

Jens S. Andersen

Teaching Portfolio

1. Formal educational training

PhD degree in Biochemistry and Molecular Biology (1996) from the Department of Biochemistry and Molecular Biology, University of Southern Denmark, Odense, Denmark

Postdoctoral training, Institut Biologie Structurale (CEA/CNRS), Grenoble, France (1996-1997) and Department of Biochemistry and Molecular Biology, University of Southern Denmark, Denmark (1998-2002)

Research Management Course for Research Leaders, Copenhagen Business School (2008)

University Pedagogical Training Course, University of Southern Denmark (2010)

2. Administrative tasks related to education

PhD Study Board, member, Department of Biochemistry and Molecular Biology, University of Southern Denmark (2003-2011)

Academic Council, elected member, Faculty of Science, University of Southern Denmark (2009-2013)

Independent Research Fund Denmark, appointed member and member of the executive committee (2011-2016).

Department Council, elected member, Department of Biochemistry and Molecular Biology, University of Southern Denmark (2017-2021).

3. Experience with teaching, supervision and examination

BMB508/BMB809 Advanced Molecular Biology, 7 ECTS (2009-2020), Responsible teacher (2014-2020), Number of students: 100-140

BMB508/BMB809 Lab-exercises, 3 ECTS (2019-2020), Responsible teacher (2014-2020)

BMB836, Application of CRISPR Genome Engineering in Cell Biology and Biomedicine, 5 ECTS (2019-2020), Responsible teacher (2019-2020), Number of students: 22-28

BMB822, Modern Trends and Technologies in Molecular Biology, 15 ECTS (2014-2020)

NAT501, First year project, 10 ECTS (2008, 2012-2019)

BMB835, Cancer cell biology, 5 ECTS (2018-2020), Internal evaluator

BMB813, Mechanisms of Eukaryotic Cell Signalling and Cell Differentiation, 5 ECTS (2010-2016)

BMB533 Molecular Biology and Protein Chemistry, 10 ECTS (2014)

BM119, Mechanisms of Cell Signalling, 5 ECTS (2006-2009), Responsible teacher (2006-2009)

BMB802 Proteomics: Technologies and Applications in Biochemistry and Biomedicine, 10 ECTS, (2008-2013)

BMB506 Protein Chemistry, 5 ECTS (2005-2010, 2013), Responsible teacher (2005-2010)

Modul 2 for medical students (2010-2013), Modul 2 exam evaluation (2014, 2015)

Sino-Danish-Center (SDC), Proteomics in Life Science, Beijing (2013)

Sapere Aude Master Class, Faculty of Science, SDU (2015)

Research Application Course, Faculty of Science, SDU (2015)

NordForsk: Nordic Course in Quantitative Proteomics (2012), SDU, main organizer.

PhD lecture course: Proteomics and its Applications in Biology, CPR, Copenhagen University (2012-2020)

Supervision: Postdoctoral fellows (14), PhD-students (8), multiple masters and project students.

External examiner tasks: external PhD evaluation committees (9)

4. Methods, materials and tools

Theoretical teaching using computer presentation tools, software tools for the visualization of molecular structures and cellular dynamics and phenotypes

Practical laboratory teaching focusing on cell visualization, gene and protein perturbation and protein analysis.

5. Educational development and educational research as well as educational awards

In 2020, I have explored a novel exam format for the BMB508 course based on a four-day home assignment that combine questions on a chosen primary research papers with a review on a chosen topic from the course curriculum.

In 2019, I developed the new BMB836 course focusing on the application of CRISPR genome engineering in cell biology and biomedicine. The course combines theoretical and practical knowledge within this rapidly developing field.

In 2016, I adapted the BMB508 course to the three-phase model and developed new laboratory exercises with the intention to use the results obtained by the students as a primer to illustrative key concepts in cell biology. The intention was also to emphasize research-based teaching by using the lab-exercises as a starting-point for case studies that illustrate how knowledge has been obtained, how research is conducted, how the methods that they have learned could be used to address new research questions, and how to present experimentally obtained data in a research paper format.

In 2005, I developed the BMB506 Protein Chemistry course. The course successfully improved the pass rate by focusing on structure-function relationships and active learning of key concepts in protein structure analysis and visualization.

6. Reflections on your own teaching practice and future development including student evaluations

During my employment at SDU, I have been involved in teaching multiple courses for both medical and natural science students. I have also been involved in several international PhD-schools, collaborative research projects, and the evaluation of a large number of research proposals. From these activities, I have gained knowledge in a fair part of the departmental curriculum in biochemistry, molecular cell biology, immunology, biomedicine and proteomics. Thus, I am able to teach several courses at a theoretical and at a practical level.

Moreover, I am interested in further improving the courses within the departmental curriculum by testing and implementing new ideas and approached for activating teaching, active learning, and dialogue-based teaching. Keywords for teaching ideas include curiosity, inspiration, motivation, research-based arguments and knowledge, the good question; overview of the subject, and depth of learning combined with breadth of coverage.