



LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN

ISC
INFORMATIONEN- UND SERVICECENTER
WIRTSCHAFTSWISSENSCHAFTLICHE PRÜFUNGEN



as of: 07.10.2021

Organization and Procedures of Take-Home Open-Book Exams

General Setting

The Corona pandemic continues, although progress in the vaccination campaign is showing signs of improvement. Nevertheless, winter term 2021/22 is still characterized by great uncertainties regarding the further development and possible restrictions regarding hygiene and distance requirements.

In order to give students a reliable perspective on exam planning and to avoid back and forth on exam modalities, exams in winter term 2021/22 will generally be conducted as open-book exams in take-home format.

Deviating from this, smaller courses for which the chair ensures that it is possible for all participants to write the exam in-person may be conducted in attendance. These exams are organized by the respective chair.

Exam Registration

To be able to take part on a take-home exam, **students must register for the respective exam in LSF.**

It is not possible to take an exam without registering!

[Exam registration and deregistration deadlines](#) have been significantly extended.

Organization and Procedure for Take-Home Exams

Before the start of the exam

1. Make sure that you have installed the required programs on your device and that they work properly. To open and edit the exams, an operating system-dependent PDF editing program in the latest version is required. The following table gives an overview of the tested programs editing the PDF file, depending on the operating system. You can download the programs free of charge via the download link.

Operating System	Windows 10	macOS	Android	iOS/iPadOS
PDF-Reader	Adobe Acrobat Reader DC https://get.adobe.com/de/reader/	Adobe Acrobat Reader DC https://get.adobe.com/de/reader/	Foxit PDF Reader & Editor https://play.google.com/store/apps/details?id=com.foxit.mobile.pdf.lite&hl=de	Documents by Readdle https://apps.apple.com/de/app/id36490180

Completed exams must be submitted online no later than 15 minutes after the end of the processing time. One of the following browsers is required for this: Android Browser, Chrome (incl. Chrome for Android), Edge, Firefox (incl. Firefox for Android), Safari (incl. iOS Safari).

2. It is recommended to switch on the automatic saving of document changes when editing the exam.

Adobe Acrobat Reader DC (Windows 10 + macOS):

→ Select "Edit" - "Preferences" - "Documents".

→ In the "Save Settings" section, check "Automatically save document changes to temporary file every", set the number of minutes (1-99).

→ Click on Ok to validate.

Foxit PDF Reader Mobile

→ Go to "Settings" (cogwheel symbol)

→ Check if "Save automatically" is activated

**Note: Automatic saving does not replace the regular saving of the file by the student!
Regularly save your processing status!**

3. Please make the necessary settings in your LMU campus mailbox
 - In order to avoid performance problems and delayed email reception you must deactivate the automatic forwarding of your LMU campus mailbox to external email addresses during the exam period ([LRZ documentation](#)).
 - Please make sure that your LMU campus mailbox is not overfilled and that you can receive emails.
4. The exam will be sent password protected to your LMU-campus-email address. You should receive the mail at least 30 minutes before the exam begins. For exams that begin before 09:00 a.m., the exam will be delivered the evening before.
5. If you do not receive an exam at least 30 minutes before the exam begins, inspite of having registered in LSF, please contact [ISC support via Zoom](#). Technical support starts 30 minutes before processing time starts.
The login data are as follows:
 - Meeting-ID: 994 9731 9980
 - Password: 626278
 - <https://lmu-munich.zoom.us/j/99497319980?pwd=VWZMcUlnTSs3ZWpSc0p0aDZITGZkdz09>
6. Save the password-protected exam locally on your device in a directory that you can easily find again (e.g. desktop)
7. Shortly before the start of the exam, check that the automatic saving of document changes is activated according to step 2 (see above).

Start of exam

1. The password for opening the exam will be announced on the ISC Moodle site (<https://moodle.lmu.de/mod/forum/view.php?id=379405>) in time for the start of the processing time. Please register for the course „**Digital Exams**“ with your campus access data about 5 minutes before the official start of the exam (**registration key: isc**). In the announcements section you can see the password announcements for each exam. By selecting the appropriate password announcement you will be directed to the announcement text. This text is only visible during the official processing time of the exam. The announcement text contains the password.

The screenshot shows the Moodle interface for the course 'Digitale Take-Home-Exams'. The breadcrumb trail is: Home > My courses > Digital Exams > General > Ankündigungen. The forum title is 'Ankündigungen' with a settings icon. Below the title is the text 'Allgemeine Nachrichten und Ankündigungen der Trainer/innen' and a green 'Add a new topic' button. The forum content is a table with columns: Discussion, Started by, Last post ↓, and Replies.

Discussion	Started by	Last post ↓	Replies
☆ Timed Passwort Testklausur LS Schanz - 22.05.2020	Georg Bauer 21 May 2020	Georg Bauer 21 May 2020	0
☆ Passwort Testklausur	Tobias Specht 20 May 2020	Tobias Specht 20 May 2020	0

At the bottom, there is a 'Jump to...' dropdown menu and a link: 'Anleitung zum Digitalen Signieren (hidden) ►'.

Figure 1: Moodle view „Announcements“ („Ankündigungen“) in the ISC „Digital Exams“ course

By "clicking" on the password announcement of the corresponding exam (in the example "Passwort Testklausur") the following window with the password appears during the official processing time:

The screenshot shows a Moodle announcement window. The title is 'Passwort Testklausur von der ISC-Webseite / Password Test Exam from ISC-Website: geheim' by Tobias Specht, dated Wednesday, 20. Mai 2020, 13:03. The main text reads: 'Das Passwort zum entpacken und entschlüsseln der Klausur ist: **geheim**'. Below this is a line of asterisks: '#####'. The text continues: 'The password to unpack and decrypt the exam is: **geheim**'. The footer text states: 'Dieses Kennwort ist nur für die dauerhaft angebotene Testklausur auf der ISC-Webseite gültig, alle anderen Testklausuren haben spezifische Kennwörter.' and 'This password is only valid for the permanently offered test exam from the ISC-website, all other test exams have specific passwords.'

Figure 2: Example announcement text during the exam processing period

The announcement text is not visible outside of the exam processing period. The following text appears instead:

The screenshot shows the Moodle forum interface with a red error message box. The message reads: 'Sie dürfen die Themen in diesem Forum nicht sehen' (You are not allowed to see the topics in this forum) and 'Weitere Informationen über diesen Fehler' (More information about this error). A green 'Weiter' button is located below the message box.

Figure 3: Example: Announcement text outside the exam processing period

2. Open the PDF file using the program installed in „Before the start of the exam - step 1“ and the password provided.
3. Now edit the exam. Please note the following:
 - Only machine-readable entries in the input fields are evaluated.
 - In order to avoid data loss in case of power failure or computer crash, please save your processing status regularly.
 - The risk of data loss is borne by the students.
 - To save the exam, you must leave the last active input field.

End of Exam

A time extension of 15 minutes is given to technically conclude and submit the exam. This means that an exam with a processing time of 60 minutes must be submitted no later than 75 minutes after the exam has begun. Attention: Exams which are turned in late will not be corrected or graded.

Attention: Exams which are turned in late will not be corrected or graded!

After the official processing time, you have 15 minutes to carry out the following steps:

1. At the end of the processing time [digitally sign the exam in Acrobat Reader DC](#) (or, depending on the operating system, in the other software used) which locks the input fields before the exam is submitted.

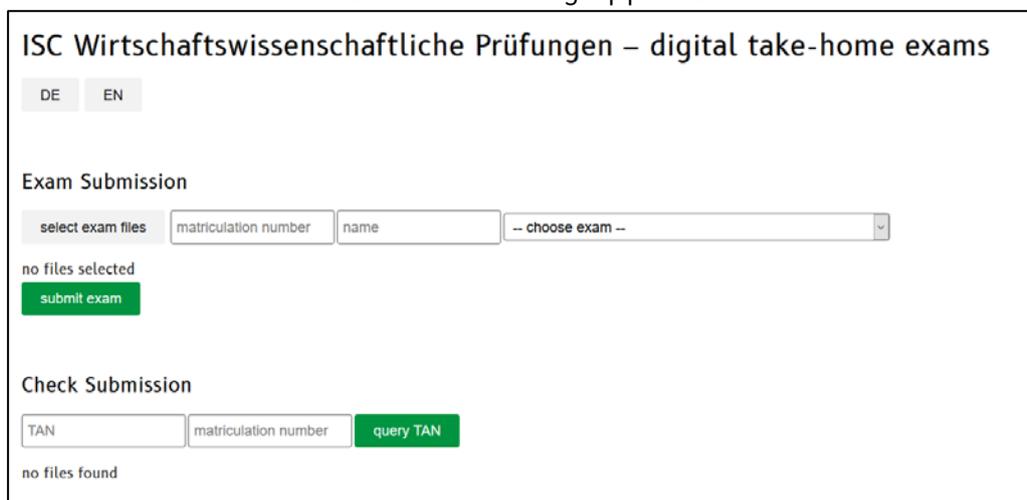
Attention: After the exam has been signed, further changes to the exam cannot be made in Adobe Acrobat DC!

Important: After signing, save the PDF file again.

Make sure to upload the correct exam files and in case of mixed exams with open questions and MC part, upload all required files!

Unless otherwise indicated on the exam, upload the exam submission postbox:
<https://www.exams.isc.lmu.de>

2. The submission form has the following appearance:



The screenshot shows a web interface for submitting exams. At the top, it says "ISC Wirtschaftswissenschaftliche Prüfungen – digital take-home exams". There are two language selection buttons: "DE" and "EN". Below this is the "Exam Submission" section, which includes a file selection area with "no files selected" and a green "submit exam" button. There are also input fields for "matriculation number" and "name", and a dropdown menu labeled "-- choose exam --". Below the "Exam Submission" section is the "Check Submission" section, which includes input fields for "TAN" and "matriculation number", and a green "query TAN" button. At the bottom of this section, it says "no files found".

Figure 4: Browser interface of the submission form

First select the file(s) to be submitted by clicking the button „select exam files“ on your computer.

Then enter your matriculation number and your name (first and last name) in the fields

Exam Submission

select exam files 12345678 ISC Test Testklausur / test exam

name	size	hash
test_exam.pdf	69267	4H0fxCgEqVGZe86cf8ZW//dP4udQIAmGP88FAZoOZMo-

submit exam

Figure 5: Input of personal data, name of the exam and selection of the file(s)

The file selected to be submitted is now displayed in the browser together with a hash value.

Attention: At this point you have selected the file for submission, but the actual upload has not yet taken place. You can check your selection again in this step.

To upload the exam, click „submit exam“ now.

The exam is uploaded and the successful upload is confirmed with a TAN. A confirmation (contains TAN and the hash value for the unique identification of the file(s) you uploaded) is automatically offered for download in a pop-up window.

Exam Submission

select exam files 12345678 ISC Test Testklausur / test exam

name	size	hash
test_exam.pdf	69267	4H0fxCgEqVGZe86cf8ZW//dP4udQIAmGP88FAZoOZMo-

submit exam

TAN: OZRfD-ic_97Y83E_ms39r

Figure 6: Confirmation of successful upload via TAN

Öffnen von test_12345678_ISC_Test_OZRfD-ic_97Y83E_ms39r.png

Sie möchten folgende Datei öffnen:

- test_12345678_ISC_Test_OZRfD-ic_97Y83E_ms39r.png
Vom Typ: PNG-Datei (44,3 KB)
Von: data:

Wie soll Firefox mit dieser Datei verfahren?

Öffnen mit Fotos (Standard)

Datei speichern

OK Abbrechen

TAN: OZRfD-ic_97Y83E_ms39r

Figure 7: Pop-up window to download TAN and hash value; Confirmation of successful upload with TAN and hash value.



Figure 8: Control file with TAN and hash value. The QR Code is used for quick verification by the ISC.

Important:

The control file with TAN and hash value is first saved in your general download folder specified in your browser settings. Save the control file with TAN and hash value in the folder of your exam file(s) locally on your computer at least until the date of the exam review. Do not open the submitted exam file anymore and do not make any changes. In this way you have saved the exam file(s) and the control file containing TAN and hash value for possible later checks.

- If you want to check your upload again, e.g. to make sure you have uploaded the correct file(s), you can do this using the "Check Submission" function.

Enter the TAN for your exam upload as well as your matriculation number and click on "query TAN".

The data for your uploaded exam file will be displayed

Check Submission

OZRfD-ic_97Y83E_ms3

exam: Testklausur / test exam, time of submission: 03.12.2020, 12:08:23

name	size	hash
test_exam.pdf	69267	4H0fxCgEqVGZe86cf8ZW//dP4udQiAmGP88FAZoOZMo=

Figure 9: Check properties of the submitted exam

You can now use „compare files“ to select the file to be checked locally on your computer.

If the exam file to be checked on your computer is identical to the already uploaded exam file, you will see a green background.

Check Submission

OZRfD-ic_97Y83E_ms3

exam: Testklausur / test exam, time of submission: 03.12.2020, 12:08:23

name	size	hash
test_exam.pdf	69267	4H0fxCgEqVGZe86cf8ZW//dP4udQiAmGP88FAZoOZMo=

Figure 10: File comparison successful

In the event that the file comparison is not successful, this will also be displayed.



Figure 11: File comparison is not successful

In this case, you have selected a different file version for file comparison than you uploaded before. If you by mistake uploaded a wrong first, you can correct this within the available submission time (processing time + maximum 15 minutes) and submit the correct exam file again.

4. Exams that are not uploaded in time will be considered not submitted and will not be evaluated.
5. If more than one correct file is uploaded, the first uploaded exam will be graded.

FAQs about take-home exams:

Who can I contact if I have technical problems?

If you have technical problems during the processing of the take-home exam, please contact ISC support via Zoom:

Meeting-ID: 994 9731 9980

Password: 626278

<https://lmu-munich.zoom.us/j/99497319980?pwd=VWZMcUlnTSs3ZWpSc0p0aDZITGZkdz09>

What to do if my PC crashes while processing my exam?

If you have followed the steps in "Organizing and running a take-home exam", you should be able to restore the last state of the exam you saved/automatically saved. To do this, start Adobe Acrobat Reader DC or open the locally saved exam file. When you are asked if you want to

restore the automatically saved file(s), click "Yes". If several files were open before the crash, they will all be opened again in Adobe Acrobat Reader DC. Save the files under the name of the original files.

I want to check if I have installed the programs correctly and can decrypt the files. Is that possible?

We have prepared a test exam for this purpose. You can download the file with the test exam here:

- https://www.isc.uni-muenchen.de/pruefungen_corona/index.html
- The password for the test exam is published on the [ISC Moodle page](#). It is the announcement "Password test exam".

More FAQs here:

https://www.isc.uni-muenchen.de/pruefungen_corona/index.html