



**Accessible E-Learning and Teaching**

**Checklist for Creating and Reviewing  
Accessible Online Classes**

**University of Bremen**  
**The BALLON Project – Accessibility in E-Learning and  
Teaching**

These checklists were created as part of the BALLON Project (Accessibility in E-Learning and Teaching), which was launched at the University of Bremen in January 2021. The aim of the project is to develop a support system for teaching staff and students for accessible digital learning and teaching at Bremen universities as part of the implementation of digital and hybrid studies. Further information and support are available directly from the BALLON Project. This document contains descriptions on how to implement accessible design as well as checklists for reviewing different formats and materials: Word, PDF documents, PowerPoint, websites, online classes, and information videos. You can also download the checklists separately on the BALLON website under “Checklists and Tools”:

[Checklist for accessible Word documents](#)

[Checklist for accessible PDF documents](#)

[Checklist for accessible PowerPoint slides](#)

[Checklist for accessible online classes](#)

[Checklist for accessible websites](#)

[Checklist for accessible information videos](#)

Checklists for Creating and Reviewing Accessible Digital Content

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## Introduction

### Barriers at universities

There are a wide range of different hurdles at universities that result in unequal access to university education and can even prevent access in the first place. These barriers are distributed across different inequality dimensions such as age, background, gender, disability, and other aspects. The resulting disadvantages experienced by some students have become further exacerbated since 2020 in the course of the COVID-19 pandemic and the associated switch to digital learning and teaching formats. This transformation posed a challenge to students, teaching staff, and the administration alike – and continues to do so in some cases. Disadvantages, including greater social distance, limited communication, and sometimes poor technological infrastructure, constitute barriers for all students, but affect students of already marginalized groups in particular. The **barriers** in e-learning and teaching raise a number of questions:

- *How should I study for an exam if the learning material is only available as an audio file, which is inaccessible to me due to my deafness?*
- *Home alone with a poor internet connection and/or with German as a foreign language – how will I ever be able to pass the course?*
- *My student is unable to read the slides – how can I make them compatible for a screen reader?*
- *What exactly are digital barriers?*

### Aim and target group of the checklists

The checklists provide general **information on creating and reviewing accessible digital content**.

The checklists are aimed at everyone who is interested in supporting equal-opportunity access to digital content, with a particular focus on accessible e-learning and teaching. For this reason, they are intended especially for **teaching and administrative staff** who play a decisive role in student access to digital studies. The aim is to raise awareness of the topic of digital accessibility and provide a guide to

creating, designing, and reviewing Word and PDF documents, PowerPoint slides, websites, online classes, and information videos. Moreover, the checklists refer to helpful tools and further information. Accessible study material from teaching staff, work from students, and information material from administrative staff contribute toward a diverse and inclusive university and should be the norm. From easy-to-use forms and PDFs legible to screen readers, to high-quality online videos with live subtitles: every barrier prevented and dismantled ultimately benefits *everyone*.

## Legal foundation

In some areas of university, full accessibility is already **legally mandated** – for example, by the UN Convention on the Rights of Persons with Disabilities, the Basic Law of Germany, the German Higher Education Framework Act, the Bremen University Act, and other legislation. You can find details about the legislation under “[Further Information](#)” in the “Guide for Teaching Staff: Supporting Fully Accessible Teaching” (KIS, University of Bremen, 2018). The foundation for accessible online content is provided by the global standards of the [Web Content Accessibility Guidelines \(WCAG\) 2.1](#), upon which the German [Accessible Information Technology Regulation \(BITV\) 2.0](#) is also based. These standards are currently outdated and a draft of the [WCAG 3.0](#) has already been published. As a result, Bremen universities are obligated to enable equal access to studies for all students – irrespective of social dimensions such as disabilities or illnesses.

## How to use the checklists

The checklists can be accessed or used in two ways:

1. Are you about to start designing or creating materials and would like to make sure they are accessible? In this case, pay attention to the sections titled “**Implementation**” in the documents. Here you can find the aspects that should be kept in mind as well as information on specific settings in the relevant programs.
2. Have you already created your materials and would like to test their accessibility? You can review your materials yourself using the “**Checklists**.” Cross off the applicable checkpoints and use the information under “**Implementation**” to work through aspects that have not yet been fulfilled.

The checklists refer to work with the programs **Microsoft 365 Professional Plus 2019** and **Adobe Acrobat Pro**. Your software versions may differ in terms of the respective functions or presentations. You can find support at [Microsoft: Make your Word documents accessible to people with disabilities](#) and [Adobe: Create and verify PDF accessibility \(Adobe Pro\)](#).

Alternatively, you can use OpenOffice or LibreOffice. You can find guides for these programs here: [Accessible PDFs with OpenOffice and LibreOffice](#). In addition to Adobe Acrobat Pro, you can also use [axesPDF](#) and [Kofax Power PDF](#).

## 1. Creating accessible content: online classes

The following chapter is helpful for planning and implementing accessible web conferences and digital classes. It is limited to the most important aspects that are intended to improve the accessibility of online classes, including for people with illnesses, disabilities, language barriers, or similar. Good teaching formats are distinguished by accessibility to all. The first section "[Implementation of online classes](#)" describes what should be kept in mind when preparing and implementing accessible digital classes. The second section "[Checklist for online classes](#)" contains a checklist that you can use to review your (planned) online class for accessibility yourself.

### 1.1. Implementation of online classes

#### Preparing online classes

Here you can find information on aspects that should be considered when you prepare an online class in order to make your teaching content accessible for all class participants.

a) **Structure:**

It is helpful for everyone when the structure and topic of the (online) class is clear from the beginning. You should therefore share the agenda (including timing) in advance before the class.

b) **Content:**

The content (seminar texts, presentations, scripts, etc.) should also be provided in advance.

c) **Transcript:**

As soon as audio content is used, real-time subtitles or a written transcript must be offered. This is especially important for participants with hearing impairments or no hearing at all, as well as native speakers of a foreign language. If necessary, speech-to-text interpreters can be used.

d) **Document barriers:**

All digital documents used must be accessible. Here it is important to consider the information in the previous chapter.

e) **Equipment:**

Do all participants have the necessary equipment for the online class? It may be helpful to offer alternatives for the programs used or lend out hardware.

f) **Online tools:**

All tools used must be accessible and appropriate for the intended purpose. Ideally, you should combine different teaching formats and tools that you have previously tested for accessibility.

g) **Sign language interpreters:**

In some situations, subtitles and scripts are not enough. It may be necessary to engage external interpreters for (German) sign language.

h) **Alternatives:**

Communicate your openness to alternatives early on, should these be necessary in the case of individual difficulties. This demonstrates to those affected a willingness to help instead of exclusion.

## During the online class

This section lists aspects that should be kept in mind during the online class to minimize barriers and optimize online classes and studies for everyone.

a) **Breaks:**

Particularly for people with disabilities, illnesses, or care responsibilities, synchronous online classes can be very strenuous. For this reason, it is important to include enough breaks. Often, a few short breaks of five minutes are already beneficial.

b) **Time planning:**

You should always allow for a buffer in the event of unforeseen problems, technical issues, or follow-up questions.

c) **Internet:**

A stable internet connection is necessary for online classes, as poor internet connectivity endangers the flow of class. Interruptions to image or audio broadcasts can lead to difficulties in understanding.

d) **Environment:**

A quiet environment is important for sound quality. Disruptive noises in the environment should be minimized, for example by closing windows.

e) **Quality of integrated media:**

Audio and video files must be produced in sufficient quality to ensure the content can be clearly heard and seen. External content must likewise be of good quality.

f) **Background:**

Make sure you present your online class against a neutral-colored, static, and high-contrast background. Both you and the content should be clearly visible and any distractions kept to a minimum. In principle, the use of a virtual background does not prevent low barriers. In this case, care must be taken to ensure a high contrast between the person and the background. It is also important that the technical requirements for an optimal virtual background are met, otherwise there will be disruptions that may conflict with low barriers. The virtual background depends in particular on the following factors: Quality of the algorithms of the software, quiet natural background and the processing power of the computer.

g) **Visibility:**

Every speaker needs to be clearly visible. This concerns both your position in front of the camera as well as good lighting in the room. When speaking, look towards the camera so that your lips can also be read. This is important for people with hearing impairments or deafness.

h) **Speaking:**

Speak clearly. Shouting is unnecessary, but you may need to increase the volume or sound quality with a headset or microphone.

i) **Multi-channel principle:**

The multi-channel principle also applies here. Always convey important information verbally and in writing, so that it reaches everyone.

j) **Image descriptions:**

Much like digital alternative texts, it is necessary to describe images verbally in online classes. Simply referring to the image is not enough for participants with visual impairments.

## 1.2. Checklist for online classes

Here you can find information for reviewing your online class(es). This is intended to help you identify and remove any barriers in prepared seminars and lectures.

### Preparing online classes

**Have you communicated the structure and content in advance?**

The agenda and timing should be shared in good time before class.

**Have you sent the content in advance (presentation, audio file, etc.)?**

The content (seminar texts, presentations, scripts, etc.) should also be provided in advance.

**Do the audio files you use have a written transcript?**

As soon as audio content is used (speaking lecturers, audio files, etc.), a written transcript should be offered.

**Alternatively, have you used a speech-to-text interpreter?**

Have you provided a speech-to-text interpreter if necessary? This way, spoken content during class is also conveyed in writing.

**Do you have real-time subtitles for video files?**

Make sure that the video files you use include subtitles or add them yourself.

**Do the documents you use meet accessibility standards?**

All digital documents used must be accessible. Please bear in mind the relevant information provided in the other chapters.

**Do your participants have the necessary equipment?**

Do all participants have the necessary equipment for the online class?

**Do you use accessible online tools?**

All tools used must be accessible and appropriate for the intended purpose. Ideally, you should combine different teaching formats and tools that you have previously tested for accessibility.

**Have you engaged a sign language interpreter if necessary?**

In some situations, subtitles and scripts are not enough. It may be necessary to engage external interpreters for (German) sign language.

**Are alternative formats or proofs of student performance possible?**

Have you communicated your openness to alternatives early on? This demonstrates to those affected a willingness to help instead of exclusion.

### **During the online class**

**Have you included enough breaks?**

Make sure you plan enough time for breaks. Even just five minutes can be helpful.

**Have you planned a sufficient buffer in case of problems or questions?**

You should plan enough time in each class in case there are any unforeseen problems, technical issues, or follow-up questions.

**Do you have a stable internet connection?**

A stable internet connection is essential to avoid difficulties in understanding.

**Are you in a quiet environment without any disruptive noises?**

Make sure your environment is quiet and free from disruptive noises.

**Are the audio files you use of good quality?**

If you use your own or external audio and/or video files, they must be good quality.

**Is your virtual/real background neutral and high in contrast?**

Conduct your online class against a neutral-colored, static, and high-contrast background so that everything is clearly visible.

**Are you positioned well live or in the video (visibility for lip reading) and is the lighting good?**

Are you clearly visible at all times? This means a well illuminated face, with your mouth visible at all times for lip reading.

**Do you speak clearly?**

Make sure you speak clearly. Test the sound quality using a headset/microphone.

**Do you provide important information both verbally and in writing?**

Always convey important information verbally and in writing (multi-channel principle), so that it reaches everyone.

**Do you also provide graphical information verbally?**

You should always provide graphic content verbally. Simply referring to the image is not enough for participants with visual impairments.

## Further information

Contrast Checker:

<https://contrastchecker.com>

Corporate design of the University of Bremen:

<http://www.uni-bremen.de/corporatedesign>

KIS and kivi, University of Bremen (2020): Guide for Teaching Staff.

[LoB Broschuere 2020.pdf \(uni-bremen.de\)](#)

ZMML, University of Bremen (2021): Accessible Digital Teaching. Tips for Teaching Staff: General, Lectures and Seminars, Accessible Documents and PowerPoint Presentations:

<https://www.uni-bremen.de/zmml/lehre-digital/zugaengliche-digitale-lehre>

## List of links

Create and verify Adobe PDF accessibility (Adobe Pro):

<https://helpx.adobe.com/de/acrobat/using/create-verify-pdf-accessibility.html>

BALLON:

<https://www.uni-bremen.de/digitale-transformation/cdo-projekte/ballon>

Accessible Information Technology Regulation (BITV) 2.0:

[https://www.gesetze-im-internet.de/bitv\\_2\\_0/BJNR184300011.html](https://www.gesetze-im-internet.de/bitv_2_0/BJNR184300011.html)

Accessible PDFs with OpenOffice and LibreOffice:

<https://www.netz-barrierefrei.de/wordpress/barrierefreies-publizieren/barrierefreie-pdfs/barrierefreie-pdfs-mit-openoffice-und-libreoffice/>

Microsoft: Make your Word documents accessible to people with disabilities:

<https://support.microsoft.com/de-de/topic/gestalten-barrierefreier-word-dokumente-f%C3%BCr-personen-mit-behinderungen-d9bf3683-87ac-47ea-b91a-78dcacb3c66d>

Web Content Accessibility Guidelines (WCAG) 2.1:

<https://www.w3.org/TR/WCAG21/%23contrast-minimum>

Web Content Accessibility Guidelines (WCAG) 3:

<https://www.w3.org/WAI/standards-guidelines/wcag/wcag3-intro/>

How to meet WCAG 2.0. A customizable quick reference on Web Content

Accessibility Guidelines (WCAG) 2.0 requirements (success criteria) and techniques:

<https://www.w3.org/WAI/WCAG21/quickref/?versions=2.0>