

## Accessibility Guidelines for online course development and design

This document underpins what accessibility is and includes guidelines on how to ensure that content is accessible in the online environment – specifically online courses at Teaching and Learning Services and the Extension School for Continuing Education.

(Digital) accessibility aims to ensure that everyone, regardless of their skills or abilities, can access information, technology, products, and services<sup>1</sup>. Accessibility overlaps with several areas, including inclusion, design for all, universal design, and addressing the digital divide. It is closely related to the user experience, usability, and user-centred design. By applying the methodologies and techniques of user-centred design in accessible websites and applications, we are addressing the needs of people with varied abilities, as well as including them in the learning experience<sup>2</sup>.

### Detailed guidelines for designing accessible online materials

Guidelines are based on universal design principles which contribute to the accessibility of learning materials.

1. **Course design, structure, and navigation** should facilitate ease of use and readability
  - Ensure users can navigate and find content with ease
  - Structure content in such a manner (preferably on 1 page) that a minimum amount of scrolling is required
  - Divide/chunk text into sections using headings, paragraphs, and lists. Segmented/well-organized content is more inviting and is easier to navigate and search
  - Provide within the course accessible text and images in files, documents, LMS pages, and web pages to meet the needs of diverse learners (see points 4 and 6)
  - Attempt to support keyboard navigation by ensuring every functionality is available without having to use a mouse.
2. **Language usage**
  - Use plain English/language and instructions to enhance the learning experience
  - Write out acronyms, define terms, avoid, or define jargon
  - Create a glossary if many specific terms are used
  - Use inclusive language:
    - avoid using phrases such as “let’s hear” or “see below” - use descriptive statements
    - avoid mentioning colours
    - avoid the use of personal pronouns related to gender as well as inferences to cultural, religious, or even political groups
  - Provide simple and precise instructions in your course that every learner will understand. Example: Indicate what is required (assignment brief/instructions), in what format it should be presented (Microsoft Word document of 1000 words), and when it is due.
3. **Font styles, font sizes and use of colour** (standardisation makes content more readable and accessible)
  - It is suggested to use the platform’s default font and font size throughout the course
  - If you prefer to use a different font (specifically in documents), make use of standard, legible fonts such as Arial, Calibri, Verdana, or Tahoma. Note, sans serif fonts offer better readability on screens/digital display
  - Structure the text using style features built into Microsoft (Word, PowerPoint, Excel, etc.) or the authoring tool on the platform, so that text can be read by screen readers (see point 6)
  - Main headings can be in bold – but then ALL headings must be in bold (be consistent across)
  - Text should be black

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<sup>1</sup> Future Learn (n.d.) Future Learn commitment to accessible online learning

<sup>2</sup> W3C Web Accessibility Initiative and UNESCO Institute for Information Technologies in Education. (n.d.). Introduction to Web Accessibility

- Minimise the use of colour (this action results in fewer instances of confusion)
- Do not underline any text as this may be confused with a web link (URL)
- Use headings and bullet points to highlight sections of text, instead of using coloured text to convey meaning
- If using coloured text:
  - refer to: How to use [colour friendly palettes](#)
  - use textures and patterns inside the colours to show contrast (in graphs for example).

4. **Images and graphics (charts, tables, and diagrams)** - only use them if they serve a purpose

- Images should be of the same size and positioned consistently on a page and throughout the course
- All images should be high quality (approx. 300-720 pixels), especially photographs
- Do not use backgrounds, themes or watermarks with images or in documents
- Avoid the use/overuse of icons
- Images must have a caption or heading
- Avoid using screenshots or scanned images, but rather JPEGs, PNGs or platform format images (easier for screen readers to 'read')
- If no other option is available, the screenshots, scanned documents and photos need to be of a high quality
- All images **must** be referenced and include an alt-text (text alternatives for non-text content) description
- Provide a description for tables, graphs, and illustrations - in addition to alt-text
- Avoid any flashing images and text, and many or quick transitions in slides as these can be dangerous for some learners (epilepsy suffers), and distracting for others
- If possible, include a table in text format as well, as screen readers cannot 'read' tables i.e., provide sentences with the exact information contained in the table.

5. **Preparation of slides** (refer to points 2 and 3)

- Keep slides standardised
- Do **not** personalise slides (insert name of person who compiled slides or is presenting)
- Use TU Delft's slide template (on Power Points, select 'New' for templates)
- PowerPoint slides used for video recordings should not have a white background but a light grey background (hex code is #FFFFFF)
- Headings may be up to 24pt, **bold** and **CAPITAL** letters – if required
- Sub-headings may be up to 24pt and **CAPITAL** letters but not **bold**
- Text is **not bold** or in **CAPITAL** letters - use Arial 16 (up to 24) pt
- Avoid too many colours and images in your slides
- Summarise the content and only list relevant, important information (chunk content)
- Use the 7 x 7 rule for slides; no more than 7 lines per slide and no more than 7 words per line (less is even better)
- Clip art, images, videos and citations need to be referenced
- Animations, transitions and images should have a purpose, not be used for aesthetic purposes only
- Keep borders to a minimum
- Do not use full stops at the end of sentences
- Use solid black dots for bullets, or standardise if a different bullet style is used
- Use left alignment for text; do not justify
- Only use punctuation where grammatically required
- If using LaTeX for mathematical formulas, create transparent images and place them in your slides (in a textbox with a darker grey background)
- Images must include alt-text descriptions.

6. **Content and document preparation** should be presented in a uniform, structured manner for easy access and usability

- Ensure that documents have a title that is descriptive of the content
- Upload documents in Word or PDF format: a PDF is preferable as it is generally smaller in size and is

quicker to download

- PDF documents are preferable as they are easily used for text to audio using (for example) Adobe - Verify [PDF accessibility](#)
- Use Microsoft PowerPoint, Word, and Adobe to [check for accessibility of documents](#)
- If possible, post content within the course pages and, if a PDF is required, link to it only as a secondary source of the information
- Numbering should be sequential but kept to a minimum
- **Bulleted lists in documents** (be consistent in the structure, grammar and punctuation in a bulleted list and do not mix full sentences with single items or phrases)

When listing **single items**, use a colon (:) after the introductory sentence and omit any punctuation thereafter, for example

The following groups will have access:

- first-year students
- senior students
- postgraduate students

When listing **phrases/short sentences as part of the introductory sentence**, there is no colon (:) after the introductory sentence, each line starts with a small letter and ends with a semicolon (;), for example:

Lecturers are responsible for

- booking the computer laboratories;
- checking that students have registered;
- notifying students about scheduled times.

When listing **full sentences**, there is a colon after the introductory sentence. Each sentence starts with a capital letter and ends with a full stop for example:

The process for using the labs is as follows:

- Lecturer needs to book a computer lab for conducting experiments.
- All students have to download the required software in advance.
- Students need to be notified of the scheduled times at least a week in advance.

7. **Multimedia** makes courses interesting but equal access should be considered when creating /using it
  - Provide captions and other alternatives for multimedia such as subtitles for videos and transcripts for audio
  - Transcripts should be downloadable
  - URL links and credits for videos should be provided for students who require viewing on a special device (credit for videos: title, publisher, date when published and duration of video)
  - The duration of a video is ideally 6-8 minutes and should be specified for bandwidth and downloading purposes
  - Provide audio descriptions if a video has no audio
  - Supply instructions on how to enlarge a screen for viewing videos
  - Add video information: URL link, publisher, date published, duration of video (for downloading, version and credit purposes).
8. **Links** to content and external materials must be clearly labelled to avoid confusion
  - URL links should have a text that describes what is being linked for example, 'Course Syllabus'
  - Avoid using text such as 'download the Course Syllabus here'
  - For links that point to documents rather than web pages, include the document type in the link. For example, 'Supplemental Reading for Week 1 (EPUB)'. Screen reader users frequently browse lists of links or navigate web pages by moving from one link to the next
  - Links automatically appear in italics, in colour or are underlined; therefore, avoid doing this manually or bolding them.
9. **Tools** (all users must be able to use the recommended tools for educational purposes)
  - Vendor (and edX) accessibility statements must be provided for all tools/technologies used in a course
  - Tools must serve an educational purpose and not just be used for 'fun'

- Use only tried and tested tools that are accessible for all users
- You must inform students if a specific tool is required for the course before the course starts if they are required to download or link to any external tools, and if their data may be used by the vendor/third party. You can generally find this information in the 'terms and conditions' section at the bottom of a web- or tool page.

10. **Online live events** reach a larger audience by using closed caption and providing a recording of the session

- Invite your participants to contact you in advance if they have any special requirements or concerns
- Consider using tools that provide real-time captioning – [such as MSTeams](#)
- If you provide a recording, include subtitles and a transcript if possible
- When answering questions or giving instructions for an activity, ensure that they are covered in both spoken and written formats so that everyone is aware of what is going to happen and their role
- Share slides in PDF format (if presenter is willing to do so).

**Special requirements:** If you have special requests from learners and you are aware of their impairment/disability, you can take the following into account:

**Screen reader user and visually impaired person**

- Present information on image or video format only
- Spread content over the entire length of the page (horizontal)
- Actions must be doable with a mouse and keyboard (not mouse only) – keyboard supported navigation
- Supply links without information/descriptive wording
- Indicate procedure to allow for full screen/reduction

**Physical challenges**

- Avoid requesting too many/clustered fill-in blocks
- Avoid actions requiring a lot of mouse movements
- Avoid a lot of scrolling and mouse movements

**Dyslexia**

- Avoid large chunks of text
- Avoid bold, capital letters and underlining of text
- Avoid too much information on one page
- Avoid referring to content on a previous page/section

**Autism spectrum**

- Avoid too many colours that are not distinguishable from each other
- Do not use figurative speech
- Action buttons must be clearly marked

**Deaf or hard of hearing**

- Avoid figurative speech and use content in video format only

**Visually impaired**

- Avoid low colour contrast text
- Avoid supplying only information that needs to be downloaded
- Avoid too much content on one page and the use of colour to accentuate
- Avoid too much space between an instruction and an action that needs to be taken

**Inclusivity**

Avoid the use of personal pronouns related to gender as well as inferences to cultural, religious, or political groups. Consult the [TUD guidelines on Inclusive Language](#)

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