



PURCHASED EQUIPMENT, DEVELOPED FACILITY AND ITS USE AT NATIONAL UNIVERSITY OF MONGOLIA UNDER THE INTENSE PROJECT

Introduction:

At the beginning of the INTENSE project, the end-user surveys conducted and the result of the survey helped us not only identify gaps in the existed curriculum and develop the list of courses to be revised or developed by NUM under the project, but also identified the equipment that needs to be purchased under the project that would support to build E-learning classroom to our students' current needs.




Purchase process:






In the second year of the project, tender for the purchase E-learning equipment has been publicly announced on the Public procurement system of Mongolia in May 2019.

Bluemwave LLC (Блүүмвейв ХХК) has been selected for the equipment supply and provided under noted equipment, which has cost of 40.0 mln MNT (13,518 €) in September 2019.

Under ERASMUS+ Integrated Doctoral Program for Environmental Policy, Management and Technology - INTENSE project, a new E-learning classroom was established at National University of Mongolia in October, 2019. The classroom is equipped with desktop and laptop computers, router, switchboard, printer and projector.

List of the purchased equipment

№	Equipment	Technical specification	Quantity	Photo
1.	Desktop computer	<ul style="list-style-type: none"> ~ Dell Optiplex 7460 All in One ~ 8th Generation Intel Core i7-8700 Processor ~ 16GB DDR4 2666MHz ~ 1TB SATA 7.2K 2.5" ~ Integrated Intel UHD Graphics ~ Dell Wireless Keyboard and Mouse ~ 23.8" Full HD IPS Display ~ HDMI, WiFi, Bluetooth, USB, LAN, SD ~ Windows 10 64-bit ~ Microsoft Office 2016 	8	
2.	Laptop	<ul style="list-style-type: none"> ~ Dell Inspiron 7572-3745S ~ Processor: Intel Core i7-8550 ~ CPU 1.8 GHz ~ RAM: 16 GB DRR3 ~ Hard drive: 1TB + 128GB PCLE ~ Display card: GeForce MX150 4GB ~ Input/output: HDMI, WiFi, Bluetooth, USB, SD ~ Display: 15 inch, full HD ~ Battery: 6000 mAh ~ Operation system: Windows 10 64-bit ~ Microsoft Office 2016 	2	
3.	Router	<ul style="list-style-type: none"> ~ Linksys AC2600 4x4 MU-MIMO ~ Dual-Band Gigabit Router with USB 3.0 ~ 1.4 GHz dual-core processor ~ 4x4 Wireless-AC delivers 4 streams of data ~ 3 adjustable antennas 	1	

4.	Switchboard	<ul style="list-style-type: none"> ~ Linksys LGS116P 16-Port Unmanaged PoE Switch ~ 16 x Autosensing Gigabit Ethernet Ports ~ 8 x Ports w/ PoE Support ~ 32 Gbps Non-Blocking Bandwidth ~ IEEE 802.3/3u/3x/3ab/3az/3af/3at ~ 8,000 MAC Address Table ~ 802.1q & DSCP Quality of Service ~ Cable Connected Detection ~ Status LED Indicators 	1	
5.	Portable Hard Drive	<ul style="list-style-type: none"> ~ Transcend 2TB USB 3.1 StoreJet 25M3 ~ Portable Hard Drive 2TB Storage Capacity ~ USB 3.1 Interface ~ Transfer Speed 5Gb/s ~ Bus-Powered Design ~ 256-Bit AES Encryption ~ Military-Grade Shock Resistance ~ Internal Hard Drive Suspension System ~ Quick Reconnect Button ~ One Touch Auto-Backup ~ Windows, Mac, and Linux Compatible 	1	
6.	Hard drive	<ul style="list-style-type: none"> ~ Toshiba MG03ACA200 ~ 2TB SATA 3.5" 7200RPM ~ Hard Drive 64MB 6.0Gbps 	1	
7.	Multifunction printer	<ul style="list-style-type: none"> ~ HP LaserJet Pro M227dfw Multifunction Printer ~ Print, Copy, Scan, Fax, ADF, Duplex ~ Print speed letter: Up to 30 ppm (black) ~ Auto duplex printing; 250-sheet input tray ~ NFC touch-to-print ~ Uses toner with JetIntelligence ~ High yield toner available 	1	
8.	Projector	<ul style="list-style-type: none"> ~ Epson Home Cinema 2150 Miracast 3LCD Projector ~ Color & White Brightness of 2500 Lumens ~ Full HD (1920 x 1080) Native Resolution ~ 3D Capability: Yes ~ Lamp Type: 200 W UHE ~ Lamp Life: Normal Mode: Up to 4000 hours, ~ ECO Mode: Up to 7500 hours ~ Wi-Fi: Yes, with WiDi and Miracast support ~ Inputs: 1 x HDMI with MHL, 1 x HDMI, ~ 1 x 15-pin VGA, 1 x USB Type-A ~ (1A power, slideshow, firmware), 1 x micro USB (service) 	1	



Co-funded by the
Erasmus+ Programme
of the European Union



ERASMUS+ and INTENSE logos are placed on the equipment.



E-classroom establishment:

This classroom is located in second floor of 3rd building of NUM, which belongs to School of Engineering and Applied Sciences and used for E-learning of master and doctoral programs.

The aim of Working package 3, INTENSE was to build sufficient capacity for sustainable operation of national INTENSE schools and the international INTENSE Network by developing learning and research training infrastructure, curricula contents and learning materials; the WP also contributed to PIs' capacity by providing training in ICT-related issues and cutting-edge multidisciplinary topics of environmental studies.

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**Хэрэглээний Шинжлэх Ухаан
Инженерчлэлийн Сургууль**
School of Engineering and Applied Sciences

Co-funded by the
Erasmus+ Programme
of the European Union

**ЦАХИМ СУРГАЛТЫН
ТАНХИМ**

E-LEARNING CLASSROOM

☎ 7730-7730 (3203), 7575-4400 (3203)

🌐 <http://seas.num.edu.mn/dep/defe>

**МОНГОЛ УЛСЫН
ИХ СУРГУУЛЬ**
1942 NATIONAL UNIVERSITY OF MONGOLIA

211-Б Хэрэглээний Шинжлэх Ухаан
Инженерчлэлийн Сургууль
School of Engineering and Applied Sciences

Элсэврийн, дижиталын инженерчлэлийн тусамы
Department of Electronics and Communication Engineering

Электроник, автоматжуулалтын сургалт суулганы лаборатори
2020-2021 оны хичээлийн жилийн амралт уулзалт

Төрөл	Тайлбар	Хариуцагч
Данаа	07.00-08.00	Электроник тусамы
	08.00-09.00	Электроник тусамы
	09.00-10.00	Электроник тусамы
Мэсүр	10.00-11.00	Электроник тусамы
	11.00-12.00	Электроник тусамы
	12.00-13.00	Электроник тусамы
Лугаа	13.00-14.00	Электроник тусамы
	14.00-15.00	Электроник тусамы
	15.00-16.00	Электроник тусамы
Дууж	16.00-17.00	Электроник тусамы
	17.00-18.00	Электроник тусамы
	18.00-19.00	Электроник тусамы
Төлөөл	19.00-20.00	Электроник тусамы
	20.00-21.00	Электроник тусамы
	21.00-22.00	Электроник тусамы

E-learning classroom address on the wall



The established e-classroom is used for graduate students of the Environmental science program, but also used for all E-learning and E-teaching activities of different programs at School of Engineering and Applied Sciences, NUM. The following e-courses which were developed under the INTENSE project, are actively taken place in the classroom.

1. Ecohydrological processes – Sustainability & water
2. Atmospheric dynamic process – Air pollution risk assessment
3. Special protected area management and its sustainability
4. Urban water management - City blueprint approach
5. Soil contamination and remediation technology
6. Environmental risk assessment and management

E-classroom is fully loaded during working days.

- ~ On Monday between 07:40 and 18:25
- ~ On Tuesday between 07:40 and 19:10
- ~ On Wednesday between 09:20 and 17:30
- ~ On Thursday between 07:40 and 19:10
- ~ On Friday between 09:20 and 15:05

The number of beneficiaries are about 4800 students (15 students/class * 2 classes/day * 5 days a week * 32 weeks in academic year).

Хэрэглээний Шинжлэх Ухаан Инженерчлэлийн Сургууль School of Engineering and Applied Sciences Электроник, холбооны инженерчлэлийн тэнхим Department of Electronics and Communication Engineering			
Электроник, автоматжуулалтын сургалт судалгааны лаборатори 2020-2021 оны хичээлийн жилийн намрын улирал			
Даваа	07:40-10:05		Бөгөөд ахлах сургууль /N/ ELVIS II+/
	10:05-12:30	Лаб	Электрон хэлхээ
	12:40-13:50		Бөгөөд ахлах сургууль /N/ ELVIS II+/
	16:00-18:25	Лаб	Электрон хэлхээ
Мягмар	07:40-10:05		Бөгөөд ахлах сургууль /N/ ELVIS II+/
	10:05-12:30		Бөгөөд ахлах сургууль /N/ ELVIS II+/
	12:40-15:05	Лаб	Электрон хэлхээ
	16:00-19:10	Лекц	СЭХ системийн удирдлага, чадлын хувиргуур
Лхагва	09:20-12:30	Сем	Компьютерийн суржээ
	12:40-15:05		Бөгөөд ахлах сургууль /N/ ELVIS II+/
	15:05-17:30		Бөгөөд ахлах сургууль /N/ ELVIS II+/
	07:40-10:50	Лекц	Угдалд орхлын роботын удирдлага
Пүрэв	11:00-14:10	Лекц	Машин сургалт ба удирдлага
	14:20-15:50		Бөгөөд ахлах сургууль /N/ ELVIS II+/
	16:00-19:10	Лекц	Аналуу хэлхээний анализ ба дизайн
	09:20-12:30	Лекц	Коллокийн онол
Баасан	09:20-12:30		Бөгөөд ахлах сургууль /N/ ELVIS II+/
	12:40-15:05		Бөгөөд ахлах сургууль /N/ ELVIS II+/



E-classroom is fully loaded and equipment is fully used by students.



Attachment: Tender announcement and document on E-procurement system of Mongolia

**PUBLIC PROCUREMENT
SYSTEM OF MONGOLIA**

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Date of Bid opening
2019-05-08 16:40

Date of Bid submission
2019-05-08 16:00

Remaining duration
Completed

Procuring entity:
МОНГОЛ УЛСЫН ИХ СУРГУУЛЬ

Website:

Төрийн өмчийн бо...

SIMILAR BID NOTICES

Гадны төвсөл хөтөлбөрөөр тоног төхөөрөмж /хөрөнгө/ худалдан авах SEE THE BID RESULT

PROCURING ENTITY:	Монгол Улсын Их Сургууль
TYPE OF BIDDING:	Бараа
BIDDING NO.:	МУИС/201904054
INVITATION OF BID REFERENCE NO.:	МУИС/201904054/01/01
SOURCE OF FUNDING:	Өөрийн хөрөнгө
TOTAL BUDGET:	40,000,000 ₮
YEAR BUDGET:	40,000,000 ₮
PROCEDURE OF PROCUREMENT:	Тендер шалгаруулалтын онцгой журим, Харьцуулалтын арга
WHETHER ELECTRONIC BID OR NOT:	Хэлбэршүүлсэн цахим
PUBLISHED DATE:	2019-05-01

ҮНИЙН САНАЛ АВАХ УРИЛГА

Огноо : 2019-05-01
Тендер шалгаруулалтын нэр: Гадны төвсөл хөтөлбөрөөр тоног төхөөрөмж /хөрөнгө/ худалдан авах
Тендер шалгаруулалтын дугаар: МУИС/201904054

Монгол Улсын Их Сургууль нь сонгогдсон эрх бүхий тендерт оролцогчдоос Гадны төвсөл хөтөлбөрөөр тоног төхөөрөмж /хөрөнгө/ худалдан авах -г гүйцэтгэх тухай үнийн санал ирүүлэхийг урьж байна.

Үнийн санал ирүүлэх өмнө зураг, техникийн тодорхойлолт болон холбогдох бусад материалыг хавсаргасан болно.

Үнийн саналыг 2019 оны 05 -р сарын 08 -ны өдрийн 16 цаг 00 минут-с өмнө Монгол, Улаанбаатар, Сүхбаатар дүүрэг, 6-р хороо, Их сургуулийн гудамж 1, Хичээлийн 1-р байр, Төв хаалга хаягаар ирүүлнэ.

Цахим тендер бол цахим системээр ирүүлнэ.

Үнийн саналыг нээлтэд оролцох хувиар тендерт оролцогчдыг байлцуулан 2019 оны 05 -р сарын 08 -ны өдрийн 16 цаг 40 минут -г нээнэ. Дотоодын давуу эрх тооцох эсэх: **Төвсөлхгүй**

Сонирхсон этгээд тендерийн баримт бичиг болон бусад мэдээллийг доорх хаягаар авч болно.

Монгол, Улаанбаатар, Сүхбаатар дүүрэг, 6-р хороо, Их сургуулийн гудамж 1, Хичээлийн 1-р байр, Төв хаалга

Утас: , Факс:
Имэйл хаяг:
Вэб хаяг: