

Higher engineering training for environmentally sustainable industrial development
543966-TEMPUS-1-2013-1-BE-TEMPUS-JPCR
HETES

MINUTES OF THE 3RD COORDINATION MEETING

Venue: Buckinghamshire New University,
London Road, Great Missenden, HP16 0BD, United Kingdom

Dates: February 04 – 06, 2015

Participants: **BELGIUM**
Katholieke Universiteit Leuven
Mr. Geert De Lepeleer

Volvo Cars Gent
not available

UNITED KINGDOM
Buckinghamshire New University
Mr. Florin Ioras
Mr. Tim Coole

SPAIN
Universidad de Granada
Mr. Luis Enrique Pedauga

SWEDEN
Kungliga Tekniska Högskolan
not available

UKRAINE
Donetsk National Technical University
not available

National Metallurgical Academy of Ukraine
Mr. Oleksandr Velychko
Mr. Volodymyr Shatokha
Mr. Andriy Petrenko

Ivano-Frankivsk National Technical University of Oil and Gas
Mr. Andriy Yavorskyi
Ms. Olga Popovych

Kryvyi Rih National University
Mr. Yaroslav Shramko
Ms. Lyudmyla Kruhlenko

Sevastopol National Technical University
suspended partner

Ministry of Education and Science of Ukraine
not available

Ukrainian Research & Technology Center of Metallurgy Industry
not available

All partners followed carefully the project's workplan. During the period of July 2014 – February 2015 the main efforts were focused on the activity “1.4. Development of the content of new course for MSc, PhD Programmes” and activity “1.5. “Development of the course materials”. The following courses and tutorials were developed:

IFNTUOG*Courses:*

“Engineering methodology” (2 ECTS credits) with ½ credits devoted to sustainable development to be offered to 3rd year BSc;

“Renewable energy” (4 ECTS credits) to be offered within the Energy Management BSc Program; “Unconventional energy sources” (3 ECTS credits for MSc and 2 ECTS for PhD) with 20% credits devoted to sustainable development.

Tutorials:

Textbook “Engineering in the context of sustainable development”, Karpash O., Sheibaum V., Karpash M., 2014;

Monograph “Natural Gas: Innovative Solutions for Sustainable Development”, Karpash O. et al., 2014;

Articles published in scientific journals:

- “Higher engineering education in the context of sustainable development”, Karpash M., Kryzhanivskyy Y., Karpash O. Higher education of Ukraine. – No. 2. – 2014. – pages 55-60.

- “Sustainable energy development of Ivano-Frankivsk – action plan”, Oil and Gas Power Engineering. – No 1(21). – 2014. – pages 119-128.

As a part of HETES activities the new MSc programme “Energy Management” (1,5 year = 90 ECTS) was developed based on summarised EU experience and submitted for accreditation to the Ministry of Science and Education of Ukraine in December 2014

KNU*Course:*

“Environmentally Sustainable Industrial Development” (3 ECTS credits) to be offered to MSc students of the following programmes: 8.04030201 “Informatics”, 8.05020101 “Computerized control systems and automation”, 8.05070204 “Electromechanical automation systems and electric”, 8.05030101 “Mining and extract of mineral resources”, 8.05030102 “Mining and Underground development”, 8.05050309 “Mining machines and systems”.

New course “Environmentally Sustainable Industrial Development” consists of 3 modules:

1st module (1 ECTS). Basic provisions and scientific and methodological principles of sustainable development

2nd module (1 ECTS). Global strategies, tools and methods for implementing sustainable development.

3rd module (1 ECTS). Potential for application of sustainable development approaches in the mining industry, automation and mechatronics

Tutorials:

- syllabi of MSc course “Environmentally sustainable industrial development”;

- brochure “Training engineers for sustainable development: EU experience”;

- study guide of course “Environmentally sustainable industrial development”;

- guidelines for individual work, practical classes and research tasks;

- complex of tests for the current and final knowledge assessment;

- materials of Annual International Scientific Conference “Sustainable development of industry and society”, held by Kryvyi Rih National University.

New interdisciplinary team project “Introduction of innovative technologies in the industry of the region to ensure sustainable development” aimed to develop environmentally-driven technological innovations will be introduced in 2015.

NMAU

Course:

“Sustainable development in metallurgy” (4 ECTS credits) to be offered to MSc students of all engineering MSc programmes:

New course “Sustainable development in metallurgy” consists of 4 modules:

1st module (1 ECTS, fundamentals). Earth climate system and climate change factors. Environmental targets and international commitments. New paradigm of technological development.

2nd module (2 ECTS, industry specific). Factors of sustainable development in metallurgy. Technological background of sustainable development in metallurgy. Scenarios of sustainable development in iron and steelmaking.

3rd module (2 ECTS, practical). Carbon dioxide emissions calculation method.

4th module (20 ECTS, optional). Interdisciplinary team project.

Tutorials:

- syllabi of MSc course “Sustainable development in metallurgy”;
- brochure “Training engineers for sustainable development: EU experience”;
- course textbook “Sustainable development in metallurgy”;
- guidelines for individual work, practical classes and research tasks;
- complex of tests for the current and final knowledge assessment.

The following **dissemination activities** were performed with the WP4:

- website of the project www.hetes.com.ua is developed and launched. Currently this is a beta version and fully operational website is expected by April 2015.
- dissemination of project in regional and university media (*partners are asked to provide the copies of publications*);
- 2 issues of dissemination leaflets are published in Ukraine (April and October 2014);
- workshop “Higher education for sustainable development” was held on October 24, 2014 at the Kryvyi Rih National University.

The following **quality control measures** were applied with the WP5:

- internal QC groups are established at each Ukrainian university partner (project administrators are responsible);
- 1st internal QC reports are submitted by all Ukrainian university partners, the 2nd internal QC reports is submitted by NMAU only and other partners are reminded to provide the delayed report by *February 28, 2015* as latest.
- The 2nd external assessment of the project is provided by NMAU only, other partners are reminded to look for relevant evaluators provide and deliver the external project assessment by *February 28, 2015* as latest.
- BUCKS has shared own templates for external QC that will be taken into account for the next round of external quality control of HETES project.

- the field monitoring of HETES project was performed during the workshop at KNU on October 24, 2014. Project partners are informed about the recommendations for improvement of project activities provided by NTO via the official notice from EACEA (see annex to the Minutes).
- All Ukrainian partners are kindly asked to provide the feedback and information regarding the performance of the given recommendations (for each paragraph). *This information must be provided by April 30, 2015 and will be included in the interim report of the project.*

Project management

The project management board represented with project administrators at each partners is established and works efficiently guided by project coordinator. The fluent communication between all project partners is in place and provided mainly via the e-mails. All partners are well informed about the ongoing activities and tasks.

Coordinator has informed the EACEA decision on the official suspension of the participation of Sevastopol National Technical University in HETES project. Due to the early undertaken measures this suspension has not much affected reaching of the HETES objectives. The risk of SevNTU suspension was anticipated and discussed far in advance on the coordination meeting in Granada where consortium redistributed the tasks of SevNTU among the other Ukrainian universities and thus ensured the efficient project performance without need to involve additional partners.

The participation of the Donetsk National Technical University in project activates became impossible due to the military activities in the East of Ukraine. Officially, by the decision of the Ministry of Education and Science the Donetsk National Technical University has evacuated to a new location at the city of Krasnoarmiysk and the NMAU, as a project coordinator in Ukraine, has contacted the new rector of DonNTU with detailed information on HETES and invitation to participate in the project activities. No any reply was received from DonNTU yet but NMAU will make new attempts to bring the DonNTU back into the project. Meantime, the remaining Ukrainian universities (IFNTUOG, KNU and NMAU) have involving additional staff in project activities and thus are undertaking all tasks of DonNTU until the situation will be clarified.

Activity 1.6. Selective update of existing taught disciplines

Ukrainian universities shall start pilot teaching of the newly developed courses in spring semester of 2014/2015 (where possible) and obligatory from autumn semester of 2015/2016 study year. Each partner must report to project coordinator the title of newly launched courses and titles of study programmes where courses are introduced.

Partners are also asked by April 30, 2015 to send to coordinator the electronic versions or paper copies of the tutorials for new courses.

NMAU has developed and will publish the textbook “Sustainable development of metallurgy” as a tutorial for the related course. HETES partners, who wish to use this textbook for teaching of new courses in their universities, shall contact NMAU on this matter by February 28, 2015.

Partners have decided to develop the common textbook devoted to the different aspects of sustainable development. This will be a one of teaching materials for the newly developed courses. The textbook will be published in English.

The preliminary structure/content of the textbook is distributed by Prof. Volodymyr Shatokha (NMAU) and ALL partners are asked by *February 20, 2015* to choose the topic or chapter they would like to contribute. Then, by *February 28, 2015*, Prof. Volodymyr Shatokha will analyse the feedback and compose the final structure of the brochure. The final allocation of topics and establishing of deadlines for development of Chapters will be done *by March 13, 2015*.

Activity 2.1. Development of human resource for the Interfaculty Sustainable Development Centres

Ukrainian universities shall think about the tasks and activities to be allocated to the Interfaculty Sustainable Development Centres which must be established in frames of HETES at each university. Each university is flexible to decide about the specific structure, staffing, etc. of their Centre but the general scope must be within the objectives established at the WP2 of HETES project.

Ukrainian universities are kindly asked to share with other HETES partners their vision for the *Interfaculty Centre, by March 31 2015*.

On the grounds of the vision and tasks of the Interfaculty Sustainable Development Centres the Ukrainian universities shall look for the staff which will work at the Centres or support and contribute to the activities of Interfaculty Centres. The selected staff will be assigned for the 1-week training visits to EU partners. It is also recommended to involve in training visits the representatives from university administration and academic councils whose support is crucial for efficient operation of the established Centres.

Schedule of training visits:

- 1) training at the Buckinghamshire New University: from 18/05/2015 to 22/05/2015;
- 2) training at the Katholieke Universiteit Leuven: from 08/06/2015 to 12/06/2015;
- 3) training at the Universidad de Granada: from 01/06/2015 to 05/06/2015;
- 4) training at the Royal Institute of Technology: from 18/05/2015 to 22/05/2015.

Each Ukrainian university can assign 2 persons for each training visit. For appropriate and cost-efficient organization of trainings UA universities must provide the passport details of the assigned staff *by March 15, 2015*.

Activity 2.2. Elaboration of Action Plan “Higher education for environmentally sustainable industrial development”

Each Ukrainian university must develop the own action plan stipulating the specific actions designed to address the dynamic changes in industry by appropriate educational process and thus to ensure the environmentally friendly industrial development. The Action Plans shall be based on the learnt EU experiences and developed with active involvement of staff trained under the activity 2.1.

Action Plans must be available *by June 30, 2015*, circulated within the project consortium and then be approved by Academic Councils.

Activity 2.3. Establishing of Interfaculty Sustainable Development Centres (ISDC)

Interfaculty Sustainable Development Centres must be established at each UA university that means: premises are allocated, staff is appointed, equipment is supplied and services are available for academic staff and students.

Taking into account the tasks of ISDC and already available capacities, the university partners are flexible to decide what kind of equipment is needed for ISDC (within the planned budget) but, being flexible in selection, must obligatory agree the list of equipment with coordinator in order to ensure the compliance with the eligibility conditions imposed by the grant agreement.

The detailed guidelines for the purchase of equipment will be distributed in June 2015.

Interfaculty Sustainable Development Centres must be fully operational *by August 31, 2015*.

Activity 2.4. Establishing of the Joint Curriculum Boards (JCB)

JCB must be established at each UA university and consist of representatives from academy, industry, regional authorities and student’s organizations. The main tasks of JCB:

- to perform the analyses of labour market needs;
- to develop training materials and courses towards the needs of industry;
- to enhance the employability by implementing the continuing professional education.

Semi-annually JCB must have meetings in the format of Round Tables and undertaken decisions shall have the strong impact even on regional level.

JCB must be established *by October 31, 2015* and Coordinator must be informed about the approved composition of JCB. The 1st Round Table managed by JCB must be organized in *October 2015*.

3.1. Acquaintance with EU experience of lifelong learning

Activity is designed to learn the approaches and organization of LLL training in different EU countries and will be performed in 2 stages. At the start UA university staff will acquaint with info available on the web and then, already preliminary prepared, will make study visits to EU partners.

Main objectives of the study visits:

- to learn the best EU practices of LLL education;
- to acquire the approaches for liaison with industry and other social partners;
- to study the LLL methodology tailored to experienced audience;
- to familiarize with the role of regional authorities in promotion of LLL education.

Schedule of study visits:

- 1) training at the Katholieke Universiteit Leuven: from 07/09/2015 to 11/09/2015;
- 2) training at the Buckinghamshire New University: from 14/09/2015 to 18/09/2015;
- 3) training at the Universidad de Granada: from 14/09/2015 to 18/09/2015;
- 4) training at the Royal Institute of Technology: *to be defined*.

On each study visit Ukrainian universities can assign 2 persons, Energostal and Ministry – 1 person. For appropriate and cost-efficient organization of the visits UA partners must provide the passport details of the assigned staff by *June 30, 2015*.

Activity 3.2. Development of methodological recommendations on the reform of continued education

Based on the experience, obtained within the activity 3.1., UA project partners with guidelines and advice of EU partners must develop the recommendations on the reform of continued education towards the needs of labour market. Recommendations must be available by *October 31, 2015* with a view to develop the LLL course “Environmentally Sustainable Industrial Development” by *December 31, 2015* (activity 3.3. will be discussed in details on 4th CM in October 2015).

Activity 4.2. Development of info-leaflets

The 3rd issue of dissemination leaflet will be developed by NMAU by May 2015. By *April 2015* HETES partners are asked to provide the material they want to be included in the leaflet.

Activity 4.3. Promotion of project’s activities in regional and national press and TV

UA partners are reminded about the importance to disseminate the project activities as much as possible. The basic dissemination rules must always be observed: Tempus and project logos are in use, highlight on the financial support of project activities by EU.

UA partners must always send the copies of published materials (electronic or paper) to Coordinator.

Activity 4.5. Approval of new modules by Academic Councils or Ministry

Newly developed courses must be officially approved by universities. *The copies of relevant decisions must be provided to Coordinator (latest May 2015).*

Activity 4.6. Holding the Seminar

The main objective of the seminar is to raise the awareness of the importance to upgrade the qualifications towards the environmental challenges and to promote developed LLL course.

Seminar will be coincided with the 4th coordination meeting and originally was planned at the DonNTU. Taking into account the impossibility to plan the Seminar in Donetsk and neighboring to Donetsk regions the Ukrainian Project Coordination will search for possibility to arrange the event in west part of Ukraine and make it in combination with a similar event of another Tempus project that will provide the inter project coaching recommended by NTO. Preliminary location of the Seminar is Lviv.

The dates for Seminar and 4th Coordination meeting are established for *October 14 – 15, 2015*. More details on the event will be communicated in August – September 2015.

Project will cover the mobility costs for the following number of participants: EU partners – 2 persons, UA universities – 4 persons, Energostal and Ministry – 2 persons.

Activity 4.7. Round Tables run by Joint Curriculum Boards

Three Round Tables of JCB must be arranged at each UA university during the project. The 1st meeting is planned for October 2015 and next in spring and autumn 2016. *The appropriate proves must be provided to Coordinator (participants list, agenda, photos, undertaken decisions, etc).*

Activity 4.8. Approval of methodological recommendations on LLL reform by Academic Councils and Ministry

To be done by *October 31, 2015*.

Activity 5.3. Development of recommendations for coordination meetings

The 3rd and 4th Internal Quality Control Reports must be submitted by 31/05/2015 and 30/10/2015 accordingly.

Activity 5.4. Development of self-assessment reports for NTO

NTO will be invited to attend the Seminar in October 2015.

Activity 5.5. Quality Control by External Quality Control Group

The 2nd External Assessment must be arranged before the Seminar and respective reports are expected by *September 30, 2015*.

Activity 6.2. Teaching the updated modules

Ukrainian universities must start pilot teaching of the newly developed courses in spring semester of 2014/2015 (where possible) and obligatory from autumn semester of 2015/2016 study year.

Final notes

1. Constantly keep Coordinator informed about your activities.
2. Always send the copies of dissemination materials to Coordinator.
3. Respect the deadlines established on Coordination Meeting and indicated in this Minutes.
4. In case of significant changes in activities please agree them with Coordinator.
5. Share the most interesting achievements with project partners.