LLUI

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MASTER OF SCIENCE
PRECISION NEUROREHABILITATION (PNR)

Information

VISION

A rehabilitation landscape which meets the demands of personalized neurorehabilitation treatment in a novel technology driven continuum of care.

Data analytic frameworks

Digital transformation

Digital twins

Motor rehabilitation

Big data analytics

Rehabilitation robotics

TECHNOLOGY

REHABILITATION THERAPY

Self learning systems

PNR

Tailored therapy concept

Evidence based

Continous progress evaluation

Personalized feedback

PATIENT

Life long interventions

Continuum of care

WE SHAPE THE FUTURE LANDSCAPE OF MODERN PRECISION REHABILITATION.

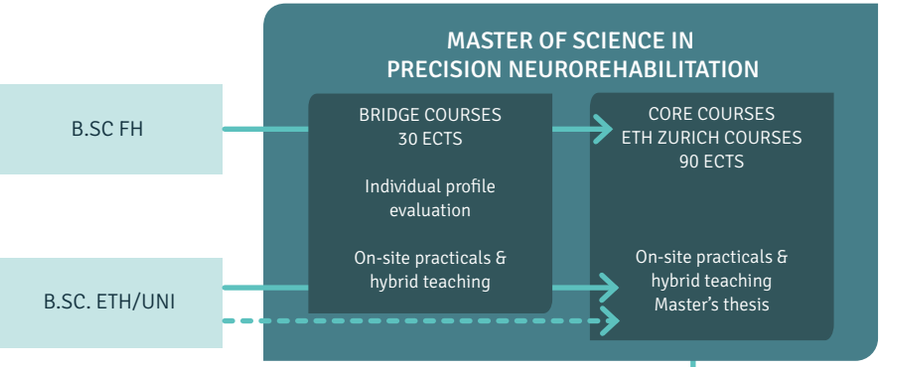
MISSION

Educate healthcare practitioners in the professional, methodological, and social competences needed to thrive at the intersection of neurorehabilitation therapy and engineering.

MASTER OF SCIENCE IN PRECISION NEUROREHABILITATION AT LAKE LUCERNE INSTITUTE, VITZNAU

Onsite bootcamps, workshops & lectures	Hands-on experience in cutting edge rehabilitation	Hybrid teaching blocks	Vitznau, LU, Switzerland

All teaching and course material is in English.



ACCESS TO VARIOUS PROFESSIONS

- Research scientist
- Rehabilitation engineer
- Digital health / technology advisor
- Therapist with specialization in technology and robotics

REGISTRATION

www.llui.org/education

ANY QUESTIONS?

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Education coordinator
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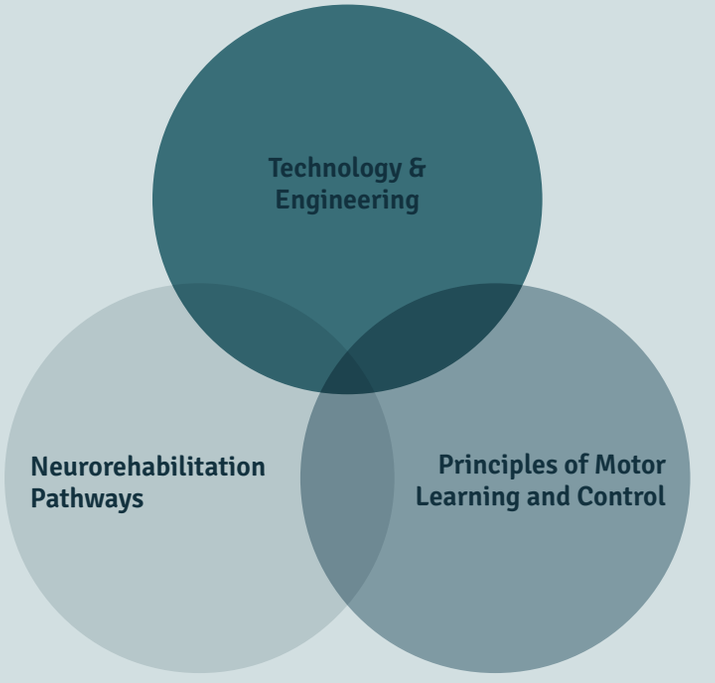
PRECISION NEUROREHABILITATION COMPETENCES

The masters program uniquely equips students with comprehensive knowledge and practical skills, positioning them at the forefront of healthcare and technology advancements.

Gain in-depth expertise in concepts and methodologies in neurorehabilitation, engineering, and applied movement science. Learn to use this expertise to effectively implement a technology-driven approach to precision neurorehabilitation.

Acquire the competences to critically analyze and evaluate evidence-based practices and scientific findings, fostering a reflective and informed approach to professional decision-making.

Acquire communication and professional skills to lead teams in a variety of healthcare settings and across the neurorehabilitation industry.



LEARN IN A UNIQUE ENVIRONMENT

Our curriculum is closely aligned with our clinical partner, the cereneo Center for Neurology and Rehabilitation and complemented by courses audited as guest student at ETH Zürich

cereneo CENTER FOR NEUROLOGY & REHABILITATION ↔ LLUI ↔ ETH zürich

Through a dynamic curriculum, hands-on experiences, and interdisciplinary collaboration, the MSc in Precision Neurorehabilitation will contribute meaningfully to the rapidly evolving landscape of neurorehabilitation and engineering integration.

LEARNING CONTENT

TECHNOLOGY & ENGINEERING

- Develop a comprehensive understanding of the principles and applications of neurorehabilitation technologies.
- Gain in-depth knowledge and hands-on practical skills for the aquisition, processing, analysis and interpretation of digital health data.
- Pratical exercises to transfer theoretical principles into practical solutions.

NEUROREHABILITATION PATHWAYS

- Gain conceptual knowledge of neurorehabilitation from a human, data, and systems perspective.
- Gain in depth knowledge on pathophysiology of neurological disorders with movement symptoms.
- Understand and be able to consider holistic aspects of neurorehabilitation to implement highly precise, personalized treatment solutions.

PRINCIPLES OF MOTOR LEARNING AND CONTROL

- Gain advanced knowledge in motor learning principles, neuroplasticity and learning.
- Learn how such principles turn into evidence-based practice.
- Gain advanced theoretical and practical knowledge in the intereaction between behavioral outcomes and motor learning principles.

PROJECT MANAGEMENT & DESIGN THINKING

- Learn how to create technological solutions using key concepts from user-centric design and human-machine interaction.
- Analyze, plan, and execute the critical steps to design novel technological solutions. This includes the definition of requirements and the evaluation of a solution‘s performance and its usability.

INTERDISCIPLINARY COMMUNICATIONS

- Learn how to efficiently communicate among different neurorehabilitation stakeholders

SCIENTIFIC METHODS

- Acquire in-depth expertise in scientific and statistical methods, enabling the interpretation and discussion of neurorehabilitation literature.
- Develop the ability to critically reflect on scientific evidence and treamtment quality.

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