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# KTU

Knowledge Transfer Unit - From Applied Research and  
Technology-Entrepreneurial Know-How Exchange to  
Development of Interdisciplinary Curricula Modules

Program: Tempus | Joint Projects | Higher Education and Society

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## WP 4 SUMMARY REPORT (Deliverables 4.1 & 4.2)



**KNOWLEDGE  
TRANSFER UNIT**

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## General WP4 description

**WP4** Develop/modernize and implement interdisciplinary curricula modules in the areas of technical/engineering and business administration sciences

WP4 aims at CURRICULUM DEVELOPMENT, BASED ON inputs gained from the enterprises through the cooperation on the KTU PROJECTS. Further goal is the development of cooperation between the national PCUSs.

### Outputs / results of PCUS:

#### INTERDISCIPLINARY MODULES DEVELOPMENT (DEV. 4.1)

All PCUs developed and implemented interdisciplinary labor market oriented modules (new or modified) based on the cooperation between the technical and business. To achieve this goal PCUs have used the integrated approach which includes enterprises, students, professors and university management in the process of curriculum development. All WP4 tasks were done in accordance timeline (tasks and terms were agreed on Consortium Meeting 23-26 February 2015, Budapest, Hungary).

PCUs developed Module main content and preliminary module description, which was agreed on Consortium Meeting 28 April 2015, Graz, Austria. (Links in table 1 - Module main content and preliminary module description – done by all partners)

On the base of Workshop “Competence-based teaching” (Study visit, Graz, Austria) PCUs developed Competences matrix for interdisciplinary labor market oriented modules. Task was done by all PCUs (Links in table 1 - Competences matrix).

Interdisciplinary labor market oriented modules were developed by twinning partners including EU university as a lead partner:

#### **Twinning partners :**

FHJ

ISTU – “3D Modeling and printing technology”

UB – “Using of eye-tracking technology for control (assessment and assurance) quality of human attention”

#### **Twinning partners :**

KTH

KhAI +KhNU – “Copyright law within international context. Intellectual property in e-commerce”

#### **Twinning partners :**

UdG

KSMA+DSTU – “Modern Concepts of Knowledge Transfer/Transfer of 3D printing technology”

In the second phase of the KTU project, interdisciplinary curricula have been developed and the courses implemented. As the main target of KTU is to strengthen the linkages within the Knowledge Triangle, the courses were labour-market oriented and linked to the services offered by the KTUs such as IPR, 3D printing & modelling and eye-tracking and intended as continuing education / further education offers.

The two objectives of the application were the following: 1. Development & implementation of the INTERDISCIPLINARY LABOUR MARKET ORIENTED MODULES (new or modified) at



each PCU based on the cooperation between the technical and business HEIs (incl. Bologna conformity)

2. In order to develop NATIONAL ACADEMIC EXCHANGE AND COOPERATION, the interdisciplinary curricula modules will be developed JOINTLY by the two cooperating universities (incl. guest lecturing).

Although not promised in the application, 5 out of 6 courses were even implemented as part of the regular study programme (Bacc. & Master level; signed also by Ministry of Education and Science) and formally recognised. They will be continued next year or in a new curricula developed on the base of the KTU modules. We aimed at this to ensure the sustainable use of the developed materials and enhance further cooperation between the universities.

The developed courses and its implementation were approved and signed by the head of the respective department/representative at all PCUs. A special focus was laid on introducing Bologna tools with the ECTS system, and especially formulating learning outcomes as well as general and specific competences. All course working programs include therefore a translation into ECTS equivalents, description of learning outcomes, general and specific competences besides content description, literature, workload, teaching methods etc.

All courses have been reviewed between the Ukrainian universities and additionally by P2-WUS (plus the other European partners), checking Bologna conformity. The program were reworked in the end of the project, as the first version were missing links between the course descriptions and the actual teaching material and programme. The final working programmes (as well as all other course materials) are available in approved and signed form in the folder D:\KTU Final Results\WP4 Development\4.1 Curricula\WP4.1 Reworked working programs\

All courses were implemented, guest lecturing by the partner universities were carried out and assessed by the students: D:\KTU Final Results\WP4 Development\4.2 Guest Lecturing

#### Overview to the courses (Title, University, Level/recognition, Workload/ECTS, Target group):

- “Technology of 3D modelling and printing course” (P6-ISTU; developed with feedback from P8-UB): Bachelor level, 2 modules with 13 sessions, 120 hrs, 4 ECTS, target group: students of 0501 “Informatics and Computing“, training direction: 6.050101 «Computer Science» & 6.050103 «Software Engineering»
- “Intellectual Property” (P7-KhAI – jointly developed with P9-KhNU, but tailored to KhAI target group): Master level, 5 modules with 22 sessions, 150 hrs, 5 ECTS, Target groups: students (Industry knowledge: 1801 "Specific categories"; Specialization: 8.18010013 "Project management"), researchers from KhAI and third-party research organizations; entrepreneurs who's activities deal with IPR.
- “Protection of Intellectual property and innovations” (P9-KhNU – jointly developed with P7-KhAI, but tailored to different target group): Level: Mandatory general training cycle for staff, discipline of universal training of researchers (target group), 5 modules with 18 sessions, 150 hrs, 5 ECTS, target group: researchers
- “Using Eye-tracking technology for human-machine interaction research” (P8-UB; developed with feedback from P6-ISTU)): Bachelor level, 4 ECTS 4 modules in 8 sessions 120 hrs
- “Modern Concept of Knowledge Transfer” (P10-KSMA, jointly developed with P11-DSTU): Master level, 2 modules in 6 sessions, 3 ECTS, 90 hrs, for students of discipline 07 «Management and Administration» specialty: 073 «Management».
- “Modern Concept of Knowledge Transfer” (P11-DSTU, jointly developed with P10-KSMA): Master level, 2 modules in 6 sessions, 3 ECTS, 90 hrs, for students with specialty: 121 «Software Engineering» and faculties: «Faculty of Electronics and Computer Engineering», «The Faculty of Management, Economics, Sociology and Philology»

**Table 1**



## GUEST LECTURING SUMMARY (DEV. 4.2)

Interdisciplinary modules were delivered by lecturers from the partner university (twining partner).

Result Indicators:

- Guest lecturing report (template developed by WP leader)
- Photos from events
- Guest lecturing presentation
- Guest lecturing agenda.

Guest lecturing was conducted by all PCUs in accordance with project timeline. Result Indicators per partner represented in table 2.

Indicators	Lecturers	Host university	Date
Partners			
P6 ISTU	Korotun T.	ISTU	29/03/16
P7 KhAI	Danko K., Shteinbrekher D.	KhNU	16/05/16 – 20/05/16
P8 UB	Gordeev O.	UB	18.03.2016
P8 UB	Gordeev O.	KhAI	22-23.03.2016
P9 KhNU	Hovoruschenko T.	KhAI	19/09/16 – 23/09/16
P10 KSMA	Karpenko O. Ostafeva G.	DSTU	21/03/16 – 25/03/16
P11 DSTU	Yashina K., Krupnik O.	KSMA	18/04/16 - 22/04/16



**Table 2**

Indicators	Lecturers	Host university	Date
P6 ISTU	Korotun T.	ISTU	29/03/16
P7 KhAI	Danko K., Shteinbrekher D.	KhNU	16/05/16 – 20/05/16
P8 UB	Gordeev O.	UB	18.03.2016
P8 UB	Gordeev O.	KhAI	22- 23.03.2016
P9 KhNU	Hovoruschenko T.	KhAI	19/09/16 – 23/09/16
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