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ACCESS TO UNIVERSITIES FOR PEOPLE WITH DISABILITIES

O5 METHODOLOGY OF IMPLEMENTATION OF SUPPORT SERVICES INTO THE HEI SYSTEMS

Project ATU – Access to Universities for people with Disabilities
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1. LEGAL FRAMEWORK

The legal basis for each European HEI is represented by the existing European and local legal standards. An example of their analysis for accessibility issues in the case of the Czech Republic is here.

Based on these standards, it is necessary to clearly define:

1. **what is to be achieved legally and substantively** - the existing European and local standards define the minimum necessary, HEI's own standards may go beyond the existing framework where the existing legal framework does not exist or is too vague, an example at MU being:
    1. Rector's directive No. 9/2014 on the Studies of Persons with Special Needs at Masaryk University (this directive defines the fundamental principles of an accessible study environment together with key points, such as special needs, admission procedure, scope of competence, etc.; for the sake of context, a look at the general MU Study and Examination Regulations is useful);
    2. Rector's directive No. 8/2014 on Ensuring Accessibility to Masaryk University for Persons with Disabilities (this directive outlines the principles of accessibility at the university itself);
2. **which institutions and HEI's bodies are responsible for** achieving the objectives defined in point 1 and within what timeframe;
3. what **financial resources are available to the responsible institutions for the transformation of HEI** to achieve the planned objectives;
4. who is **responsible for the sustainability of the results** of the transformation described under point 1 and for any further development;
5. what **funding is available for sustainability and for further development.**

Example of HEI objective definition

Example of a broad definition of the goal

HEI subscribes to the principles of education for all. In order to achieve this goal, it is necessary to avoid objective or subjective exclusion that all those involved in education, i.e. applicants, students, graduates, teachers, researchers, administrative and technical staff of schools, face:

1. *the loss of life and career prospects needed for education and employment;*

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2. *the legal, physical or economic impossibility of applying to study in a particular educational programme or to work in a particular field;*
3. *the impossibility of participating in a particular educational programme in the manner envisaged or of carrying out work in a particular field of study because of the way in which the field is designed or the work is organised;*
4. *from a perceived or actual lack of meaningfulness and effectiveness of the education offered;*
5. *the legal unrecognisability of education obtained at another institution.*

With these risks in mind, HEI aims to prevent all inequalities that arise for higher education due to the following causes:

a. *disabilities due to medical or mental health conditions (exclusion types 1, 3, and 4 above),*
b. *racial, ethnic or national specificities (exclusion of all types),*
c. *language and culture (exclusion types 1, 3, 4, 5),*
d. *religious attitudes (exclusion types 1, 3, and 4),*
e. *political and other public attitudes (exclusion types 1, 2, and 4),,*
f. *wealth, economic status and social origin (type 2 exclusion),*
g. *gender and specific sexual orientation (type 1 exclusion),*
h. *pregnancy and parenthood (type 2, 3, 4 exclusion),*
i. *specific legal status, including temporary restrictions on certain rights that are not incompatible with education (type 2 exclusion).*

Example of a narrow definition of the goal

HEI subscribes to the principles of education for all. In order to achieve this goal, it is necessary to prevent the exclusion that prospective students or students suffer as a result of a disability due to health or mental specificities, manifested by the loss of life and career prospects necessary for education or the inability to participate in the expected way of studying in a particular educational programme due to the way the course is designed.

This document continues focusing on the prevention of risks of exclusion related to disabilities due to medical or mental health conditions (specified in the narrow definition), but it assumes a broad legal definition, namely a situation where HEI is aware that these risks are just a part of a much broader whole, which HEI must address at the same time but which is not the focus of this document.

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Examples of the definition of HEI's responsibilities

On the concept of accessibility in higher education, see the publication Inclusive Higher Education.

Example of the definition of indirect responsibility of a HEI

Model A (influenced by the medical approach):

- the responsibility for service arrangement is placed on the student rather than the HEI (*they know better*)
- university counsellors:
  - give advice on how to arrange services, but do not offer the services themselves (which are typically provided by volunteers, NGOs or other external service providers),
  - ensure the extra time during tests or examinations and
  - also working conditions for the external service staff (if invited by the student)
  - the school usually feels no responsibility for the type and quality of the services (just asking for feedback)

Example of the definition of direct responsibility of a HEI

Model B (more compatible with the social approach):

- the responsibility for service arrangement is placed on the HEI, and the student with disability is a key participant of the decision making process
- HEI creates:
  - ***universal design for learning*** and
  - in addition, offers a ***reasonable individual adjustment***, whenever it is needed,
- both counselling and services are provided by the HEI itself if possible,
- the quality of services is controlled by the HEI, not only by the department or teacher, as some types of activities can only be provided with the help of other departments or teams
- special training may be arranged for students with disabilities as a supplement/substitute for regular teaching in some courses, if needed

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Model B can be both **centralised** (at the HEI, one central team or body is responsible for all steps mentioned above) or **decentralised** (more teams and individuals are responsible for the services, typically by faculties and/or departments), but the key condition are:

- the responsibility for every step is clearly stated in a written document;
- all parts of this support system are controlled by the HEI, in order to avoid inconsistencies and gaps;
- costs of both counselling and services are clarified and money is clearly allocated to avoid the risk that the responsible persons tend to minimise their engagement

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2. UNIVERSAL DESIGN FOR LEARNING (UDL)

Universal design in general means:

- the design of products and environments that can be used by everyone, to the greatest possible extension, without the need for individual adaptations or special aids
- the principles of the Universal Design are:
    - equitable use
    - flexibility in use
    - simple and intuitive use
    - perceptible information
    - tolerance for error
    - low physical effort
    - size and space for approach and use

Universal design for learning (UDL) means:

- **universal design of the HEI as an institution**, i.e. both physical and virtual environment accessible for all (including the skills of the staff to offer services and advice on how to use the environment);

- **universal design of the study programmes,** i. e. communication channels, tools and methods including clearly defined target groups, prerequisites, requirements during the study process and **accessible and usable information sources**.

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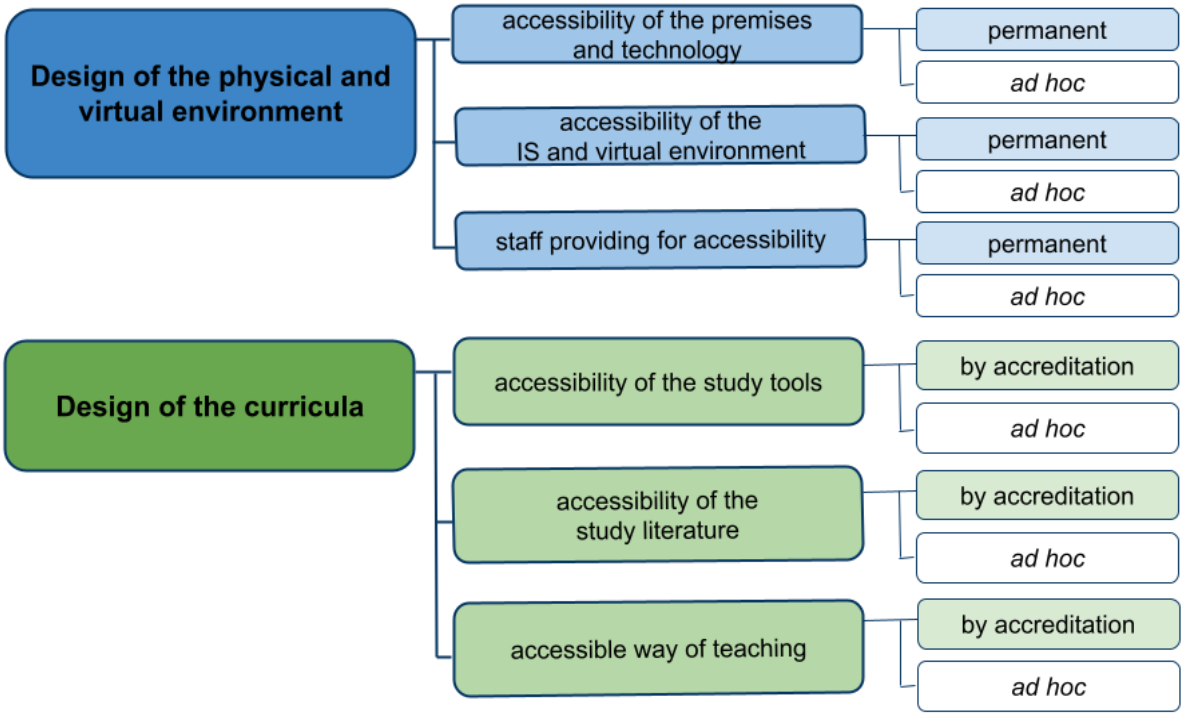

Legal limit of the accessible curricula

- by default, all study programmes are supposed to be accessible for all;
- it is not against the principle of the education for all if, in specific cases, the key principle of a study programme requires a specific skill (such as certain intellect, experience, sensorial or tactile perception, etc.) of applicants and consequently, not all applicants are eligible;
- however, the above-mentioned requirement must be clearly stated since the beginning (not ad hoc) and published for anybody to check if such a prerequisite makes sense;
- in these specific situations, HEI checks solely the compatibility of the applicant with the study programme, not the compatibility with a possible professional activity (as these may vary in time and according to unpredictable context).

Inclusive teaching, learning and assessment methods:

- multiple means of engagement (to motivate learners),

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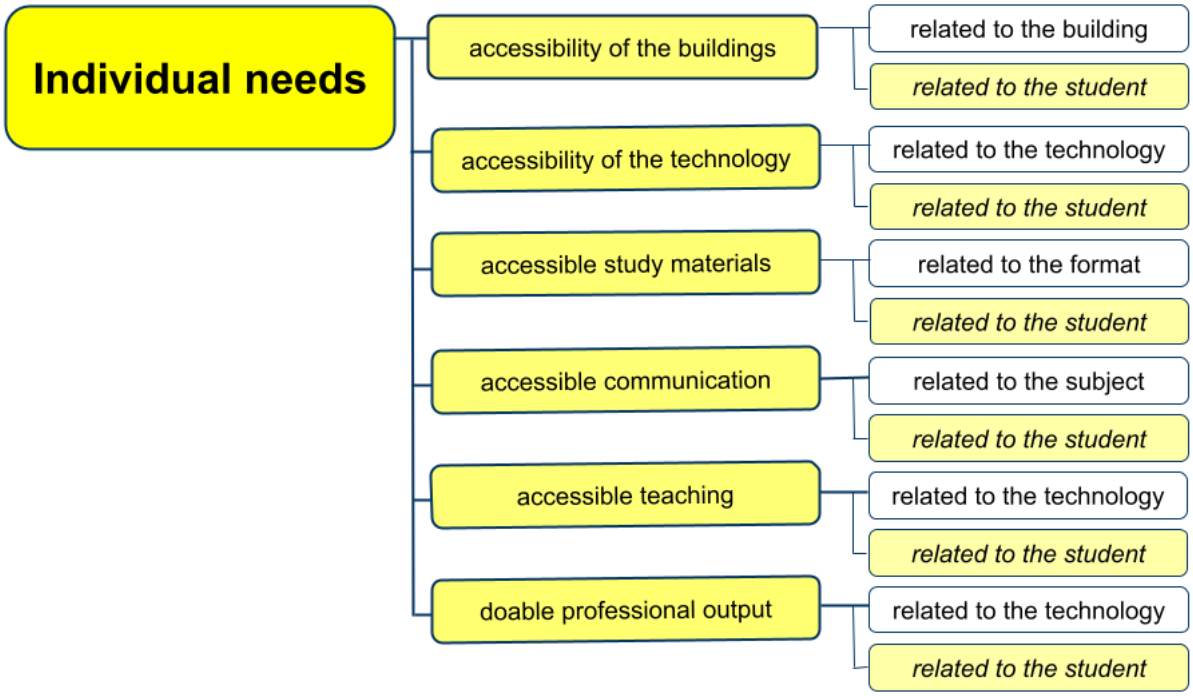
- multiple means of representation (to address different needs and preferred learning styles),
- multiple means of action and expression (to optimize learning processes and offer different options to demonstrate knowledge and skills).

Insurmountable limit of the UDL:

If a feature parameter needed for one group of users creates a barrier for another group, it must not be included into the universal design; it may thus be offered as an alternative, or it is supposed to be solved by means of individual adjustment.

Individual adjustment (reasonable accommodation)

Individual adjustments **should cover all situations that cannot be covered by the** ***universal design*** (typically, if a required feature does not help all but creates a barrier for somebody).



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Auxiliary educational professions are required to enable these adjustments, for example:

- specialists in **assistive technologies**,
- methodological **specialists in various academic fields** with regard to the specific group of users (e.g. geometry for the blind, logic for the deaf, etc.)
- specialists in **creating study materials** in a specific code (e.g. tactile geometry books, philosophy in local sign language, etc.)
- **communication mediators** in specific codes (e.g. digitalization of visual documents, distribution of alternative documents through online libraries, sign language interpreting, visualisation of spoken language, etc.)

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3. ACCESSIBILITY CHECKLIST

3.1. Checklist arranged by environments and processes

The most common features of (a) **universal design for learning** and (b) barriers to be solved as an **individual accommodation** are described in chapter 2.6 of the guidebook *Inclusive Higher Education*.

3.1.1. Accessible physical environment

- **universal design for learning**
    - **international standards for built environment** to be respected: ISO 21542:2021 Building construction — Accessibility and usability of the built environment
    - in addition to the ISO standard, national standards should be checked, especially as far as accessibility and usability of the equipment is concerned
    - these standards (both international and national) cannot offer more than the universal design, that is why the key point for making the environment accessible is to **monitor the situation systematically** and to **publish exact information** concerning parameters of the environment (not just a generic assessment accessible/not accessible), to help people make their individual assessment online, see MU Virtual Guide
- **individual adjustments**
    - individual adjustments of buildings (temporary platforms, portable stairlifts, etc.) can temporarily go beyond the universal design
    - temporary or individual adjustments of furniture and technical equipment (adjustable furniture, adjustable lights, laboratory equipment operated alternatively) represent a very sensitive issue, as they must be compatible with the security measures valid for the specific professional environment
    - transportation on demand (wheelchair accessible taxi, powered stair climber, etc.) should be offered if the parameters of the public transport and/or the built environment do not satisfy individual needs (which can logically happen even though these parameters meet the standards of the universal design)

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- organisational re-arrangement usually helps to transfer the activities in a more appropriate room, area, etc.
- personal and/or pedagogical assistance should be arranged if needed

3.1.2. Accessible virtual environment

- **universal design for learning**
  - international standards for information systems: Web Content Accessibility Guidelines and Authoring Tool Accessibility Guidelines (W3C: World Wide Web Consortium)
  - in addition to the WCAG standards, national standards should be checked, especially as far as accessibility and usability of specific types of software is concerned
  - these standards (both international and national) cannot offer more than the universal design, that is why the key point for making the environment accessible is to **monitor the virtual environment systematically** in order to remove the existing barriers or to offer an alternative if needed (a quick reference guide on testing the web accessibility is published here by the Utah State University)
- **individual adjustments**
  - if there is no systematic monitoring of the virtual environments, an *ad hoc* accessibility checker of a specific web site may be needed
  - temporary individual adjustments of the IT/AT settings may require professional advice or changes done by administrators
  - alternative systems and/or applications may be needed if available individual settings of the mainstream system or application do not satisfy specific needs
  - personal and/or pedagogical assistance should be arranged if needed

3.1.3. Accessible visual communication (documents)

- **universal design for learning:**

  Principles of accessible educational materials are outlined in chapter 3.3, chapter 3.4 and chapter 3.5 of the guidebook *Inclusive Higher Education*.

  - no printed material (just as an individual adjustment for sighted)

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- international standards for PDF: ISO 14289-1:2014 Document management applications — Electronic document file format enhancement for accessibility — Part 1: Use of ISO 32000-1 (PDF/UA-1)
- for other types of documents, the following principles should be respected:
  - identification of document language(s)
  - semantic tagging of headings
  - use of lists
  - use of meaningful hyperlinks
  - wise use of tables
  - alternate descriptions to images
  - captioning and alternative description of the audio layer

- **individual adjustments:**
  - **persons with visual impairment**
    - electronic materials (texts, tables, graphics) that can be visually modified and/or read by means of a speech output or tactile output are no individual adjustments, they should be considered as a default part of universal design
    - any printed material should be considered as an individual adjustment for sighted persons; printed materials in visually modified format (individually enlarged print, modified contrast or colours etc.) may be requested by partially sighted people for examinations and testing, while in case of study materials it is recommended to let these people themselves produce such formats individually if needed
    - tactile documents on physical media (braille text, tables, tactile graphics and maps, 3D printing) may be requested by blind people for examinations and testing (see Principles of tactile graphics production and Tactile maps and graphics); in case of texts as study materials it is recommended to let these people themselves produce such formats individually, if really needed
    - audio descriptions of purely visual activities in video material and movies may be needed
    - personal reader only in emergency situations
  - **persons with hearing impairment**
    - bilingual document with translation in local sign language or in the international sign system may be helpful for native sign language speakers to avoid misunderstanding in case of more complex texts (directives, security instructions)

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- **persons with mobility impairment**
  - electronic materials (texts, tables, graphics) that can be easily handled or handled alternatively (by voice, etc.) are no individual adjustments, they should be considered as default part of universal design (see above)
  - creating an environment that allows eye level communication with wheelchair users
  - personal assistant if needed
- **persons with learning differences**
  - electronic materials (texts, tables, graphics) that can be visually modified and/or read by means of a speech output) are no individual adjustments, they should be considered as a default part of universal design (see above)

3.1.4. Accessible audio communication

- **universal design for learning**
  - good quality acoustics in all teaching and meeting rooms
  - built-in induction loops in teaching and meeting rooms
  - no doorphones in buildings
  - captioning and alternative description of the audio documents or audio layers of other media
- **individual adjustments for persons with hearing impairment**
  - temporary inductions loops, headphones, FM systems and other digital hearing aids
  - temporarily changing visual and spatial disposition to improve lip-reading or usage of a personal hearing aid
  - in both physical and virtual environment, visualisation of the speech is needed:
    - by means of visible articulation (for hard-of-hearing)
    - by captions (speech-to-text recording, communication access real-time translation), signed language, cued speech, etc. (for hard-of-hearing)
    - by interpreting in a local sign language or international sign system (for the sign language users)
  - personal note-taker may be helpful or needed for persons using only visual channel for the communication

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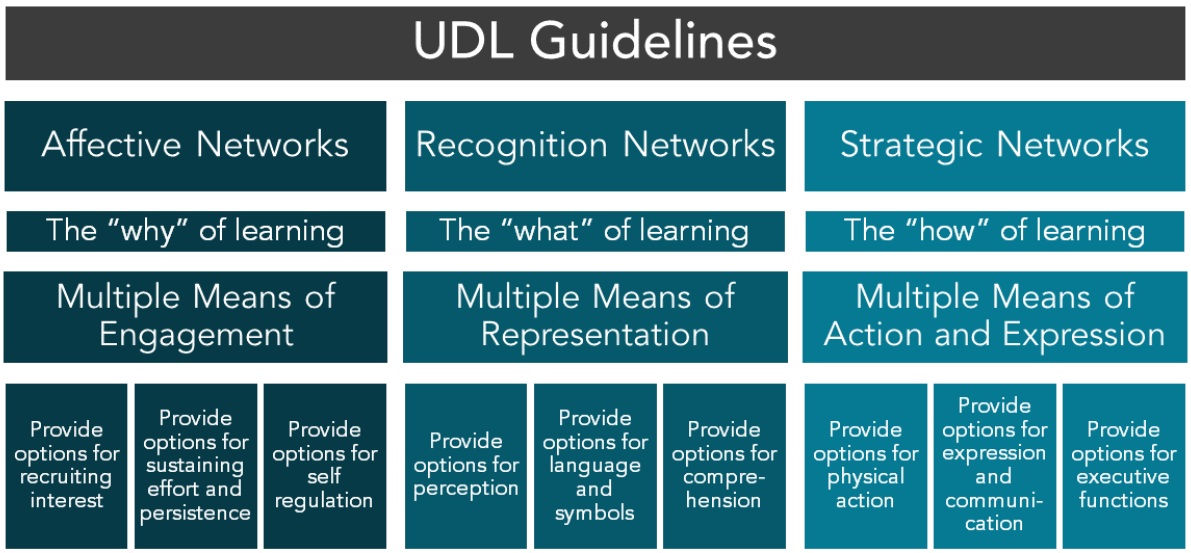
- logopedical training (with the support of phonetic transcription and/or cued speech system) for the sign language users and the hard-of-hearing who may wish to be trained in pronunciation of spoken foreign languages (by default, sign language speakers are not supposed to speak orally)

3.1.5. Teaching, learning and assessment methods

- **universal design for learning**
  - teaching staff must be trained to offer:
    - multiple means of engagement (to motivate learners),
    - multiple means of representation (to address different needs and preferred learning styles),
    - multiple means of action and expression (to optimise learning processes and offer different options to demonstrate knowledge and skills).



A visual representation of the UDL Guidelines; figure source.

  - special staff should be trained and be ready to offer pedagogical, psychological and technological counselling, and, if needed for increased efficiency, specifically designed courses for students with special needs can be offered
  - assistive technologies available
  - extra time for examinations, testing or other activities to be done in limited time; this extra time should never be calculated in a generic way, but individually in each situation, taking into account the type of disability

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and specific activity (its purpose is just to enable usage of assistive technologies and alternative or compensation strategies)

- **individual adjustments**
  - **students with visual impairment**
    - tactile signage, tactile maps and orientation training in an unknown environment (both physical and virtual)
    - individual teaching of visually oriented subjects (mathematics, sciences, geography, anatomy, history of art, musicology etc.) and subjects based on inaccessible technological principles (e.g. pointing devices in IT etc.); for more information on teaching mathematics see the PLATINUM project publication Inquiry in University Mathematics Teaching and Learning
    - accessible electronic materials may need to be reformatted, converted, modified and perceived in alternative formats
    - training proper usage of assistive technology and alternative systems, applications, or graphics etc. (see above) is usually needed
    - training physical behaviour and gestures during presentations, body language etc.
  - **students with hearing impairment**
    - individual teaching of orally or acoustically oriented subjects (foreign languages, music and dance, team sports etc.) and subjects based on inaccessible technological principles (audio communication needed etc.)
    - individual teaching of the local and foreign sign language (or international sign system) to improve academic skills of sign language users
    - training academic reading and writing in both local language and English
    - training public presentations by means of an interpreter etc.
    - personal note-taker if needed
  - **students with mobility impairment**
    - training proper usage of assistive technology and alternative systems, applications etc.
    - training presentations, body language etc.
    - personal note-taker and general personal assistance if needed
  - **students with learning differences**

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- training proper usage of assistive technology for reading and writing (marking, adjusting colours, fonts, typesetting, using spellchecker, screen reader with speech output)
- training compensation strategies in academic reading and writing, both in local language and English (in case of dyslexia), in calculating (dyscalculia) etc.

- **students with psychological and other difficulties**
  - regular consultations and psychotherapies to overcome the stress situations
  - training in time management systems or other assistive technology; specific time schedule if needed
  - training strategies for presentations, body language etc.
  - attending classes online and/or individual arrangement for presentations and examinations to overcome stress situations

3.2. Checklist arranged by impairment type

3.2.1. Students with visual impairment

Accessible physical environment

- **universal design for learning**
  - compatibility with both ISO (see above) and national standards for buildings and accessible technology (tactile and audio interface)
  - accessible public transportation (navigation lines, sounded crossings, audio announcements)

- **individual adjustments**
  - orientation training in an unknown environment
  - electronic or tactile navigation/orientation systems and signage
  - tactile maps
  - personal assistance if needed

Accessible virtual environment

- **universal design for learning**
  - compatibility with the Web Content Accessibility Guidelines and Authoring Tool Accessibility Guidelines (W3C: World Wide Web Consortium)
  - other principles can be taken from a useful resource designed by the University of Washington

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- **individual adjustments**
    - temporary adjustments of the IT/AT settings
    - alternative systems and/or applications
    - personal and/or pedagogical assistance if needed

Accessible visual communication

- **universal design for learning**
    - no printed material (just as an individual adjustment for sighted)
    - producing accessible electronic texts and tables (international standards for PDF: ISO 14289-1:2014 Document management applications — Electronic document file format enhancement for accessibility — Part 1: Use of ISO 32000-1 (PDF/UA-1), for other types of documents, rules basically identical with the Web Content Accessibility Guidelines, see above)
    - both teaching and administrative staff should be trained in principles of communication with the blind and partially sighted

- **individual adjustments**
    - printed materials in visually modified format (enlarged, modified contrast or colours)
    - tactile documents on physical media (braille text, tables, tactile graphics and maps, 3D printing), see Principles of tactile graphics production and Tactile maps and graphics
    - audio descriptions of purely visual activities in video material and movies may be needed
    - personal reader in emergency situations

Accessible audio communication

- **universal design for learning**
    - compatibility of the audio channel (natural sound in the room, audio layer in a text document) with the speech output of blind readers and in a similar way, compatibility of the audio descriptions as alternative to visual information with audio in background

- **individual adjustments**
    - headphones to separate different audio channels (speech output and audio descriptions vs. mainstream audio in background)

Teaching, learning and assessment methods

- **universal design for learning**

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- both pedagogical and auxiliary special staff trained and ready to offer specific courses and counselling
- accessible or assistive technologies available
- extra time for examinations, testing etc.

- **individual adjustments**
  - tactile signage, tactile maps and orientation training in an unknown environment (both physical and virtual)
  - individual teaching of visually oriented subjects (mathematics, sciences, geography, anatomy, history of art etc.) and subjects based on inaccessible technological principles (pointing devices in IT etc.); for more information on teaching mathematics see the PLATINUM project publication Inquiry in University Mathematics Teaching and Learning
  - accessible electronic materials may need to be reformatted, converted, modified and perceived in alternative formats
  - training proper usage of assistive technology and alternative systems, applications, or graphics etc. (see above) is usually needed
  - training physical behaviour and gestures during presentations, body language etc.

3.2.2. Students with hearing impairment

Accessible physical environment

- **universal design for learning**
  - compatibility with both ISO (see above) and national standards for buildings and accessible technology (loops, no doorphones or alternatives to them)
  - no obstacles for general visual contact with all
- **individual adjustments**
  - individual alternatives to doorphones
  - visual bells

Accessible virtual environment

- **universal design for learning**
  - alternative description of the audio layer
  - captioning systems in video conferences and movies
- **individual adjustments**

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- individual captioning alternative description of the audio layer on demand
- virtual environment for the Deaf (no written language)
- sign language dictionaries online

Accessible visual communication

- **universal design for learning**
  - creating and respecting conditions and principles that enable lip-reading and the use of sign language (adequate lighting, proximity, body language, elimination of physical barriers, etc.)
  - both teaching and administrative staff in principles of communication with the deaf a hard-of-hearing
- **individual adjustments**
  - respecting specific seating arrangement to improve visual communication

Accessible audio communication

- **universal design for learning**
  - accessibility of the audio communication in both physical and virtual environment (quality acoustics, built-in induction loops)
  - captioning and alternative description of the audio documents or audio layers of other media
  - other principles can be seen in a useful resource designed by the University of Washington
- **individual adjustments**
  - temporary induction loops, headphones, FM systems, and other digital hearing aids
  - temporarily changing visual and spatial disposition to improve lip-reading or usage of a personal hearing aid
  - in both physical and virtual environment, visualisation of the speech is needed:
    - by means of visible articulation (for hard-of-hearing)
    - by captions (speech-to-text recording, communication access real-time translation), signed language, cued speech, etc. (for hard-of-hearing)
    - by interpreting in a local sign language or international sign system (for the sign language users)
  - personal note-taker may be helpful or needed for persons using only visual channel for the communication

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- logopedical training (with the support of phonetic transcription and/or cued speech system) for the sign language users and the hard-of-hearing who may wish to be trained in pronunciation of spoken foreign languages (by default, sign language speakers are not supposed to express themselves orally)

Teaching, learning and assessment methods

- **universal design for learning**
  - both pedagogical and auxiliary special staff trained and ready to offer specific courses and counselling
  - accessible or assistive technologies available
  - extra time for examinations, testing etc.
- **individual adjustments**
  - individual teaching of orally or acoustically oriented subjects (foreign languages, music and dance, team sports etc.) and subjects based on inaccessible technological principles (audio communication needed etc.)
  - individual teaching of the local and foreign sign language (or international sign system) to improve academic skills of sign language users
  - training academic reading and writing in both local language and English
  - training public presentations by means of an interpreter etc.
  - personal note-taker if needed

3.2.3. Students with mobility impairment

Accessible physical environment

- **universal design for learning**
  - compatibility with both ISO (see above) and national standards for buildings and accessible technology/equipment (accessible entrances, ramps, lifts)
  - accessible public transportation (accessible stops, barrier-free vehicles, ramps)
  - monitoring the situation and publishing up-to-date information for users to assess the situation according to current circumstances (see MU Virtual Guide)
- **individual adjustments**
  - temporary adjustment of buildings, furniture or equipment (temporary platforms, portable stairlifts etc.)

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- personal and/or pedagogical assistance if needed

Accessible virtual environment

- **universal design for learning**
  - compatibility with the Web Content Accessibility Guidelines and Authoring Tool Accessibility Guidelines (W3C: World Wide Web Consortium)
  - accessibility and usability of the applications (e.g. the ability to be operated via the keyboard; for more information in case of websites, see the University of Washington resource on Keyboard accessibility)
- **individual adjustments**
  - temporary adjustment of the settings
  - alternative systems and/or applications
  - personal and/or pedagogical assistance if needed

Accessible visual communication

- **universal design for learning**
  - no printed material (just as an individual adjustment)
  - producing accessible electronic texts and tables (international standards for PDF: ISO 14289-1:2014 Document management applications — Electronic document file format enhancement for accessibility — Part 1: Use of ISO 32000-1 (PDF/UA-1), for other types of documents, rules basically identical with the Web Content Accessibility Guidelines, see above)
  - supplying materials beforehand for better orientation in the their structure and how to handle them
- **individual adjustments**
  - electronic materials (texts, tables, graphics) that can be easily handled or handled alternatively (by voice, etc.) are no individual adjustments, they should be considered as default part of universal design (see above)
  - creating an environment that allows eye level communication with wheelchair users
  - personal assistant if needed

Accessible audio communication

- **universal design for learning**

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    - supplying materials beforehand for better orientation in the their structure and how to handle them
- **individual adjustments**
    - creating an environment that allows eye level communication with wheelchair users
    - personal note-taker if needed

Teaching, learning and assessment methods

- **universal design for learning**
    - both pedagogical and auxiliary special staff trained and ready to offer specific courses and counselling
    - accessible or assistive technologies available
    - extra time for examinations, testing, etc.
- **individual adjustments**
    - training proper usage of assistive technology and alternative systems, applications etc.
    - training presentations, body language, etc.
    - personal note-taker and general personal assistance if needed

3.2.4. Students with learning differences

Accessible physical environment

- **universal design for learning**
    - compatibility with both ISO (see above) and national standards for buildings (especially the signage system within the buildings)
- **individual adjustments**
    - personal assistance if necessary

Accessible virtual environment

- **universal design for learning**
    - compatibility with the Web Content Accessibility Guidelines and Authoring Tool Accessibility Guidelines (W3C: World Wide Web Consortium)
    - accessibility and usability of the applications
    - options to customise the environment (websites and other materials) to improve readability of the resources
    - availability of the assistive technologies (such as ClaroRead)
- **individual adjustments**
    - temporary adjustments of the IT/AT settings

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- alternative systems and/or applications
- personal and/or pedagogical assistance if needed

Accessible visual communication

- **universal design for learning**
  - printed material just as an individual adjustment (especially for severe cases of specific learning differences)
  - producing accessible electronic texts and tables (international standards for PDF: ISO 14289-1:2014 Document management applications — Electronic document file format enhancement for accessibility — Part 1: Use of ISO 32000-1 (PDF/UA-1), for other types of documents, rules basically identical with the Web Content Accessibility Guidelines, see above)
- **individual adjustments**
  - electronic materials (texts, tables, graphics) as an alternative to the printed ones (to be visually modified and/or read by means of a speech output)

Accessible audio communication

- **universal design for learning**
  - compatibility of the audio channel (natural sound in the room, audio layer in a text document) with the speech output of dyslexic people
- **individual adjustments**
  - headphones to separate different audio channels (speech output vs. mainstream audio in background)

Teaching, learning and assessment methods

- **universal design for learning**
  - special staff trained and ready to offer specific courses and counselling
  - assistive technologies available (speech-to-text software etc.)
  - extra time for examinations, testing, etc.
- **individual adjustments**
  - training proper usage of assistive technology for reading and writing, effective usage of spellchecker, etc.
  - training academic reading and writing

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3.2.5. Students with psychological and other difficulties

Accessible physical environment

- **universal design for learning**
  - flexible seating arrangements within classrooms
  - premises for self-study in a quiet environment
- **individual adjustments**
  - quiet environment available in a separate room(s) or building(s)
  - personal assistance if needed (especially for ADD/ADHD students)

Accessible virtual environment

- **universal design for learning**
  - compatibility with the Web Content Accessibility Guidelines and Authoring Tool Accessibility Guidelines (W3C: World Wide Web Consortium)
  - accessibility and usability of the applications
  - flexibility in participating in the virtual environment (allowing the camera to be off, participation through chat, etc.)
- **individual adjustments**
  - individual agreement on video conferencing (not requiring the camera to be turned on constantly during online meetings on individual basis, etc.)

Accessible visual communication

- **universal design for learning**
  - printed material just as an individual adjustment (especially for severe cases of specific learning differences)
  - producing accessible electronic texts and tables
  - visual information accompanied with auditory commentary
  - providing clear and structured information on the range of required literature (making sure what is required and what is optional)
- **individual adjustments**
  - individual consultations to clarify unclear information in the materials

Teaching, learning and assessment methods

- **universal design for learning**
  - special staff trained and ready to offer specific courses and counselling

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- assistive technologies available (speech-to-text software etc.)
- extra time for examinations, testing etc.

- **individual adjustments**
  - regular consultations and psychotherapies to overcome the stress situations
  - training in time management systems or other assistive technology
  - training presentations, body language etc.
  - administering exams in separate premises with individual proctoring

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