



Technische  
Universität  
Braunschweig

 teach4TU

# Working paper

# “Good teaching at TU Braunschweig”

## Version 1.2

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## “Good teaching at TU Braunschweig”

### Background, objectives and target groups

The project proposal stated that a “Charter of Good Teaching” would be developed from the teach4TU project. A debate on the criteria of good teaching had already started at the federal and state levels in Germany. In summer 2013, the Stifterverband für die Deutsche Wissenschaft (Donors' Association for the Promotion of Sciences and Humanities in Germany) published a “Charter of Good Teaching” authored by representatives from 32 public universities in Germany.<sup>1</sup> As well as containing principles and guidelines, the charter in particular contributes to policies and strategies in higher education (HE). It is therefore aimed primarily at HE management and central administration, who set strategic goals and make policy decisions, thus creating the conditions for good teaching. Following the Stifterverband’s “Charter of Good Teaching”, HE representatives in Lower Saxony who are running projects as part of the “Quality Agreement on Teaching” (Qualitätspakt Lehre) funded by the Federal Ministry of Education and Research have prepared a position paper, “Recommendations for good teaching practice in higher education” (Praxisempfehlungen für Hochschullehrende zu ‚guter Lehre‘). This paper is aimed at lecturers in higher education throughout Lower Saxony, to serve as a framework for guidance and reference. teach4TU staff have played an active part in the development of the paper.

In terms of its preparation, use and continued development, this working paper, “Good teaching at TU Braunschweig”, follows the principles of quality management for teaching and study at TU Braunschweig. Core elements are sustainability, process focus, and the division of tasks between the central and decentralised levels (departments, disciplines and institutes). The principles are described in another publication by the Stifterverband entitled “Von der Qualitätsmessung zum Qualitätsmanagement” (From measuring quality to quality management).<sup>2</sup> Unlike those publications, this working paper does not address structural aspects, conditions or teaching assistance processes such as advisory and support services; it primarily focuses on aspects that are directly related to the teaching-learning process and can be changed immediately by individual lecturers.

The working paper “Good teaching at TU Braunschweig” is aimed particularly at the lecturers and students of TU Braunschweig, as well as at future lecturers of TU Braunschweig and prospective students.

Within the university, these standards and guidelines serve as guidance for discussions on good teaching. The aim is not to firmly establish existing or new quality and assessment criteria, but rather to initiate a debate on the individual aspects. These standards and guidelines for good teaching should not be generalised. Instead, they need to take into account the particular features of individual subjects and disciplines and their specific conditions. This underpins the role of teaching as having equal weight as research. The working paper attempts to establish a balance between the status quo and a vision and should be seen as a flexible guideline for communication processes within the university. The authors hope that discussions will give rise to many different and creative spaces for a continued development of teaching; that different status groups in the university will become involved in the debate; and that the working paper will continue to be developed. As part of the strategy process at TU Braunschweig, the working paper provides impulses for the development of teaching quality.

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<sup>1</sup> cf. → [www.stifterverband.org/charta-guter-lehre](http://www.stifterverband.org/charta-guter-lehre)

<sup>2</sup> cf. → [www.stifterverband.org/download/file/fid/261](http://www.stifterverband.org/download/file/fid/261)

## Development process and possible applications

Based on the teach4TU project, a draft version of this working paper was developed by the Vice President for Teaching and Diversity during the 2013 summer semester. The paper’s form and content were then presented to and discussed and updated by the project steering committee, the meeting of the Deans of Studies, the Commission for Study and Continuing Education, representatives from the ASTA student committee and student parliament, the Executive Board, the Senate, and the Strategy Commission of TU Braunschweig. On 28 May 2013, the first Teaching Day, comments and amendments were added. A final discussion of the paper with Senate members took place on 07 January 2014.

The departments, disciplines, staff units and central facilities for teaching and study were invited to use the working paper for a range of purposes:

- Strategy development processes in departments, institutes and other facilities (setting priorities, defining programmes of study)
- Discussions in the studies committees
- Development of degree programmes
- Consideration during (re-)accreditation procedures
- Conceptualisation of modules and in individual courses (defining concrete learning objectives, teaching principles, alternative forms of evaluation)

The working paper could be made available to newly appointed professors. It would also be conceivable that candidates position themselves with regard to the individual guiding principles as part of the appointment procedure.

The working paper is made available to prospective students too (self-assessment tool, TU Braunschweig website, TU-NIGHT/TU-DAY).

In addition, it will be used in the teach4TU project. It will be integrated into the teach4TU training scheme and into the Gute Lehre (Good Teaching) innovation scheme. All members of TU Braunschweig are invited to comment on the individual standards and guidelines in the e-portfolio; to read and comment on existing comments by others; to add examples; and to give feedback or report their experiences with the working paper as a whole:

→ [lehrportfolio.tu-braunschweig.de/gute-lehre](https://lehrportfolio.tu-braunschweig.de/gute-lehre)

At the annual Tag der Lehre (Teaching Day), the working paper will be discussed and revised if applicable.

## Structure

The 10 aspects of good teaching are listed and briefly described below. At least one good practice example is given for each aspect to illustrate it. Good practice examples are teaching projects funded under the Gute Lehre innovation scheme, courses nominated for the LehrLEO teaching award, or other courses and projects. Many examples cover more than one aspect. Standards use the phrase “is guided by”, while guidelines use “takes into account” and “supports”.

# Good teaching at TU Braunschweig

**“Good teaching at TU Braunschweig is guided by scientific standards, research and the rules of the subject-specific scientific discourse.”**

Teaching content is delivered and made understandable based on theoretical principles. Students are instructed on how to independently gain a deeper understanding of the content of their subject. Lecturers link their current research activities with their teaching. As intended by research-based learning, students are introduced to research contexts at an early stage and supported in developing academic working methods. Students are encouraged to engage in critical thinking and taking on social responsibility.

## Examples:

**iGEM Competition project module**

→ [de.igem-braunschweig.de](http://de.igem-braunschweig.de)

**“Carolo-Cup” competition**

→ [www.carolo-cup.de](http://www.carolo-cup.de)

**Forschendes Lernen in der Lernfabrik (Research-based learning at the Learning Factory)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201314](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201314)

**“Good teaching at TU Braunschweig is guided by engaged students.”**

Teaching, learning and the continued development of teaching take the form of a dialogue. In the teaching-learning process, it is important that the phenomena covered are understood. Students are supported and assisted in their self-guided learning processes. They are given regular feedback on the skills they have acquired, and the opportunity for self-assessment. Lecturers are given feedback by students, which is taken into account in the continued development of teaching.

## Examples:

**LehrLEO teaching award given by students**

→ [www.tu-braunschweig.de/teach4tu/lehrleo](http://www.tu-braunschweig.de/teach4tu/lehrleo)

**“Sag’s uns (Tell Us)” – improvement management via an online blog**

→ [sagsuns.tu-braunschweig.de/start](http://sagsuns.tu-braunschweig.de/start)

**S.O.S. – Studieren ohne Sprachbarrieren (Studying without language barriers)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415)

**Projektakademie Ländlicher Raum (Rural areas project academy)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415)

**Thermal science laboratory: Use of eduVote, an audience response system (ARS) for academic teaching**

→ [www.eduvote.de](http://www.eduvote.de)

**Biology: Clicker system**

→ [www.turning-technologies.de/software.html](http://www.turning-technologies.de/software.html)

## “Good teaching at TU Braunschweig is guided by continued training for lecturers and the continued development of teaching ideas in dialogue.”

Lecturers continue to develop their didactics for higher education also “on the job” as well as sharing their ideas on teaching. Young scientists have the opportunity to participate in training programmes.

### Examples:

**teach4TU – Lehr-Lern-Kultur nachhaltig gestalten (Shaping a sustainable teaching-learning culture)**

→ [www.tu-braunschweig.de/teach4tu](http://www.tu-braunschweig.de/teach4tu)

**Tag der Lehre (Teaching Day)**

→ [www.tu-braunschweig.de/tagderlehre](http://www.tu-braunschweig.de/tagderlehre)

**Continuing education offered by the Centre of Excellence in Lower Saxon Higher Education at TU Braunschweig**

→ [www.tu-braunschweig.de/khn/angebot](http://www.tu-braunschweig.de/khn/angebot)

## “Good teaching at TU Braunschweig is guided by constant reflection and the search for improved concepts.”

Lecturers reflect their own teaching and challenge established teaching concepts. Innovative teaching at TU Braunschweig is actively driven, recognised and acknowledged. The curriculum is systematically updated to reflect societal needs. Innovative concepts are tried out and, where applicable, transferred to other subjects.

### Examples:

**Innovationsprogramm Gute Lehre (Good Teaching innovation scheme)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm)

**CampusApp (c4mpUs): Use of a mobile learning app**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201314](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201314)

**Stahlbau (Steel construction) 2.0**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201314](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201314)

**LiteraTUs: Förderung literaler Kompetenzen im Studium (Development of literacy skills for students)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415)

**L4 – Lehr-Lern-Labor zur Stärkung der Lehramtsausbildung (Teaching-learning laboratory for strengthening teacher training)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415)

## “Good teaching at TU Braunschweig is guided by the development of specialist and interdisciplinary skills.”

Interdisciplinary skills are developed to enhance the use of specialist skills in practical application. Students acquire skills such as working as part of a team or mastering challenges together with others. Students also have the opportunity to acquire subject-specific English language skills.

### Examples:

**PlayING: Game-based Learning zur Vermittlung von Schlüsselkompetenzen im ingenieurwissenschaftlichen Studium (Game-based learning of soft skills for engineering students)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213)

**Institute of Psychology: Trainings handlungsbezogener Kompetenzen (Active skills training courses)**

→ [www.tu-braunschweig.de/psychologie/abt/aos/studiumlehre/hbk](http://www.tu-braunschweig.de/psychologie/abt/aos/studiumlehre/hbk)

**Verknüpfung der Inhalte der Ingenieurmathematik mit Vorwissen und beruflicher Praxis (Linking mathematics for engineers content with prior knowledge and professional experience)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213)

**MacGyver-Ideenwettbewerb (MacGyver competition of ideas)**

→ [www.ideenwettbewerb-macgyver.de](http://www.ideenwettbewerb-macgyver.de)

**S.O.S. Studieren ohne Sprachbarrieren (Studying without language barriers)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415)

**Teach Your Peers (TYP)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415)

## “Good teaching at TU Braunschweig takes into account the potential of interdisciplinary, national and international cooperation.”

Findings from different cooperation projects are incorporated in teaching, enhancing it in the process. Research centres and partner universities play a major role at the national and international levels. Within TU Braunschweig, the interdisciplinary character of teaching is evident in dedicated concepts developed jointly by lecturers of different subjects.

### Examples:

**GaLeMa: ganzheitliche Lehre durch fachgrenzen überschreitende Zusammenarbeit im Maschinenbau (Holistic teaching achieved through interdisciplinary collaboration in mechanical engineering)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213)

**Indo-German Exchange and Cooperation Initiative**

→ [konstruktionstechnik.rz.tu-bs.de/cms/front\\_content.php?idcat=79](http://konstruktionstechnik.rz.tu-bs.de/cms/front_content.php?idcat=79)

**International degree programmes**

→ [www.tu-braunschweig.de/international/incomings/study/courses](http://www.tu-braunschweig.de/international/incomings/study/courses)

**Partner universities**

→ [www.tu-braunschweig.de/international/ausland/studium/programme](http://www.tu-braunschweig.de/international/ausland/studium/programme)

**Research centres**

→ [www.tu-braunschweig.de/fmb/instituteforschung/bereichezentren](http://www.tu-braunschweig.de/fmb/instituteforschung/bereichezentren)

**Technology Business Model Creation**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415)

**Round Table Education**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415)

## “Good teaching at TU Braunschweig takes into account the opportunities offered by regional networks.”

Cooperation with local research centres, businesses, non-profit organisations, schools, and other universities is important for teaching. Examples are placements, expert presentations, teaching assignments, joint professorships etc. Teaching benefits from such networks. At the same time, these cooperation projects are a major driver of development throughout the region.

### Examples:

#### **Teach It Forward: Studierende als Lehrende in Schulen (Students as school teachers)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213)

#### **Fit4TU: ein umfassendes Self-Assessment für Studieninteressierte (A comprehensive self-assessment for prospective students)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213)

#### **Career coaching**

→ [www.tu-braunschweig.de/psychologie/abt/aos/studiumlehre/karrierecoaching](http://www.tu-braunschweig.de/psychologie/abt/aos/studiumlehre/karrierecoaching)

## “Good teaching at TU Braunschweig takes into account collaborative work.”

The development of teaching concepts and courses is frequently a collaborative effort. The planning of modules, programme stages and degree programmes is agreed in a collaborative exchange between lecturers, with participation by students.

### Examples:

#### **teach4TU – Lehr-Lern-Kultur nachhaltig gestalten (Shaping a sustainable teaching-learning culture)**

→ [www.tu-braunschweig.de/teach4tu](http://www.tu-braunschweig.de/teach4tu)

#### **Mobilität und Verkehr (Mobility and transport)**

→ [www.tu-braunschweig.de/move](http://www.tu-braunschweig.de/move)

#### **Global Product Development: interkulturelle studentische Teamarbeit in der Produktentwicklung (Intercultural student collaboration in product development)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213)

#### **Round Table Education**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415)

#### **Pecha Kucha, Lernen durch Lehren und Blended Learning: mit innovativen Lerneinheiten die kooperative Webgesellschaft gestalten (Pecha Kucha, learning by teaching and blended learning: shaping the collaborative web society)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415)

## “Good teaching at TU Braunschweig takes into account and integrates gender, diversity and equality.”

Gender, diversity and equality are cross-cutting issues, which are integrated into teaching content. Teaching also takes into account equality, and the courses offered reflect diversity of the student body.

### Examples:

**Geschlechterwissen aus interdisziplinärer Sicht (Gender knowledge from an interdisciplinary perspective)**

→ [www.genderzentrum.de](http://www.genderzentrum.de)

**Geschlechterforschung und technische Innovation (Gender studies and technical innovation)**

→ [www.tu-braunschweig.de/gtm/lehre/ss13/gui](http://www.tu-braunschweig.de/gtm/lehre/ss13/gui)

**Intercultural training offered by the Language Centre**

→ [www.tu-braunschweig.de/sprachenzentrum](http://www.tu-braunschweig.de/sprachenzentrum)

**Offerings of the Equal Opportunities Office**

→ [www.tu-braunschweig.de/gleichstellung/angebote](http://www.tu-braunschweig.de/gleichstellung/angebote)

**GenderING. Gender Studies in die Ingenieurwissenschaften (Gender studies in engineering)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201415)

## “Good teaching at TU Braunschweig supports life-long learning.”

Continuing education concepts for life-long learning are pushed. The continued development of teaching integrates different media types and useful combinations of e-learning and face-to-face classroom delivery, as intended by blended learning.

### Examples:

**Datenanalyse 2.o: Neue Wege in der Methodenausbildung (Data analysis 2.o: new approaches in methods training)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213)

**GamEducation: Spielelemente als Motivationsanreize in Vorlesungen (Gaming elements as motivational incentives in lectures)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201213)

**MuDihL: Multimediale Differenzierungsangebote für heterogene Lehrveranstaltungen (Multimedia-based offers for differentiation in heterogeneous courses)**

→ [www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201314](http://www.tu-braunschweig.de/teach4tu/innovationsprogramm/innovationsprojekte/wise201314)

**e-portfolio**

→ [lehrportfolio.tu-braunschweig.de](http://lehrportfolio.tu-braunschweig.de)

**Open university**

→ [www.tu-braunschweig.de/isw/forschung/laufendeprojekte/offenehochschule](http://www.tu-braunschweig.de/isw/forschung/laufendeprojekte/offenehochschule)



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