Alternatives to classroom teaching

Teaching in the winter semester 2020/21

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Are you wondering how you can conduct some or all of your teaching in the winter semester 2020/21 online? Are you looking for pragmatic ideas on how to design your teaching? In this hand-book we give you an overview of your options.

While the summer semester 2020 had to be carried out as a largely digital semester with very short notice, the winter semester 2020/21 is to take place as a hybrid semester. This means that your teaching strategy can once again integrate classroom teaching alongside online teaching. The first chapter of this handbook outlines exactly how this will work.

In this handbook you will find the following content:

If you are in a hurry, just read the strategic considerations and the sample examples to get a brief introduction to online teaching. You can use the remaining pages as a reference guide.

We will continue to add to this document and adapt it to new developments; you will always find the latest version on our website.

Information: What to expect in the winter semester 2020/21

- **In the winter semester 2020/21, in addition to online teaching, classroom teaching will again be possible - albeit with restrictions.** The central website of the Technische Universität München provides information about the current requirements for the implementation of classroom and online teaching.

- **The winter semester is called a hybrid semester by our university management.** Since there are different, contradictory definitions of "hybrid" teaching, we currently use the following distinction:

  - **Online teaching:** You teach completely online, usually with a mixture of synchronous and asynchronous elements.
  - **Blended teaching:** Part of your course takes place online (e.g. teaching videos), part takes place in person (e.g. tutorials, small group discussions, peer groups, lab work). This means that both parts complement each other and fulfill different didactic functions.
  - **Hybrid Teaching:** Your teaching takes place simultaneously as online and classroom courses, so that your students can participate in the course either physically or virtually. This means that both parts fulfill the same didactic functions.
  - **Presence Teaching:** Your teaching takes place exclusively in person, e.g. because it cannot be digitized at all (e.g. lab practicals).

- **The didactics of online teaching, blended teaching, and hybrid teaching are demanding.** Teaching through the screen is very different from teaching in person. The successful simultaneity of classroom and online teaching is a challenge for teachers in terms of organization, didactics and technology. Presence teaching with an independent didactic function is dependent on the fact that presence is still allowed, a back-up plan for the omission of this presence option is often more complex than to plan from the outset only with online teaching. Let us advise you!

- **Establish a central contact point for your course at an early stage.** Communicate to your students as early as possible that they will find all important information on the course page in Moodle. Make sure that this page is always up-to-date. This way you will get your students on board early.

- **The Teaching Board, under the direction of the Vice President for Studies and Teaching, coordinates the university-wide teaching activities**. Contribute your experiences, suggestions and concerns through your Deans of Studies and student representatives.

- **Take advantage of the experiences of the digital summer semester.** If you haven't been there before, these five tips will help you get started in online teaching quickly but thoughtfully.

Strategy: Different approaches for the winter semester

In the winter semester, you can continue to focus on online teaching and further optimize it with your experiences from the summer semester. You probably have a steep learning curve behind you - now reap what you have sown. In addition, you can carefully incorporate elements of face-to-face teaching into your teaching strategy, whether as blended or hybrid teaching, in order to strengthen the important factor of "social learning".

- **Online teaching**: If you already had good experiences with online teaching in the previous semester, you can now improve your approaches to online teaching in the winter semester based on these experiences. Analyze your previous courses and try to identify potential for improvement. You will most likely find this potential in the technical and didactic design of your teaching materials, in the structuring of teaching materials as impulses for a learning path, and in the strengthening of social learning. During the summer semester many teachers became painfully aware of how important social learning is for successful teaching. Take a look at the examples cases below and consider which upgrades you would like to implement.

- **Blended teaching**: You can supplement your online teaching with classroom teaching. For example, you could continue to teach the lecture online (likely difficult to conduct as a classroom course due to corona requirements), and supplement this with small group exercises or tutor exercises in class. Outdoor activities (e.g. excursions) or in small groups have probably the lowest risk of being banned again if corona regulations are tightened.

- **Hybrid teaching**: You can also offer your classroom teaching online by streaming or recording a live lecture. In this way, students can decide for themselves whether they want to learn on site or from home (e.g. because they are in quarantine, belong to risk groups or are not allowed to enter Germany). The prerequisite is that classroom teaching and online teaching are roughly equivalent. [Be cautious](#) and consider whether the didactic, technical, and organizational effort required to duplicate presence teaching online is really justified by the corresponding added value. One risk of this approach is that you will not be able to agree on the different quality criteria for online and classroom teaching and that, in the end, neither the classroom students nor the online students will have an optimal teaching environment. An advantage of this approach is that you do not have to fundamentally change your teaching strategy in case of a renewed presence ban.

Our consultants will be happy to support you in the conception and later in fine-tuning your teaching strategy! The best way to do this is to contact info@prolehre.tum.de directly.

Lecture Design

Preliminary Considerations

- With an online course, you need a **central point of contact** for your students; at the Technische Universität München this is usually a Moodle course. Please announce this contact point as early as possible.

- At the moment, students and teachers are unsure of exactly what their courses will look like in the winter semester. Avoid rumors by **communicating early** in your Moodle course what you currently know about your upcoming course - and also what is currently unclear. Let students know when they can expect the next update. This will help your students to cope better with the unclear situation. Perhaps you can also give the students some tips in the meantime on how they can refresh the required previous knowledge?

- Get your Moodle course online early, but otherwise **take the time** to set up your Moodle course. You can experiment, because you can decide when you want to make which course elements visible to your students. It is sufficient if you have enough material for the first two to three weeks of lectures. Then let the many new experiences you make in the first two weeks influence the production of the other teaching materials. Initially, you might have only a welcome message and a text page with news. Next, you might add a welcome video and organizational information as well as a forum for questions.

- You can **structure** the Moodle course into chapters (in Moodle: "sections"), just as you would a regular course. Ideally, your sections should correspond to the learning volume of one week (standard structure of the Moodle course). Make it clear to the students how much time is expected of them.

- You can decide if you want to make all sections **visible** from the beginning ("self-paced") or if you want to make the sections visible one by one during the semester ("instructor-paced"). We recommend the second option: it gives you the opportunity to complete material gradually; and you can structure your teaching and your students' learning in a collaborative rhythm (facilitates management, promotes social learning).

- A section consists of **elements** ("Resources" and "Activities"), which should be connected together to form **learning paths**. The principles you use to create these learning paths are the core of your teaching strategy.

- The starting point of your teaching strategy in the summer semester was probably, first and foremost, **Emergency Remote Teaching**, which aimed to make a course available online somehow within a very short time. Example strategies for this were:

  o **Strategy "Replication":** The face-to-face lecture was replicated by reproducing the lecture as video (live stream or lecture recording). We have developed an example of this strategy below.

- o **Strategy "Self-service":** A self-service approach relies heavily on self-responsible and self-directed learning by students ("moderated self-study"). We have also developed an example of this strategy below.

- With Emergency Remote Teaching, you have created teaching materials that may only be reusable to a limited extent (for the time after the corona crisis) and that do not fully exploit the actual potential of online learning (the many additional possibilities) - and that are only partially effective: Teaching through the screen differs significantly from classroom teaching. Therefore, we also present some principles of advanced online teaching (strategy **Online Learning**) that you may be able to incorporate into your teaching strategy:

  - o **Learning paths:** If students are to sit alone in front of their computer screen at home and learn efficiently, explicit activation is particularly important. Therefore, static sources of information (in Moodle: "resources"), such as videos or texts, are usually always linked with interaction elements (in Moodle: "activities") to form a learning path. For example, you can add a short activity to motivate or reactivate previous knowledge before your teaching video, and an activity with questions or tasks after your video, which gives students the opportunity to actively process what they have learned.

  - o **Task-driven approach:** While a knowledge-driven approach is often used in face-to-face teaching (providing students with information units followed by tasks that allow students to test their understanding, deepen their knowledge, and practice application), a task-oriented approach is more common in professional online teaching: Students are given a competence-oriented task, which is solved by the students by working on and solving subtasks step by step; the knowledge required for this is acquired or imparted along the way.

  - o We also have examples such approaches below.

- In addition to well-structured and well-prepared teaching content, the **learning atmosphere** is also a component of an online teaching strategy ("social learning"). The feeling of social community, relevance of content and a competent teaching personality as a counterpart help your students to learn well. The presence part of a lecture usually provides such a learning atmosphere, e.g. by contacting the teacher and addressing him/her directly, by the sense of community, by the rhythm and discipline of regular meetings, by interaction and feedback loops between student and teacher. In the case of a purely online event, you should therefore be careful to substitute these functions equally. Students can find the following helpful: direct statements in videos, contacts in the discussion forum or via e-mail, community experiences in live chat, and also well-maintained sections in the Moodle course ("News"). Our experience with pure online courses (e.g. Massive Open Online Courses) has shown us that this aspect is essential for a successful online course. And this aspect is also the reason why synchronous elements like live streaming are so popular and (despite their technical and didactic challenges) so important.

- In order to promote a collaborative rhythm and learning experience, you may consider offering regular, short synchronous sessions for discussion; e.g. at the end of the week, a unidirectional ten-minute live stream with live chat in which you recap the week, add a few personal words and

wish students a nice weekend. Don't expect all students to take part; but those who yearn for social inclusion will be happy to take advantage of the offer. Depending on how professionally relevant the content of your talk is, you can make the content available later as a recorded video.

- Feedback is an important success factor for good teaching. On the one hand, the **feedback you receive from your students** helps you to adapt your teaching to their learning progress. With online teaching, the indirect feedback (faces, participation, questions) that you otherwise receive in the lecture hall is only available to a very limited extent; therefore, you should actively seek feedback (e.g., poll, quiz, forum, chat) and involve students in the process of designing and developing your online teaching.

- On the other hand, the **feedback that students receive from you** helps them to reflect on their learning progress and not to feel left alone. Think about the occasions on which you would like to give your students feedback and the tools you would like to use to do so. For large events, you should scale feedback, e.g. by automating feedback (e-tests) or by letting your students give feedback to themselves (self-assessment) or to each other (peer feedback), e.g. using guiding questions, feedback rules, criteria lists or sample solutions.

- **Tutor exercise**: Make the exercise sheets available in a timely manner, e.g. via Moodle. Students should try to solve the exercises in advance. The actual tutor exercise takes place synchronously. Divide the students into small groups (2-5 persons) via e.g. Zoom break-out sessions. In these small groups, the students exchange their results and can call a tutor into the group if necessary. Alternatively or in addition, emerging questions can be shared via a chatwall (e.g. tweedback) and prioritized by the students. Frequently arising ambiguities or central take-home messages can then be explained in the full group. However, the aim should be that the students first help each other and work out solutions together in the group.

- **Office hour management**: In order to relieve your workload, you can **channel** students' questions and - as far as possible - make answers available to all students at once (e.g. in an FAQ, in a discussion forum, using sample solutions). To relieve your workload and promote student learning ("learning by teaching"), you can encourage students to **answer each other's questions** (e.g. in a discussion forum/wiki; this also strengthens the sense of community, especially if you also moderate and motivate the forum). Ask your students not to ask technical questions by individual mail, but to post them in the forum instead. Although a forum must also be supervised, this channeling can lead to a noticeable relief for you, especially in the case of large classes in the bachelor's program with many questions. The more you channel the **subject matter inquiries**, the more room you have to respond to **individual concerns** of your students.

Example: The asynchronous video lecture (recording in advance)

Starting point

You already have a ready-made lecture (e.g. 90 minutes per week) with a corresponding PowerPoint slide set.

Emergency Remote Teaching (Strategy: Replication)

Give a 90-minute PowerPoint presentation at home and record your voice (PowerPoint already has this feature built in; you can also use Camtasia or Panopto). Since you will not have direct interaction with your students in this presentation, you will include rhetorical questions and breaks to structure your explanations. Try to express your personality through your speaking style and interspersed personal anecdotes to be more than a voice from offstage. Due to the lack of response from students, there is a danger that you will speak too quickly; consciously pay attention to a good tempo or generous pauses. Upload this lecture recording to Moodle weekly as a replacement for the face-to-face lecture.

Variants

- *Screencast:* Explain the teaching content on your computer (e.g. with slides, with an editor, in a programming environment, with graphics, or with an interactive whiteboard), recording the content of your desktop and your voice. With Camtasia or Panopto, you have a tool that makes this easy (see our handout on Producing an Instructional Video).
- *Lecture with demonstration:* Have yourself recorded in an empty lecture hall while you conduct your demonstration or experimentss.

Recommended upgrades to full online learning

- *Partitioning:* Do not give a full 90-minute lecture, but divide your lecture into shorter units (we recommend 20-minute units in classroom teaching, 6-8-minute instructional videos in online teaching). Each unit has a topic, which you formulate at the beginning of the unit, e.g. in the form of a leading question or a learning outcome. Each unit ends with a short summary or take-home message, which is ideally followed by a final conclusion with questions that students can use to test their understanding.
- *Questions for understanding:* In your Moodle course, activate a question forum where students can discuss questions about the lecture material with each other and with you. In addition, you can also set up a chat channel for your lecture, where students can exchange information about your course around the clock; you can occasionally offer a chat session in which you can answer questions about the lecture live.
- *Feedback:* You can collect content-related questions from your students (e.g. in the question forum, chat or e-mail) and then answer selected questions in a livestream at a set time. You can upload the recording of this later in the Moodle course.
- *Learning Paths: Provide* additional material (e.g. a script, the set of slides, excerpts from a textbook) in addition to your video on a weekly basis and offer activities (e.g. homework, e-tests, discussion forums) and point out in your instructional videos how this learning path can help your students prepare for the exam in the best possible way. A learning path consists of resources (learning materials), which are framed by learning activities to prepare and follow up on the content and to provide feedback on learning progress. Examples of resources include instructional videos, screencasts, slide sets, script, graphics, slide sets with audio track, external videos, scanned book chapters, e-books. Examples of activities are questions to reactivate prior knowledge; guiding questions to focus attention in the next resource; after the resource an e-test with reflection or comprehension questions, tasks, or the invitation to discuss answers, examples or solutions in a forum.

- *Trailers*: Create a motivational video for the first week of lectures in which you look directly into the camera and address the students while motivating the topic of the lecture, presenting the learning outcomes and deriving the content structure (content chapters) and methodological framework (how do you want your students to use the teaching material) of the lecture.
- *Weekly Motivation:* Create a short motivational video for each week of lectures, looking directly into the camera and addressing the students while presenting the topic and learning outcomes and deriving the teaching units for today's session. You can also reactivate the relevant previous knowledge of the students with rhetorical questions or a short repetition.

Example: The synchronous video lecture (live stream)

Starting point

You already have a ready-made lecture (e.g. weekly 90 minutes) with a corresponding PowerPoint slide set or other visualization.

Emergency Remote Teaching (Strategy: Replication)

Start a livestream at the specified lecture time. Usually, a window of your screen (e.g. PowerPoint or Acrobat Reader) and your face will be visible and your voice audible. Now give your lecture. Include rhetorical questions and breaks to structure your explanations. Give students the opportunity to speak and ask questions - either during the entire stream or at specific times. You can record a stream at the touch of a button and upload it as a video to your Moodle course.

Variants

- *Questions via audio*: In some systems (e.g. Zoom Webinar), students can ask questions at the touch of a button. You then activate the students' audio, listen to the question and can answer it directly.
- *Questions via chat*: Alternatively, you can have your students ask questions via a chat; in this case it is recommended that an assistant keeps an eye on the chat for you and passes on the questions to you in a bundled form at appropriate times.

Strengths/weaknesses of the format

Experience suggests that students cope quite well with synchronous live streams, enriched with focused interaction (questions). Fortunately, our original concern that the systems, networks and network transitions from the start of the semester onward would not be able to cope with the high data volume of live streams was unfounded.

Recommended upgrades to full online learning

- *Backup:* Provide a second channel next to the stream where students can make themselves noticed if they cannot see the stream or there are audio or visual problems. This is often a chat or forum within the Moodle course.
- *Interaction:* Ask your students questions (e.g. via live voting like Pingo or Tweedback) or give them short tasks to answer from home. Voting is a good way to reactivate prior knowledge

at the beginning of the lecture. You can view and comment on the evaluation of live polls directly in the stream. The chat is often too cumbersome for more complex answers. You can also ask students to email you photos of their solutions; then you can take a short break in the stream and then read out selected answers or show and comment on photos.

- *Learning Paths and Feedback:* Make your live stream part of a learning path by providing preparation material or activities before (e.g. e-test) and also providing material afterwards (e.g. a script, the set of slides, excerpts from a textbook) and linking it to activities (e.g. homework, e-tests, discussion forums). Discuss the participation in the activities (how many students participated) and discuss selected results of the activities (e.g. particularly interesting solutions, common mistakes).

Example: The pre-calculation exercise

Starting point

You have a lecture in which you impart knowledge. In an accompanying pre-calculation exercise, you will demonstrate in more detail how this knowledge can be used to solve problems (usually exercises). This demonstration should lead to a later tutorial, in which the students solve problems (usually exercises) themselves.

Emergency Remote Teaching (Strategy: Replication)

Even though the content of the exercise is very different from a lecture, it is methodologically very similar. Even more important than in a lecture is an appropriate tempo, rhetorical questions to structure the explanations, addressing typical mistakes, managing students' questions.

Variants

- *Synchronous*: The lecturer gives a live demonstration of how to solve tasks, students can report live and ask questions (audio and/or chat). For this purpose, you should call in a second person to manage the questions in the chat (collect and bundle them and pass them on to the lecturer, but also prioritize, put them on hold, or answer them directly via chat).
- *Asynchronous*: The teacher recorded the solution of tasks in a video (e.g. pen tutorial or screencast) and uploaded it to the Moodle course. Students can ask their questions via a question forum in Moodle. Students should reference the task number and the position in the video ("I didn't understand task 5 at position 4:30...") and can also upload photos or short videos to clarify their question. The students can answer these questions themselves, instructors can correct wrong answers, or add their answers.

Recommended upgrades to full online learning

- *Feedback:* You can collect particularly important content questions from your students (e.g. from the question forum) and then answer selected questions in a livestream at a set time. You can upload the recording of this later in the Moodle course.

Example: The tutorial

Starting point

You have a lecture in which you impart knowledge, and a pre-calculation exercise in which it is demonstrated how this knowledge can be used to solve problems (usually exercises). In a tutorial, students are expected to solve exercises themselves, usually supervised by a student assistant (tutor) and in small groups to enable intensive supervision.

Emergency Remote Teaching (Strategy: Replication)

Take over already existing exercise groups or create exercise groups within the Moodle course (see [instructions](#)). Distribute the exercise sheets as a weekly download. You can refer to the exercises in the corresponding lecture video. Students work on the exercise sheets at home and have the opportunity to ask the tutor questions via live video conference during a fixed time window. Explanations and questions can be visualized via the webcam or by splitting the screen.

Variants

- *Homework with corrections:* Students upload homework as a file (mostly PDF, but also e.g. videos are possible), which is corrected (annotated) by the tutors and reported back to the students via Moodle ("Assignment" activity); this feedback can be the student's annotated file, or a new file (e.g. video feedback)

Recommended upgrades to full online learning

- *Personal learning atmosphere*: At the beginning of the practice week, the tutors can present the tasks to their students in a short video, summarize the required knowledge of the lecture again. Due to the small group size, the tutors can also address their students directly by name, e.g. if they refer to results from the previous week. Depending on how intensively and individually the tutors supervise their students, we can create individual Moodle courses for each exercise group from the Moodle course of your lecture.
- *Continuous learning support:* Enable students to receive support more than once a week in a one-hour time window, e.g. through additional open video consultation hours, chat consultation hours of student assistants, mutual assistance in a forum. Make sure that only small individual impulses are given as support, and not complete solutions - otherwise your students will not learn to solve tasks themselves, but only to comprehend the solutions of others.
- *Peer feedback of homework*: Provide a sample solution at a certain time for all students who have uploaded their own solution. Distribute the student solutions among the students with the task of correcting each other (activity "Peer Assessment"); this correction is based on criteria you define, but can optionally be supplemented by the students with their own file upload (e.g. video feedback). Usually one student corrects the answer of several students, so that the students get several feedback/corrections. You can specify that only students who have uploaded their own solutions are included in this peer feedback. Be available as second level support for questions that your students cannot answer on their own.
- *Homework correction in the screencast:* The tutors can correct all or selected tasks in the screencast ([video feedback](#)).

- *Review in the screencast*: You or your assistants can evaluate the questions and problems of the students and publish a screencast at the end of the practice week, in which you discuss selected problems in more detail, demonstrate solution strategies in more detail, and uncover misconceptions.
- *Simulations*: You can provide your students with programming tasks (activity "Test" with question type "Coderunner"), simulations, [RemoteLabs](#) or similar interactive systems where students can try things out for themselves and get immediate feedback from the system. However, providing such systems is usually complex and/or expensive and requires preparation.
- *Qualification:* Send your tutors to us at the eScout-Academy and we will make them fit for online tutoring.

Design of seminars

Preliminary Considerations

- In seminars, the interaction between you and your students usually plays a greater role than, for example, in a lecture. Due to smaller numbers of participants, you have the possibility to use **synchronous teaching elements** in which you and your students can present live, discuss, exchange previous knowledge and experiences, and work together. In Zoom and Adobe Connect, you can also organize live small group work by using "breakout rooms", which proved very successful in the last semester and are also well received by students.

- With synchronous teaching elements, it is possible that students cannot enter the virtual seminar room for technical reasons and miss the teaching unit. You can offer a **second channel** (e.g. chat) so that students can at least report that they cannot come in. You can check with your students whether the seminar could be recorded. You can also give the students the responsibility for the **documentation** (e.g. rotating protocol, or collaborative protocol in Etherpad).

- They can, for example, let students work on a task in **(virtual) small groups** (e.g. create a presentation, solve a task, carry out research); this allows for more flexible organization of teaching and learning in terms of time and space, promotes media competence as well as communicative and social skills, and also brings motivating aspects through social contacts and a stronger sense of community for many students. The results of this small group work can then be presented and discussed synchronously; or you can also arrange this asynchronously: e.g. small groups upload results in the form of pictures, texts, videos, slides, the whole group then discusses them in a forum or chat; you can moderate, structure or control this exchange and discussion, e.g. by setting discussion questions, assessment criteria. Collaborative tools are also very well suited for collaboration before or during live sessions (e.g. Miro, Edupad, Mural - for links and other tools please have a look at our collection of tools); alternating live phases and group phases/individual phases with tasks and tools seems to work especially well.

- Especially in seminars, students often have a teaching role (e.g. when they prepare a paper, a poster or a wiki entry for the other students). In order to ensure that other students do not only consume but also actively participate in such units, you could, for example, demand that the presenting students must also instruct an activity (e.g. task) of the other students in addition to their presentation. Or you could give the listening students observation orders or tasks.

Example: The Self-Service Seminar

Starting point

You have a course in which students normally go through a strongly self-directed learning process, e.g. a seminar in which students prepare and give lectures which are then discussed in the group.

Emergency Remote Teaching (Strategy: Self-Service)

Formulate clear, competence-oriented learning outcomes and use them to derive tasks that students should work on and solve independently. Then leave it to the students themselves to acquire the necessary knowledge while they solve the tasks. You evaluate the students' solutions on the basis of a rubric of criteria that you have previously announced together with the learning outcomes.

Variants

- *Make material available*: You provide students with supporting materials (e.g. script, links, articles, digital semester apparatus, e-book).
- *Develop material yourself*: You give the students some starting materials for the start and some tips for research, otherwise the students should develop the necessary material themselves. But make sure that the workload for your students is fair.

Recommended upgrades to full online learning

- *Learning portfolio*: At the end of the seminar, students deliver not only a product (e.g. an article, a video of a lecture, a program), but also process documentation (e.g. description of the product development process, reflection of the process at different milestone dates, reflection on the learning success, top 5 tips for subsequent students).
- *Process control and feedback*: You define milestones with fixed dates on which students must present interim results (e.g. sketch, set of slides, prototype, text, source list). You provide learning-oriented feedback on these intermediate results. They can also encourage students to give feedback to each other ("peer feedback").
- *Group dynamics and feedback:* You let your students form tandems which are to discuss and support each other regularly in defined periods of time (e.g. in Zoom breakout rooms). The minutes of these appointments or a reflection of these appointments can be part of the learning portfolio.

Example: Task Driven Learning

Starting point

You want to create a fully-fledged teaching unit regardless of the original format.

Online learning

At the beginning of the course unit, you present the learning outcomes and derive a challenging task from them to assess whether your students have achieved the learning outcome. You then guide your students through a learning path consisting of activities and resources (usually sequential) that support them in solving the task; required knowledge is acquired along the way (within an activity) or imparted (through resources).

A typical task-driven learning path could look like this, for example: Start with an introduction and motivation of the initial task, e.g. in a short introduction video. Then a reference to required prior knowledge, combined with the possibility for students to check for themselves whether they are already prepared for this section (e.g. review, e-test, brainstorming, reflection), combined with links on how to make up for gaps in their prior knowledge. Afterwards the initial task is broken down into

subtasks, which your students solve step by step (by themselves) and in the process (e.g. through up-stream input, through downstream feedback, through their own trial and error and exploration) are taught the necessary knowledge and skills. At the end of the section there is an explicit validation (e.g. summary, take-home message, reflection on the learning outcome or the learning process) and optionally a second, comparably large and challenging task, which the students should now be able to solve independently (e.g. as a starting point for an exercise, or as an example for an examination question).

Variants

- *Path control:* You can make the learning paths completely visible, thus allowing students to deviate from the planned sequence; or you can unlock the next path element only after the previous one has been completed.
- *Intensity of feedback:* You decide how intensively you want to accompany and support the students in solving the subtasks (e.g. chat consultation, video consultation, interim balance sheets, maneuver criticism, e-mail feedback, question forum), and how strongly you want to get the students to support each other and give feedback (often peer feedback is an essential part of the learning path - to promote social learning and to relieve the teacher).

Upgrades

- *Adaptive Learning Paths*: You can enable branches in the path (making certain activities and materials visible or invisible) depending on the intermediate results of an individual student, thus enabling individual learning paths for your students.
- *Gamification*: You can use the natural human instinct to play to motivate your students, e.g. by making certain optional subpaths available only at certain times or for a certain duration (e.g. "Quests"), and by making certain achievements visible (e.g. "Score Boards"). By using various criteria, you can spread the rewards (e.g. "Badges") widely (e.g. fastest solution, most efficient solution, most original solution, bravest solution). Make sure that social behavior and fairness are part of the criteria to prevent students from hindering each other.

Design of internships

Practice-oriented teaching formats such as laboratory practicals or bedside teaching are much more difficult to implement online than lectures, for example. We are currently in the process of compiling approaches and best practice, so please have a look at the corresponding Wiki page.

Building set: methods, media and tools for your online teaching

This is a first selection of building blocks from which you can put together your online event:

- Moodle course page

- Provide teaching material

- Provide instructional videos

- Integrate external instructional material

- Collaborative instructional material

- Unidirectional live teaching: Live Streaming

- Bidirectional live teaching: Webinars

- Bidirectional live teaching: Video consultation

- Chat

- Activities

- Question Forum/Discussion Forum

- Polls

- Frequently Asked Questions

- E-Tests

- Feedback/consultation by e-mail

You will find tips on these modules on the following pages. We have structured the description of the blocks as follows:

Name of the block	Function of the block	Recom-mended Tools	Scaling Per-formance	Experiences and tips	Instructions and links

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Moodle course page back to the building set overview

Course page: Establish a central contact point for your course where students can find all the information they need.

- Communicate current information about the course
- Make learning outcomes and expectations transparent
- Clarify organizational framework and rules
- Explain elements of the event and their interaction
- Introduce teaching team, clarify roles

Recommended tool: Moodle

moodle.tum.de

Asynchronous - We do not expect any performance restrictions.

- If you create your Moodle course from TUMonline at the push of a button, all your students will automatically be enrolled in this Moodle course. You will then have to manually register your team of staff and assistants as lecturers/tutors in the Moodle course. You can email all students from within Moodle and establish the course page as a central point of contact. You can form groups within the course (e.g. practice groups, study groups).
- Structure the Moodle course in sections. The first section is usually an organizational section, e.g. greeting (text and/or video), rules and framework (people, role, schedule, link to online sessions, consultation hours, contact information), current/news, forum for students to introduce themselves.
- The second section is usually an introduction to the topic, e.g. goal of the course (desired learning outcomes), relevance of the content, preliminary questionnaire (previous knowledge, expectations of the seminar, personal information about the students), overview of the following chapters.
- The following sections are mostly the content chapters oriented to the semester weeks, i.e. usually correspond to the learning volume of one week (standard configuration of a Moodle course).
- You can decide for yourself when to unlock which sections and which individual elements of a section. In most cases we recommend that you unlock the materials and learning activities at regular intervals ("instructor paced"): this makes it easier for you and your students to learn together and benefit from a sense of community. You can also program sections to be automatically paced on specific dates.

Overview of Moodle's features

Provide teaching material

Teaching material: Moodle distinguishes between "resources" and "activities". Typical materials used in online teaching are instructional videos, slide sets, scripts, textbooks, profiles, cloze texts, lists of questions or tasks, and infographics. You can also provide interactive teaching material (simulators and business games, programming environments, RemoteLabs). You do not have to develop everything yourself - you can also integrate external material.

- Create motivation
- Give input
- Show or enable application
- Give and receive feedback

Recommended tool: Moodle (e.g. file upload, text fields, text pages, linking, Panopto block)
moodle.tum.de

Asynchronous - We do not expect any performance limitations.

- In your Moodle course, fill in the sections with various teaching materials, either directly (e.g. uploads) or indirectly (e.g. links).
- Always link your material to activities (to prepare for the input, or to follow up and deepen the input) and thus create learning paths. Usually, learning materials build on each other ("sequential arrangement"); however, you can also offer different learning materials as alternatives to each other ("parallel arrangement").
- Usually, teaching materials are provided through the Moodle course. However, you can also provide material in other ways, e.g. sending emails (consisting, for example, of addressing students directly, teaching content, control questions and homework).
- If you have been working with handwritten notes and blackboard notes until now, you can digitize them (via scanner or apps like CamScan) and make them available to your students.
- In addition to organizational information and subject-related content, you can also provide your students (especially at the beginning of the bachelor's program) with meta-information, e.g. about learning strategies, learning techniques, scientific work, but also about the use of the technologies used. You can also refer them to us; we compile appropriate learning tips for digital teaching, especially for students.
- If you are brave and have some time, you can take a look at Jupyter, which allows you to create interactive worksheets.

Moodle Documentation: Functional description "Upload files

Create instructional videos back to the building set overview

Instructional videos: Produce instructional videos in which you teach the core elements of your teaching. Depending on your objectives (e.g. motivation, input, feedback), different forms and lengths of videos are available. However, you can also use publicly available and free of charge videos for your teaching (see section External Materials) or have students create their own videos on specific topics. The latter is an exciting method, especially for seminars, to encourage students to deal with certain content in greater depth (see paragraph Collaborative teaching material).

- Create motivation
- Give input
- Show or enable application
- Give and receive feedback

Recommended tools for production: see Instructional videos

Recommended tool: Panopto. See the instructional video guide for more information.

Asynchronous - We don't expect any performance limitations as long as the videos are uploaded to specialized video servers (e.g. Panopto) and linked to Moodle, rather than uploaded directly to Moodle.

- If videos have a more motivating function, we recommend short videos in which you look into the camera and directly address the students.
- If videos should rather transfer knowledge, we recommend medium length videos in which you present teaching content, e.g.:
  o PowerPoint slides with an audio track and thumbnail of the presenting person (e.g. created with Camtasia)
  o Screencast, in which you demonstrate something on your screen
  o Use a tablet as a whiteboard and record it and your explanations
  o An interview and record it
  o Read and answer students' questions
- As a rule, you should understand videos not as a single element but as part of a learning path within a chapter (e.g. introductory video - text with guiding questions and learning outcomes - instructional video - test - text with summary).

ProLehre guide to instructional videos

Integrate external teaching material Back to the modular overview

Integrate external teaching material: There is a plethora of excellent teaching material available in the form of publicly available and free videos, slides, articles, podcasts, animations, data sets and case studies, questionnaires, e-books, graphics, remote labs and simulators.

- Create motivation
- Give input
- Show or enable application
- Give and receive feedback

Recommended tool: Linking or file upload in Moodle
moodle.tum.de

Asynchronous - We do not expect any performance limitations.

- Linking to external material is generally unproblematic from a copyright point of view, but you risk that the link could eventually become broken. If you want to save external material and upload it to your Moodle course instead, check that you are allowed to do so (legal notice); Creative Commons licenses or Open Educational Resources (OER) are a good indication that the material may be used in this way.
- Always explain how students can or should use the material, e.g. as a main source, as a source of in-depth information, as an example or counter-example, as a basis for critical discussion, as a basis for a work assignment.
- Frame external material by classifying it beforehand (e.g. introduction, term synchronization, guiding questions) and discussing and evaluating it afterwards (e.g. collecting impressions, discussing the content, debriefing the guiding questions).
- Instructions for the Digital Course Reserves provided by the library.
- We are in the process of creating a list of high-quality content that you can incorporate into your teaching. You can find this list in the forum.
- The exchange of educational material is a give and take; consider whether you too can make a contribution by making parts of your own material available to colleagues.

ProLehre list of content resources for online teaching

Collaborative teaching material <u>back to the building set overview</u>

Create collaborative teaching material: Use the opportunity to have your students write texts, rotate videos or draw graphics. This allows your students to deepen their knowledge ("learning by teaching") and the quality of the materials gives you feedback on your students' current learning progress.

- Deepen understanding
- Activate students
- Give and receive feedback

Recommended tools: Moodle (Wiki, Etherpad), TUM Wiki, Edupad, Miro, Mural, Padlet
<u>moodle.tum.de</u> | <u>wiki.tum.de</u> | <u>en.padlet.com</u> | <u>edupad.ch</u> | <u>miro.com</u> | <u>mural.co</u>

Asynchronous or synchronous. It is rather unlikely that there will be a performance degradation when using these services; so far, this has not occurred.

Alternatives in case of overloading of the recommended tools (performant but not approved by data protection laws): Google Docs, Microsoft Office 365

- Have your students create learning materials (e.g. summaries or infographics for a chapter, presentation or seminar paper, short videos, <u>cheat sheets</u>), which you can then randomly correct and supplement a selection and make it available to all others.
- In Moodle, you have the possibility to work together on texts ("Etherpad"), a wiki, a table ("database"), a glossary. You can also link external tools, e.g. a virtual pinboard ("Padlet").
- Create a script together with your students. Or offer your script in the Wiki and allow students to add examples and explanations themselves. Using the function "Watch" or "Recent Activities" (Wiki) you can follow the students' contributions and, if necessary, make corrections, encourage, or praise students' work.
- Distribute a list of topics, questions or articles to your students for which they need to create a summary or evaluation, for example. Explain the scope and level of detail of each paper. Divide students into groups. These texts are then worked on by the students at given times (synchronously) or self-organized (asynchronously). The quality assurance can be done in one step (by you) or in two steps (first peer correction by the students based on a manual from you, only then your correction follows).
- Depending on the material that is to be created, a predefined structure, e.g. in the form of a sample page, outline and information about the form/scope of the contents can be helpful.
- Here it is important that students work in a motivated and honest way (avoid plagiarism), ideally they are motivated because creating learning materials themselves can be very helpful for the later exams.

<u>Moodle documentation: Functional description "Peer Assessment"</u>

Unidirectional live teaching: Live streaming <u>back to the modular overview</u>

Live streaming: Strengthen the sense of community and increase the rhythm of your online course by having students come together regularly, for example by streaming a live stream of one of your lectures.

- Give input
- Create motivation
- Strengthen group dynamics and sense of community
- Give feedback

Recommended tools: Zoom | optional addition: Tweedback, RocketChat, Padlet
my.conf.dfn.de | zoom.us | tweedback.de | chat.tum.de | en.padlet.com

Synchronous. There may be performance degradation if this service is used heavily.

Alternatives in case of overload of the recommended tools (performs similarly, but not released according to data protection laws): YouTube, Twitch

- Only you send picture and sound; you do not see your students and you do not know if and how many are participating in the live stream.
- You can use an accompanying chat (either the one integrated in the streaming tool, or an external one like RocketChat or the chat wall in Tweedback).
- In addition to or as an alternative to the chat, you can also use a virtual pinboard etc. on which you or your students can visualize inputs.
- It can be challenging to teach in the live stream while keeping an eye on the chat, so you can use staff or assistants to moderate the chat.
- Structure your live presentation e.g. as follows: be online a few minutes before the start of the actual presentation and go live into the chat; clarify problems with image/sound etc.; present greeting, motivation, goals and agenda; reactivate previous knowledge through repetition or rhetorical questions, if necessary use chat for student answers; do not present for more than 20 minutes, then ask questions and/or give space for student questions (in chat); then possibly present for up to 20 minutes again; finally, perhaps use flashlight or one-minute-paper on chat, then summarize; refer to next steps (next stream, next chapter etc.), thank for participation, say goodbye and finish.

ProLehr Manual Synchronous Online Teaching

Bidirectional live teaching: Live seminars

Webinars: In a seminar, individual seminar sessions (for a few participants also suitable as a seminar accompanying a lecture) are held online via a video conference system. It is suitable to be used for the following example situations: an introduction to a seminar by the teacher, teaching content in the form of presentations and demonstrations, students giving lectures, holding group discussions, and clarifying questions. If the seminar is recorded, it can then be made available to students who could not attend, for example.

- Give input
- Create motivation
- Strengthen group dynamics and sense of community
- Give and receive feedback, feedback

Recommended tools: Zoom, Adobe Connect

zoom.us | webconf.vc.dfn.de

Synchronous. The performance depends on the videoconferencing system used and its load.

Alternatives in case of overload of the recommended tools (performs similarly, but not released according to data protection laws): AlfaView, MS Teams

General information

- Announce the webinar dates in due time and at a central location (Moodle course). This also has the advantage that you can inform them of any changes in the schedule.
- Clarify in advance which technical requirements are necessary for participation and inform your students about these.
- Pay attention to equal opportunities and accessibility: If students with disabilities are attending your course, discuss with them what needs to be done to enable them to participate in the seminar.

Preparation:

- Test the videoconferencing system with which you would like to conduct the webinar in advance. There is usually a help area within the application with instructions, tips, and first steps.
- Think about which functions you want to use, when and how. You can use a chat to answer questions and for discussions during and after a presentation. Depending on the system used, it is also possible to conduct surveys or short group work in different meeting rooms.
- If the students themselves are to present, make sure that they have the necessary rights (depending on the system, e.g. as "co-host" or "moderator").

Implementation:

- Enter the web meeting room a few minutes before the event starts and prepare everything. For example, upload your presentation slides, create a chat room for questions and discussion. Test everything you need for your planned schedule.
- Since participants usually arrive in the meeting room one at a time, greet them with a unique and short message in the chat and indicate the exact time the webinar begins.
- If the webinar is to be recorded, please indicate this and obtain the consent of all participants before you start the recording. Parts of the event can also be recorded (e.g. inputs) - the students will be informed before the recording starts and can switch off their video.
- When the webinar is over, stop the recording.

Post-processing:

- Once you have recorded the webinar, provide the recording in a central location such as a Moodle course.
- Hold a group discussion via chat or Tweedback, moderated by a second person (announcement of dates via Moodle course, clarification of technical requirements etc.)

Articles with tips on difficult situations

ProLehre Manual Synchronous Online Teaching

Bidirectional live teaching: Video consultation back to the modular overview

Video consultation hours: Offer students personal video or telephone consultation hours. Provide information on when and how you are available and establish a mechanism for scheduling appointments.

- Clarifying personal issues
- Give and receive feedback

Recommended tools: Jitsi Meet, Zoom
meet.lrz.de | tum-conf.zoom.us

Synchronous. High usage of this service may cause performance degradation; this has not yet occurred.

Alternatives in case of overloading of the recommended tools (performant but not released by data protection laws): Google Hangout, Skype

- Students should be required to register for such office hours: create a list of open slots where you or your staff are available for online office hours (e.g. in Moodle: Activity "Scheduler", "Poll" or a table in "Etherpad"). Students can then register in this list.
- You can also use external tools for scheduling and resource allocation and link them in Moodle.

ProLehrd Manual Synchronous Online Teaching
Instructions JitsiMeet

Chat back to the building set overview

Chat: Strengthen the sense of community and exchange between students by creating a channel for your course in the University chat. There, your students can communicate live around the clock. You and your staff or assistants can participate in the chat either occasionally or at set times.

- Coordinate and control work processes
- Exchange knowledge, lead discussions
- Give and receive feedback
- Get personal support, answer questions
- Strengthen community spirit

Recommended tool: RocketChat

chat.tum.de

Synchronous or asynchronous. High usage of this service can lead to performance degradation; this has not yet occurred.

Alternatives in case of overload of the recommended tools (similar performance, but not released according to data protection laws): WhatsApp Group, Facebook Group

- There is also an app for RocketChat, so you can keep up to date on the go. The web interface makes typing easier for many people.
- Of course, RocketChat should be linked from your course page in Moodle, with an indication of the times when you or your assistants are present in the chat ("chat consultation hours").
- If you don't have time to supervise the chat yourself, have your assistants regularly report the highlights and lowlights from the chat.
- Refer to questions, topics, highlights from the chat, e.g. in the discussion forum or in your videos ("feedback").
- You can also use the chat to discuss a specific topic within a given and limited time frame. In this case a clear moderation on your part is important:
  1. Opening of the chat, greeting of all participants,
  2. Announcement of the structure of the chat session, the topics and objectives
  3. Opening statements by the participants after being called by the moderator
  4. Answering questions
  5. Entry of new questions by the participants
  6. Answering questions
  7. Final statement by the participants and the moderator, farewell.

Instructions for RocketChat
Tips for e-moderation of forums and chats

Discussion forums/Question boards/News forums back to the modular overview

Discussion forums and voting: Involve your students in decisions, offer them the opportunity to exchange ideas freely or on specific topics or to bundle and clarify important questions.

- Enable content exchange
- Enable collaborative working
- Strengthen community spirit

Recommended tool: Moodle activity "Forum"
moodle.tum.de

Asynchronous. We do not expect any performance limitations.

Distinguish between news forums, discussion forums, and question forums. In the news forum, only you can write, e.g. inform your students about short-term changes of dates, or remind them to submit work results. In the discussion forum, your students can ask general questions about the course, for example, which you or the students themselves can answer. In the question forum, you can ask questions that should be answered by the students (the students will only see the other answers once they have given an answer themselves).

- The goal of the forum should be made clear at the beginning.
- A forum is not self-perpetuating. Initiate, control or moderate discussions in the forum by giving inputs that encourage students to think and discuss in the form of guiding questions.
- Monitor the forum regularly: Praise correct answers from students and, if necessary, add to and continue them, give answers yourself or link to teaching material, ask new questions yourself. Reply to posts within two days if possible. Hire student assistants or staff members to do the first-level support work for you in maintaining the forum.
- It is advisable to give further impulses (in the form of follow-up questions, links, expert comments and hints) from time to time to keep a discussion going. In slower groups, you can take the role of a student and set prototypical questions to spark the chat.
- If the exchange in a forum does not start at all or only hesitantly, use our student "Hähbert" to break the ice. Hähbert is a dummy student who asks questions for you, which you can then answer. You will receive the access data for Hähbert's Moodle login from our Moodle team via e-mail to lms-support@tum.de.
- They can also vote, e.g. on alternative dates, on specific topics requested by students or for a Best Paper Award (if students have provided summaries or the like themselves).
- If a discussion on a topic includes many contributions, create a summary of the most important aspects for reading.
- Respond to frequent and/or interesting questions and answers in your course (feedback).

Moodle Documentation: Functional Description "Forum
Moodle documentation: Functional description "Voting

Frequently Asked Questions back to the building set overview

FAQ: Provide answers to common (in your experience, expected) questions as Frequently Asked Questions (FAQ). You can do this in the form of a structured text, but also in the form of a video (e.g. read out and answer questions yourself).

- Clarify technical and organizational questions
- Closing knowledge gaps
- Clear up uncertainties about the course of a test

Recommended tool: Moodle material "Label"

moodle.tum.de

Asynchronous. We do not expect any performance restrictions.

- Make sure the list of questions is well structured. Depending on subject and topic, questions can be sorted e.g. chronologically, alphabetically, thematically.
- You can transfer highlights from the question forum to the FAQ, or you can set up the FAQ as a forum.
- With an FAQ you not only have to react to questions from your students, but you can also feed in questions yourself, which you then answer yourself. Perhaps you already know from experience which questions are frequently asked - or should be asked.
- You can also answer the FAQ in the form of short videos, e.g. shoot together with a second person who reads the questions to you, which you then answer.

Moodle documentation: Functional description "Text page

Assignments back to the modular overview

Setting tasks: Online teaching should not only consist of your input; students can also deal with various types of questions and assignments online. This active involvement of the students ("activation") is one of the success factors for good teaching - whether face-to-face or online.

- Manage teaching content in greater depth
- Activate students
- Provide feedback for understanding and learning progress
- Receive feedback on the learning progress of your students

Recommended tools: Moodle, Wiki and many others
moodle.tum.de | wiki.tum.de

Asynchronous/Synchronous. High usage of some services can lead to performance degradation; so far this has not occurred.

Alternatives in case of overload of the recommended tools (performs similarly, but not released by data protection laws): Google Docs, Office 365, Dropbox Paper, Zoom, Google Hangout, Skype

- Use the learning outcomes as a guide when designing tasks/assignments - what should the students be able to do at the end of the section, learning path, teaching unit?
- Possible tasks can be included:
  - Joint brainstorming at the beginning of a new section, e.g. about associations to the topic, previous knowledge, own experiences
  - Answering questions that are asked within your instructional video, slides or your students generate their own questions (e.g. comprehension questions, application questions, potential exam questions) based on your instructional video or slide set
  - Editing exercise sheets, formulating own exercises, correcting exercise sheets of other students ("peer feedback", if necessary with sample solutions or correction grids that you provide)
  - Individual or collective research of content or solutions; preparation of a presentation of results (e.g. PowerPoint slides, profiles, videos); presentation and discussion (e.g. webinar, online tutorial, discussion forum)
  - Creation of collaborative teaching material
  - Preparation of excerpts/summaries of articles/texts
  - With hackmd.io students can work on collaborative tasks and create presentations.
  - Making sketches, mind maps, diagrams, code snippets, evidence sketches
  - Solving programming tasks (Moodle Coderunner)
- Provide instructions with clear objectives (specific, measurable, attractive, realistic, scheduled) so that students know what assignments they have, when they should be solved, and with what results.

- Also be transparent how and from whom students will receive feedback on the assignments (feedback is especially important for online teaching; you can also give your feedback as video feedback). Take advantage of the possibility for students to give feedback to each other (e.g. the Peer Assessment function in Moodle)
- Vary whether the assignments should be processed individually or in a group.

Would you like further support, tips, instructions from us? Write to us!

E-Tests <u>**back to the modular overview**</u>

E-Test: With online testing, you can give your students the opportunity to assess their level of knowledge and get feedback on it. The evaluation of participation and the results of the test allow you to draw conclusions about the motivation and learning progress of your students. You can then feed this knowledge back into your teaching (feedback).

- Activate students and make them think
- Give students feedback
- Get feedback from the students

Recommended tools: Moodle (Test, <u>Stack</u>, <u>CodeRunner</u>), Tweedback, Pingo
<u>moodle.tum.de</u> | <u>tweedback.de</u> | <u>pingo.coactum.de</u>

Usually asynchronous. High usage of this service can lead to performance degradation; so far this has not occurred.

- As a rule, e-tests do not have the character of an examination (no summative tests), but are intended to help students to review and reflect on their learning process and to encourage them to reflect more deeply ("formative feedback"). You can make this goal transparent to your students in order to minimize stress and plagiarism.
- When formulating questions, make sure that they are also diagnostic/informative for the students (in terms of the learning outcomes of your course). In most cases, questions that require a deeper understanding involve more effort in their creation than pure knowledge queries.
- When using <u>multiple-choice questions</u>, the distractors (i.e., the wrong answer alternatives) should resemble the correct answer in wording and complexity as much as possible. Otherwise, students can guess the correct answer relatively easily by process of elimination.
- In addition to direct, automated feedback on the answer (right, wrong), you can also provide your students with other learning hints (e.g. on the script, on comparable exercises, on sample solutions).
- Mirror the results of the e-tests back into your teaching (e.g. in the discussion forum, or in a video), both the participation rate and the evaluation of the answers (here you can, for example, take up frequent mistakes or have them corrected by the students, discuss them, etc.).
- If possible, you can also use e-tests to gamify your teaching by publishing certain achievements (possibly anonymized) and making them comparable (e.g. via high score lists).

<u>Moodle documentation: "Test"</u>

Feedback/consultation by mail back to the modular overview

E-mail (asynchronous): Answer questions by e-mail. Create a shared mailbox so that your employees can also answer the e-mails. Define rules to determine which questions you answer by e-mail and which questions need to be clarified by other means (e.g. technical questions only in the question forum) and who is responsible for answering them.

- Give and receive feedback
- Get personal support, answer questions

Recommended tool: TUMonline for creating the shared mailbox
campus.tum.de | mail.tum.de

Asynchronous. We do not expect any performance limitations.

- In your Moodle course, offer to answer individual student questions by e-mail.
- Channel these requests if necessary. For example, you can announce that technical questions will not be answered ("this is what the question forum is for").
- You can create shared mailboxes in TUMonline via "function objects" (e.g. vorlesungXY@in.tum.de) in order to share answers with employees.
- You can integrate the Shared Mailbox as Exchange mailbox in Outlook or Thunderbird.

[Instructions: Create a Shared Mailbox](#)

Support: How ProLehre helps and advises you

The suggestions and ideas in this handbook are only the first step on a challenging path.

The next step is to create your own teaching concept for your course and to consider how you can transfer the ideas of this handout to yourself and your course.

We do not leave you alone with this and are happy to support you:

- On our website you will find **instructions and handouts** for the concrete technical and didactic implementation of online teaching. You are missing a topic? Write to us, we can create new manuals within the scope of our resource if required and we will orientate ourselves to your current needs.
  https://www.prolehre.tum.de/aktuelles/coronavirus

- Do you have student assistants that you want to use for your support? For example, to post-process and embellish videos, to implement your ideas for online elements, to moderate online tutorials? In our **eScout Academy** we train your assistants to accomplish these activities.
  https://www.prolehre.tum.de/angebote/e-scout-academy

- In the **exchange forum** you can ask questions and receive answers and assistance from us and experienced colleagues. In the exchange forum you can also request topics for upcoming webinars.
  https://wiki.tum.de/display/prolehreforum

- For simple questions, you can also use our channel in the **university chat**, where we answer quickly and easily.
  https://chat.tum.de/channel/prolehre

- In our **series of instructional videos** we have prepared important concepts and questions for you: https://www.prolehre.tum.de/angebote/lehrentwicklung

- We have summarized information on your **examination options** in a separate handbook.
  https://www.prolehre.tum.de/aktuelles/lehre-im-wintersemester-202021

Above all: Would you like to have a relaxed discussion with an expert about your ideas, plans and teaching concept? Write to us at info@prolehre.tum.de and we will arrange an **online consultation appointment** with you.