Health PhD Committee (Health PhD Committee meeting)

04-09-2023 15:00 - 17:00

Jens Baggesens Vej 53, bld. 5220, room 014 (basement level - lunch room)

Indhold

Punkt 1: Meeting information

Participants
PhD students (observers): Shokouh Arjmand, Mojdeh Mansoori, Malene Kærslund Hansen, Tanja Charlotte Frederiksen, Mette Vestergård Pedersen, Fernando Valentim Bitencourt.

Academic staff: Stine Sofia Korreman, Ditte Demontis, Loni Kraus Ledderer, Rikke Katrine Jentoft Olsen, Jeppe Prætorius, Ole Ingemann Hansen.

Graduate School of Health: Helene Nørrelund (Head of Graduate School), Birgitte Rosenvind Eriksen (Head of Health PhD administration), Louise Nygaard (Special Consultant, Graduate School of Health).

Guests
Niels Uldbjerg and Rikke Maimburg, Heads of Graduate Programme ClinFO *(observers during the meeting)*
Thomas Vorup-Jensen, Head of Graduate Programme Biomedicine *(item 2)*

Absence
Lise-Lotte Kirkevang.

Punkt 2: The AU Health/AUH strategy for health-scientific research

It is recommended that
The PhD committee discuss how to contribute to the work of the implementing group re. development opportunities for all talented researchers

Case
Prof. Thomas Vorup-Jensen, Dept. of Biomedicine will give a status on the work of the implementing group (re. development opportunities for all talented researchers, incl. younger researchers and PhD students) so far.

The PhD Committee will discuss how to contribute to the work of the implementing group with focus on PhD students (e.g. a reference group with PhD students).

Links to the strategy and overview of members of the implementing groups:

- *How AU Health and AUH plan to elevate health research to a new level (from InsideHealth) and*
- *Strategy for clinical health science research - Aarhus Universitetshospital (auh.dk) (from AUH's website)*

Responsible
Stine Sofia Korreman and Thomas Vorup-Jensen

Punkt 3: Career opportunities for PhD students at Health

It is recommended that

The PhD committee discuss career opportunities for PhD students at Health and how to optimize the announcement of these initiatives.

Case

The PhD committee will discuss career opportunities for PhD students at Health and how to make sure that the PhD students are familiar with these initiatives. As inspiration for this discussion, current career activities/initiatives for PhD students at Health (as defined by the Dean's Office in June 2023) have been listed:

- AU Career PhD and JR (individual career sessions, courses, career day, company visits, recruitment panel etc.)
    - Mentor programmes by AU Career PhD
- AU's strategy/action plan: "Early career development for PhDs" *(see p. 50)*
- Mandatory career discussion with main supervisor in connection with the midterm evaluation
- IPTO (skills and planning tool)
- Introduction to AU Career PhD and The Kitchen at the mandatory "Welcome to the PhD study"
- Innovation workshop with connection to PhD Day (as of 2024)
- PhD courses:
    - "From PhD to Postdoc"
    - "Getting the most out of your PhD - a career perspective"
    - "Prepare yourself on the movement from a PhD in Health to a career in non-academia"
    - "Do you manage your time well?"
    - "Reality check"

Responsible
Stine Sofia Korreman

Punkt 4: Well-being initiatives for PhD students at Health

It is recommended that
The PhD committee takes note of the briefing.

Case
Helene Nørrelund will give an update on the latest actions from the working group on PhD students' well-being and the graduate school's initiatives regarding well-being of PhD students at Health. Mojdeh Mansoori will inform about the meeting in the PhD well-being committee held on 12 June 2023.

At the last PhD committee meeting, it was mentioned that “Universities Denmark” has made an inspirational catalogue regarding well-being initiatives for PhD students in Denmark. Go to catalogue (English version).

Responsible
Helene Nørrelund and Mojdeh Mansoori

Punkt 5: Research stays abroad

It is recommended that

The PhD committee discuss possible barriers related to research stays abroad.

Case
The PhD Association has raised awareness about **financial issues** as barriers/challenges for research stays abroad. PhD students are offered financial support in relation to research stays abroad in the following ways:

- Financial support/grant from the graduate school: The graduate school offers financial support to all PhD students going on a research stay abroad of at least 30 consecutive days. Learn more about financial support from the graduate school.
- Credit cards on behalf of the department: All HE departments are offering all employees, including PhD students, to apply for a credit card to be used in relation to e.g. stays abroad or conference/congress. Go to AU credit card policy.

To be discussed by the PhD committee: *How do we ensure that all PhD students are familiar with the above (financial support and credit card)?*

Also, the graduate school management has discussed how to motivate PhD students to go abroad. **Current initiatives** from the graduate school to increase the number of research stays abroad include:

- An early (when starting the PhD programme) talk between the PhD student and the main supervisor re. research stays abroad - to indicate that a research stay abroad is expected, but alternatives can be found.
- A relaxation of the expectations to research stays acc. to the Ministerial Order of 3-6 month duration. The graduate school accepts research stays of only 30 days, which is highlighted at "Welcome to the PhD study" for all newly enrolled PhD students.
- The monthly letter from the graduate school includes inspirational stories from PhD students who went on a research stay abroad.
- Financial support (see above)

To be discussed by the PhD committee*: How do we motivate more PhD students to go on research stays abroad (the above-mentioned initiatives set aside)?*

Data on research stays abroad:
Financial support/travel grants
Overview of no. of applications for financial support from the graduate school:

- 2018: 87
- 2019: 102
- 2020: 34
- 2021: 55
- 2022: 132
- 2023: 122 (until 28 August 2023)

Duration of stay
According to the yearly PhD report (2022) ("Talentrapporten") from AU, we see an increase in the number of PhD students going abroad for 1-3 months, which at Health is the most commmon duration for a stay abroad during the period of 2018-2022. However, in 2022 we see a decrease in the number of PhD students going on both shorter and longer stays abroad. In 2022, approx 40% of the PhD graduates had been on a research stay abroad. Due to the covid-19 it is concluded that several research stays abroad have been cancelled or transfered into virtual "stays". The present data covers all research stays abroad, including those being stopped or transfered into virtual stays, for the years

2020-2022. The PhD report 2022 (Health) is attached - unfortunately, it is only available in Danish.

Responsible
Stine Sofia Korreman

Appendix
The yearly PhD report (2022)/"Talentrapporten" from AU

Årsrapport for talentområdet på Aarhus Universitet 2022
BILAG HEALTH

AARHUS UNIVERSITET

SOLIDUM PETIT IN PROFUNDIS · UNIVERSITAS ARHUSIENSIS ·

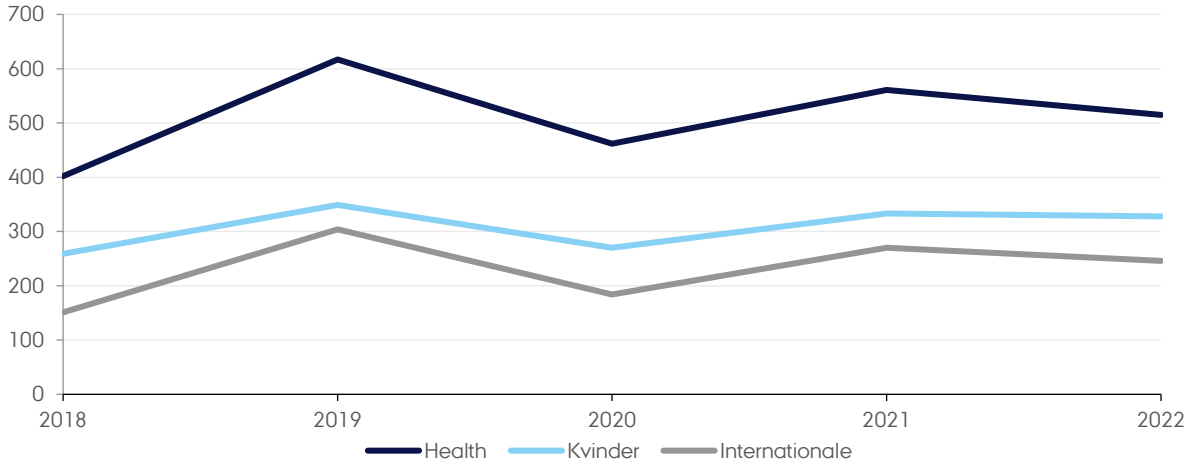
1.0 Nøgletal om ph.d.-uddannelsen på HEALTH 2018-2022

1.1/ Rekruttering

Health har i de sidste år indskrevet knap 190 ph.d.-studerende årligt. I 2022 er der indskrevet 206 ph.d.-studerende. Indskrivningen sker på baggrund af åbne opslag eller særopslag, hvor emnet for ph.d.-projektet er helt eller delvist defineret. Endvidere indskrives en række ph.d.-studerende uden åbent opslag men med faglig bedømmelse, hvis den ph.d.-studerende kommer med egen finansiering.

1.1.1/ Ansøgninger

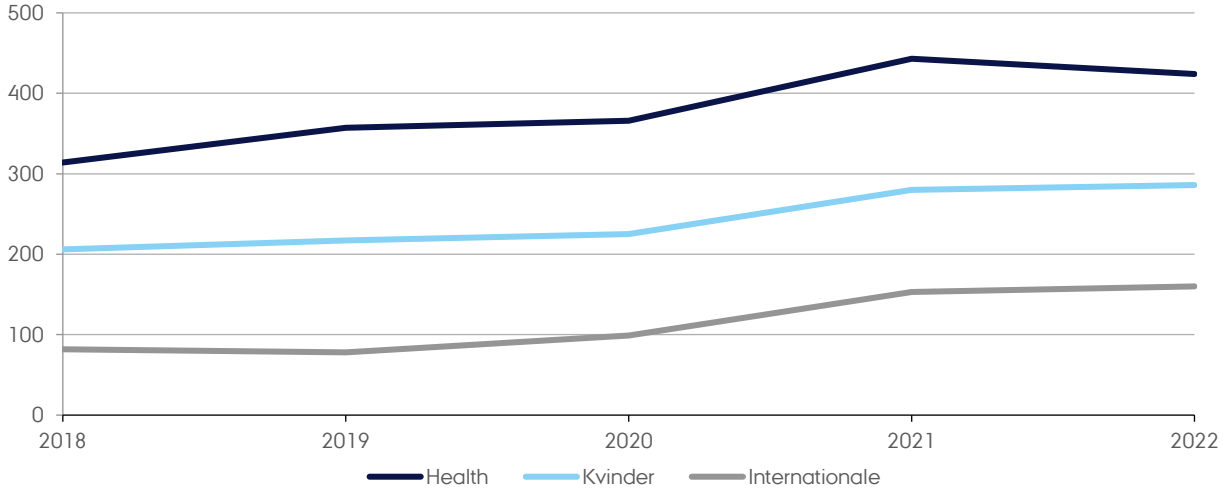
Health har i perioden generelt set en stigning i antal ansøgninger. Health afprøvede i 2018 og 2019 en ny rekrutteringsmodel, hvilket forklarer stigningen i antal ansøgninger i 2019. Modellen blev rullet tilbage i 2020, da andelen af kvalificerede ansøgere ikke steg proportionelt.



Kilde: PhD Planner & Emply Hire
Note: Ansøgningerne er talt med det år, ansøgningen blev registreret i rekrutteringssystemet. Internationale ansøgninger opgøres på baggrund af ansøgers statsborgerskab.

1.1.2/ Kvalificerede ansøgninger

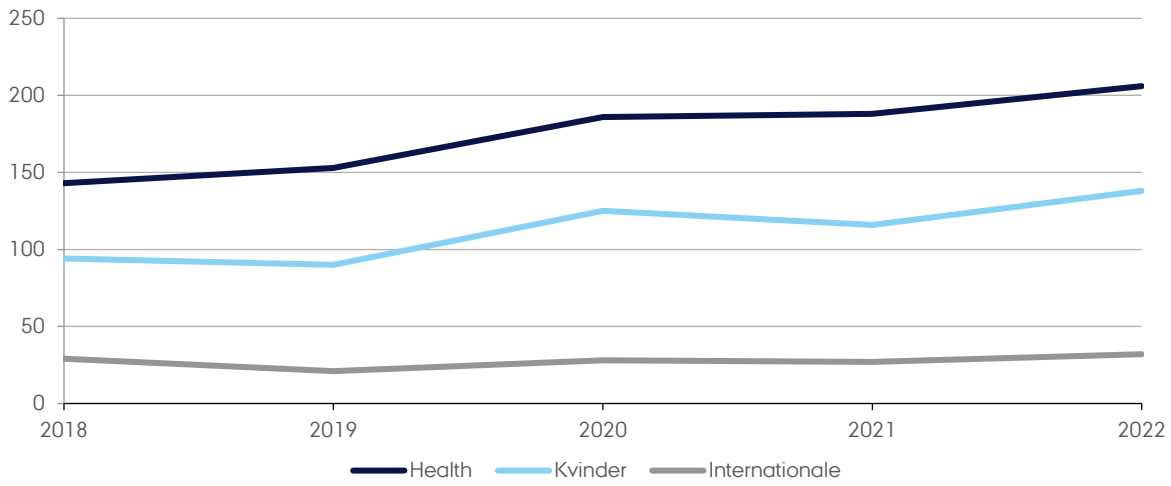
Årligt bedømmes omkring 80% af de indkomne ansøgninger kvalificerede. 2019 dog undtaget, da andelen af kvalificerede det år var 58%.



Kilde: PhD Planner & Emply Hire
Note: Ansøgningerne er talt med det år, ansøgningen blev registreret i rekrutteringssystemet. Internationale ansøgninger opgøres på baggrund af ansøgers statsborgerskab.

1.1.3/ Nyindskrevne

Der ses en stigning i det årlige optag over hele perioden på Health. I 2022 er der indskrevet 206 ph.d.-studerende. Der er en overvægt i optaget af kvindelige ph.d.-studerende i hele perioden. Internationale ph.d.-studerende udgør under 20% af de nyindskrevne.

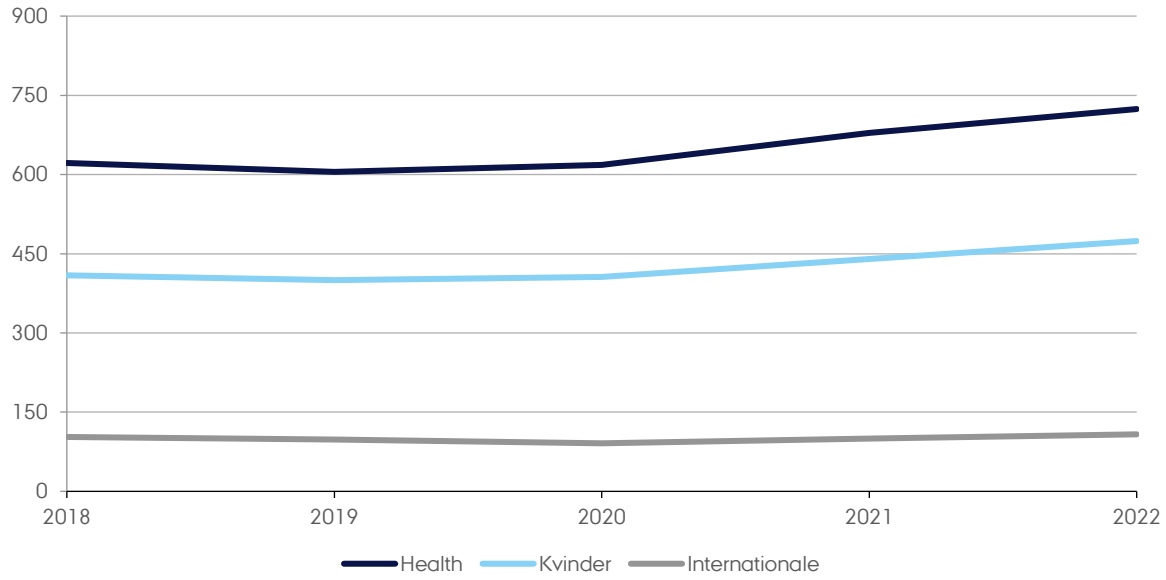


Kilde: PhD Planner
Definition: Danske Universiteters statistiske beredskab
Note: Nyindskrevne ph.d.-studerende er opgjort på baggrund af antallet af ph.d.-studerende, der har påbegyndt et ph.d.-studium på AU i et givent år.

1.2/ Bestand og studieforløb

1.2.1/ Health's ph.d.-bestand

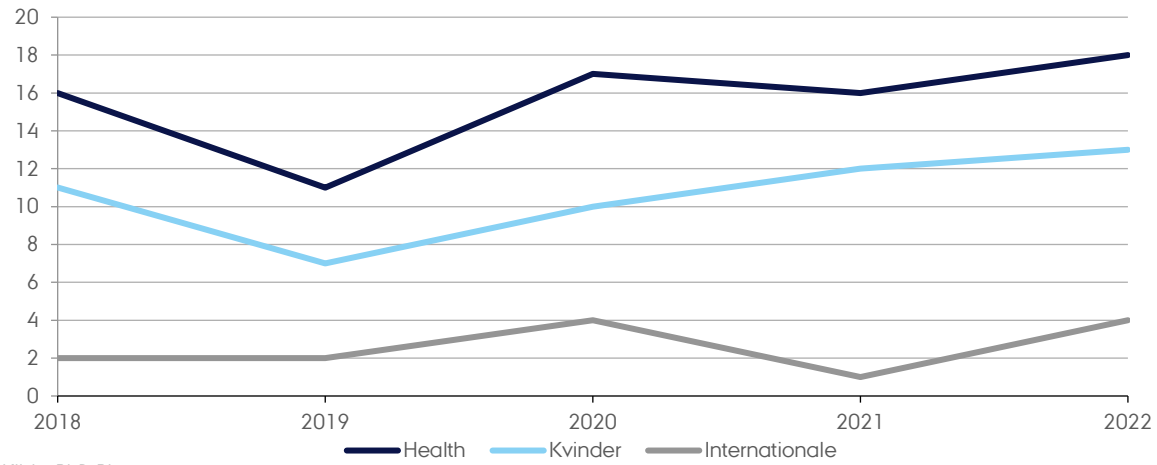
Health har siden 2020 set en stigning i ph.d.-bestanden. Denne stigning kan delvist tilskrives antallet af ph.d.-forlængelser som følge af COVID-19-situationen.



Kilde: PhD Planner
Definition: Danske Universiteters statistiske beredskab
Note: Bestanden opgøres pr. 31. december. Ph.d.-studerende, der har indleveret deres afhandling og afventer bedømmelse indgår ikke i bestanden.

1.2.2/ Årligt frafald

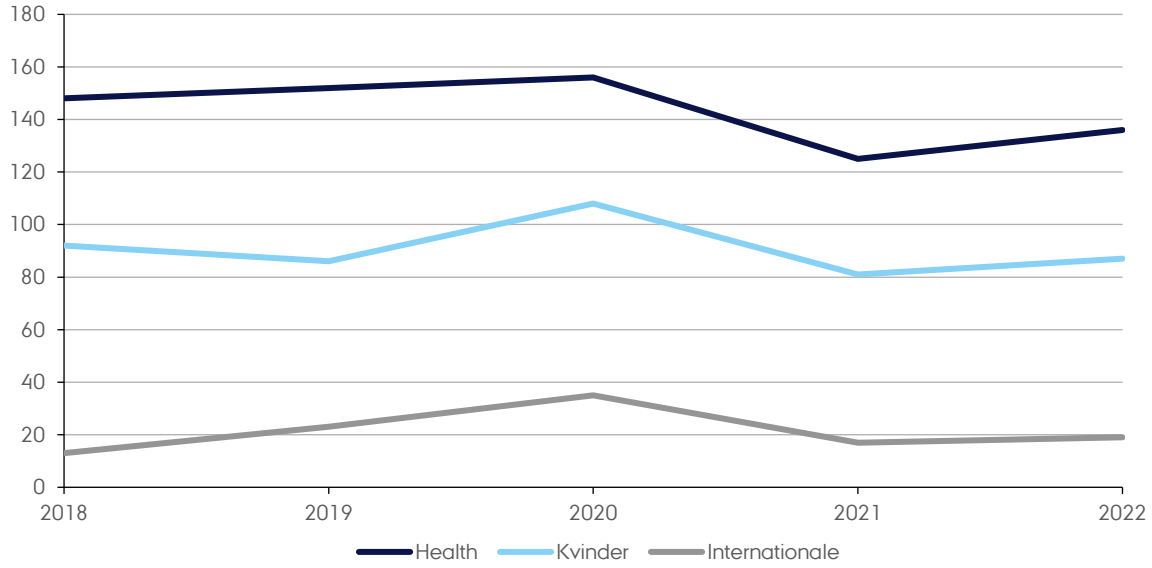
Der ses en stigning i frafald siden 2019. Det årlige frafald på Health ligger på omkring 2,4 % for 2021 og 2022. I 2022 afbrød 18 ph.d.-studerende ph.d.-studiet uden tildeling af grad. Det er værd at følge stigningen i antal ph.d.-studerende, der frafalder ph.d.-studiet og undersøge, om der er en sammenhæng med nedlukningerne af universitet grundet COVID-19.



Kilde: PhD Planner
Definition: Danske Universiteters statistiske beredskab
Note: Tallet er opgjort på baggrund af de ph.d.studerende der har afbrudt deres ph.d.-studium inden for et givent år. Ph.d.-skolerne afslutter ph.d.-forløbene administrativt 6 måneder efter endt udskrivningsdato. På Health er praksis 12 måneder

1.2.3/ Antal tildelte grader

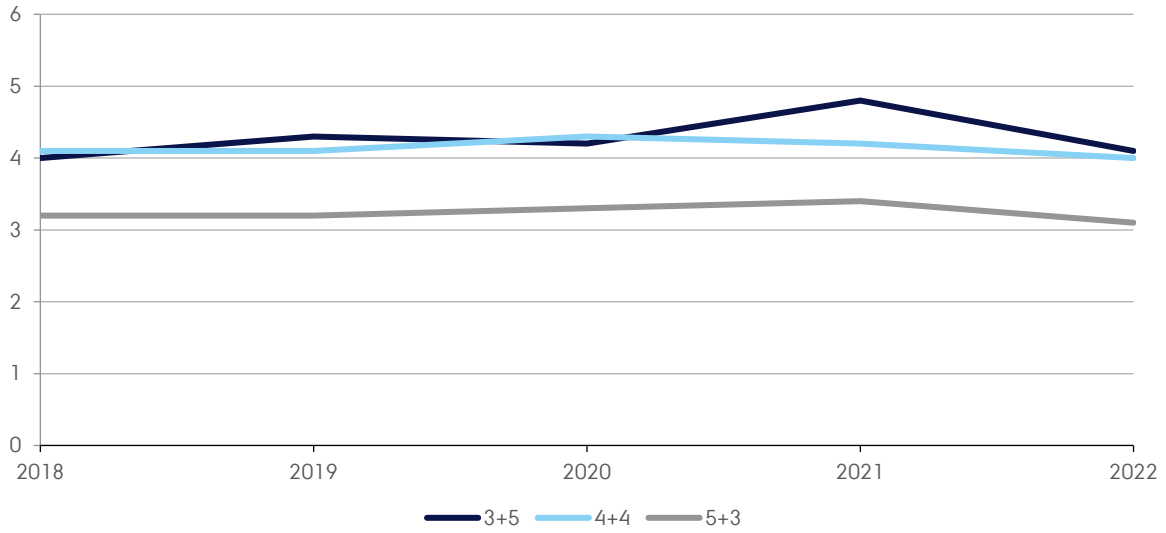
I perioden 2018-20 er der tildelt omkring 150 ph.d.-grader årligt. Fra 2021 ses et dyk og i 2022 blev der blot tildelt blot 136 ph.d.-grader. Begrundelsen skal nok findes i, at Health er det fakultet, der har givet flest studieforlængelser grundet COVID-19-situationen, hvorved ph.d.-afhandlingens afleveringsdato er blevet udsat.



Kilde: PhD Planner
Definition: Danske Universiteters statistiske beredskab
Note: Antal tildelte ph.d.-grader opgøres på baggrund af det år hvorpå graden er tildelt.

1.2.4/ Effektiv studietid

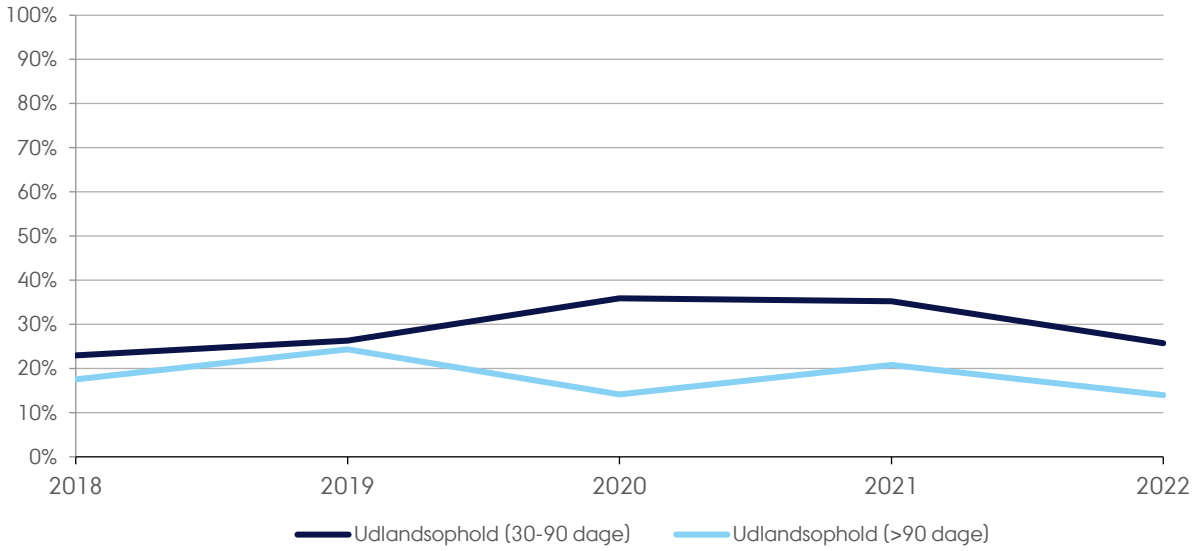
I perioden har ph.d.-studerende på 5+3 ordningen brugt gennemsnitligt 2,9 måneder længere end normeringen.



Kilde: AU i Tal
Definition: Danske Universiteters statistiske beredskab
Note: Den effektive studietid måles fra første indskrivningsdato til første dato for afleveringen af afhandlingen fratrukket orlov. Ph.d.-studerende der har enten merit, deltidsindskrivninger eller er genskrevet er ikke med i beregningen. For 4+4 ordningen indgår 1 ph.d.-studerende og for 3+5 ordningen indgår 13 ph.d.-studerende i beregningen.

1.2.5/ Udlandsophold

I perioden ses en stigning i antallet af ph.d.-studerende på udlandsophold mellem 1-3 måneder, hvilket på Health er den hyppigste form for udlandsophold. I 2022 ses et fald blandt ph.d.-studerende for både korte og længere udlandsophold. I 2022 havde 39,7% af ph.d.-dimittenderne været på udlandsophold. Grundet Covid-19 situationen er en række udlandsophold blevet aflyst og nogle omlagt til virtuelle ophold. Alle udlandsophold inkl. afbrudte eller omlagt til virtuelle udlandsophold tæller med i statistikken over udlandsophold for 2020-22.

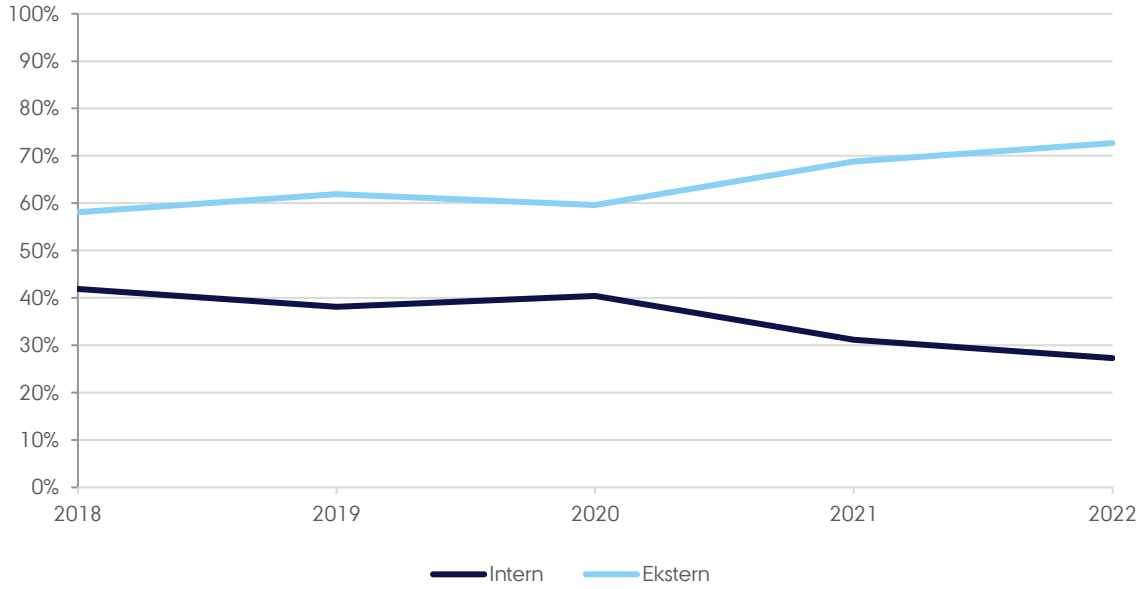


Kilde: PhD Planner
Note: Udlandsophold opgøres på baggrund af ph.-dimittender, der har været på udlandophold i enten 1) 30-90 dage eller 2) mere end 90 dage. En person kan kun tælle med én gang. Det er altid det længste ophold der medtages.

1.3/ Finansiering

1.3.1/ Ekstern/intern finansiering

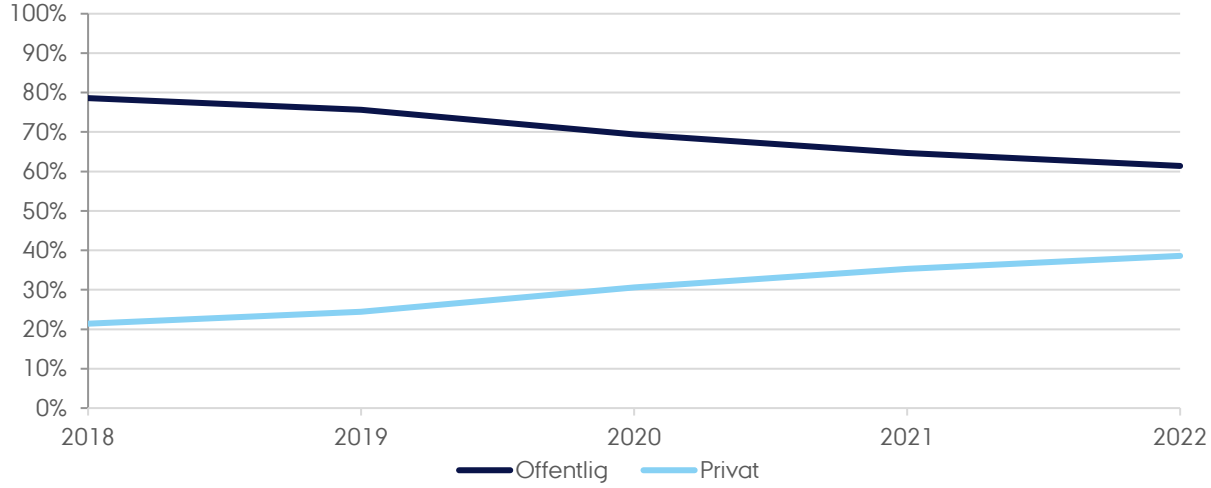
Figuren viser finansiering af ph.d.-forløbet ved indskrivningstidspunkt. I perioden går udviklingen mod en stadig stigende grad af eksterne finansiering til ph.d.-forløb.



Kilde: PhD Planner
Definition: Finansieringskategorierne er opgjort på baggrund af den årlige indberetning til Danmarks Statistik. Data indberettes af ph.d.-skolerne via PhD Planner
Note: *Intern finansiering*: Finanslovsmidler og andre AU interne midler (f.eks. tilskudsmidler, gaver eller midler fra indtægtsdækket virksomhed).
Ekstern finansiering: Øvrige offentlige midler (f.eks. Innovationsfondens erhvervsph.d.-forløb, offentlige forskningsråd, offentlige hospitaler og anden offentlig uddannelsesinstitution) og private midler (f.eks. private fonde og virksomheder).

1.3.2/ Privat/offentlig finansiering af ph.d.-forløb

Siden 2018 har andelen af offentlig og privat finansiering nærmet sig hinanden.



Kilde: PhD Planner
Note: *Offentlig finansiering*: Finanslovsmidler, anden AU-finansiering, erhvervsph.d.-bevilling fra Innovationsfonden, offentlige forskningsråd, anden offentlig uddannelsesinstitution, offentlige hospitaler og organisationer, samt EU-midler.
Privat finansiering: Privat virksomhed eller organisation, privat forsknings- eller uddannelsesinstitution, private hospitaler, private udenlandske midler og egen finansiering.

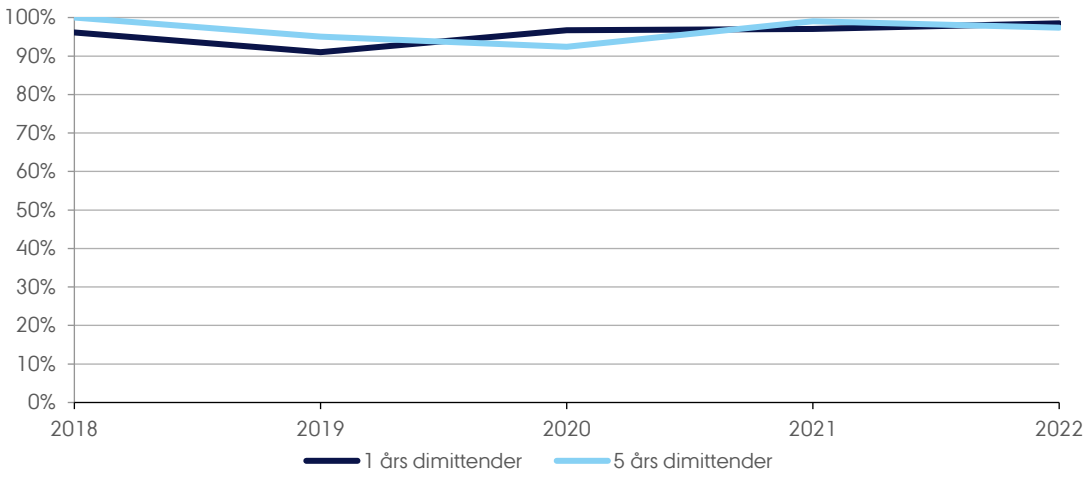
2.0 Health ph.d.-dimittenders beskæftigelsessituation 2018-2022

2.1/ Beskæftigelsessituation

Hvert år gennemføres en spørgeskemaundersøgelse blandt AU's et- og fem-årsdimittender (Ph.d.-beskæftigelses-undersøgelsen). Her spørges AU's ph.d.-dimittender til deres beskæftigelsessituation. Nedenstående to figurer er baseret på data fra undersøgelsen.

2.1.1/ Beskæftigelsessituation for ph.d.-dimittender et og fem år efter tildeling af ph.d.-grad

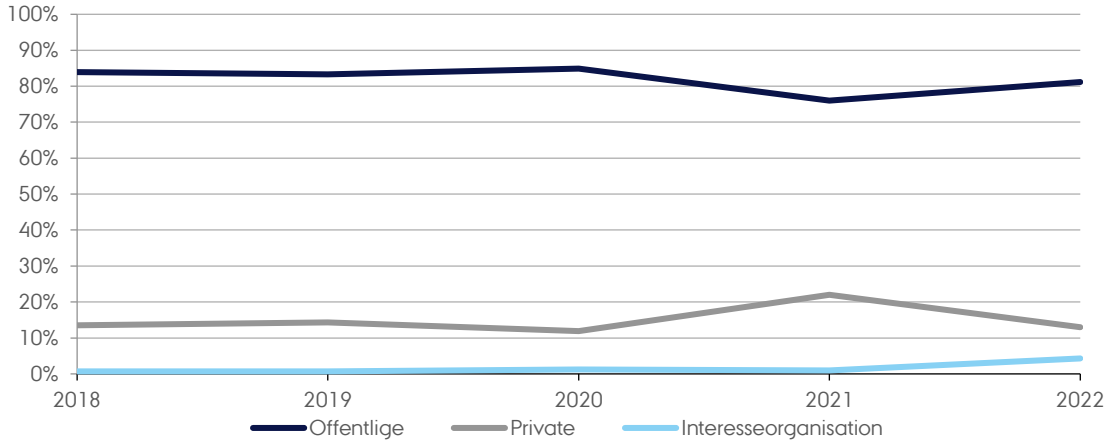
Beskæftigelsesprocenten for ph.d.-dimittender fra Health ligger i perioden stabilt over 90% for begge årgange.



Kilde: Beskæftigelsesundersøgelsen 2018-2022, rapport for ph.d.-dimittender.

2.1.2/ Beskæftigede ph.d.er fordelt på sektorer (offentlig/privat/interesseorganisation)

Den overvejende del af ph.d.-dimittender fra Health ansættes i det offentlige. I 2022 ses, at andelen der finder ansættelse i det private er på niveau med foregående år (med undtagelse af 2021).



Kilde: Beskæftigelsesundersøgelsen 2018-2022, rapport for ph.d.-dimittender.

3.0 Nøgletal om postdocs på Health 2018-2022

3.1/ Postdoc-rekruttering 2019-2022

3.1.1/ Ansøgninger

Der ses en stigning i antal postdoc-oplag på Health. Denne stigning er proportionel med stigning i antal rekrutteringsforløb.

Postdoc-ansøgninger	2019	2020	2021	2022
Antal afsluttede rekrutteringsforløb	92	98	114	119
Antal ansøgninger	477	581	714	736
- heraf kvindelige ansøgere (%)	49%	44%	40%	46%
- heraf internationale ansøgere (%)	73%	71%	81%	82%

Kilde: Rekrutteringsoplysninger for 2019 stammer fra to rekrutteringssystemer: PeopleXS (nu udgået) og Emply Hire.
Fra 2020 stammer alle data fra Emply Hire.
Note: HE registrerer ikke stillinger i Emply Hire på under et års ansættelse eller øremærkede midler, hvis kandidaten allerede har en gyldig og positiv bedømmelse.

3.1.2/ Kvalificerede ansøgninger

Omkring 40% af de indkomne ansøgninger blev i perioden bedømt kvalificerede. Andelen af kvalificerede kvindelige ansøgere er stigende.

Kvalificerede Postdoc-ansøgninger	2019	2020	2021	2022
Antal kvalificerede ansøgninger	**249**	**242**	**300**	**288**
- heraf kvalificerede kvindelige ansøgere (%)	50%	47%	48%	60%
- heraf kvalificerede internationale ansøgere (%)	68%	61%	72%	73%

Kilde: Rekrutteringsoplysninger for 2019 stammer fra to rekrutteringssystemer: PeopleXS (nu udgået) og Emply Hire.
Fra 2020 stammer alle data fra Emply Hire.
Note: Såfremt der er anvendt shortlisting, findes de kvalificerede ansøgere kun blandt de shortlistede.

3.1.3/ Antal ansøgere per rekrutteringsforløb

I 2022 baserede 80 ud af 119 rekrutteringsforløb sig på offentlige opslag. 58 ud af 80 offentlige opslag havde fire ansøgere eller derover. Lidt under en fjerdedel af rekrutteringsforløbene sker til ansættelse på under et år, hvilket er et fald. Der ses tilsvarende en stigning i antallet af øremærkede postdoc-bevillinger.

Postdoc-opslag	2019	2020	2021	2022
Offentligt opslag	**31**	**59**	**74**	**80**
0-1 ansøger per opslag	2	7	5	10
2-3 ansøgere per opslag	3	5	14	12
4-10 ansøgere per opslag	15	29	34	35
11-25 ansøgere per opslag	10	15	17	20
26-40 ansøgere per opslag	1	3	4	3
Max 1 år ansættelse (ej åbent opslag)	**29**	**30**	**34**	**28**
Øremærket bevilling (ej åbent opslag)	**20**	**9**	**6**	**11**
Samlet	**80***	**98**	**114**	**119**

Note: I 2019 anvendtes to rekrutteringssystemer. Kun data fra Emply Hire indgår i 2019-tallene i denne tabel.
Kilde: Rekrutteringsoplysninger for 2019 stammer fra to rekrutteringssystemer: PeopleXS (nu udgået) og Emply Hire.
Fra 2020 stammer alle data fra Emply Hire.

3.1.4/ Kvalificerede ansøgere i offentlige opslag

I 2022 var der omkring 31% af de offentlige opslag fire eller flere kvalificerede ansøgere. Ved 16% af de offentlige opslag var der ingen kvalificerede ansøgere.

Antal kvalificerede ansøgere i de offentlige opslag	2019	2020	2021	2022
0 ansøgere per opslag	1	10	13	13
1 ansøger per opslag	6	13	8	16
2-3 ansøgere per opslag	7	12	28	18
4-10 ansøgere per opslag	15	21	22	32
11-25 ansøgere per opslag	1	3	2	1
26 eller derover ansøgere per opslag	0	0	1	0
Samlet	**30**	**59**	**74**	**80**

Kilde: Emply Hire

3.1.5/ Ansættelser

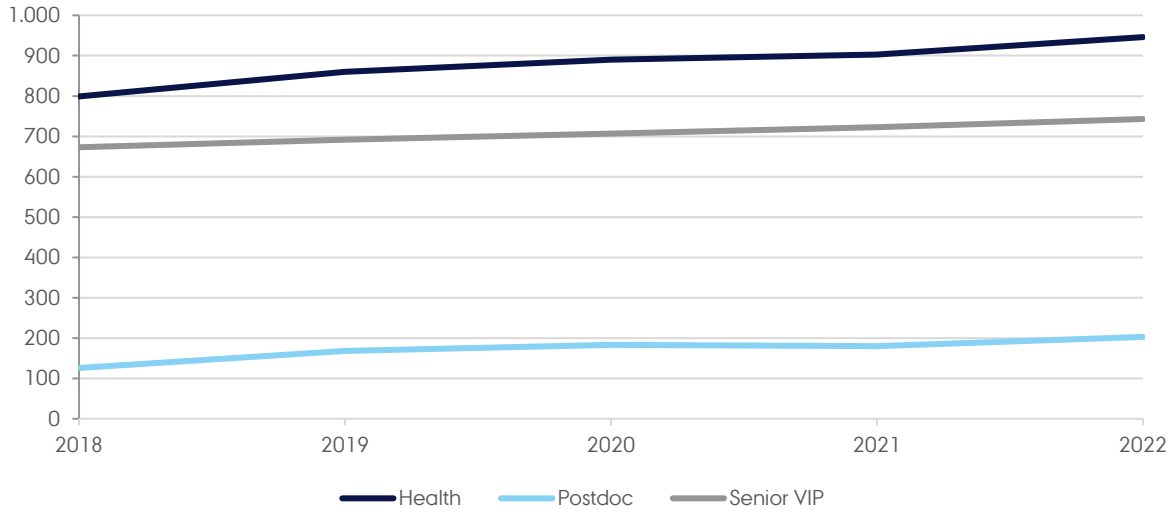
I 2022 blev der truffet beslutning om ansættelse af 102 postdocs. Sidste år sås en stigning fra 2020., som i år dog er stabil.

Postdoc-ansættelser	2019	2020	2021	2022
Ansættelser HE i alt	**96**	**89**	**103**	**102**
- heraf fra kvinder (%)	44%	54%	60%	65%
- heraf internationale (%)	47%	53%	55%	54%

Kilde: *Emply Hire.*

3.1.6/ Postdoc-bestand og forholdet mellem postdocs og senior VIP

Der ses i perioden en stigning i postdoc-bestanden svarende til 56%. Til sammenligning er senior-VIP-bestanden steget med 8%. I 2022 udgjorde postdocs godt 1/5 af den samlede VIP-bestand (HE i alt).



Kilde: AUHRA.
Note: Bestand er beregnet som antal ansatte postdocs per 31. december.

Punkt 6: Briefing from the chair

It is recommended that
The PhD committee takes note of the briefing.

Case
Chair of the PhD Committee, Stine Sofia Korreman, will brief the PhD Committee on status of current tasks and initiatives.

Responsible
Stine Sofia Korreman

Punkt 7: Briefing from the PhD Association

It is recommended that
The PhD committee takes note of the briefings.

Case
The PhD Association gives a status on their work since the last meeting.

Responsible
PhD students from the PhD Association

Punkt 8: Briefing from the advisory committees

It is recommended that
The PhD committee takes note of the briefings.

Case

The advisory committees give a status on their work since the last meeting:

- Course Committee
    - *The committee will share their thoughts on the PhD course portfolio for 2024 with the rest of the PhD committee at this meeting.*
- Committee for Credit Transfer and Dispensation

Responsible
Advisory committees

Appendix
Course portfolio for 2024

Suggested PhD course portfolio 2024

New	Lab course	Classroom course	Residen-tial course		No cancellations within the last 3 years	One cancellation within the last 3 years	Two or more cancellations within the last 3 years

No. of courses	Journal no.	Title	Head of course	Seats	ECTS	No of part. on the last course	Waiting-list	Learning outcomes	Comments	Comments from the Course Committee	Category
BIOMED											
1	B69	Flow cytometry	Charlotte Christie Petersen	16	3,5	18	10	1. Understanding the physics behind flow cytometry 2. Understanding the applications and limitations of flow cytometry 3. Practical knowledge and experience with flow cytometry experiment design 4. Understanding essential flow cytometry controls 5. Awareness of common (and not so common) pitfalls 6. Hands-on, practical experience with data analysis 7. Ability to critically evaluate flow cytometry results 8. Requirements for publication of flow cytometry experiments In contrast to most basic flow cytometry courses and online resources, this intensive training course teaches key concepts by derivation from "first principles". The course thus covers the progression from the basic physics of light and fluorescence, through fluorochrome chemistry, spectral overlap and compensation, and antibody panel design, experiment design, flow cytometry controls, and data analysis. On the instrumentation side, the course provides a detailed understanding of the core components in modern flow cytometers, thus covering light detection principles, fluidics, optics and signal processing. Data analysis and compensation is taught by a "hands-on" approach via practical computer exercises with FlowJo software and generic, raw flow cytometry data files (participants are encouraged to bring their own PC and data, if relevant). Advanced data analysis approaches (clustering, dimensionality reduction, tSNE and more) are presented in the last part of the course. In addition, guidelines for publishing flow cytometry data will be covered.	Course will be offered by Health every fall, and by Natural Sciences every spring.		
2	B100	Laboratory Animal Science	Thea Thougaard Johansen	25	5	30	0	The participants should obtain basic knowledge about the Laboratory animal science, which will make it possible for them to participate in research contributing to the humane use of laboratory animals ensuring high standards of animal welfare and quality in the performing, evaluating and reporting of laboratory animal experiments. • Insight into Danish legislation concerning animals used for scientific purposes, the ethical aspects working with laboratory animals as well as the principles of the 3 Rs • Basic insight into the biology of laboratory animal, including normal/abnormal behaviour, housing, breeding, welfare and feeding • Basic insight into occupational health and safety when working with laboratory animals • Practical experience with handling and euthanizing laboratory animals as well as minimally invasive injections and blood sampling techniques • Basic knowledge of anaesthesia for minor procedures in common laboratory animals			

1	B112	Clinical assessment of insulin resistance and other metabolic parameters	Niels Jessen	24	TBA	11	2	•Understanding for the use and limitations of state of the art methods in metabolism research •Insight into tissue specific mechanisms underlying dysmetabolic conditions •Understanding for the signaling mechanisms linking insulin receptor to glucose uptake • Introduction into animal models and in vitro models for dysmetabolic conditions • Introduction into novel methods to assess substrate metabolism in humans	Cancelled 4 times since 2019.		
1	B116	Advanced course in Laboratory Animal Science	Martin K. Thomsen	16	5	19		• Advanced insight into Danish and International legislation concerning animals used for scientific purposes, the ethical aspects of working with laboratory animals as well as the principles of the Three Rs. • Detailed knowledge of different aspects of ethics and the Three Rs in relation to both ethical and welfare issues raised by the use of animals in scientific procedures. • Knowledge of experimental design concepts, possible causes and elimination of bias, statistical analysis and information about where expertise can be found to assist with procedure, design, planning and the interpretation of results. • Insight into the use of animal models in biomedical research and their benefits and limitations. • Insight into the importance of standardization of environmental, microbiological factors and use of humane endpoints. • Knowledge about advanced experimental procedures such as microsurgery, anaesthesia, analgesia and euthanasia in rodent laboratory animals. • Write an application for a procedure to the Danish Ministry of Health.	Cancelled in 2021		
1	B178	53th Sandbjerg Summer Meeting on Membrane Transports	Jeppe Prætorius	30	2,2	14		1. Networking with national and international peers of your research area 2. Practice oral presentation skills and in depth discussion of scientific questions 3. Update your knowledge on new biological concepts 4. In depth discussion of technological/method approaches to study your scope of questions.	Cancelled in 2021. Participants at the latest course: 6 HE PhD students, 2 external PhD students, 6 Reaearch Year students, 20 seats available for scientific staff from the dept.		
1	B226	Molecular Immunology	Thomas Vorup-Jensen	35	2,5	25	4	The objective of this course is to provide you with an introduction to select topics in current immunology. This means that researchers from Aarhus University will update you on some of their preferred research interest. Far from giving a comprehensive introduction to immunology, the course aims to provide you with an idea about current methodologies, topics, and, not at least, principle investigators with research interests that could potentially help you on with your own project. The course will also include two talks by employees in companies with research interests in inflammation and immunology. This is a chance to follow how basic research findings are implemented in commercial products and strategies.			

1	B246	Graduate neuroscience course	Mai Marie Holm	30	5,4	20	0	Participants will get a thorough theoretical knowledge within all areas of neuroscience. The course is structured according to the esteemed advanced level textbook entitled "Neuroscience" by Purves et al. published by Sinauer Associates, Inc. and all sections will be dealt with. The book will form the fundamental basis of the course, however not all specific details will be discussed. Participants are expected to obtain the book and prepare the relevant chapters before the sessions. Emphasis will be put on most interesting areas, as evaluated by the lecturers and their research profile. Topics include; Electrical Signals of Nerve Cells, Synaptic Transmission and Plasticity, Animal Models in Neuroscience, The Sensory System, Pain, Motor Control, Brain Development, Novel Treatment Principles in Neurological and Psychiatric Diseases, Neural Circuits, Repair and Regeneration, Sleep, Speech and Language, Emotions, Neurogenetics and Memory. Additionally, lecturers will present selected data from their own research to provide the most up-to-date techniques and knowledge. Selected reviews and original papers will be used, where relevant, to complement the book.	Cancelled in 2018 + 2020		
1	B273	Advanced In-vivo Optical Imaging Techniques	Ina Maria Schiessl (Euginio Gutierrez)	16	TBA	13	0	The students should be able to understand the basis of different techniques, to learn their pitfalls, disadvantages and advantages, and to plan research projects that include these techniques			
1	B288	Host pathogen interactions – from basic microbiology and immunology to medicine	Trine Mogensen	20	2,4	20	10	Have achieved a theoretical background and ability to discuss current knowledge in some aspects of basic cell biology, immunology, and microbiology related to human host-pathogen interactions, have obtained some insight into the methodologies used to investigate these and how to interpret data, and finally have gained perspectives on how these basic mechanisms translate into the pathogenesis of infectious diseases and the medical implications hereof.	Cancelled in 2020		
1	B299	Advanced Flow Cytometry	Marianne Hokland	16	2,9	13	0	(i) how to design and optimize a flow cytometry experiment. (ii) how to select the optimal flow cytometry related methodology. (iii) which controls to include (e.g. data quality controls, negative/positive controls, compensation and FMO controls – and how to interpret the results. (iv) how to analyze flow cytometry data including critically evaluation of the experimental results. (v) how to include high-dimensional data analysis tools (e.g. tSNE) (vi) how to present flow cytometry data for publication.			
1	B320	Single Cell and Spatial OMICS – Basic Course	Lin Lin	30	TBA	30	17	•Articulate and demonstrate systematic knowledge of the single cell and spatial OMICS. •Interpret and communicate new results within the field. •Describe and critically evaluate data generated with single cell and spatial OMICS methodologies. •Independently and properly select the right single cell and spatial OMICS technologies for specific research questions. •Understand the basic pipelines and tools needed for single cell and spatial OMICS analysis. •Understand the individual steps of the analysis pipeline for single cell RNA sequencing data. •Critically read and evaluate studies within the field of single cell and spatial sequencing.	Held for the first time in 2023		
1	B321	Single Cell and Spatial OMICS – Advanced Course	Lin Lin eller Yonglun (Alun)		TBA			*TBA*			

1	B322	Principles of Neural Organization	Sadegh Nabavi	20	3		5	• Have a good grasp of the limitations and advantages of small and large nervous systems. • Know the constrains that nervous systems face and how they evolved within these constrains. • Perceive brain design and function as an information processing entity. • Describe the basic principles that the brain uses to achieve a superior computational power while keeping the energy consumption in check. • Identify some fundamental principles shared by all systems and circuits within the brain. • Analyze, review and constructively criticize papers in the relevant fields.	Held for the first time in 2023		
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PUBLIC HEALTH

1	P98	Epidemiology II	Christina Catherine Dahm	24	4,2	20	18	• Advanced insight into epidemiological study design • Advanced insight into design and evaluation of epidemiological studies • Insight into DAGs • Insight into strategies for analyzing epidemiological data • Practical experience with analyses of epidemiological data			
1	P126/ (4 dage + 2 ekstra dage = 1 kursus)	Analysis of variance and repeated measurements	Bo Martin Bibby	4 days 24 6 days 10	TBA	19	0	1. Document and process data for a statistical analysis of repeated measurements. 2. Choose a relevant statistical model for a given research question and evaluate the assumptions behind the ANOVA or repeated measurement analysis. 3. Perform ANOVA, variance component analysis or repeated measurement analysis based on the chosen model. 4. Describe the results of the statistical analysis, and discuss the results in relation to the scientific question. 5. Be aware of the limitations of the statistical methods presented in the course.	Not conducted since 2021		
1	P155	Epidemiology I - Basic Principles of Epidemiology	Bodil Hammer Bech	24	2,5	24	19	• Define epidemiologic measures of occurrence and explain the difference between prevalence and incidence • Define the following epidemiologic measures of association; relative risk, risk ratio, odds ratio, and rate ratio, risk difference and excess risk, including attributable risk and population attributable risk • Define and describe strengths, weaknesses, and main applications of the designs; ecological, cross-sectional, follow up, case-control and intervention studies • Define selection bias, information bias and confounding and be aware that evaluating the direction and strength of a possible bias or confounding is essential • Learn to think along the lines that, when faced with data from an analytic epidemiologic study showing an association (or no association), this might reflect; random error, bias (systematic error), including selection bias or information bias, or confounding, or, if all other possibilities seem unlikely, causality			

1	P169	Collecting qualitative research data	Sanne Angel	24	2,6	19	0	• The student will have knowledge of principles of more qualitative approaches and qualitative methods in general • The student will be able to judge the different methods' relevance to study designs • The student will have knowledge about the different form of data collection • The student will have collected data in form of field observation and interviews			
1	P231	Developing complex interventions in Public Health	Knud Ryom	20	2,1	20	6	• Insight into complex interventions based on the UK Medical Research Council Model • Skills for working with program theory and logic models • Insight in developing complex interventions addressing co-production, co-creation and PPI • Insight in contextual elements that can influence successful change • Overview of different complex intervention evaluation strategies.			
1	P237	Which covariates to adjust for: An introduction to causal directed acyclic graphs	Cathrine Carlsen Bach	24		24	18	• To understand the basic anatomy of directed acyclic graphs (DAGs) • To draw and apply DAGs for selection of covariates to account for confounding • To draw and apply DAGs to illustrate potential selection bias • To draw and apply DAGs to illustrate potential information bias • To draw and apply signed DAGs to estimate the potential direction of bias in a research projec			
7	PBC250	Responsible Conduct of Research	Grethe Elholm	30	1	27	0	Be familiar with the Danish Code of Conduct for Research Integrity as well as Aarhus University guidelines and Health standards of Responsible Conduct of Research • Be able to understand and discuss principles of research integrity and responsible conduct of research • Be able to identify, analyse and discuss cases of scientific misconduct and questionable research practices in the grey zone between misconduct and poor science • Know where to seek advice concerning responsible conduct of research			
1	P255	Introductory course in questionnaire technique and clinimetrics	Henrik Hein Lauridsen	25	2	23	2	• Have knowledge about conceptualisation and operationalisation • Know the most important concepts related to questionnaire research • Know the basics of how to design a questionnaire and write items • Have basic knowledge in how to develop a new measurement instrument • Have the skills to find and select the most appropriate outcome measure • Have the skills to translate an international questionnaire into Danish • Have basic knowledge of the COSMIN taxonomy • Have basic knowledge of the measurement properties of validity, reliability, responsiveness and interpretation • Know the requirements for a evaluating a questionnaire for risk of bias			

1	P256	Advanced course in questionnaire technique and clinimetrics	Henrik Hein Lauridsen	20	2	19	0	• Have the skills to complete the process of developing a new measurement instrument • Have basic knowledge about item reduction and factor analysis • Know how to perform a field test • Be able to define, determine and interpret the measurement properties of a) validity, b) reproducibility, c) responsiveness and d) interpretation • Have an overview of the benefits of modern psychometric methods such as IRT and Rasch analyses • Be able to explain the basics of Rasch analysis	AU Health runs the course every second year		
1	P265	Qualitative data analysis: Using NVivo	Annesofie Lunde Jensen	24	TBA	21	4	The students will learn how NVivo supports the qualitative study process from the beginning to the end. Having completed this course, the student will be able to use NVivo's most important functions: • Create projects. • Describe units of analysis relevant for the student's own project. • Critical identify element (sources and cases) as a foundation for making queries. • Create memos, annotations, and links. • Know how to use NVivo together with bibliographic software such as EndNote and RefWorks. • Code data in relation to different types of qualitative data analysis techniques. • Analyse data, visualise data analysis and make different kinds of queries. • Be able to explain and visualise the data analysis the students use in their own PhD-project. • Know how to build models and make different kinds of graphic presentations and diagrams.			
1	P272	GIS in Health Sciences	Jörg Schullehner	15	3	14	0	• Describe the basic concepts of GIS • Identify the different types of spatial data • Retrieve spatial data from open sources and own surveys and load them into a GIS program • Design and apply simple spatial analyses and evaluate their results • Present spatial data in appropriate maps			
1	P281	Causal Inference in Health Sciences	Cecilia Ramlau-Hansen	24	3,4	24	0	• Introduction to the potential outcome framework and counterfactuals • Assumptions for causal inference • Introduction to and practical experience with g-methods • Introduction to and practical experience with causal interaction analysis • Introduction to and practical experience with causal mediation analysis			
1	P284	Methods for synthesizing quantitative and qualitative evidence *(tidligere titel: "Conducting a systematic review – meta-analysis and a meta-synthesis")*	Merete Bjerrum, Vivi Schlünssen	20	3	20	0	Having completed this course, the participants will have the methodological tools to conduct a meta-analysis, a meta-synthesis and an integrative review. This includes: • Specify research topic using PICO and PICo • Search strategy • Assessing quantitative and qualitative studies using relevant tools • Extract and pool extracted data • Synthesize extracted data • Assess summarized data • Present a protocol for meta-analysis, meta-synthesis, and integrative review.			

1	P301	How to design and conduct your PhD study to be family-focused	Karin Piil	12	2,6	11		1. Understand the basic characteristics of a theory-driven family-focused research approach and dialogue based on the Calgary family assessment and intervention models. 2. Gained individual and collective experiences and reflections of how to transform the theory and models into excellence in healthcare. 3. Understand, discuss and argue for the central methodological considerations. 4. Identify appropriate family-focused qualitative and quantitative data sources for research. 5. Describe and argue for the choice of patient-reported outcome and caregiver-reported outcome. 6. Identify strengths and limitations of a family-focused approach 7. Understand and apply family-focused values across cultures and in vulnerable families 8. Present the family-focused PhD study in a concise and structured format with attention to an interprofessional excellence in clinical healthcare.			
1	P302	Evaluating complex interventions in Public Health	Helle Terkildsen Maindal	24	2,1	24	7	• Insight into evaluation of complex interventions based on the UK Medical Research Council Model • Overview of different complex intervention evaluation strategies • Insight into evaluating complex interventions using quantitative research designs • Insight into evaluating complex interventions using qualitative and mixed methods research designs			
1	P310	How to design and conduct a qualitative content analysis in a qualitative study or a systematic review	Cecilie Nørby Lyhne	20	3,3	15	0	• Knowledge on the background, theoretical foundation and the potential of content analysis. • Describe the main steps in conducting a qualitative content analysis. • Design a plan for using qualitative content analysis in your own study, including: formulate specific research questions, specify the plan of conduct including the analytical steps to be performed in your study, and discuss own and co-participants' choices and considerations focusing on the validity and reliability of the analysis. • Apply strategies to strengthen the quality of studies using qualitative content analysis, focusing on validity, reliability, transparency, and transferability in conducting and presenting a qualitative content analysis. • Discuss methodological issues in qualitative content analysis, including methodological reflections in relation to own project designs and plans for analyzing own data material.			
2	P1050	Basic Biostatistics - part 1	Erik Thorlund Parner	110	2,4	68	0	1. Document and handle data needed for a statistical analysis 2. Chose a relevant statistical model for a given research question and evaluate the assumptions of the statistical analysis 3. Perform a statistical analysis based on the chosen model 4. Describe the results of the statistical analysis, and discuss the results in relation to the scientific question 5. Make simple calculations of sample sizes for the planning of a comparative study	Courses in the fall 2023 will have 100-110 seats.		

2	P1050	Basic Biostatistics - part 2	Erik Thorlund Parner	110	3,9	51	1	1. Document and handle data needed for a statistical analysis 2. Chose a relevant statistical model for a given research question and evaluate the assumptions of the statistical analysis 3. Perform a statistical analysis based on the chosen model 4. Describe the results of the statistical analysis, and discuss the results in relation to the scientific question	Courses in the fall 2023 will have 100-110 seats.		
1	New	Advanced GIS in Health Sciences	Jibran Khan	18-25	5			See appendix			
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CLINFO

1	C47/26	Magnetic Resonance	Steffen Ringgaard	16	3,6	10	9	• General overview of the underlying principles in magnetic resonance imaging and spectroscopy with relevance for applications in biomedical research • Outline of magnetic resonance applied in research on organ functionality and diseases. • General overview of hyperpolarized magnetic resonance imaging and spectroscopy applied in cells, animals, and humans.			
1	C104	From Gene to Function – Molecular Analysis of Disease Genes	Peter Bross	16	TBA	14	0	•Assessment of effects of gene variations •Protein folding, trafficking, and biogenesis and their disturbances in diseases •Methods for experimental investigations of effects of gene variations •Design and interpretation of cellular and in vitro experiments •Design and interpretation of energy metabolism assays (Seahorse)			
1	C116	Advanced course in Laboratory Animal Science – Porcine models in biomedical research	Birgitte Saima Kousholt	12	5	12	4	The course will, in unison with the basic course in laboratory animal science, qualify participants to apply for and obtain licence to perform animal experiments in Denmark.	Cancelled twice in 2021		
6	C119	Principles of Research Datamanagement *(tidl. titel: "Datamanagement & Stata")*	Jakob Hjort	24	1,4	24	28	•Handle research data in a way that live up to legal- as well as basic scientific requirements •Relate to the basic principles of data documentation •Relate to Stata's user-interface and basic functionalities •Use Stata's build-in help system •Build well-structured command-files ("do-files") to enhance transparency and reproducibility	3 courses per semester. The course is mandatory to complete for PhD students who enroll in the Biostatistics course (as of 2022).		
1	C142	Proteomics and protein profiling	Johan Palmfeldt	12	TBA	13	17	•Understanding of the principles of proteomics methodologies, and how the different methods can be combined •Knowledge of the value of protein analysis in biomedical research, including advantages and limitations •Acquired practical experience in 1) lab work in protein analysis and 2) software tools used to analyze proteomics data with regard to MS spectra, protein modifications, pathway analysis etc. •To be able to interpret, discuss and critically assess proteomics data •To be able to design studies on protein analysis and proteomics (type of sample, procedures, instruments etc.)			
1	C151	Clinical Research	Morten Bøttcher	25	2,3	23	0	Enable to course participant to conduct clinical research	Cancelled in 2021.		

1	C155	Epidemiology I - Basic Principles of Epidemiology	Ulrik Schiøler Kesmodel	24	2,5	24	29	• Define epidemiologic measures of occurrence and explain the difference between prevalence and incidence • Define the following epidemiologic measures of association; relative risk, risk ratio, odds ratio, and rate ratio, risk difference and excess risk, including attributable risk and population attributable risk • Define and describe strengths, weaknesses, and main applications of the designs; ecological, cross-sectional, follow up, case-control and intervention studies • Define selection bias, information bias and confounding and be aware that evaluating the direction and strength of a possible bias or confounding is essential • Learn to think along the lines that, when faced with data from an analytic epidemiologic study showing an association (or no association), this might reflect; random error, bias (systematic error), including selection bias or information bias, or confounding, or, if all other possibilities seem unlikely, causality			
1	C160	Investigator-initiated Clinical Trials and GCP	Birgitte Olrik Schlemmer	28	2,9	29	0	•Explain and implement the legal, regulatory and good practice framework – The principles of GCP, national regulations, application to the authorities •Illustrate and relate to the organization of the study - sponsor, investigator, contracts and agreements, delegation of responsibilities, training, internal and external communication •Discuss and assess on what's important in the conduct of the study including ethical issues – informed consent, enrolment, essential documents in Trial Master File, biological samples, study monitoring, •End of trial issues •Explain and implement the process in safety monitoring and reporting •Explain and apply the data-management process from CRF preparation, data collection, data analysis, clinical study report and publication	Cancelled in 2020		
1	C171	Introduction MATLAB with examples from Health Science	Irene Klærke Mikkelsen	24	4,2	14	0	• The MATLAB program in general including editor, command window, and help • MATLAB data structures including matrices, cells and structs • Generic programming principles including loops, conditions, functions • MATLAB graphics for plotting and vitalization of data • MATLAB Debugging capability			
1	C177	Introduction to Clinical Epidemiology	Deirdre Cronin Fenton	40	3,7	37	1	The course includes lectures and exercises on the following: 1) Providing a broad knowledge and understanding of clinical epidemiology 2) Designing a clinical epidemiology study 3) Understanding measures of disease frequency, effect and association, and which are appropriate to each study design 4) Assessing study validity, including identifying various biases and sources of error in epidemiological studies 5) Interpreting clinical epidemiology research papers			
1	C190	Image diagnostic methods for evaluation of the musculosceletal system	Maiken Stilling	25	TBA	12	0	•Understand the most common radiologic methods •Understand the basic background for methods (physics, instruments) •Characterize risks of the methods •Understand the advantages and disadvantages/imitations of the methods •Obtain inspiration to new methods in research projects	To be conducted every second year		

1	C204	Basic and practical course in quantitative immunoassays	Mette Bjerre	16	2,2	14	0	The participants obtain theoretical knowledge and practical skills required for development, troubleshoot, and validation of ELISA and TRIFMA assays.			
2	C205	The Talented Researcher	Kamille Smidt Rasmussen	24	3	24	20	By the end of the course, you should have learned about and strengthened your awareness of own strengths and challenges to enhance leadership in both work and your everyday life. You should have strengthened your project management skills in order to better control and plan your project and PhD-education with respect to deliverables, milestones and schedules. As a specific outcome, all participants will have a plan with deliverables, milestones, and schedules for their PhD project.	One course per semester		
1	C214	Registries, databases and other electronic data sources in clinical research	Signe Sørup	30	2,7	22	0	• List the Danish registries and other secondary data sources most often utilized in clinical research • Identify relevant Danish registries and other secondary data sources based on the research question • Describe the data structure as well as some specific pitfalls of working with Danish registries and other secondary data sources • Compare the content of different Danish registers and other secondary data sources and evaluate their usefulness for clinical epidemiological research questions • Assess the strength and weaknesses of the use of Danish registries and other secondary data sources in clinical epidemiology • Design and execute a validation study of some of the content of a Danish Register or another secondary data source. • Design a clinical epidemiological study using Danish registers and/or other secondary data sources			
1	C229	Preparation and critical reading of meta-analysis	Inger Mechlenburg	24	1,6	22	0	• Carry out a meta-analysis based on the quantitative results of a systematic review, interpret the results and provide a clinical guideline based on the meta-analysis • Describe the statistical assumptions, the chosen methods and the results of the meta-analysis • Assess the quality of meta-analyses			
1	C243	How to get published	Søren Dinesen Østergaard	16	3	8	0	1. Have a basic knowledge of most aspects of the publication process in health research 2. Have improved their writing skills 3. Have learned how to perform peer-review			
1	C245	Cancer Epidemiology using the Danish Clinical Cancer Databases	Deirdre Cronin Fenton	24	5,2	14	0	The course includes lectures, exercises and computer labs on the following: 1. Identify and design a clinical epidemiologic research study using the Danish Clinical Cancer Databases – comparing and contrasting study designs in order to suitably address a research question 2. Identifying and ascertaining data from the Clinical Cancer Databases 3. Assessing study validity and implementing validity checks 4. Data analysis including data cleaning and implementing survival analysis using Stata 5. Evaluating study findings, interpreting and reporting study findings	Cancelled in 2020		
1	C254	An introduction to Good Manufacturing Practice (GMP)	Dirk Bender	24	2,1	24	0	• Be familiar with basic principles and terms of GMP and its impact in Danish legislation • Be able to understand specific challenges arising from GMP • Know where to seek advice concerning further development of GMP skills			

3	C262	Get ready to work with Biostatistics	Eva Greibe	24	0,8	24	44	•How to test for assumptions for basic statistical tests •How to perform basic statistical tests •How to present results in tables •How to perform a sample size calculation	3 courses per yer, one in the spring and two in the fall.		
1	C262	Get ready to work with Biostatistics (RY and Talent)	Eva Greibe	24	0,8	22	0	•How to test for assumptions for basic statistical tests •How to perform basic statistical tests •How to present results in tables •How to perform a sample size calculation			
1	C267	Introduction to Fluorescence Microscopy	Lene Niemann Nejsum	24	3,9	24	17	The students will obtain basic knowledge of different fluorescence microscopy techniques, sample preparation, image acquisition and image analysis. This should enable students to prepare samples for fluorescence microscopy, choose the appropriate microscope setup, acquire images, analyse images and generate publication figures. This will enable students to participate in research projects involving fluorescence microscopy.	Cancelled in 2021		
1	C283	Extracellular vesicles – an introduction	Peter Nejsum	20	4,9	10	0	After the course, you will be able to: Describe EVs, their origin and cargo Describe different EV isolation methods and their pros and cons Describe the most common characterization techniques for EVs Describe how to characterize EV composition Discuss what to consider during collection and isolation of EVs from various types of samples Discuss how to explore EV function Isolate and characterize EVs			
1	C285	Introduction to register-based research	Julie Werenberg Dreier	25	3,5	18	0	• Describe commonly used Danish health registers and how they can be used in research • Identify different epidemiological designs used to investigate register data • Discuss strengths and limitations of register data • Describe how other sources of data, such as genetic data, cohort data and survey data can complement data in the registers • Perform simple data management tasks using artificial register data • Plan their own research using registers or to critically read publications from register-based studies			
1	C307	Bacterial infections in implants and bone	Mats Bue og Nis Pedersen Jørgensen	20	2	13	0	Upon completion of this course, the students will be able to: - Describe the aetiology of implant and bone infections - Exemplify why bone infections are difficult to treat? - Identify relevant preclinical models - Describe basic pharmacokinetic/pharmacodynamic aspects of antibiotic treatment - Acquire knowledge regarding state of the art microbiological and histopathological analysis - Plan, develop and present future relevant studies on bacterial infections in implants and bone This course seeks to provide state of the art knowledge regarding bacterial infections in implants and bone and introduces the important research steps and challenges of bringing basic science ideas to clinical applications			

1	C308	Applied Machine Learning in health Sciences	Peter Mondrup Rasmussen	20	3,5	16	0	A student who has met the objectives of the course will be able to: • Describe main steps involved in typical machine learning analyses, including data preparation, data modeling, model evaluation, and result dissemination. • Describe the mathematical and statistical principles in supervised- and unsupervised machine learning. • Describe basic and advanced methods for predicting continuous- and discrete outcomes (regression and classification). • Describe procedures for model building, model selection and model evaluation. • Identify relevant machine learning techniques to solve research-based problems. • Design and implement a solution strategy to solve research-based problems. • Apply unsupervised- and supervised machine learning techniques to their own data. • Disseminate the analysis result and account for the solution strategy and analysis results as necessary for publication in scientific journals.			
1	C309	The science of stress and resilience	Karen Johanne Pallesen	30	TBA	9	0	After this course, participants should be able to: • Define stress and distinguish between stressors, stress and stress responses. • Describe the signaling pathways of the fight-flight/mobilization, freeze and calm-connect responses/states. • Describe the signaling pathways of well-being and resilience. • Place freeze, fight-flight and calm-connect states in the context of evolutionary biology. • Describe automatized processing modes in the nervous system that make fight-flight “first choice” even in the absence of threats or real danger. • Describe the signaling pathways of commonly experienced stress symptoms such as increased heart rate, sweaty palms and “the mind going blank”. • Explain individual variation in stress sensitivity and resilience. o How can childhood trauma predispose to life-long heightened stress sensitivity, and how can a safe childhood make you stress resilient? • Explain the link between long-term stress and o Cardiovascular diseases o Metabolic diseases: metabolic syndrome, diabetes o Anxiety and depression o Functional somatic syndromes o Autoimmune diseases • Explain the appearance of the stress epidemic o What are the particulars of modern societies and ways of living that produce excessive stress? Are adolescents especially exposed to stressors, - or sensitive to stress? • Present arguments why and how schools, work places and clinical practices could potentially benefit from insights into the science of stress and resilience.	Held one out of three times		
1	C316	Patient reported outcomes (PRO) in clinical research	Annette De Thurah	30	2,6	32	4	By the end of this course the students will • have received an overall introduction to the concept of PRO and the implication of using PRO data in clinical research • be able to select PRO instruments, and evaluate it’s quality • be able to design, analyse, report and interpret PROs in clinical research	Held for the first time in 2023		
2	C312	Retire statistical significance: a world beyond p<0.05	Morten Schmidt og Erik Parner	150	0,8	102	0	Skills to interpret and report effect estimates considering random error.			

1	C317	Introduction to Machine Learning for Health Research	Oleguer Plana-Ripoll	25	TBA	31	0	• Discuss the scenarios where machine learning can or cannot enhance epidemiologic research and practice • Assess ethical dilemmas that may arise when data-driven tools (i.e. derived from patterns in data without human direction) are used for public health • List and describe various learning algorithms and approaches to evaluate their performance • Evaluate the appropriateness of using machine learning for specific research questions, using current examples from the scientific literature • Demonstrate ability to utilize analytic tools that promote reproducibility • Analyze public health data by applying learning algorithms and evaluating the resulting models • Compare different machine learning approaches to address common challenges in epidemiologic research	Held for the first time in 2023		
1	C319	Introduction to neurodegenerative diseases and disease models	Nathalie Van Den Berge and Caroline Cristiano Real Gregório	50	8			(1) explain the pathophysiology of common neurodegenerative disorders (what cells and regions are affected and potential mechanisms of disease progression); (2) demonstrate a critical understanding of the methods of investigation and (differential) diagnosis; (3) critically evaluate the different in vivo and in vitro disease models available, be able to judge the advantages and disadvantages; (4) critically discuss the management options available for patients with neurodegenerative disorders, as well as potential future disease-modifying treatment options; (5) critically appraise the scientific literature on the clinical and research aspects of neurodegenerative diseases.	Held for the first time in 2023		
1	New	Mechanisms, Clinical Presentation, and Treatment of Neuropathic Pain (online)	Pall Karlsson	24	5			See appendix			
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OTHER (NOT OFFERED BY THE DEPARTMENTS)

3	A88	Systematic Literature Search (Research-year)	Janne Lytoft Simonsen	25	0,7	25	0	At the end of the course, the participants will be able to build a systematic search strategy and select relevant information sources and search terms. Furthermore, participants will be able to navigate common medical databases and be familiar with the concept of reference management software in general and EndNote in particular.	3 coursee per year, two in the spring and one in the fall. Cancelled in 2020.		
7	A103	Basic Course in Written English	Morten Pilegaard	25	2	26	36	• Knowledge about guidelines and conventions governing the structuring of clinical research papers. • Knowledge of principles of cohesion and thematic structure in research papers. • Knowledge of some of the main differences between English and Danish syntax and grammar. • Ability to describe typical structural and linguistic features of poster, abstract and paper. • Ability to trace errors of syntax and grammar in English-language texts.	7 courses per year - 4 in the spring and 3 in the fall.		
5	A125	Advanced Course in Written English	Morten Pilegaard	20	2	21	14	• Ability to use existing guidelines and conventions governing the structuring of clinical research papers. • Ability to analyse and describe typical structural and linguistic features of poster, abstract and paper. • Ability to apply principles of cohesion and thematic structuring in own texts. • Ability to analyse and produce select text types. • Ability to trace and correct errors of composition and grammar in English-language texts.	5 courses per year - 3 in the spring, 2 in the fall.		

1	A127	Linear regression models for continuous and binary data	Morten Frydenberg	24	3,6	19	0	• Confidently read and understand the output of a regression analysis • Understand and evaluate the assumptions behind the model • Work with regression models that include interaction/effect modification • Communicate the main results of a regression analysis and the assumptions			
2	A132	PhD Supervision (supervisors)	Mette Krogh Christensen	24	0	18	1	The quality of PhD students' education is partly dependent on the PhD supervisor's competencies as a supervisor. The aim of this course in PhD supervision is to expand the participants' repertoire of supervision strategies and methods to provide a flexible approach to supervision, strengthen their reflections on practices, roles, and relationships in the supervision process, and share experiences and new knowledge for advancing PhD supervisors' competencies.			
3	A137	Literature search in medical databases (Language English)	Annette Balle Sørensen	24	0,7	19	0	• To enable the participants to perform qualified searches, systematic as well as citation searches, in relevant medical databases. • To introduce the participants to methods of scientific quality measurements, thus enabling them to understand the basic principles of research evaluation. • To present an overview of different aspects related to research publication such as Open Access, ORCID, Forskerportalen.dk, Copyright etc. • To introduce the basic concept of reference management programs in general and – if requested – to make the participants familiar with the specific reference management program EndNote	3 courses per year - 2 in the spring, 1 in the fall.		
1	A148	Qualitative Research: Phenomenology	Sanne Angel	16		7	0	•Critically evaluate literature and practice in Phenomenological health qualitative analysis. •Write a plan for the analysis with reference to the literature. •Analyse your own data from a phenomenological perspective (e.g. which step do you follow?) •Discuss own and co-participants' choices and considerations. •Describe a plan for analysing their qualitative data/material. •Compare strength and weakness in an empirical phenomenological versus hermeneutical phenomenological analysis.	Cancelled in 2020 and 2023		
2	A227/28	Research presenter - Educational Informatics	Louise Maria Gamborg	24	3,8	24	55	• Apply skills in Rhetorics for preparing and delivering research presentations with a focus on producing and presenting effective talks and posters • Use reflective skills when in engaging in academic discussions and evaluating performance in academic presentations • Apply principles for giving and receiving feedback	One course per semester. Has previously been held three times a year, but since 2023 teaching ressources are only available for two courses per year.		
1	A253	Prepare yourself on the movement from a PhD in Health to a career in non-academia	Vibeke Broe	24	4,5	23	7	• Identify transferable skills achieved during doctoral training • Explain the value of these skills within as well as outside of academia • Reflect on their own possible career path • Apply the different aspects of the course when marketing their skills in different situations • Furthermore, the participants should gain an understanding of common career areas for researchers, and the requirements companies have when employing PhDs.			

2	A293	PhD-student as supervisor for undergraduate students – how and when?	Mette Krogh Christensen	28	3,8	28	15	• Discuss and reflect on requirements and responsibilities of the different supervisor and co-supervisor roles, • Provide feedback to undergraduate students' written or oral presentation in a way that facilitates the undergraduate students' learning process, and • Acquire knowledge about undergraduate students' expectations and interests to balance supervisor's control and undergraduate students' control of their projects.			
2	A294	The Reflective Teacher	Kamilla Pedersen	24	2,4	17	30	• Describe the characteristics of student-centred teaching and learning. • Describe the characteristics of reflective practice of teaching. • Identify, evaluate, and reflect on teaching elements in their own teaching in order to enhance student learning. • Provide peer-feedback in teaching. • Plan, conduct and evaluate a specified lesson including give reasons for learning outcomes, student activities and teacher role in the lesson. • Develop a first draft towards a teaching portfolio			
1	A297/05	Advanced R	Florian Privé	25	4	15	0	•Use RStudio with a better setup to be more efficient in their work •Version their code with Git to keep track of changes in their code •Understand more R as a programming language and write better, simpler code •Manipulate and visualize data with the tidyverse and R Markdown •Produce efficient R code •Develop an R package	Not held in 2023.		
2	A315	Introduction to managing Research Data, FAIR principles, and Open Access	Anne Vils Møller	24	0,3	11	9	• will understand the basic principles of RDM • will know the different aspects of the research data lifecycle • will know what constitutes a data management plan and be familiar with templates and specific tools for writing their own data management plan • will know about FAIR principles and how to make their own datasets as FAIR as possible • will know the different models of OA: gold, green, hybrid • will be aware of potential OA requirements of funders			
4	A1000	Health - Welcome to the PhD study	Mia Maychrzak	60		51	2	The Graduate School of Health wishes to welcome all newly enrolled PhD students to the PhD programme, and to give PhD students the opportunity to meet and interact with fellow PhD students and AU representatives from fields relevant during the PhD programme.	Held every 3 months		
4	A1001	Time and Project Management I: Using the IPTO to communicate with your supervisors and keep the overview in a dynamic PhD context (after 6 months) *(former title: "Do you manage your time well? Using project and time management to avoid stress (after 6 months)")*	Constance Kampf	25	1	5	0	At the end of the course, the participants will be able to revise their IPTO planning tool and integrate key decision points into it. In addition, they will have learned how to make connections between the high-level planning in the IPTO, and more detailed planning in their daily work. Finally, they will build a vocabulary for discussing progress with their advisor which allows for considering progress separately from content.			

4	A1002	Time and Project Management II: Considering Risk & Coordinating your daily work with the big picture (IPTO) (after 6 months) *(former title: "Reality check - can I really do that much? Time and Project Management after the midterm evaluation")*	Constance Kampf	25	1,4	6	0	At the end of the course, the participants will be able to reconsider their PhD completion plan, reflecting on how to use a two-level approach to planning and controlling progress. In addition, students will reflect on how to remove bottlenecks and risks in the second half of the PhD.			
2	A1003	From PhD to PostDoc	Constance Kampf	25	5,5	12		At the end of the course, the participants will be able to reconsider their PhD completion plan, reflecting on how to use a two-level approach to planning and controlling progress. In addition, students will reflect on how to remove bottlenecks and risks in the second half of the PhD.			
1	A1004	Getting the most out of your PhD – a career perspective	Vibeke Broe	50	0,3	0	4	Understand why and how to work with the professional development How to work with goal setting and how to achieve goals Understand how to incorporate career thinking in your PhD	Held for the first time in 2023		
1	A1005	Preparing for Career Transitions	Vibeke Broe	50	0,3	0	5	• Know how you can set direction for your future work life during your PhD • Know how to explore your options • Understand the factors that should influence your career decision process • Remember that you should take control of your own career planning and development	Held for the first time in 2023		
2	New	How to Communicate your PhD Research	Lise Wendel	25	0,8			• Insight into presentation techniques and communicative tools, to make complex knowledge understandable, interesting and relevant to the outside world. • Experience in communicating and conveying their own PhD research . • Knowledge of journalists' working methods and priorities as well as the researcher's own role and rights as an expert in a media context. • Knowledge of responsible research communication and insight into what can be communicated, to whom and when.			
50											

Total no of courses **131**

Punkt 9: Briefing from Head of Graduate School

It is recommended that
The PhD committee takes note of the briefing.

Case
The Head of Graduate School briefs the PhD committee on news from the graduate school.

Responsible
Helene Nørrelund

Punkt 10: Briefing: AU Elections 2023

It is recommended that
The PhD committee takes note of the briefing

Case
The 2023 AU Election starts with nomination of candidates from Friday 6 October at 9:00 2023 to 12 October 2023 at 12:00. Go to (timeline) for more info (medarbejdere.au.dk/en/strategy/universityelection/schedule-2023). Both PhD students and academic staff members are to be elected. There is no limit for the number of election periods.

The election will be held from 13 November at 9:00 to 16 November 2023 at 16:00. Newly elected members will take up office on 1 February 2024.

Responsible
Louise Nygaard

Punkt 11: Any other business