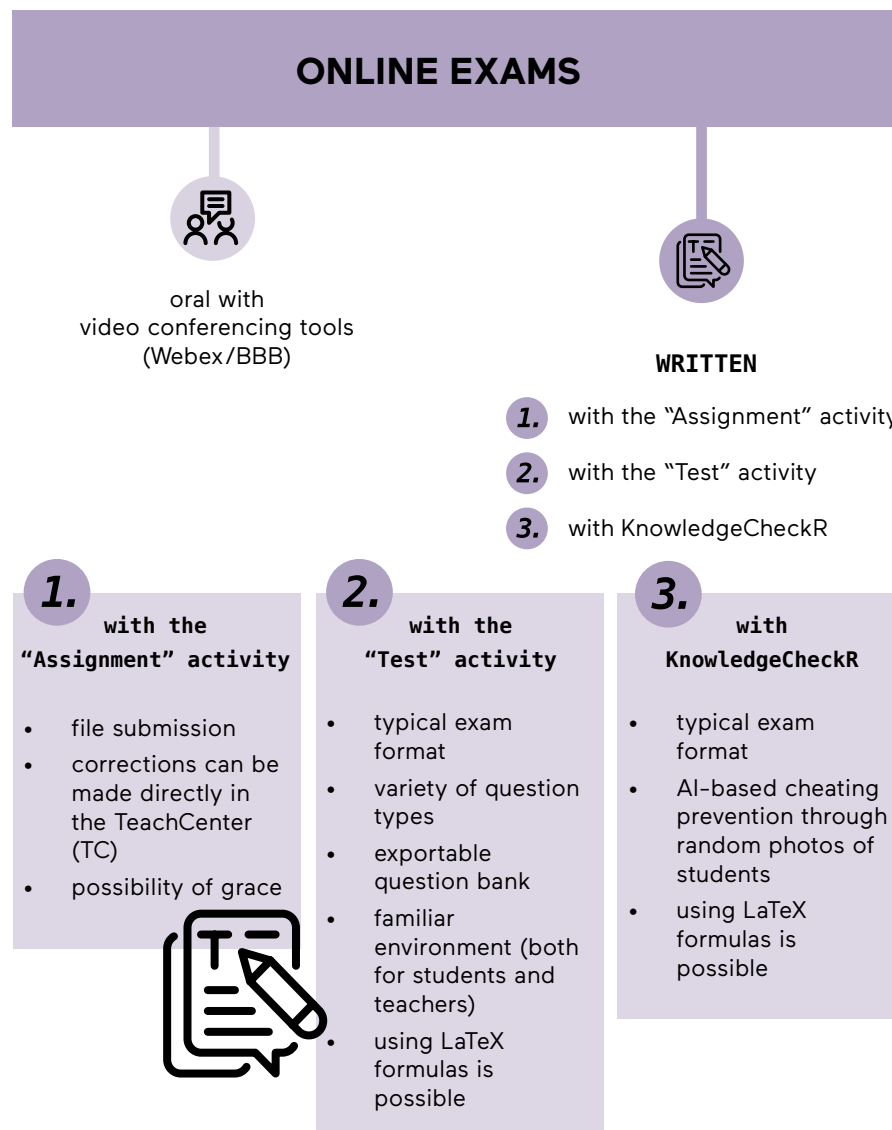


#07 E-ASSESSMENT

Online Written Exams at the TU Graz

Whereas online examinations in technical fields of study were still rather underused a few years ago, they have now gained crucial importance because of the COVID-19 pandemic. The purpose of this article is to show the different ways in which teachers at the Graz University of Technology can hold exams virtually. Since oral exams can easily be conducted via video conferencing systems, the focus here lies on written exams.

Overview: online exams at the TU Graz



Online written exams directly in the TeachCenter-Exam (TC-Exam)

The TeachCenter Exam (<https://exam.tugraz.at>) is another instance of the TeachCenter (<https://tc.tugraz.at>), the TU Graz learning management system. The only difference is the synchronization of users. Students who are enrolled in a course on TUGRAZonline receive access automatically for the respective course in the TeachCenter. In the TeachCenter Exam, on the other hand, only the students, who are registered for the examination date on TUGRAZonline, get access to the course (=exam).

Since TeachCenter Exam is not coupled with TeachCenter, courses must be created separately in both systems. If your course has not yet been created in the system, feel free to contact the TC support team at tc@tugraz.at.

The "Assignment" activity

You may already know the "Assignment" activity. This activity can also be used for take-home exams. Students are asked to solve a task (digitally or on paper, which is photographed) and then upload their solution in the "Assignment" activity. There is also the possibility of a grace period: Submissions are still allowed but will be marked as late.



Offer staggered submission options for many participants. This ensures stable testing and minimizes stress on the system due to too many simultaneous uploads.

The "Test" activity¹

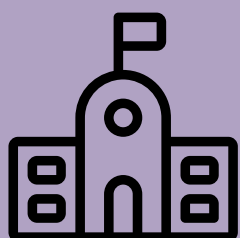
A classic online exam can be created with the "Test" activity. The system offers the possibility of a question bank (=question pool), from which the teachers can select a specific number of individual or random questions for the respective exam. Among the numerous possible question types you will find well-known formats such as multiple/single choice, true/false, matching or essay questions. But there are also other formats such as drag and drop, cloze questions, or, as of the end of 2020, stack questions, where students can also enter mathematical expressions in the answer.

Online written exams with KnowledgeCheckR

KnowledgeCheckR (<https://checkr.tugraz.at>) is another testing system, which is based on artificial intelligence to prevent cheating. KnowledgeCheckR enables fully automated individual exam supervision with a multi-level approach to the prevention of cheating, which allows exams with a large number of participants.

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¹ Detailed step-by-step instructions for online written exams can be found in the handouts of the OU Educational Technology, which are linked in the online edition of this article at <https://telucation.tugraz.at>



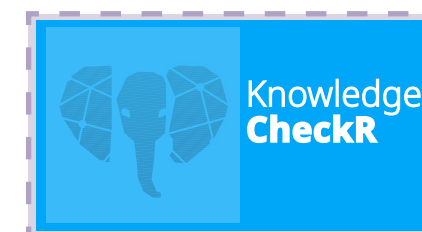
#07

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Online Written Exams
at the TU Graz

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Date of Publication	02/2021
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If desired, an exam can be automatically marked if another browser window or program is opened during the exam. Also, photos of the examinees can be taken at random intervals by means of a webcam, if desired, which are checked by AI for conspicuousness, e.g. repeated looking to the side.



The detected anomalies do not result in an immediate end of the examination, but are made available to the examiner for viewing after the exam. These options can be selected individually for each Check (this is how exams are called in the system). Since KnowledgeCheckR is linked to the TeachCenter-Exam, a TC-Exam course is also required for exams with this system, which is used to synchronize the participants of the exams.

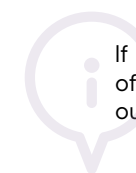
To create a KnowledgeCheckR exam, please contact the TC support at tc@tugraz.at, which will be happy to create a TC-Exam course for you.

! *The questions for the KnowledgeCheckR are created and managed independently of the TC-Exam. This is done directly in the so-called CheckR app, which represents the question bank of the course.*

Thus, to take an online exam, students always enter the TC-Exam, select the corresponding course and can find the exam either there or are redirected from there to KnowledgeCheckR.

Test Your Exam

To ensure that students are also technically well-prepared on the day of the exam, it is highly advisable to test the exam environment beforehand. To do this, students log into the TC-Exam (<https://exam.tugraz.at>) and open the course "Test Your Exam". In this TC-Exam course there are online exams, which can be tested at any time and contain all question types. In order to avoid technical difficulties during the real exam, we recommend that teachers actively inform their students about this possibility.



If students do not have the necessary technical equipment, an alternative form of examination has to be offered or the online examination has to be carried out in a suitable location (e.g. learning centers with IT infrastructure).



For questions about online exams with the TeachCenter-Exam or the KnowledgeCheckR, please contact tc@tugraz.at