Semester evaluations on SDU's engineering programmes, 1st to 4th semesters

(Handbook for semester evaluations)

TEK Education

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Introduction

The 1st to 4th semesters of BEng and BSc in Engineering (Bachelor part) programmes at the Faculty of Engineering (TEK) focus on the semester as a whole, which is summarised in the semester project. Therefore, the 1st to 4th semesters are evaluated on a constant basis. The primary goals of teaching evaluation are *development and overview*. Furthermore, the evaluation of the 1st to 4th semesters must ensure and support continuous and constructive quality-focused dialogue between students, teachers, administration and management in relation to ensuring the best possible educational environment.

The evaluation of the 1st to 4th semesters on the engineering programmes is based on the faculty's pedagogical model *The Engineering Education Model of the University of Southern Denmark* (DSMI), SDU's Policy for Quality in Education (indicator 6.3.2.3) and SDU's Principles for the Evaluation of Programme Elements, as well as the University Act § 8a(3) and § 18(4) and the Act on Transparency § 2.

The semesters are evaluated as described in this handbook, where both qualitative and quantitative methods are used.

Organisational anchoring

The evaluation of a semester is the responsibility of the individual semester coordinator. Programme management (programme coordinator and programme administrator) is accountable to the programme's education committee and to faculty management for semester evaluations on the 1st to 4th semesters of the programme. Furthermore, the programme's education committee processes the semester evaluations.

TEK Education (TEK quality coordinator) is responsible for the semester evaluations being processed in the engineering programmes' study boards, as well as the individual programme's status reviews between programme and faculty management.

The faculty's educational quality group (TEK KVAL) is accountable to the faculty for the system of semester evaluations.

The director of studies has the overall responsibility for semester evaluations and the educational quality of the faculty.

System for teaching evaluations at the Faculty of Engineering

All teaching at the Faculty of Engineering is evaluated as follows:

Purpose		Evaluation	Methodology	Elaborated purpose	Time
	Teaching development	Final evaluation	Qualitative – the methods described in this handbook can be used for inspiration	→ Semester development → Feedback to Semester Coordinator → Students' reflection on own efforts	Final classes
Overview and focus	Teaching development	Questionnaire	Quantitative	→ Overview of the experience provided by the 1st to 4th semesters at TEK → Input for the oral final evaluation → Management information	Selected by programme management in collaboration with the TEK quality coordinator

The quantitative final evaluations

It is up to the individual semester coordinator to take the initiative for the quantitative final evaluation.

The semester coordinator has partial methodological freedom and may choose the form and method that the teacher, in collaboration with the students, finds most productive in relation to supporting a productive dialogue and mutual feedback regarding the course. However, quantitative methods (questionnaires) other than those that are officially dispatched may not be used. A real dialogue between the semester coordinator and the students (or student representatives) must be also be ensured.

The semester coordinator should be able to explain the content of the quantitative final evaluation at the request of programme management (including members of the education committee, study board, quality coordinator and faculty management). This can be ensured by the preparation of a brief report. The report is not published – however, relevant students have the right to view any follow-ups to the quantitative final evaluations.

The quantitative evaluations

Each of the 1st to 4th semesters on BEng and BSc in Engineering (Bachelor part) programmes is evaluated quantitatively by means of the questionnaire below. The purpose of the evaluation is to identify the students' practical, academic and pedagogical experiences of the semester, as well as to focus on the semester project.

The quantitative evaluation consists of the following:

	Agree (4 points)	Partly agree (3 points)	Partly disagree (2 points)	Disagree (1 point)	Not applicable
I have developed academically during the course of the semester (included in key indicator)					
The activities below have developed me academically during the course of the semester:					
Project work					
Academic discussions with fellow students					
Academic discussions with teachers					
Teaching of fellow students					
Practical exercises and experiments					
Other:	[Free text field]				
When reflecting on my own efforts, I have:					
Been active during the course					
Been an active participant in the project group work					
Been prepared prior to the teaching					
Been prepared prior to the project group work					
I have been provided with sufficient practical information regarding the semester's activities					
I have been academically challenged during the course of the semester					
The literature used has supported my learning					
The semester project has included the subject of the semester					
I have been provided with the guidance I expected for the semester project					
Is there something positive that you would like to highlight?	[Free text field]				
Do you have any suggestions for improvement?	[Free text field]				

The quantitative evaluation is carried out digitally via the TEK.UE system (ua.tek.sdu.dk), and the evaluations may be accessed on both computer and mobile devices, as well as via the Blackboard e-learning platform.

Employees may access the evaluation results via SDU login so that:

- Faculty management (including quality coordinator) may view all results
- Heads of departments and sections may view the results of the semester coordinators that fall under their staff management
- Programme management teams (UK + UA) may view all results of the programmes they are associated with
- Semester coordinators may view all results of the semesters that the employees are coordinators for

For internal use, the question *'I have developed academically during the course of the semester'* is associated with indicators so that:

Points	Indicator		Consequence
1 - 1.99	🔴	→	The evaluation of the semester is discussed by the education committee and at the programme's status review
2 - 2.74	🟡	→	The education committee discusses the evaluation of the semester. In the event that two consecutive evaluation periods are associated with yellow indicators, the semester is discussed at the programme's status review
2.75 - 4	✓	→	No consequence

Based on the above indicators, a programme-specific summary of the semester evaluations is presented to and discussed by the programme's education committee (all members have the right to see both responses and comments), as well as at the programme's annual status review between programme and faculty management.

Based on the above indicators, a summary of all semester evaluations at the Faculty of Engineering is presented to the engineering programmes' study boards, together with an elaboration of semester evaluations with red indicators from the programme's education committee.

The overall evaluation results are published (except for the comments) on the Faculty of Engineering's website www.sdu.dk/tekkval.

Follow-up on semester evaluations

The immediate follow-up on semester evaluations is the responsibility of the individual programmes' education committees, who carry out the initial programme-specific processing of the semester evaluations on behalf of the engineering programmes' study boards.

The education committee may discuss all semester evaluations. This must be documented in the minutes. However, only a written statement of semester evaluations that have achieved a red or yellow indicator on repeated evaluations in the quantitative evaluation is required in the further reporting.

The actual reporting takes place in the TEK.UE system, which shows an overview of the quantitative semester evaluations for each programme and where comments can be linked to each semester using a digital template. Processing by the education committees as well as the above reporting must be carried

out before 1 April (for the previous semester's semester evaluations) and 1 November (for the previous semester's semester evaluations).

The engineering programmes' study boards discuss semester evaluations twice a year. This is carried out on the basis of the report made by the faculty's quality coordinator. The study board focuses as a minimum on the semesters that have achieved a red indicator as well as the programme reports of these.

Finally, the overall semester evaluations of a programme are discussed at the annual status reviews between programme and faculty management.

Appendix 1: Proposal of methods for qualitative final evaluations

Delphi method	
Description:	Each student (or elected student) makes a note of three good things and three things that should be improved on a piece of paper. The papers are then circulated among approx. 20 students, who indicate the things they agree with by ticking the appropriate box. Teaching is discussed as a group on the basis of the indications made by the students.
Suitable for:	Smaller classes of up to 40 students
Advantages:	The students set the agenda and everyone can express their opinion
Weaknesses:	The teacher does not necessarily receive feedback on the desired topics

Interview method	
Description:	The students are placed together as pairs. One student interviews the other in relation to good and bad experiences during the course. The interviewer summarises the interview. This may be carried out orally (for small classes) or by means of a 'blackboard newspaper', where the summaries are stuck on the blackboard using Post Its. The teacher and students then hold a group discussion.
Suitable for:	Smaller classes of up to 40 students
Advantages:	Reflective gain in the interview method
Weaknesses:	Potentially time-consuming

Post It method	
Description:	Two Post Its with different colours are used – one for good things and one for things that could be improved. Each student receives three of each. They are then gathered on the blackboard and form the basis for a group discussion.

Suitable for:	Smaller classes of up to 40 students
Advantages:	The students set the agenda, everyone can express their opinion and everyone is activated
Weaknesses:	The teacher does not necessarily receive feedback on the desired topics, and it may be difficult to manage too many Post Its.

Reference group method

Description:	A group of students is selected at the start of the course to represent the class. The other students can give their feedback to this group, who meets with the teacher when necessary.
Suitable for:	Larger classes
Advantages:	Methods such as Delphi and Post It can be usefully applied in the reference group. Can often lead to a good dialogue.
Weaknesses:	Not all students are necessarily provided with the opportunity to express their opinion or receive feedback on their criticism.

Colleague guidance method

Description:	One or more colleagues supervise the teacher. After the teaching, there is a dialogue between the supervisor/s and teacher about how the supervisor/s experienced the teaching. The supervisor/s may provide guidance to the extent desired by the teacher.
Suitable for:	All class sizes
Advantages:	The teacher sets the agenda and may receive feedback on topics that the students are unable to comment on.
Weaknesses:	Time-consuming, logistically challenging and students are not provided with the opportunity to express their opinion.

Plenum method

Description:	A chairperson and a minute taker are elected from among the students. The class is divided into groups of 3-5 students and each group elects a spokesperson. After an initial discussion, the spokespersons and the chairperson summarise the various inputs on the blackboard. This is concluded by a free debate, in which anyone may participate
Suitable for:	All class sizes
Advantages:	The students set the agenda and everyone can express their opinion.
Weaknesses:	The teacher does not necessarily receive feedback on the desired topics

Poll Everywhere method	
Description:	SDU's voting system Poll Everywhere is a Student Response System (SRS) that provides students with the opportunity to participate actively in the lessons, i.a., via multiple-choice questions, free-text answers, Q/A sessions and clickable images. The system can be used as a simple voting tool, where the teacher can quickly collect student answers to academic issues and have the answers displayed directly in a slideshow or via the system's web page. Please contact the SDU Centre for Teaching and Learning for more information or use of Poll Everywhere.
Suitable for:	All class sizes
Advantages:	The students find the method interesting, and it can be used on a regular basis during the course
Weaknesses:	Requires set-up by a teacher to get the full use out of the system.