Faculty of Engineering

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Teaching evaluations on SDU's engineering programmes

Handbook for teaching evaluations

SDU

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Introduction

All teaching activities at the Faculty of Engineering (TEK) are continuously evaluated. The primary goals of teaching evaluation are *matching of expectations, development and overview*. Furthermore, the evaluation of teaching activities 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 teaching activities at TEK 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.

All teaching activities at the faculty are evaluated as described in this handbook, where both qualitative and quantitative methods are used.

Organisational anchoring

At the Faculty of Engineering, all teaching activities are evaluated where associated with a teacher who has a minimum of three 45-minute lessons (guest lecturers, DVIP teachers and VIP teachers with less than three lessons are exempt). A course with one teacher is therefore evaluated once. A course consisting of more than one discipline with more than one associated teacher is evaluated once for each VIP teacher associated (with a minimum of three lessons).

The evaluation of teaching is the responsibility of the individual teacher. Programme management (programme coordinator and programme administrator) is accountable to the programme's education committee and to faculty management for evaluating all teaching activities on the programme. Furthermore, the programme's education committee processes the teaching evaluations.

TEK Education (TEK quality coordinator) is responsible for the teaching 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 faculties for the system of teaching evaluations.

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

System for teaching evaluation at the Faculty of Engineering

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

Purpose	Evaluation	Methodology	Elaborated purpose	Time
Matching of expectations	Mid-term evaluation	Qualitative – the methods described in this handbook can be used for inspiration	→ Development → Mouthpiece for students → Students' reflection on own efforts	Approx. a third-way through the course
Teaching development	Final evaluation	Qualitative – the methods described in this handbook can be used for inspiration	→ Teaching development → Feedback to teachers → Students' reflection on own efforts	Final classes
Overview and focus	Questionnaire	Quantitative	→ Overview of the experience provided by teaching activities at TEK → Possible input for the oral final evaluation → Management information	Selected by programme management but often up to the final classes so that the submitted comments can be included in the qualitative final evaluation

The qualitative mid-term and final evalutions

It is up to the individual teacher to take the initiative for both the qualitative mid-term evaluation and the qualitative final evaluation. However, in cases where a teacher has less than six lessons with a class of students, qualitative mid-term evaluations may be omitted if deemed irrelevant.

The teacher has 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. A number of qualitative methods are described in this handbook (Appendix 1). Other methods may also be used, although a real oral dialogue between the teacher and the students (or student representatives) must be ensured.

The teacher should be able to explain the content of the qualitative mid-term and 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 qualitative mid-term and final evaluations.

The Faculty of Engineering does not support any distribution of the quantitative mid-term and final evaluations and it is requested that quantitative methods only are used during mid-term and final evaluations.

The quantitative evaluations

Each teaching activity at the Faculty of Engineering is evaluated quantitatively by means of a brief questionnaire. A teaching activity is defined as an activity where a teacher is associated and which runs over a minimum of three lessons (of 45 minutes). The purpose of the evaluation is to identify the students' experiences of the course's academic development as well as to form an overall impression of the student's work in relation to the subject. In relation to the latter, this may also serve as an opportunity for self-reflection by the individual student.

The quantitative evaluation consists of two questions and a comment field:

Sending	Questions	Responce scale
Question sent out once for each subject (regardless of how many teachers are associated with the subject)	*I am satisfied with my own efforts in connection with the subject*	Agree Partly agree Partly disagree Disagree
Question sent out once per teacher who has had a minimum of three lessons on the subject	*I have enjoyed good academic benefit from the teaching in [name of discipline] with [name of teacher]*	Agree (4 points) Partly agree (3 points) Partly disagree (2 points) Disagree (1 point)
Comment field sent out once per teacher who has had a minimum of three lessons on the subject	Dynamic comment field that asks the following questions based on the answers to the above questions: Agree: *Do you have more good things to say about the course?* Partly agree: *What has worked well and what could be improved?* Partly disagree: *What could be improved and what has worked well?* Disagree: *Why has the subject not worked for you?*	The student may write an optional comment

The quantitative evaluation is carried out digitally via the eval.sdu.dk system 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 employees that fall under their staff management
- Programme managers and study programme coordinators 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
- Teachers may view their own results

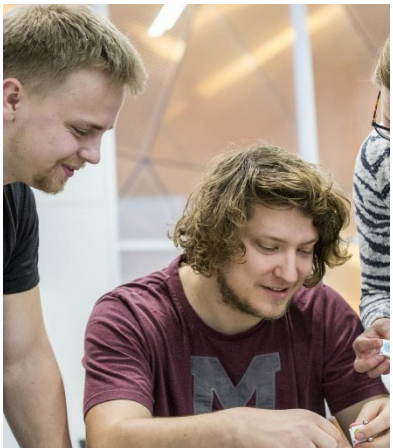
For internal use, the question targeted at the academic benefit of teaching is associated with indicators so that:

Point	Indicator		Consequence
1 – 1,99	●	→	The subject is discussed by the education committee and at the programme's status review. The programme completes a brief report of the course based on a pre-defined template
2 – 2, 74	●	→	The subject is discussed by the education committee and at the programme's status review. The programme completes a brief report of the course based on a pre-defined template
2,75 – 4	✓	→	No consequence

An education committee shall discuss teaching evaluations. For teaching activities that have achieved a yellow or red indicator, the evaluation must be supplemented by the completion of a report (based on a template in EVAL.sdu.dk), which is also discussed by the education committee. All members of the education committee have the right to see both responses and comments. The education committee's processing of teaching evaluations is documented in a report from the education committee. In addition, an overview (including reports for teaching activities rated with red yellow or red indicators) is discussed between the programme and faculty management at the programme's annual status meeting. The discussions are documented in a report of the status meeting.

Based on the above indicators, a summary of all teaching activities at the Faculty of Engineering is presented to the engineering programmes' study boards, together with an elaboration of teaching activities with red indicators from the programme's education committee. The overview also contains examination statistics for each teaching activity.

The evaluation results are published in aggregated form at subject level on the Faculty of Engineering's website www.sdu.dk/tekkval.



Follow-up on teaching evaluations

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

The education committee shall discuss teaching evaluations. This must be documented in the minutes. Furthermore, a written statement of teaching activities 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 Eval.sdu.dk system, which shows an overview of the quantitative evaluation results for each programme and where comments can be linked to each course (/teacher) using a digital template. It is compulsory to use the template, which elaborates on the quantitative evaluation by:

- Summarising the qualitative mid-term and final evaluation/s (compulsory)
- Possible comments from the programme manager and study programme coordinator (optional)
- Summarising the discussions about the teaching activity in the education committee (compulsory)
- A long-term action plan for the teaching activity (compulsory)

Processing by the education committees as well as the above reporting must be carried out before 1 April (for the previous semester's teaching evaluations) and 1 October (for the previous semester's teaching evaluations).

The engineering programmes' study boards discuss teaching 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 teaching activities that have achieved a red indicator as well as the programme reports of these.

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

Appendix 1: Proposal of methods for qualitative mid-term and final evaluations

Delphi method - physical presence	
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

Delphi method - physical presence	
Description:	A Q&A forum is set up by the university teacher on Poll Everywhere. Each student (or elected student) makes a note of three good things and three things that should be improved. The students indicate the things they agree with. Teaching is discussed as a group on the basis of the indications made by the students. Please contact the SDU Centre for Teaching and Learning for more information about using Poll Everywhere.
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
Technical points of attention:	Poll Everywhere requires set-up by a university teacher to get the full use out of the system. The result page for the Poll can be shared in Zoom via screen sharing.

Interview method - physical presence	
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

Interview method – online (Zoom)	
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
Technical points of attention:	The division of breakout rooms can be prepared prior to the teaching, carried out manually during the teaching or carried out automatically if the teacher does not wish to have an influence on the division. It may be beneficial to set up and share any shared documents before the Zoom meeting starts. It may be also be beneficial to set up a table in which the students can write (in order to provide a more manageable product).

Post It method - physical presence	
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 - physical presence	
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 - physical presence	
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.

Colleague guidance method - online	
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.
Technical points of attention:	Requires that the colleague has access to the platform where the teaching takes place (Blackboard, Teams, Zoom)

Plenum method - physical presence	
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

Plenum method - online (Zoom)	
Description:	A chairperson and a minute taker are elected from among the students. The class is divided into breakout rooms of 3-5 students and each group elects a spokesperson. After an initial discussion, the spokespersons and the chairperson summarise the various inputs in a shared document, which everyone can see via screen sharing. 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
Technical points of attention:	The division of breakout rooms can be prepared prior to the teaching, carried out manually during the teaching or carried out automatically if the teacher does not wish to have an influence on the division. It may be beneficial to set up and share any shared documents before the Zoom meeting starts. It may be also be beneficial to set up a table in which the students can write (in order to provide a more manageable product).

Poll Everywhere method - physical presence	
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.
Egnet til:	Alle holdstørrelser
Fordele:	Studerende finder metoden interessant og den kan anvendes løbende gennem undervisningen
Svagheder:	Kræver oprettelse af underviser til at kunne anvende systemet fuldt ud.

Poll Everywhere metoden – online (Zoom)	
Beskrivelse:	SDU afstemningssystem Poll Everywhere er et Student Response System (SRS), som giver studerende mulighed for at deltage aktivt i timerne bl.a. via multiple-choice spørgsmål, fritekstsvar, Q/A sessioner, samt klikbare billeder. Systemet kan anvendes som et simpelt afstemningsværktøj, hvor underviseren hurtigt kan indsamle studerendes svar på faglige problemstillinger og få svarene vist direkte i et slideshow eller via systemets webside. Kontakt SDU Universitetspædagogik for mere information om anvendelse af 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.
Technical points of attention:	The result page for the Poll can be shared in Zoom via screen sharing.

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