



Applied Building Physics and Building Control Technology

This Masters Research Unit (MRU) is based in the Research Centre for Applied Building Physics and Building Control Technology in the University of Applied Sciences in Rosenheim, Germany. This MRU is in partnership with the Fraunhofer Institute for Applied Building Physics in Holzkirchen, Germany.

Both centres of this MRU have proved over many years their expertise in these topics. Following the principle of a comprehensive approach to research, these studies extend to all relevant areas, ranging from applied building physics surveys to durability tests, material property tests and many other areas.

The Research Centre is internationally recognised for its research in Applied Building Physics. The well-equipped laboratories and testing units offer the perfect conditions for scientific research for a wide variety of projects.

Course contents

The studies are practically focused and are individually structured depending on your aims and interests. Besides becoming familiar with the relevant norms and regulations you will also learn to master demanding planning tasks. For this you will be able to access simulation programs for applied physics, such as WUFI. You will gain an indepth knowledge of common practical difficulties which will enable you to plan more complex building tasks, and to propose the required building control technology.

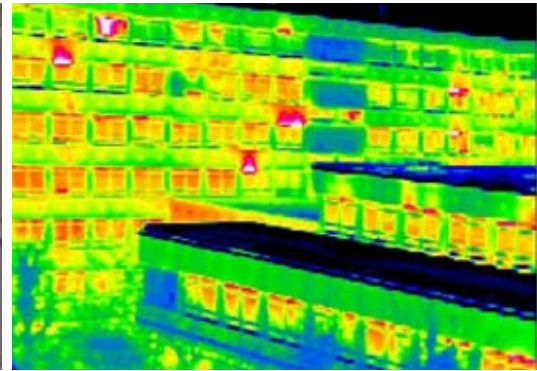
During the course of studies, you will prepare projects in the area of Applied Physics and Building Control Technology in cooperation with professors and staff of the Fraunhofer Institute, Holzkirchen (IBP). The research will cover the application of materials in the building industry, enhancing acoustic protection through new kinds of absorbers, moisture absorption of building materials and the effects of weathering on outdoor building components.



Berner Fachhochschule
Architektur, Holz und Bau

Hochschule Rosenheim
University of Applied Sciences





Within the Applied Building Physics and Building Control Technology MRU you will be able to develop your knowledge in one or several of the following skill sets:

Applied Building Physics

The sustained reduction of energy consumption of buildings is a topic which is discussed in depth and shapes the future of the building trade. At the same time, the requirements in terms of comfort are rising. Along with lighting and thermal comfort, this is also related to relaxation and tranquillity which in turn is linked to the area of acoustic protection. By considering the various physical aspects of the building materials you will analyse the building components, examine them for structural damage and develop innovative measures and solutions based on statistical research methods. A laboratory for applied physics complete with the necessary measuring instruments and testing equipment including technical support, enables you to test your Models in 1:1 scale.

As a specialist in Applied Building Physics you will be involved in evaluating the physical properties of various building materials for different purposes. You will master the classical areas of Applied Building Physics as well as the ecology of buildings and will have learnt the skill of interdisciplinary cooperation with other professionals such as architects, civil engineers, technical fitters and building biologists.

Passive House Planning

From outward appearances it is difficult to tell the difference between passive houses and other buildings. The difference in quality is in the details: enhanced thermal insulation with carefully applied sealing strips and the prevention of thermal bridges combined with the relevant window technology and the relevant ventilation technology. A carefully devised ventilation system combined with heat recovery technology provides a high degree of thermal comfort. Passive house standards are no longer merely for new builds. Existing buildings can now also be converted to passive house standards with the right building structure and the appropriate ventilation technology. The thermal demands of the building are covered by the heat transmission of the people and the appliances in the building and are enhanced by readily available solar energy. This means that heat energy demands can be significantly reduced. Various simulation programs are available to support the planner.

As a specialist in Passive House Planning you will use your skills throughout the whole process, from the rough design stage to the detailed Building Control Technology stage. This will include using the required technology for the specific building type. You will use your skills in all the required areas to work as an advising engineer in passive house planning.

Contact

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