

CEBEC

Advanced Curriculum on Energy Efficient Buildings in Extreme Continental and Sunny Climate in Mongolia

GMIT Report on 16th December, 2020
Prof. Dr. ALTANGEREL Lkhamsuren
Prof. Dr. ARIUNBOLOR Purvee

Changes in GMIT team:

- **Prof. Dr. Daniel Karthe has left the team**
- **Myagmarjav.B has joined the team**

Current GMIT team:

- **Project coordinators**
 - **Prof. Dr. Altangerel.L (altangerel@gmit.edu.mn)**
 - **Prof. Dr. Ariunbolor.P (ariunbolor@gmit.edu.mn)**
- **Munkhzaya.B (munkhzaya@gmit.edu.mn)**
- **Dorjsundui.G (dorjsundui@gmit.edu.mn)**
- **Myagmarjav.B (myagmarjav@gmit.edu.mn)**

According the WP2 of project description and next steps discussed in the previous meeting, the team has defined and worked on the following tasks:

- **Organize workshop meeting with energy industry experts**
- **More detailed content of new and updated course (WP2)**
- **Equipment - what to buy and the connection to the individual course (WP2)**
- **Fill in Course description document, one for each course (WP2)**

- 1. Weekly Meeting within the GMT Team (Total of 8 meetings, since last CEBEC meeting)**
- 2. Meeting with MULS and MUST (11th December, 2020)**
 - **Overall project progress from each university**
 - **Partnership regarding modules and other related issues**
- 3. Meeting with Mongolian Energy Industry Representatives and Experts (15th December, 2020)**
 - **Discussion regarding current energy industry, economics of Mongolia**
 - **Received opinions regarding the modules and laboratories**

Previous Bachelors Modules as of October, 2020

Module	Compulsory	Elective
Solar Energy		All programs
Energy Systems	ENER, ENVE	MECH, RMPE, INDU
Renewable small scale energy production for buildings		All programs

Current Bachelors Modules as of December, 2020

Module	Compulsory	Elective
NEW: Energy Storage		All programs
Energy Systems	ENER, ENVE	MECH, RMPE, INDU
NEW: Energy Efficient Buildings		All programs

Previous Masters Modules as of October, 2020

Module	Compulsory	Elective
Modelling with MATLAB	RTEC	IMRE
Energy Economics and Market Development		RTEC, IMRE
Energy audit, Energy regulations and Energy management	ENER, ENVE	All programs

Current Masters Modules as of December, 2020

Module	Compulsory	Elective
NEW: Modelling and Analysis of Energy Systems		RTEC, IMRE
UPDATE: Energy Economics and Planning	IMRE	RTEC
UPDATE: Energy Management and Auditing		RTEC, IMRE

Equipment	Reference (description)	Cost (approx.)
Energy Systems, Modelling and Analysis of Energy Systems		
1 PV Laboratory Training Kit	https://www.lucas-nuelle.us/2768/apg/6965/EPH-3-Professional-Photovoltaics-Trainer-PV-.htm	5.000,00 EUR
1 Wind Laboratory Training Kit	https://www.lucas-nuelle.us/2768/apg/1232/EWG-2-Small-wind-power-plant-trainer.htm	6.000,00 EUR
1 Smart Grid Trainer	https://www.lucas-nuelle.us/index.php/page/2768/apg/4651/ESG-1-Smart-Grid-Trainer.htm	7.500,00 EUR
Energy Efficient Buildings		
1 Model House with HVAC System		7.000,00 EUR
General Equipment (required for several modules)		
3 Lux meters		1.500,00 EUR
3 Data loggers for registrations of measured data		11.500,00 EUR
3 Thermal imaging camera		3.000,00 EUR
10 Energy meters		1.500,00 EUR
12 Textbooks		1.500,00 EUR
Computers		5.000,00 EUR
Software	LEAP (https://leap.sei.org/), DigSILENT (https://www.digsilent.de/)	2.000,00 EUR
15 Measuring system for temp and humidity		7.500,00 EUR
Total Cost (approx.)		58.500,00 EUR

*The table above shows only approximate cost and does not include transportation and tax cost

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