Use Case #1

Understanding and evaluating digital healthcare

Learning Outcomes: Understand use and functions of digitalisation in healthcare, distinguish between institution-related/(institution-)comprehensive/patient-related concepts and solutions, understand basic functioning of intelligent decision-making and support systems, identify relevant ethical and data protection requirements in the development and use, explain and apply research approaches for evaluation from a user or systemic perspective

Tasks & Activities:

Lecture	Project Work	Field Trip	Organizational Aspects
• Theoretical background of digital technologies and their application in the health sector • Presentation of various concepts and approaches to digital rehabilitation	• Group project on online therapy or chatbots or augmented reality within healthcare or physiotherapy (education) • Development of a prototype applicable for e.g. examination, intervention, monitoring, evaluation, education	• Visit of the exhibition "MediCare" (Düsseldorf) to get to know the latest technologies • Opportunity to make contact with exhibitors for future career	• 6 ETCS: Master programme • Teaching hours (45-60min.): 40 hours • Attendance time for learners (total): 60 hours (40 hours lecture and 20 hours Skills Lab) • Self-study time for learners: 120 hours • Max. 30 participants

Used Tools and Software: Zoom for presentation and project work, Padlet for online collaboration in lectures (brainstorming etc.), in-house Learning Management System for file sharing, Voiceflow and HoloLens 2 used in project groups

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Use Case #2

Understanding and evaluating assistive technologies

Learning Outcomes: Understand concepts of assistive technologies, understand the different types and settings used for different disabilities to design a personalized rehabilitation plan, understand how to operate the various types and features of environmental control systems, demonstrate and apply knowledge about assistive technology in an evaluation of an assistive technology device and case studies

Tasks & Activities:

Lecture	Self-directed Learning	Case Study	Organizational Aspects
• Introduction to eHealth and assistive technologies (types, characteristics, main categories) • Effective use of assistive technology devices (electric wheelchairs etc.) • Presentations by guest lecturers (field experts etc.)	• Watching videos on the discussed topics • Preparation of the case study for the final assignment • Optional: mentoring via e-mail or MS Teams	• Students prepare and present an evaluation of an assistive technology device (group work) • Students design an appropriate technological environment for the use of assistive technology in the case study	6 ECTS (180 hours in total): Bachelor programme Teaching hours (45-60min.): 4 hours/week (13 weeks) Attendance time for learners: 52 hours • Self-study time for learners: 18 hours • About 120 participants

Used Tools and Software: MS Word/Excel/PowerPoint for presentation and online collaboration, MS Teams for lectures and mentoring, MS OneDrive and in-house Learning Management System for file sharing, digital documents (e.g. infographics and reports of professional societies), videos and podcasts for self-directed learning

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Use Case #3

Utilising digital environments for rehab. counselling

Learning Outcomes: Define social digital networks from the perspective of one's own profession and in working with customers, utilise digital environments and digital working practices, guide clients to use digital services, instruct the safe use of different digital environments

Tasks & Activities:

Self-directed preparation	Synchronous course work	Group Assignment	Organizational Aspects
• Watch videos and recordings • Elaborate discussion questions • Self-directed search and presentation preparation (mindmaps etc.) • Self-directed preparation in the course topics	• Introduction to course topics • Discussion of the course topics • Reflection and discussion of the elaborated discussion questions	• Students evaluate the accessibility of selected websites from different perspectives (healthy users, users with different disabilities) • Students perform screenreader testings	• 5 ECTS: Bachelor programme • Teaching hours (45-60min.): 14 hours per week • Attendance time for learners: 28 hours • Self-study time for learners: 72 hours • Max. 20-30 participants

Used Tools and Software: Zoom for presentation and group work, Padlet/Flinga/Mentimeter for online collaboration and participation, in-house Learning Management System for video and file sharing, Windows Easy Access functions, Sotepeda247 Website (https://sotepeda247.fi/), different open course material libraries

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Use Case #4

Understanding and performing telehealth sessions

Learning Outcomes: Understand concepts of digital rehabilitation and telehealth via videoconferencing, understand differences in online HCP-client interactions, plan a telehealth session, apply different communication styles for the online context, conduct online assessment, care planning and management

Tasks & Activities:

Lecture	Self-directed Learning	Simulation of a telehealth video session	Organizational Aspects
• Introduction to digital rehabilitation and telehealth • How to conduct telehealth using video-conference tools	• Digital rehabilitation modalities • Getting to know telehealth and conference tools and platforms	• Students prepare and plan a session for a simulated patient (played by another student) • Simulation of assessment, care planning and management / health education • Evaluation of both students	• 12 ECTS (activity 1 ECTS): Bachelor programme • Teaching hours (45-60min): 4 hours (2 lecture, 1 follow-up, 1 evaluation) • Attendance time for learners: 4 hours (2 lecture, 1 follow-up, 1 evaluation) • Self-study time for learners: 24 hours; 50 participants

Used Tools and Software: MS PowerPoint for presentation, Zoom for lectures, digital documents (e.g. infographics and reports of professional societies, assessment checklists), videos and podcasts for self-directed learning, Telehealth Toolbox Website (https://telehealthtoolbox.org/), Physiotec telehealth platform (education license)

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Use Case #5

Simulating and reflecting on digital rehab. settings

Learning Outcomes: Prepare a digital rehabilitation setting, simulate a digital rehabilitation situation and reflect on it, choose adequate ICT tools and use them effectively, establish a collaborative relationship with a client, their family, and the interprofessional team, communicate effectively with all involved stakeholders, applied social-communicative competencies and work in a team

Tasks & Activities:

Lecture	Field Trips	Group Assignment	Organizational Aspects
• Introduction to course topics • Filling in a document with reflective questions after lectures	• Visits to different work settings	• Preparation of a situation where digital rehabilitation is used • simulation of rehabilitation (role play) • Reflection on experience and procedure	• 1 ETCS: Bachelor progr. • Teaching hours (45-60min.): 8 hours • Attendance time for learners: 6 hours • Self-study time for learners: 12 hours • Max. 30-60 participants

Used Tools and Software: MS Teams for videoconferencing, MS PowerPoint for presentation, krankheitserfahrungen.de Website (https://www.krankheitserfahrungen.de/), in-house Learning Management System for file sharing and presentation of the attending students with photo and short description (students from multiple study programmes), digital “learning diary” (e.g. in Learning Management System)

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Use Case #6

Utilising mobile learning in digital rehabilitation

Learning Outcomes: Understand the rationale of utilising mobile learning in digital rehabilitation, understand the digitalization structure of different countries and regions, analyse and discuss the potential and benefits of mobile learning in digital rehabilitation, improve education and learning using mobile devices in Sub-Saharan countries

Tasks & Activities:

Lecture	Interactive Group Work	Assignment	Organizational Aspects
• Prerequisites of mobile learning (connectivity, devices, internet availability, digital literacy) • maximize potentials of delivering mobile contents (simple, complete, engaging)	• Brainstorming: importance of availability of mobile devices for the population • Visual representation of an improved flow of education content using mobile devices	• Preparation of a short course on rehabilitation for delivery on mobile devices	• Bachelor/Master progr. • Teaching hours (45-60min.): 90min. • Attendance time for learners: 30min. • Self-study time for learners: 60min. • Min. 15-20 participants

Used Tools and Software: MS PowerPoint for presentation, Google forms, MS Teams and Zoom for group works and lectures, WhatsApp and telephone calls for communication, videos for delivering content

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Use Case #7

Using simulation pedagogy in digital guidance

Learning Outcomes: Training the client guidance using a digital rehabilitation platform. Evaluate the usability and usefulness of a digital rehabilitation platform in different kind of client situations.

Tasks & Activities:

Orientation and planning	Simulation	Self-reflection and feedback	Organizational Aspects
• Getting familiar with the case (individual work) • Planning the guidance situation in group • Dividing roles (client*, professional and observer/peer student)	• Client and professional work in the digital rehabilitation platform performing the tasks defined in the orientation and planning phase • Observer/peer student monitor the working and make the notes	• Short self-reflection and feedback from all the participants starting with student(s) who are performing the task(s)	• 6 ETCS: Master programme • Teaching hours (45-60min.): 40 hours • Attendance time for learners (total): 60 hours (40 hours lecture and 20 hours Skills Lab) • Self-study time for learners: 120 hours; Max. 30 participants

Used Tools and Software: Zoom, digital rehabilitation platform (e.g. www.physitrack.com). Simulation can be recorded and the recording can be watched during the feedback discussion. Tools and questionnaires related to usability can be used right after the situation (e.g. www.measuringux.com/SUS.pdf). More about simulation-based learning e.g. Lateef F. (2010). Simulation-based learning: Just like the real thing. Journal of emergencies, trauma, and shock, 3(4), 348–352. https://doi.org/10.4103/0974-2700.70743

(*it is possible to use also outsider/actor instead of peer student)

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