

PROMISING FORMATS

Micro Credentials in further Education and Lifelong Learning

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Centre of Continuing Education

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Breakthrough for secure communication with "artificial atoms"

Researchers from LUH have established the first quantum communication link in Lower Saxony. Their method could revolutionise how confidential information can be protected from cyber threats.

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SOLAR ENERGY TECHNOLOGY CONSTRUCTION KIT

based on the SOLAR Summer + Winter
Schools at Leibniz University -
a project funded by the Ministry of Science
and Culture of Lower Saxony

 Zentrale Einrichtung
für Weiterbildung.





The Centre for Continuing Education (ZEW) is a central service unit of Leibniz University Hannover, acting as a cooperative and consulting center as well as an independent provider, initiating, supporting, and conducting academic continuing education.



Energy &
Sustainability



Technology & Industry



Management &
Leadership



Education & Design



Qualification &
Competency
Development



Consulting, Coaching
& Social Work



Education & Culture



Digitalization &
Artificial Intelligence

HOW TO DEVELOP OFFERS IN CONTINUING EDUCATION

Who needs continuing education?

Which kind of offer does this target group need?

Is it a short program e.g. for a weekend or a longer one for six months?

Is the target group solvent or does it come from an underpaid profession as in social services?

Who belongs to the target group, e.g. are there a lot of women with small children within?

How much time to learn does this target group have on average?

What exactly is the goal of the course, e.g. is it for re-skilling or up-skilling or coming back into the profession after a parental leave?

If we plan to develop a program in **CONTINUING EDUCATION**,

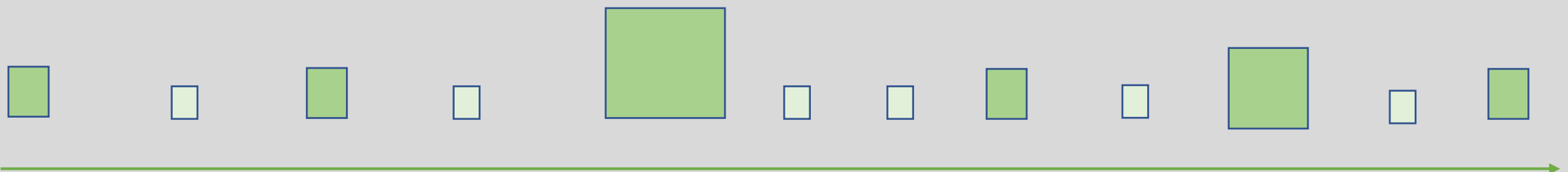
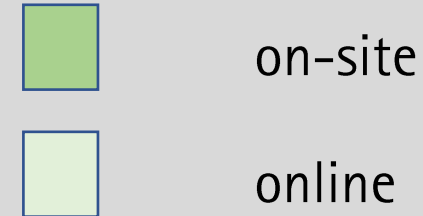
as further education for professionals,
we will take a look at the real needs of working people and then see how much time they need, we will develop a sequence that looks very different from a study program.

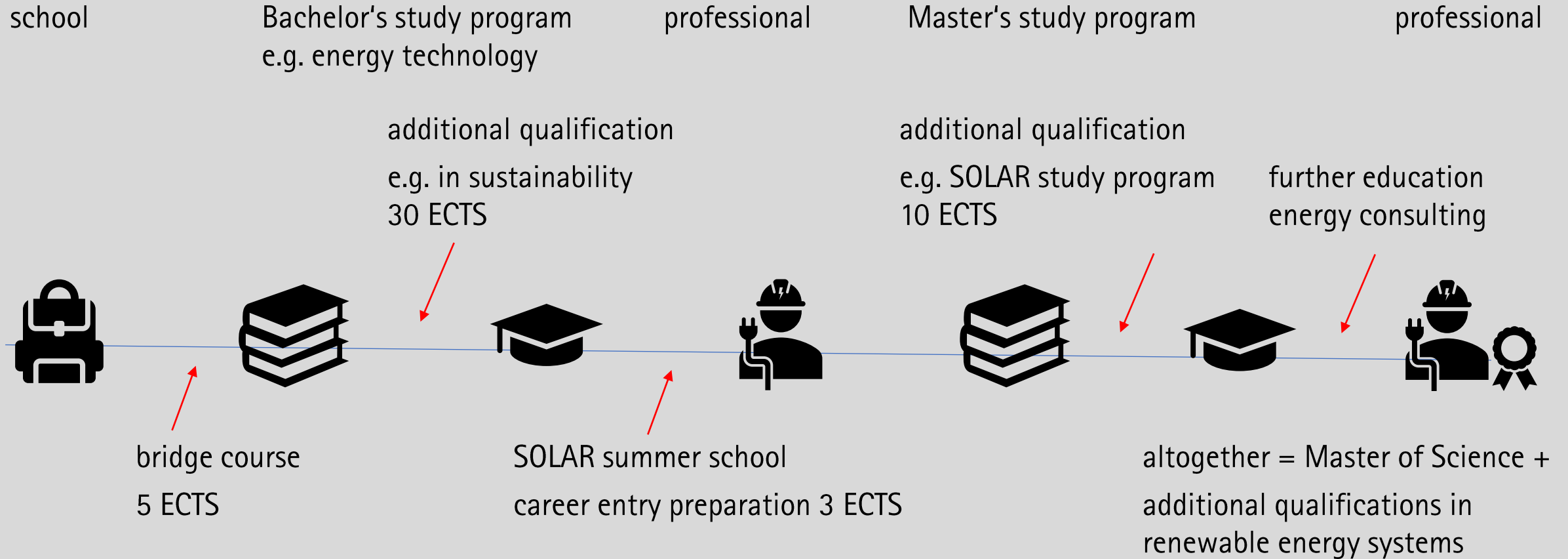
We design a program for further education with

- face-to-face sessions of various lengths
- digital tutorials
- individual project work and a
- final colloquium.

Participants will learn individually using learning letters.

Scope: 6 month, 10 CP





Work plan for participants in further education

Title: Solar energy systems Scope: 6 month
 workload per month: 52,5 h = workload per week 13,12 h (recognition of prior knowledge 30%)

ECTS: 15

Sequence:

- 1 weekend per month (2 times in presence (red),
- 3 times digitally (grey)), self-study using learning letters and learning materials, virtual tutorials for follow-up questions
- in the 4th month 1 week of educational leave to start the application-related project work (green),
- in the 6th month 1 weekend to present the project work



The European Approach to Micro Credentials "... was announced in the European Skills Agenda, published on 1 July 2020, as one of its 12 flagship actions to support the quality, transparency and uptake of micro-credentials across the EU (Commission, 2020a)".

microcredentials.eu/wp-content/uploads/sites/20/2021/01/European-Commission-report-on-microcredentials.pdf



EUROPE 2020 STRATEGY and FLAGSHIP INITIATIVES

- Innovation Union
- Youth on the move
- A Digital Agenda for Europe
- Resource efficient Europe
- An industrial policy for the globalisation era
- An Agenda for new skills and jobs
- European Platform against Poverty

Goal: Europe 2020 - EU and the Member States acting together



Leibniz AI Academy - Vollantrag

Disziplinübergreifende, hybride Micro-Degrees für Studium & Weiterbildung



Akronym:	LeibnizAI
Antragstellende Institution:	Leibniz Universität Hannover Forschungszentrum L3S Welfengarten 1, 30167 Hannover
Projektleitung:	Prof. Dr. Ralph Ewerth Forschungszentrum L3S Leibniz Universität Hannover Appelstr. 4, 30167 Hannover E-Mail: ewerth@l3s.de Telefon: +49 511 762-19651 Telefax: +49 511 762-17779
Geplante Laufzeit:	01.12.2021 - 30.11.2025
Adress. Förderbereich:	Gegenstand 1: Maßnahme zur Stärkung von KI-Kompetenzen; Studienangebot: -> Konzeption miteinander kombinierbarer Kurse/Module; -> Micro-Degrees für Studium und Weiterbildung
Adressierte Fächer:	Mathematik, Naturwissenschaften, Ingenieurwissenschaften; Humanmedizin, Übergreifend: Lehramtsstudium und Weiterbildung
Erklärung:	Die zuständige Landesbehörde, das Niedersächsische Ministerium für Wissenschaft und Kultur ist über diesen Antrag informiert.

**Rechtsverbindliche
Unterschrift:**

MICRO CREDENTIALS =

“a qualification evidencing learning outcomes acquired through a short, transparently-assessed course or module. Micro-credentials may be completed on-site, online or in a blended format.”

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MICRO CREDENTIAL PROPERTIES

short
time

highly
flexible

time
independent

accessed

polyvalent

inclusive

© <https://ec.europa.eu/education-in-the-eu/>

non-local

The EU STRATEGY 2020

concentrates on the key areas knowledge and innovation and puts stronger focus on sustainable development in economic activities, high employment rates and social inclusion (smart, sustainable and inclusive growth).

1.realising employment rate of 75 percent of the population aged 20 to 64;

...

4.reducing school drop-out rates to less than 10 percent, increasing the share of 30 to 34 year olds having completed tertiary or equivalent education to at least 40 percent;

5.lifting at least 20 million people out of the risk of poverty or social exclusion.

Thus, Micro Credentials seems to be a quite useful instrument!!!

MICRO CREDENTIALS at LUH =

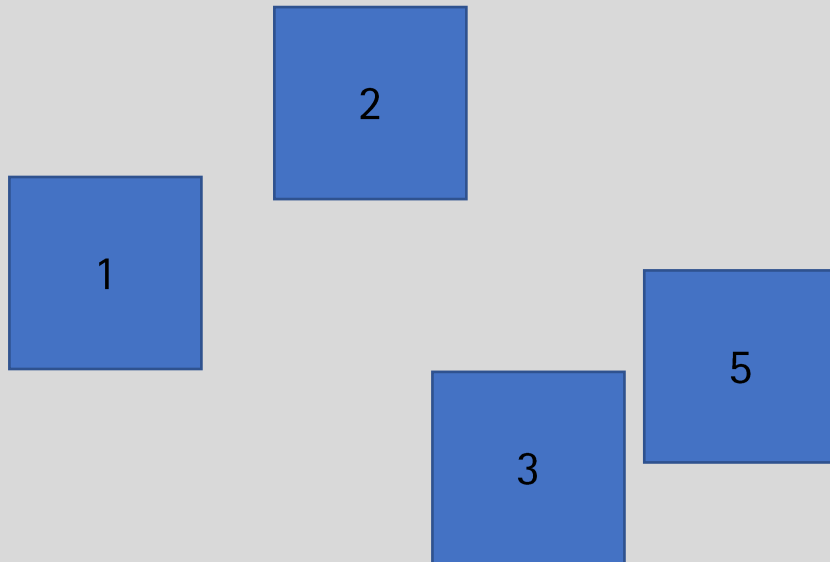
a group of modules with well-defined learning outcomes, developed as polyvalent inter- or transdisciplinary courses for superordinate important subject areas.

At LUH, they can be part of a study program or provide additional qualifications.

MICRO CREDENTIALS can be taken online, onsite or in a blended format.

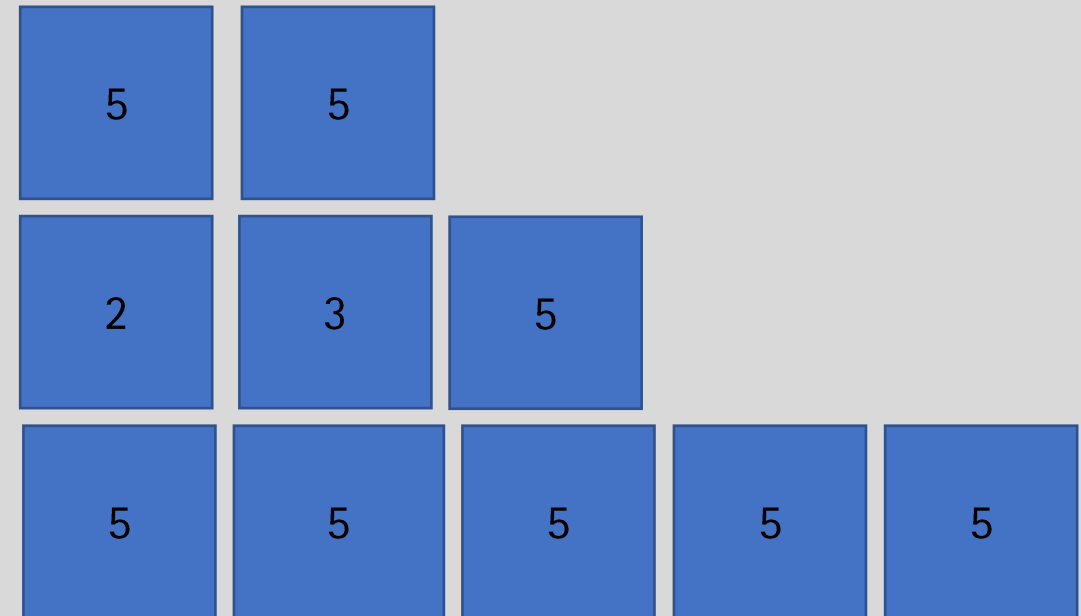
MICRO CREDENTIALS

minimum size 1 CP
 average size 5 CP
 qualification level 6 or 7 EQF



MICRO DEGREES

minimum size 10 CP
 maximum size 30 CP
 qualification level 6 or 7 EQF



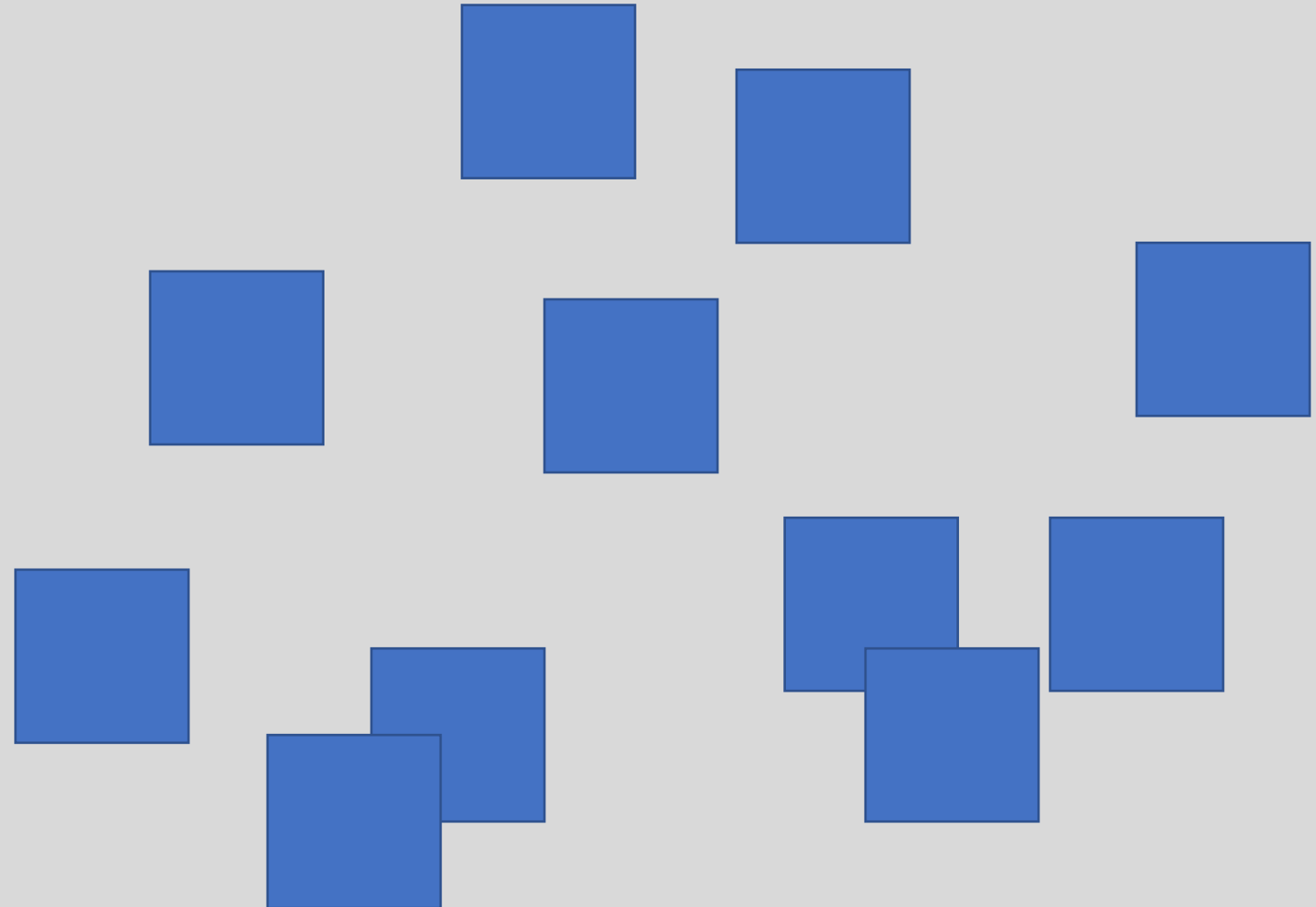
MICRO DEGREES at LUH =

degree for taking courses and modules in Micro Degree programs at LUH.



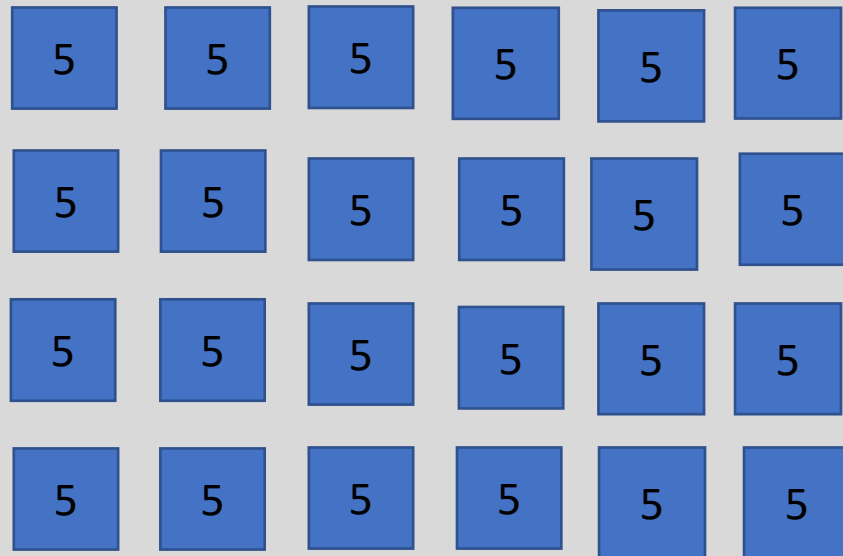
Thus

- Micro Degree programs are built from several Micro Credentials
- there is a need in the labor market for exactly this composition
- Micro Credentials and Micro Degrees can be cumulated.

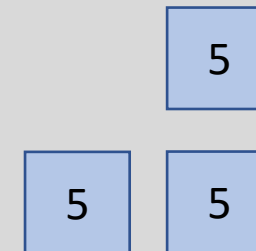


Recognition of MICRO CREDENTIALS and MICRO DEGREES at LUH

Recognizability is a basic principle of the Micro Credentials according to the recommendation of the EU and the HRK



Master of Science with 120 CP



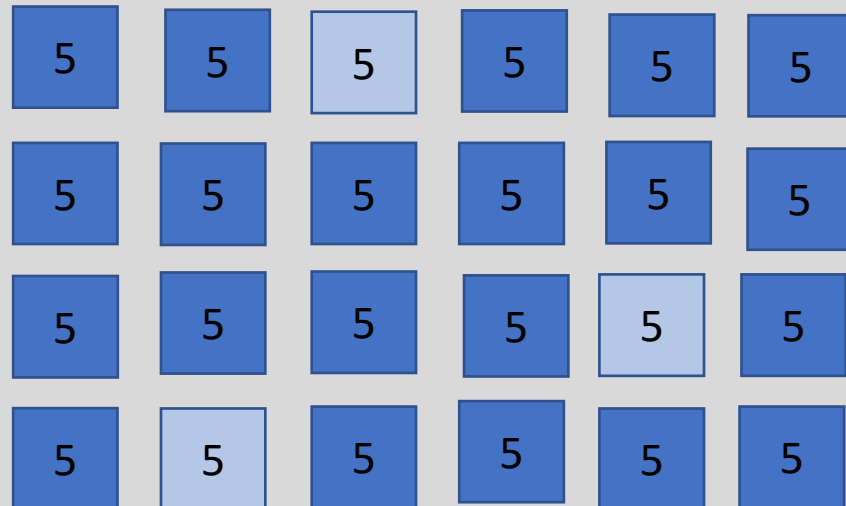
Micro Degree as additional qualification with 15 CP

All micro credentials are compulsory, elective, specialization or additional modules in study programs
<https://www.hrk-modus.de/projekt/zukunftswerkstaetten/microcredentials/>

Recognition of MICRO CREDENTIALS and MICRO DEGREES at LUH

Recognizability is a basic principle of the Micro Credentials according to the recommendation of the EU and the HRK

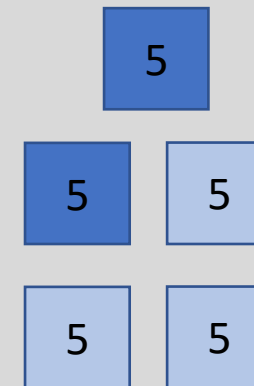
MASTER'S PROGRAMME



Master of Science with 120 CP

15 CP of the study's program are recognized on the Micro Degree program and vice versa

MICRO DEGREE



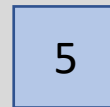
Micro Degree in AI for... with 25 CP

Use of MICRO CREDENTIALS and MICRO DEGREES for professionals

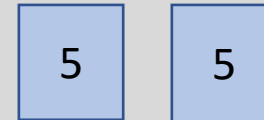
take what is needed



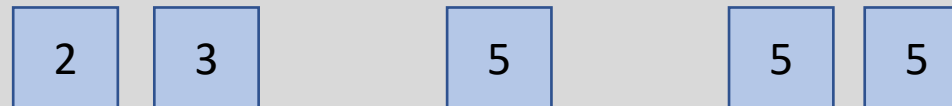
take a Micro Credential of 3 ECTS in support services for rebuilding facilities, take another Micro Credential of 5 ECTS in project management



additive cumulation



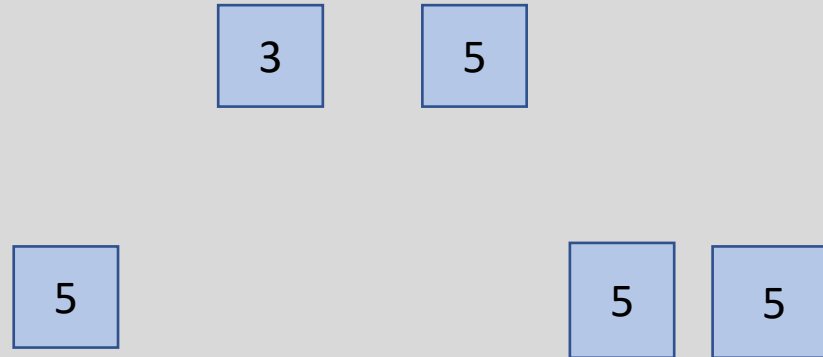
strategic planning



Use of MICRO CREDENTIALS and MICRO DEGREES for professionals

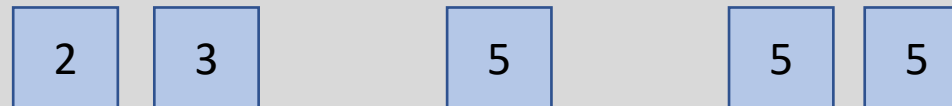
take what is needed

additive cumulation



take a Micro credential in principles of energy supply,
take another Micro Credential in solar energy technology and
take a third Micro Credentials in the planning of solar systems

strategic planning



Use of MICRO CREDENTIALS and MICRO DEGREES for professionals

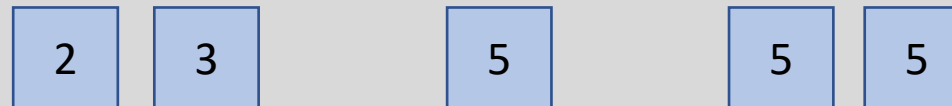
take what is needed



additive cumulation



strategic planning



take a series of five Micro Credentials building on each other in competences for the reconstruction of infrastructure.

How to build

MICRO DEGREE PROGRAMS???

HOW TO BUILD

Before we look at target groups, we need to determine the specific need for skills acquisition:

- what exactly is needed?
- who could acquire the necessary competences?
- on which professions are these competences based?
- how complex is the task?
- can it be sensibly divided into planning units and organizational units?
- how can a systematic sequence of learning units be ensured?
- how can they be made available in a reliable, i.e. absolutely digital form?

In addition, everything must be assessed against the background of the war.

Altogether: it is not easy to design an adequate and well-functioning Micro Degree program, but it is possible – and we will do it! Open Educational Resources (OER) and digital learning will be our most important issues.

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SOLAR Summer + Winter Schools

At LUH, we already offer a SOLAR Summer + Winterschool as a two-week workshop and plan to offer it also in English from 2025 on. The target group is students of natural sciences and engineering at the two universities in Hannover.

As there is a significant demand for renewable energy in Europe, including solar energy, we enable students to achieve additional qualifications while studying.



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SOLAR Summer + Winter School from 2025 on.

Meanwhile, we start to develop and to deliver educational films and other teaching materials, especially self-study materials. They will function as a construction kit, in which we can put components - step by step.

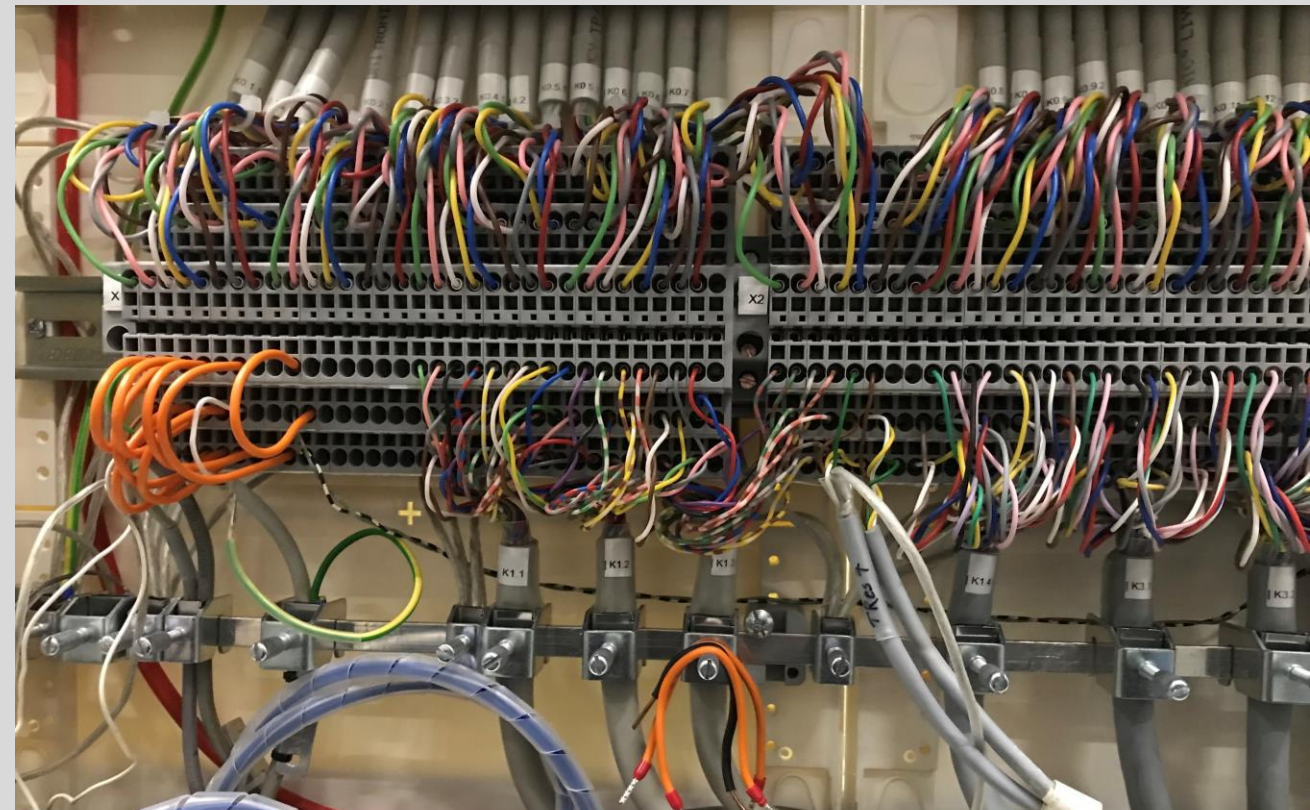
The advantage: the modular system is independent of time and place, and many more people can be taught with it.



HOW TO CONSTRUCT A CONSTRUCTION KIT?

We have the scientific research by LUH,
which can be made available
We also have a very good technical library,
which can provide an open resource platform

Thus, we will design a first component for the
construction kit, which is scientific literature
concerning the research. We can add a second
component containing teaching materials such
as a step by step description of handling
technical aspects of research, planning or
construction.



Videos with instructions

for example

- how to use photovoltaics in different building types on roofs and balconies or even at facades or
- how to plan a photovoltaic system on the open area or even
- how to combine agriculture and photovoltaic systems.





We can also add so called

LEARNING LETTERS

in our construction kit describing how to learn enriched with questions and tasks that the learner has to learn independently, without a teacher.

A learning letter contains

- basic texts on the topic and visualisations (photos, technical drawings, diagrams)
- examples to be worked on
- issues that can be learned additionally, such as special cases
- resolution of the questions

However, let's discuss the

CONSTRUCTION KIT.

Thus, we would now like to ask you, what do you think is of interest for the students and professionals, considering the situation in Mykolajiw and in total Ukraine under war conditions.

Thank you!



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