

## Collegial Teaching and Learning in STEM Education (MNPED660, 2022/23)

### Course Information

Collegial Teaching and Learning in STEM Education is an elective teaching and learning course in higher education offered by bioCEED to all MN-UiB and UNIS<sup>1</sup> staff<sup>2</sup>. The course is given in English and requires no previous pedagogical training and welcomes both experienced and more novice teachers and staff. On completion of the course, you will receive a diploma that states the content and extent of the course (5 ECTS), which corresponds to three weeks full-time work. This course will count as part of the basic pedagogical competence requirement at UiB/UNIS.

The course introduces you to core concepts of teaching and learning in higher education to develop your ability to improve student learning. The course is focused on reading, discussing, documenting, and reflecting on pedagogical topics specifically related to teaching and learning in STEM (Science, Technology, Engineering and Mathematics) within the participants' practices. Activities in the course shall provide participants with a common educational language, support collegial reflections and a scholarly approach to teaching and learning.

The main component of the course is a group SoTL<sup>3</sup> project, addressing a teaching and learning issue of relevance to the participants' own practice. The final project product can be a project report, a paper intended for publication in a teaching and learning journal, or a submission to a teaching and learning conference. The course schedule is aligned with the deadlines of Læringsfestivalen 2023 (Trondheim).

### Application/Admission

MN-UiB and UNIS<sup>1</sup> staff are eligible to apply. You may apply as a group or individually. If you apply without a group, you will be assigned to a group of 3-5 other participants. The application deadline is **25 August 2022**.

Apply here: <https://skjemaker.app.uib.no/view.php?id=12811907>

### Course team

Roy Andersson

Associate professor II, bioCEED UiB and Senior Lecturer, LTH

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<sup>1</sup> We will make adaptations for UNIS participants to be able to participate without excessive travelling

<sup>2</sup> This includes all categories of employees that work with education, teaching and learning (i.e. professors, PhDs, administration, technicians etc).

<sup>3</sup> Scholarship of Teaching and Learning

### Scheduled activities (main topics)

Session	Date	Time	Content
1	5 Oct 2022	13:15-16:00	Introduction, requirements, core pedagogical concepts, Scholarship of Teaching and Learning (SoTL)
			<i>Literature assignment (instructions below)</i>
2	2 Nov 2022	13:15-16:00	Active and inclusive teaching workshop, literature reporting, teaching and learning project discussions
			<i>Project draft (instructions below)</i>
3	30 Nov – 1 Dec 2022		Groupwise feedback on project development
	<b>5 Jan 2023</b>		<i>Last day to send in a preliminary abstract for session 4</i>
4	10 Jan 2023	13:15-16:00	Project session – feedback project
	<b>12 Jan 2023</b>		<i>Last day to submit project product draft or abstract to Læringsfestivalen</i>
5	9 Mar 2023	10:15-12:00	Project session - feedback on almost final product
		13:15-16:00	Teaching portfolio workshop
	<b>24 Apr 2023</b>		<i>Last day to submit the individual teaching portfolio</i>
	<b>2 May 2023</b>		<i>Last day to submit the peer-reviewed portfolio feedback</i>
	<b>8-9 May 2023</b>		<b>Final project product/Participation at Læringsfestivalen at NTNU</b>

### Assessment

For a pass on the course participants must have:

- attended at least 75% of the scheduled activities (session 1-5)
- submitted and passed the individual course assignments (individual reading, individual portfolio writing and peer-review)
- completed the group project (final project product and peer-feedback)

### Literature (preliminary list)

Biggs, J. & Tang, C. (2011), Teaching for Quality Learning at University, 4th ed, The Society for Research into Higher Education. *Books will be provided for participants.*

Biggs, J. (1999) What the Student Does: teaching for enhanced learning, Higher Education Research & Development, 18:1, 57-75. <https://doi.org/10.1080/0729436990180105>

Handal, G. (1999), Consultation Using Critical Friends, New Directions for Teaching and Learning, 76, pp 59-70. <https://doi.org/10.1002/tl.7907>

Tanner K. D. (2013). Structure matters: twenty-one teaching strategies to promote student engagement and cultivate classroom equity. CBE life sciences education, 12(3), 322–331. <https://doi.org/10.1187/cbe.13-06-0115>

Participants chosen articles about teaching and learning in your discipline or relevant to your work. And other relevant literature to complete the course project.

## Instructions to the course assignments

### Literature assignment (individual)

Before session 2 the reading and writing assignments have to be completed (corresponding to approximately 20 hours). The writing assignments are to be submitted in MittUiB prior to session 2. The assignments will be presented and discussed with the other course participants in smaller groups.

**1. Write a reflective piece (1 page in total) on your thoughts about the content in the articles a-c below (see the literature list above):**

- a) Read Handal's article "Consultation Using Critical Friends".
- b) Read Bigg's article "What the Student Does: teaching for enhanced learning".
- c) Read Tanner's article "Structure matters: twenty-one teaching strategies to promote student engagement and cultivate classroom equity".

**2. Choose and read a few relevant articles (of your own choice) about education, teaching and learning in your discipline or a topic relevant to your work.**

**Write a reflective piece (½-1 page) on one of them where you also give a short justification of your choice of article and how it can benefit the education and student learning at your institution.**

### Project work (in groups)

The main component of the course is the group project, addressing a teaching issue of relevance to the participants' own teaching and learning situation. The project work corresponds to 40-60 hours of work per person and is reported orally and in writing. The final project product can be a project report, a paper intended for publication in a teaching and learning journal, or a submission to a teaching and learning conference. The course schedule is aligned with the deadlines of Læringsfestivalen 2023 (Trondheim). In addition, the course participants will give feedback on other groups' project work.

- At session 3, a draft version of the project product will be discussed, and all participants will give feedback on the material orally in mixed groups.
- The final project product shall be (almost) finished before session 5, where all participants will give feedback on the product orally in mixed groups before the deadline for the submission.
- The final project product shall:
  - have colleagues as target group
  - include/incorporate relevant literature from the university teaching and learning field, properly referenced
  - have a developmental focus, i.e. have improved student learning as the objective
  - be able to work as a stand-alone product for future development use

### **Portfolio writing (individual)**

The portfolio writing part of the course corresponds to 30-40 hours of work.

- The teaching portfolio shall be submitted in MittUiB within the deadline 24 April 2023.
  - All participants will give written peer feedback on one teaching portfolio (submitted within 2 May 2023).
  - The teaching portfolio for this course is not required to be a complete portfolio but shall:
    - be short and concise (max 3 pages). It is important to focus and prioritize!
    - have one part describing and discussing your pedagogical philosophy, and may include a short description of your pedagogical journey
    - include concrete cases\* from your own practice and situation where you reflect in relation to your pedagogical philosophy, as well as relevant literature in university teaching and learning, properly referenced
- \*) In a full portfolio you would most likely include several cases, but for this task one case is enough.