Best Practice Methods for Online examination Q4 & Q5

Examination method	Question types	Description	Tooling	Fraud prevention / Proctoring	Best Practice Q3- courses
Assignment	Open questions (No remember-level questions)	Assignments	TurnitIn Assignment in Brightspace	☒Oath of integrity* [1] ☐Plagiarism check	
Open book exam **	Open questions (No remember-level questions)	Open book exams allow students to take notes, texts or recourse material into an exam. Question(s) are handed out, answers are attempted without help from others, and the exam is returned within a specified period of time.	Assignment in Brightspace Google forms Maple TA ANS	☒Oath of integrity [1] ☒Oral check after exam [2] ☐Plagiarism check ☐Shuffled questions ☐Parametrize questions ☐Different versions of one question [3] ☐Shorter timeslot ☐Use of several time slots for different questions [4] ☐Check handwritten explanations/ answers on similarity[5] ☐Webcam monitoring	WB2543 , ME46005 & WB3240
Closed book exam	True/False, Multiple Choice, Multi-select, written response question, short answer question.	You can consider using Brightspace quizzes to test the understanding of the content and assess whether students have achieved the learning goals. Important: Timeslot and different versions (with same difficulty level and order), Shuffled Questions, Parametrize Questions and different Questions, are very important to prevent fraud. Students should not have time to look up the answer.	Brightspace Quizzes	☒Oath of integrity ☒Oral check after exam ☐Shuffled questions ☐Parametrize questions ☐Different versions of one question ☐Shorter timeslot ☐Use of several time slots for different questions ☐Shuffling answers multiple choice ☐Written explanation is added to closed questions ☐Webcam monitoring	WB1631
Online oral exam	Can contain remember-level questions	Instead of having a written exam consider using oral exam to assess whether students have achieved the learning goals. This is suitable for up to 30 students.	YouSeeU Skype for Business	☒Oath of integrity ☐Parametrize questions ☐Different versions of one question	KT1701

* Integrity statement is included bellow in the appendix.

** Guideline constructing open questions is included bellow in the appendix.

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[1] Oath of integrity: Mandatory Fraud Prevention.

[2] Oral check: Mandatory Fraud Prevention For Written Exams. Shortly after the exam, all students or a random selection of students are called for a complementary oral check. This doesn't count for the final grade. You could ask the students for clarification. Repeat some of the questions and see if the answers more or less match the answers of the written exam. Ask for an explanation of his/ her answer.

[3] Different versions of one question: Level of difficulty must be the same for each question.

[4] Check handwritten explanations/ answers on similarity: The assignment/ questions can be strictly timed or spread out over a longer time frame.

[5] Have students upload pictures of handwritten assignments. Allow them enough time to do this.

Best Practice tooling for Online Examination

Name.	General description.	Formulas.	Questions.	Question banks.	Support page.	Advantage.	Disadvantage.	Assessment type.	AVG and safety.	Operating systems.
	Readiness to use				Manual					Browsers.
ANS Delft	Ans is a user-friendly learning platform for students and teachers.	Available	Any type of questions available.	Available.	ANS I ANS II Not available	Questionbanks which have the system pull a certain number of questions from it. So, every time someone takes your exam, they'll get a different set of questions. Write and check coding (Python or Matlab).	ANS is no longer turned on by default in Brightspace. However, it will continue to be available upon request. Please contact your Faculty Coordinator or Faculty Mandate if you would like to use it and brightspace@tudelft.nl in case you need further information.	Paper based tests. Essays, scripts and video's. Group assignment (collaborate online in the same assignment) Digital tests and quizzes.	ANS AVG	Windows, iOS, and Mac OS, Linux. Google Chrome is recommended.
Brightspace Quizzes	Online quiz environment available in Brightspace.	There are 3 popular ways to add math in D2L's products: Brightspace's Graphical Editor LaTeX MathML	True/False, Multiple Choice, Multi-select, written response question, short answer question. Timeslot and importing questions is available.	Ability to create a randomised set of questions to distribute a unique set of questions to individual learners ('question pool'). Not available	Brightspace	Integrated in Brightspace.	Note: all questions in a question pool are assigned the same point value.	Quiz.	TU Policy	Tablet and mobile: Android, iOS, Windows Other details: Brightspace Do not use Safari browser. Do not use Internet Explorer.
Maple T.A. (=Mobiõs	Maple T.A. is a web-based system for creating tests, quizzes, assignments. It can automatically assess student's responses.	Available.	Any type of question	Available	Maple TA Digitaled support	. It automatically assesses student's responses. Contract with Digitaled for support.	It needs a secure environment, according to the TU Delft instructions (it needs supervision and can be linked to RemoteProctorNow).	. Formal testing (secured environment). Homework assignments. Quizzes.		Maple system
Google forms	Google forms is a free tool from Google that allows you to create forms, surverys, quizzes	Available	Any type of question Timeslot is available	Available		Collect all the responses in a separate spreadsheet (Excel).	Google forms is not supported by Brightspace Writing formulas may be time consuming	Formal testing Paper based test Digital test and quizzes		

Appendix 1. Integrity statement

You can change the statement to make it more applicable for your assessment.
Here are two examples:

For online exam:
"I promise that I will not use unauthorized help from people or other sources during my exam. I will create the answers on my own and I will create them only during the allocated exam time slots. I will not help other students with their exam"

For timed take-home exam:
"I promise that I have not used unauthorized help from people or other sources for completing my exam. I created the submitted answers myself during the exam and did not help any other students"

Examiners report any suspicion of fraud to the Board of Examiners (BoE). A student is given the opportunity of a hearing before a decision is made by the BoE and before any sanctions are imposed.

Appendix 2. Constructing Open Book Questions

o   The questions are not at the level of facts and definitions (taxonomy Bloom: remember & understand).

o   The questions have been formulated so that students can demonstrate that they have read and understood the material (taxonomy Bloom: apply, analyse, evaluate and create). For example: students are asked to formulate examples, to explain connections, to apply, to give comparisons, to explain contracts, to give arguments, etc.

o   The questions cannot be retrieved directly from the internet. For this reason, the question is not general.

o   Expect shorter answers. (Students doing open book examinations will be spending quite a lot of their time searching for, and making sense of, information and data.

o   Make the actual questions particularly clear and straightforward to understand. The fact that students will be reading a lot during the examination means that they may read too rapidly: therefore, try to prevent misinterpretation.