecture 4: Power and sound level of acoustic signals	ME
		13-14.30	Zoom break-out rooms	Exercises 1 (tasks 4-7), (Lägg till powerlab/bandkällor)	ME
	Fri 6/9	*9-15	515 ANA 10, plan 5	Presentations of solutions to Lab 1 and Exercises 1	ME

36	Mon 9/9	*9-17	Hårcellen, ANA 10	Oral seminar 1 - basic signal theory (30-45 min per group)	ME
	Tue 10/9	9-12	4I Takterassen ANA 8, plan 4	Lecture 5: Intro to Systems, homogeneity	ME
		13-15		*Quiz on linearity, Exercises 2 (task 7)	
		13-	PhEar	Second chance: Lab 1 and Ex 1 presentations	
	Wed 11/9	9-12	4I Takterassen ANA 8, plan 4	Sign-up for lab 2; Pick 'My system' topic	ME
				Lecture 6: Signals and systems, LTI	
		afterno		*Quiz on hearing aid programs' linearity,	
		on		Exercises 2 (tasks 1-6) /Exercise: A walk through the auditory system (book Ch	
				12)	
				Second chance: Small group seminars on basic signal theory	
	Thu 12/9			Study day: Finish Exercises 2: Start prepare 'My system' topic	
	Fri 13/9	10-12	Zoom	Study day; Follow up on Exercises; Prepare 'My system' topic	ME



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37	Mon 16/9	8-8:30	Zoom	Briefing: Report writing guidelines, assessment criteria	ME
		8:45-12		Lecture 7: Signal processing in hearing aids. Intro to our measuring systems (lab 2)	ME
		*13-17	PhEar, ANA 10	Lab 2: Hearing aid as a system & Report writing	ME
				Parallel activities:	
				Tube resonance system (demo video and assignment)	
	Tue 17/9			Study day	
	Wed 18/9	*8-17	PhEar, ANA 10	Lab 2: Hearing aid as a system & Report writing	ME
				Parallel activities:	
				Tube resonance system (demo video and assignment)	

Prepare for lab 2 : Videolecture on resonance

Thurs 19/9 8-9 Zoom Follow-up on hearing aid laboration ME \*12 Deadline Report writing on hearing aid laboration: send to peer group \*13-17 Peer review \*24 **Upload report with peer-review comments** to Canvas Fri 20/9 Correct report and upload final report to Canvas \*12 Deadline Prepare: 'My system' topic em

38	Mon 23/9	*9-17	515 ANA 10 plan 5	*Symposium: My system (presentations on e.g. impulse response, sources of	ME
				nonlinearity in auditory system/hearing aids)	
	Tue 24/9	9-10	Zoom	Study day (question catalogue) Question forum	ME
		Drop-In		Time slot for second/third chances	
	Wed 25/9	10-11	Zoom	Study day (question catalogue) Question forum	ME
		Drop-In		Time slot for second/third chances	
	Thu 26/9	*9 -17	Hårcellen, ANA 10	Oral examination in small groups: On signals and systems (45 min, compulsory)	ME
	Fri 27/9	*9-12	4I Takterassen ANA 8,	Course summary/Feedback	ME
			plan		

Teachers: Martin Eklöf ME MSc EE, PhD, KI, Niklas Edvall NE Audionom, PhD, KI

Kommenterad [ME1]: @Monica Beckius Hellgren Ändrade här nu

Kommenterad [ME2]: Flytta till em