



REPAIR

DARCH DMAVT *ETH* zürich

CAS

MAINTENANCE ETH

REPAIR CAS MAINTENANCE ETH

Buildings, their components, and especially their technical systems must meet the constantly increasing requirements of our society in terms of comfort, functionality, and energy efficiency. Today, this demand is usually met through replacement without considering the potential of improving the existing. This leads to the loss of valuable resources, the extraction of new material, the endless production of new products and the increase of associated carbon emissions. Innovative and cross-disciplinary concepts which that aim at the long-term conservation and maintenance of the built environment allow for more sustainable interventions, so that fewer parts need to be replaced and new objects can later be repaired.

The new continuing education programme CAS ETH ReMain focuses on the scalable repair and maintenance strategies for buildings and their components together with concepts of value preservation. On the basis of model repair projects, participants from different disciplines integrate concepts, processes, methods and tools from design, making, legislation, business, and sustainability to develop novel approaches. The project work is supplemented by a transdisciplinary range of input lectures and workshops.

Prof. Dr. Silke Langenberg
Professor for Construction
Heritage and Preservation

Prof. Dr. Mirko Meboldt
Professor for Product Develop-
ment and Engineering Design

Prof. Dr. Markus Bambach
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IDB 

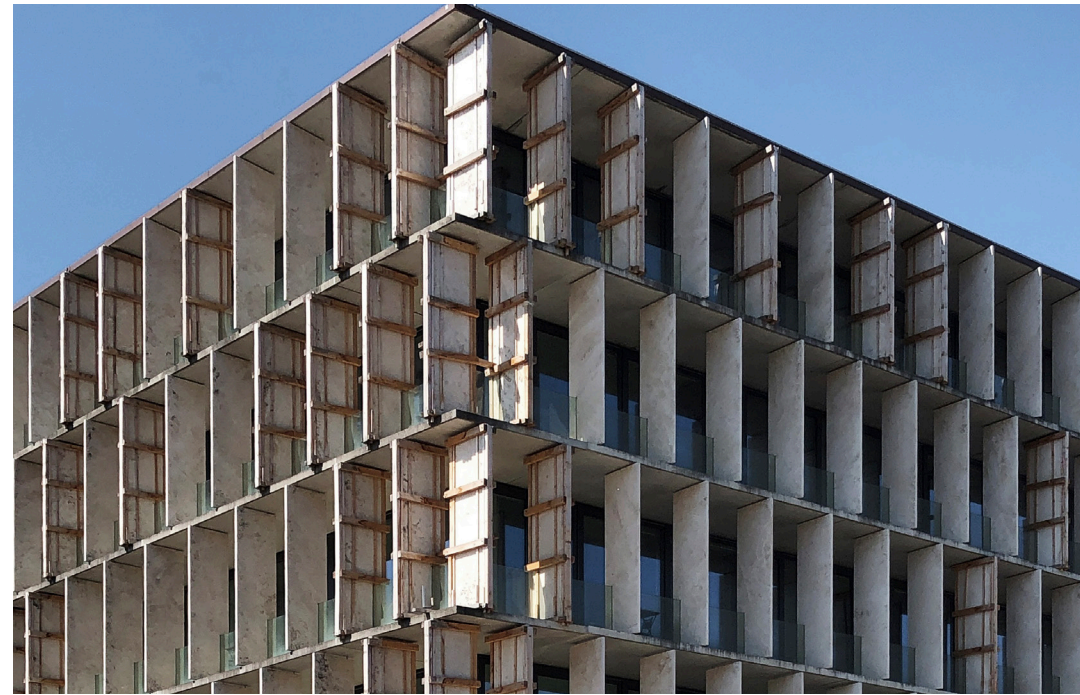
→ [Website CAS Remain](#)



TARGET GROUP

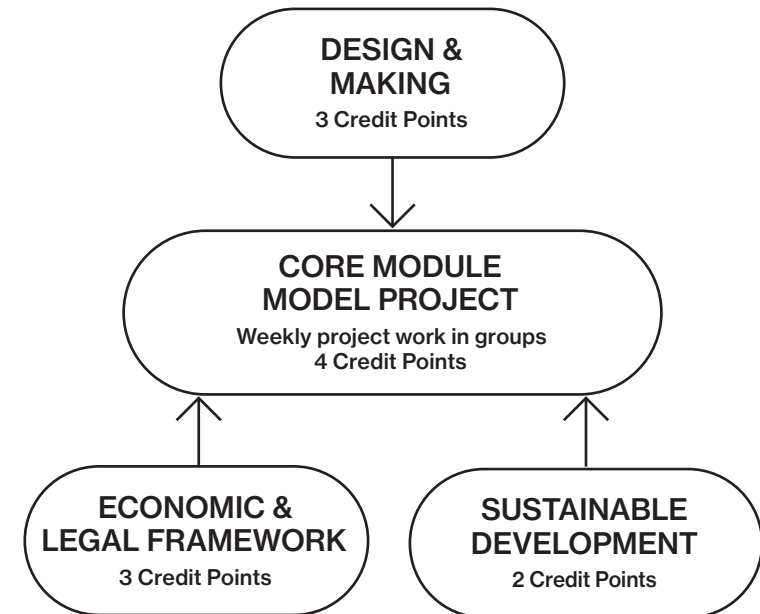
CAS ETH ReMain is aimed at graduates and professionals from a broad range of disciplines, levels of experience and background including architecture and civil engineering, product and industrial design, mechanical and process engineering, electrical engineering and environmental sciences. Upon completion of the CAS program, graduates can move into positions where they play a key role in negotiating and enabling the sustainable transformation of the construction sector. Whether in portfolio management, sustainability consulting, engineering, design, construction or architecture, the knowledge and skills acquired in the CAS ETH ReMain will enable them to always think beyond the boundaries of a specific discipline. They gain the ability to critically assess the legal, economic, ecological and cultural framework of tasks related to the transformation of buildings or parts of buildings and to initiate processes that preserve and build on existing values and create additional added value.

STRUCTURE AND FORMAT



The CAS ETH ReMain consist of a Core Module and the accompanying input modules Economic and Legal Frameworks, Design and Making, and Sustainable Development.

The Core Module focuses on existing, industrially built objects in need of repair or retrofitting (repair project) on which CAS participants actively work to develop their model projects throughout the duration of the program. Participants work in groups to develop strategies for the sustainable maintenance or repair of the the different elements and components which constitute the object. They apply and critically integrate knowledge gained from the accompanying modules to develop concepts which contribute to extending its lifespan, preserve existing qualities, and improve long-term reparability. These concepts span across all disciplines and goals relevant to the task to include ecological, economic, social, architectural, technological, and cultural necessities and goals. Participants are asked to reflect on their strategies from the perspective of sustainability and adapt them accordingly. The Core Module is accompanied and informed by the following three thematic areas in the form of input lectures and discussions towards integrating the knowledge gained into the model project.



Economic and Legal Framework – The subject area deals with the legal, normative, market conditions. Different business models and legal tools that determine the current forms of production and services in the fields of architecture, construction, industrial design and manufacturing are examined. The inputs will enable participants to understand and critically reflect on the interrelationships between legal and economic principles and the associated tools and actors. Participants will be encouraged to question the status quo and develop new concepts, tools and business models that enable and promote sustainable repair and maintenance strategies.

Design and Making – This module introduces various serial, digital and other innovative methods of industrial manufacturing and industrial design. The related materials and types of construction as well as the different methods of building research and data acquisition on existing objects and structures complement this thematic module. The aim is to provide participants with a basic understanding of the challenges associated with the reparability of constructions and the designs, planning and manufacturing methods and materials used in building components and installations. Special emphasis is placed on the opportunities and strategies to effectively apply novel design and fabrication methods in repair.



THEMATIC MODULES

Sustainable Development – The focus here is on the interactions between the various aspects of sustainability and the measures taken to repair and maintain objects, as well as the various concepts of preservation that can be used to formulate appropriate strategies. This will include contributions from specialists actively working in the field of sustainability with a focus on social, environmental and cultural aspects.

OVERVIEW



Admission

Eligibility for the continuing education programme requires holding a Master's degree from ETH Zurich or an equivalent degree from another recognized university, along with a minimum of two years of relevant professional experience related to the course program.

Registration

Please register at the website → www.lehrbetrieb.ethz.ch/eApply until end of November. The selection and notification of applicants is done on a rolling basis.

Languages

The language of instruction and examination is English. Upon request, written work can also be submitted in German or French.

Schedule and Workload

Thursdays and Fridays all day, some Saturdays.

Course location

ETH Hönggerberg, Zürich

Duration

End of February until beginning of June (4 months)

Fees

The tuition fees amount to CHF 7'000. Application fee CHF 50 for persons with a Swiss university degree, CHF 150 for persons with another university degree.

Certificate

The Certificate of Advanced Studies ETH in Repair and Maintenance (CAS ETH ReMain) is awarded when the prescribed contact lessons have been completed and the certificate thesis has been accepted. The course work corresponds to 12 ECTS. 1 ECTS corresponds to 30 working hours.

Contact

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