

Week 1: Course introduction and cardiovascular epidemiology

	Thursday 10.11 Nils Ringertz.	Friday 11.11 Wretlindsalen
9.00-10.30	Course introduction YL	Generalized estimating equation (GEE) model: theory and example RW
10.30-10.45	Break	
10.45-12.00	CVD epi: overview on methods YL	Cont. RW
12.00-13.00	Lunch	
13.00-13.45	CVDs: Cross-sectional and trend study YL	Lab work on GEE modelling YS, JW
13.45-14.00	Break	
14.00-14.45	CVDs: Cohort study and trajectory YL	Cont. YS, JW
14.45-15.00	Break	
15.00-15.45	Cont.	Cont. YS, JW

Responsible lecturer:

YL, yajun.liang@ki.se; RW, rui.wang@ki.se; YS, ying.shang@ki.se; JW, jing.wu@ki.se; KG, Katalin.gemes@ki.se

Lecture room: Nils Ringertz. <https://medarbetare.ki.se/biomedicum-2>

Wretlindsalen. <http://ki.se/medarbetare/wretlind>

Week 2: Cardiovascular epidemiology

	Monday 14.11 Charles	Tuesday 15.11 Charles	Wednesday 16.11 Charles	Thursday 17.11 Charles	Friday 18.11 Charles
9.00-10.30	Latent class growth model (LCGM): theory and example RW	CVDs: case-crossover study KG	Reading assignment instruction and own work YL	Own work on assignment	Group presentation and discussions YL/KG
10.30-10.45	Break				
10.45-12.00	Cont. RW	Cont. KG	Cont.	Cont.	Cont. YL/KG
12.00-13.00	Lunch				
13.00-13.45	Lab work on LCGM YS, JW	Reading & discussion KG	Cont.	Cont.	Cont. YL/KG
13.45-14.00	Break				
14.00-14.45	Cont. YS, JW	Cont. KG	Cont.	Cont.	Cont. YL/KG
14.45-15.00	Break				
15.00—15.45	Cont. YS, JW	Cont. KG	Cont.	Cont.	Conclusion YL

Responsible lecturer:

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lecture room: Charles. <http://ki.se/medarbetare/charles> **Mandatory in yellow**

Week 3: Psychiatric epidemiology

Week 40	Monday 21.11 Charles	Tuesday 22.11 Charles	Wednesday 23.11 Charles	Thursday 24.11 Charles	Friday 25.11 Charles
09:00-09:50	Introduction Determinants and international studies of well-being. Group exercise with sustainable goals and well-being/YF	Measurement of study exposures and confounders in psychiatric research – common examples /AC	Epidemiological studies of mental health and sexual and reproductive health: lessons and challenges/KK	Work with assignment	Oral presentations of group work and discussions/YF, AC
09:50-10:40	Cont. and different definitions of study exposure in Psychiatric epidemiology/YF	Psychiatric exposures cont – methodological issues / AC	Psychosis. Theory behind the data assignment/RG	Cont.	Cont.
10:40-11:00	BREAK				
11:00-12:00	Cont. with focus on Depression/anxiety/YF	Study populations: who is missing and does it matter?/ AC	Cont.	Cont.	Cont.
12:00-13:00	LUNCH				
13:00-13:50	Group work- studies of various disorders see separate instructions/YF Charles, WH1, WH2	Designing studies to address research questions/ AC	Pres of data assignment/Psychosis/SW Start with data set-assistance available	Cont.	Work with data work
13:50-14:40	Cont.	Practical session / AC Charles, WH1, WH2	Cont.	Cont.	28.11 Hand in data work/Canvas
14:40-15:00	BREAK				
15:00-16:00	Cont.	Practical session / AC sharing findings Charles, WH1, WH2	Cont.		

Responsible lecturer: YF, Yvonne.Forsell@ki.se

Other lecturers: AC= Alexis.Cullen@ki.se, KK= Kyriaki.kosidou@ki.se, RG= Renee.gardner@ki.se, SW= Susanne.wicks@ki.se

Week 4: Geriatric Epidemiology

	Monday 28.11 Charles	Tuesday 29.11 Charles	Wednesday 30.11 Charles	Thursday 1.12 Charles	Friday 2.12 Charles
09.00-09.50	Course introduction & assignments, CQ, YI	Protective factors for dementia, SD	Multimorbidity in old age: assessment, ACL	Group work on Project	Group work on project
09.50-10.00	BREAK				
10.00-10.50	Population aging and health trends, SF	Dementia risk reduction and prevention, CQ	Clinical relevance of multimorbidity, DLV	Group work on Project	Presentations and discussion of projects, YI, YL, YLi, CQ
10.50-11.00	BREAK				
11.00-12.00	Clinical aspects of dementia and MCI, FM	Discussion-I: life-course approach, cognitive reserve & reverse causality, SD, YI, CQ	Multimorbidity and functioning in old age, DLV	Questions on projects & group work on assignments, CQ, YI	Presentations and discussion of projects, YI, YL, YLi, CQ
12.00-13.00	LUNCH				
13.00-13.50	Population studies for aging, health & dementia, CQ	Discussion-II: Multimodal interventions, CQ, YI, SD	Discussion-I: multimorbidity in aging, DLV, ACL	Group work on project	Presentations and discussion of projects, YI, YL, YLi, CQ
13.50-14.00	BREAK				
14.00-14.50	Cardiovascular risk factors for dementia, YI	Questions on projects and group work on assignments, CQ, YI	Discussion-II: multimorbidity in aging, DLV, ACL	Group work on project	Presentations and discussion of projects, YI, YL, YLi, CQ
14.50-15.00	BREAK				
15.00-15.45	Literature reading	Group work on Project	Discussion-II: multimorbidity in aging, DLV, ACL	Group work on project	Conclusions, CQ

Course leaders: Chengxuan Qiu, Email: chengxuan.qiu@ki.se & Mobile: 0790682148; Yume Imahori (YI), Email: yume.imahori@ki.se

Lecturers: Stefan Fors (SF); Serhiy Dekhtyar (SD), Francesca Mangialasche (FM); Davide Liborio Vetrano (DLV); Amaia Calderón-Larrañaga (ACL); Chengxuan Qiu (CQ); Yajun Liang (YL); Yuanjing Li (YLi), Yume Imahori (YI)

Lecture room: Charles. <http://ki.se/medarbetare/charles>

Week 5: Genetic Epidemiology

	Monday 5.12	Tuesday 6.12	Wednesday 7.12	Thursday 8.12	Friday 9.12
09:00-9.45	Zoom An introduction to genetics and epigenetics (CL)	Charles Genetic epidemiology: Introduction (SV)	Charles Familial confounding – concept (ZC)	Zoom The statistics behind GWAS (CH)	Charles Group-work preparations for afternoon presentations
9.45-10.15	BREAK				
10:15-11.00	Basics in molecular biology: From DNA to protein (CL)	Familial aggregation (SV)	Familial confounding - research methods (ZC)	Hands-on exercise: Genetic associations (CH)	Group-work preparations for afternoon presentations
11.00-11.15	BREAK				
11.15-12.00	Genetic variants, and Heritability with focus on psychiatric disorders (CL)	Hands-on exercise: familial aggregation (SV/JN)	Hands-on exercise: familial confounding (ZC/JN/SV)	Gene-Environment interactions (CH)	Group-work preparations for afternoon presentations
12:00-13:00	LUNCH				
13:00-13.45	Identification of genetic variants contributing to psychiatric disorders: Genetic association methods (CL)	Twin method (JN)	Overview of basic concepts in complex human genetics (PM)	Interactions: A methodological recap (AL)	Research article group-presentations (PM)
13.45-14.00	BREAK				
14.00-14.45	Movie ' <i>Genetic me</i> ' CL	Twin method (JN)	GWAS methodology and case-study on alcohol use (PM)	Mendelian Randomization (YZ)	Research article group-presentations (PM)
14.45-15.00	BREAK				
15.00-15.45	Q&A and choice of research articles for Friday afternoon's group presentations (CL and PM)	Hands-on exercise: Calculating heritability (JN/SV)	The "missing heritability" problem (PM)	Mendelian Randomization (YZ)	Research article group-presentations (PM)

Responsible lecturers: PM: Philippe Melas, Philippe.Melas@ki.se CL: Catharina (Cattis) Lavebratt, Catharina.lavebratt@ki.se,

Additional lecturers: Suvi Maria Virtanen (SV), Jurgita Narusyte (JN), Zheng Chang (ZC), Christopher (Topher) Huebel (CH), Andreas Lundin (AL), Yiqiang Zhan (YZ)

Lecture room: Charles. <http://ki.se/medarbetare/charles>

Week 6: Social Epidemiology

	Monday 12.12 Charles	Tuesday 13.12 Charles	Wednesday 14.12 Charles	Thursday 15.12 Charles	Friday 16.12 Charles
09:00-9.45	Introduction BB KE DF	Social capital KE	Mechanisms generating health inequalities BB	Life-course epidemiology DF	Study time
9.45-10.15	BREAK				
10.15-11.00	Social determinants of health in different settings BB	Measuring inequalities KE	Article seminar Diderichsen	Cont.	
11.00-11.15	BREAK				
11.15-12.00	Health-related behaviours DF	Cont.	Cont.	Employment & unemployment MA	Quiz including discussion
12.00-13.00	LUNCH				
13.00-13.45	Income and material conditions/ Psychosocial factors BB	Article seminar Marmot KE	Study time	Study time	Study time
13.45-14.00	BREAK				
14.00-14.45	Reading time Read Mackenbach	Cont.	Study time	Study time	Study time
14.45-15.00	BREAK				
15.00-15.45	Cont.	Read Diderichsen	Cont.	Cont.	

Responsible lecturer: BB: Bo Burström, bo.burstrom@ki.se; DF: Daniel Falkstedt, daniel.falkstedt@ki.se ; KE: karin.engstrom@ki.se

MA: Melody Almroth, melody.almroth@ki.se

Lecture room: Charles. <http://ki.se/medarbetare/charles>

Week 7: Infectious epidemiology and individual work

	Monday 19.12	Tuesday 20.12	Wednesday 21.12	Thursday 22.12	Friday 23.12
9:00-10:00	Instruction of the written assignment YL	Own work	Lab work FL	Own work	Own work
10:00-12:00	Own work	Infectious epi seminar FL	Lab work FL	Own work	Own work
12:00-13:00	LUNCH				
13:00-15:00	YL available on zoom	Lab work FL	Discussion and wrap-up FL	YL available on zoom	Own work
15:00-16:00	Own work	Lab work FL	Cont. FL	Own work	Own work

Responsible person: YL, Yajun.liang@ki.se; FL, fredrik.liljeros@sociology.su.se **Mandatory in yellow**

Week 8: Individual work

	Tuesday 27.12	Wednesday 28.12	Thursday 29.12	Friday 30.12
09:00-12:00	Own work	Own work	Own work	Own work
12:00-13:00	LUNCH			
13:00-16:00	Own work	Own work	Own work	Own work

Responsible person: YL, Yajun.liang@ki.se

Week 9: Individual work

	Monday 2.1	Tuesday 3.1	Wednesday 4.1	Thursday 5.1
09:00-12:00	Own work	Own work	Own work	Own work
12:00-13:00	LUNCH			
13:00-15:00	YL available on zoom	YL available on zoom	YL available on zoom	Hand in assignment and send to opponent
15:00-16:00	Own work	Own work	Own work	

Responsible person: YL, Yajun.liang@ki.se. **Mandatory in yellow**

Week 10: Examinations and feedback

	Monday 9.1	Tuesday 10.1	Wednesday 11.1	Thursday 12.1	Friday 13.1
	Charles YL/KG	Charles YL/KG	Charles YL/KG	zoom	zoom
09:00-9:30	Examinations	Examinations	Examinations	Individual feedback Time book in canvas	Own work on revision
9:30-9:40 Break					
9:40-10:10	Cont.	Cont.	Cont.	Cont.	Cont.
10:10-10:20 Break					
10:20-10:50	Cont.	Cont.	Cont.	Cont.	Cont.
10:50-11:00 Break					
11:00-11:30	Cont.	Cont.		Cont.	Cont.
11:30-12:30 Lunch					
12:30-13:00	Cont.	Cont.	Cont.	Cont.	Cont.
13:00-13:10 Break					
13:10-13:40	Cont.	Cont.	Cont.	Cont.	Cont.
13:40-13:50 Break					
13:50-14:20	Cont.	Cont.	Cont.	Cont.	Cont.
14:20-14:30 Break					
14:30-15:00	Cont.	Cont.	Cont.	Cont.	Cont.
15:10-15:20 Break					
15.20-15.50	Cont.	Cont.	Cont.	Cont.	Hand in revised assignment

Examiners: YL, Yajun.liang@ki.se; KG, karalin.gemes@ki.se

lecture room: Charles. <http://ki.se/medarbetare/charles>

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