

## Undervisningsportefølje

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## Formel pædagogisk uddannelse

2018 SDU Universitetspædagogikum

2014 Instructional Skills Workshop, University of Geneva

## Uddannelsesadministrative opgaver

Course responsible for two courses:

1) BMB507 (Fundamental Microbiology, 5 ECTS, 4th semester in BMB and Biomedicine degree courses), since 2018.

2) BMB843 (Molecular Biology and Genetics of Bacteria, 10 ECTS, elective course of 8th semester in BMB, Biomedicine and Computational Biomedicine Masters degree courses), since 2022.

Member of BMB PhD Study Committee since 2020.

Member of Danish censor list for Biology since 2022.

## Erfaring med undervisning, vejledning og eksamen

### Vejledning

2020 Aug-2021 June 2 MSc thesis, 2 Bachelor thesis, 2 pre-MSc ISA (10 and 15 ECTS)

2019 Aug-present 2 MSc thesis, 3 Bachelor thesis, 2 pre-MSc ISA (10 ECTS), 2 pre-Bachelor ISA (10 ECTS)

2018 Aug-2019 June 1 MSc thesis, 3 Bachelor thesis, 2 pre-MSc ISA (15 ECTS), 2 pre-Bachelor ISA (10 and 5 ECTS)

2017 Aug-2018 June 1 MSc thesis, 3 Bachelor thesis, 1 Erasmus student ISA (15 ECTS)

2017 June-present 2 PhD thesis

### Undervisning

2022-present BMB843, 8 hr of lectures, lab course of 24 hr/student, examined by report and oral exam

2019 FF501, first year project, 7 hr of project group supervision, examined by report and oral exam

2019 BMB507, 12 hr of lectures, lab course of 10 hr/student, examined by written exam

2019 BMB803, 2 hr of lectures, 4 hr of seminars, examined by oral exam

2011-2015 Teaching assistant for practical course in microbiology, 5 hr/week during fall semesters (for medical students, University of Geneva, Switzerland)

### Eksamen

National and international PhD evaluation committees (three times in 2020: University of Aarhus, University of Copenhagen and University of Toulouse)

Evaluation of written examinations for my own course (BMB507)

Censor for BMB821 (MSc thesis preparation course, 5 ECTS, examined by written report)

Censor for 5 ECTS ISAs and first year projects of colleagues (examined by oral exam)

### Metoder, materialer og redskaber

Analogue teaching activity development: E-timer answer lottery for BMB507 tutorials

Description:

Gameified system of numbered tokens that the students in an E-timer class pick out of a bag, to sort them into random groups to go over selected questions from the homework question set (matching the number on the token) before presenting their group's collective answer to the rest of the class. This approach was successful in increasing class participation while at the same time not exposing individual students who were less confident with the class material. This activity had to be discontinued due to COVID in 2020, but in 2021 I trained my TAs to use Zoom breakout rooms to set up similar random-sorted groups, which was also a success.

Digital teaching activity development: interactive lecturing with online exercises using the web application Padlet  
Description:

Used Padlet to make online exercises for use during lecture hours, with a question relating to the lecture material that they entered free-text answers to. These were used half way through lectures to divide up the time and keep the students active, while letting them actively use the material they had just heard to come up with the answer. These were used in 2018, 2019 and 2020, originally as part of my teaching development project for the SDU pædagogikum in 2018. I adapted the question style and timing slightly for the second time of use in 2019 based on responses in my 2018 student evaluation, and in my 2019 evaluation a few of the students were specifically mentioning the Padlet exercises in lectures as one of the highlights of the course. I did not use this tool during 2021 lectures which were all online, but I am considering re-introducing it.

## **New course development**

I have designed and launched a new elective MSc course in spring semester 2022. The course's title is "Molecular Biology and Genetics of Bacteria" and it covers modern advanced molecular microbiology focusing on the fundamental mechanisms governing bacterial cell cycle regulation, bacterial developmental processes, stress responses and interactions with bacteriophages.

The goal of this course is to give the students understanding of the latest developments in molecular microbiology including the latest methods, and give the competences to critically analyse the scientific literature in this field and apply such methods to their own work in their MSc thesis projects. There is also a very strong focus on development of student competences in scientific communication, including written, oral, formal and informal presentation.

The teaching methods are to introduce the course material with a small number of lectures, spaced out over the semester, to bridge the gap between undergraduate microbiology courses and the content of the review articles they are given as part of the curriculum, while the majority of the teaching hours in between lectures consists of peer to peer presentations and evaluations of selected original research articles.

Towards the end of the semester they participate in a project-style lab course where the teaching method is to train them on selected methods for the first week, then allow them to design their own research question and choose/design experiments to answer it during the second and third weeks. The students present their research question to the rest of the class (informally, at the whiteboard) at the beginning of the second week, and their results at the end of the third week. The lab course is assessed by preparation of a short report detailing their research question, hypothesis and results, formatted in the style of a Short Communication to a journal. The final evaluation of the students at the end of the course is by individual final report (literature review on a selected topic) and oral exam.

## **Uddannelsesudvikling og universitetspædagogisk (følge)forskning, herunder pædagogiske priser**

None applicable