

Energy Efficient Buildings

Module title	Energy Efficient Buildings			Module-Code	TBD
Duration	1 semester	Semester	Spring Semester	Module-Start	1,2,3
Credit points	4 CP	Workload	180 h	Contact hours	48 h
				Individual study	132 h
Module coordinator	TBD			Language	English
Syllabus	<ul style="list-style-type: none"> • Energy efficiency in existing buildings in terms of energy use, indoor comfort, use, technical and economic feasibility, cultural values, as well as system perspectives such as energy supply and environmental aspects • Energy simulations in buildings. Energy efficiency measures for climate and culture specific buildings in Mongolia • Local building tours and hands-on exposure to HVAC (heating, ventilation, and air conditioning) systems 				
Learning outcomes	<p>On successful completion of this module, the students should be able to:</p> <ul style="list-style-type: none"> • Apply simulation programs of buildings to perform energy calculations, evaluate the relationship between energy use, indoor comfort and users • Evaluate and justify energy-saving measures in existing building stock • Account for different regulatory principles, compensation principles and equipment; • Discuss energy efficiency measures on grounds of engineering and economic feasibility • Discuss the environmental aspects of renovation and the building's energy supply from a system perspective 				
Literature	<ol style="list-style-type: none"> 1. Clive Beggs, Energy Management, Supply and Conservation, 2nd edition (Routledge, 2015) 2. Agami Reddy, Jan F, Kreider, Peter S. Curtiss, Ari Rabl, Heating and Cooling of Buildings: Principles and Practices of Energy Efficient Design, 3rd (CRC Press, 2016) 				
Form of teaching	Lecture (2Uol) Recitation (2Uol)				
Assessment methods	Written examination (90 min.) and academic performance				
Associated study program	<i>B.Sc. All programs</i>				
Prerequisites for participation	None				
Requirements for receiving credit points	Passing the examinations				
Grading system	The final grade consists of the academic performance during the module, accounting for 30%, and the module examination accounting for 70%.				