



Joint Project Curricular Reform TEMPUS IV-6 (2013)

Modernization of two cycles (MA, BA) of competence-based curricula in material engineering according to the best experience of Bologna Process

Milestones and Deliverables

MEETING

Magnitogorsk - 20.03.2017



Tempus

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Work plan overview

Project Year 1 (Developing Phase)

1. **Review, analyse, upgrade** current curricula in Material Engineering
2. **Develop teaching materials** for 12 new core curricula, 3 transferable modules and on this base a set of curricula and modules.
Develop new practice oriented supporting infrastructure
3. **Begin to develop, publish and purchase** a manual, handbooks and syllabi.
Joint web based platform
4. **Prepare a set of documentation** for MITL and MESO, purchase/install equipment.

Project outcomes:

- Curricula:
 - Course materials are made and distributed during trainings and are available on the website
 - Effort of both program countries and partner countries
 - Secured area:
 - User: teachingmaterial
 - Password: tempus-mmateng-2014

12 +1 core curricula/modules

- ✓ Materials Engineering Basics (BA) (KUL P1)
- ✓ Material selection (BA/MA) (KUL P1)
- ✓ Light weight materials for transportation (MA) (KUL P1)
- ✓ CAD-CAM - CAE CREO (PTC) (BA/MA) (KUL P1)
- ✓ Thin Films in Energy Saving Technologies (MA) (TUB P2)
- ✓ Technologies and applications of Superconductive materials (MA) (TUB P2)
- ✓ Microstructure investigation techniques (MA) (ENSCL P3)
- ✓ Damage and reliability of materials (MA) (ENSCL P3)
- ✓ Metallurgy and metallic alloys (MA) (ENSCL P3)
- ✓ Materials from Renewable Sources (BA/MA) (CUT P5)
- ✓ Nano materials Technologies (BA/MA) (MSTU P12)
- ✓ Strengthening technologies of materials treatment (MA) (PSTU P16)
- ✓ Thermodynamics for materials (MA) (KUL P1)

3 Transferable curricula/modules

- ✓ Project management (business planning, funding, marketing, performance) (BA/MA) (CUT P5)
- ✓ Soft skills for engineers:
 - ✓ Effective communication with groups, presentation techniques (BA/MA) (TUB P2)
 - ✓ Survival in Labor Market (carrier managing) (BA/MA) (TUB P2)

Project outcomes:

- Teaching materials:
 - Books published: PSTU, MSTU, KPI
 - Conference proceedings from methodological conference in CUT
- MITL: (Materials Information Technology Labs)
 - Equipment delivery: to Ukrainian partners all has been delivered.
 - To all partners all has been delivered
- MESO: (Material Engineering Service Office)
 - Establishing of the MESO-offices is going on
- Media covering: flyers, news covering (on the website)

Work plan overview

Project Year 2 (Work out Phase)

1. **Training courses in EU:** Retrain academic teachers in new curricula, methodology. Tentatively: 3 retraining courses in new curricula/modules (duration each two or three weeks)
2. **Retrain courses** in partner countries for non academic mentors, who will be able to supervise student's practice in their enterprises
3. **Staff training** for MESO offices will take place in TUB, prepared and carried out by ECM Office
4. **Master Classes:** Minimum 14 Master Classes on operation of new labs will be prepared and delivered in target universities.
Complete establishing MESO with stakeholders support

Master Classes

	Start	End
Master Classes	July 2015	June 2017
Pilot teaching	September 2015	November 2016
Pilot operation of MESO, MITL	September 2015	June 2017
Pilot operation of Joint WEB platform	March 2014	

Master Classes

- June 2016 in DSTU, Russia
- June 2016 in JCE-SCE, Israel
- May 2016 in PSTU, Ukraine
- May 2016 in SCE/ JCE, Israel
- May 2016 at LPNU/LNTU, Ukraine
- April 2016 in KPI, Ukraine
- April 2016 in KNRTU, Russia
- October 2015, TAU/JCE, Israel
- September 2015 in FEFU, Russia
- November 2014 at TAU, Israel
- MSTU (Russia), March 2017
- ENSCL (FR) during final conference May 2017



Project outcomes:

- **Trainings** conducted (train-the-trainer sessions):
 - KU Leuven training (19-30 January 2015)
 - CUT training (19 July – 2 August 2015)
 - TUB: MESO-training (2-5 December 2015)

- Presentations can be found on the website

Work plan overview

Project Year 3 (Implementation Phase)

1. **Pilot teaching /operation:** Teaching students in new curricula/modules. Approximately 20 students from each target university will be involved in the courses offering new curricula/modules
2. **Accredit** a set of curricula and modules on national level
3. **Pilot operation** of MESO involving universities and stakeholders outside the project. This activity targets to ensure the sustainable operation.

The third project year implementation status

Ref.No	Activities	Status
1.1.	Review and analysis: structure and content of current doctoral programmes	✓ Done
1.2.	Upgrade current curricula in Material Engineering incl. ECTS	✓ Done
2.1.	Development and accreditation: 9 core and 3 transferable curricula	
	a) Institutional level	✓ Done
	b) National level	Running
2.2.	Preparation, publishing, purchase: syllabi, tutorials, handbooks	Running
3.1.	Retrain academic teachers / train mentors in new curricula and methodology	✓ Done
3.2.	Establishing of Doc Colloquium Rooms (DCR)/labs and purchase of the equipment	Running

The third project year implementation status

Ref.№	Activities	Status
4.1.	Master Classes / pilot operation of MITL	✓ Done
4.2.	a) Staff training for MESO offices	✓ Done
	b) Pilot operation	✓ Done
	c) Networking of MESO offices with stakeholder support	Running
	d) Memorandum (draft) of understanding to create the Network of MESO Offices	✓ Done
5	Establish "Material Engineering Service Offices " (MESO) with stakeholders support. Train supervisors, retrain academic teachers in new methodology	
	a) Selection criteria for training's participants (supervisors, teachers)	✓ Done
	b) Train supervisors, retrain academic teachers	✓ Done

The third project year implementation status

Ref.No	Activities	Status
5.2.	Staff training/pilot operation of MESO / network	Running
6.1.	Internal quality control/external evaluation	
	a) 30M report	✓ Done
	b) Final report	In preparation
	c) Final external evaluation	In preparation
7.1.	Information conferences	Running
7.2.	Full media coverage of the project activities incl. joint web platform	Running
8.1.	Daily project administration and coordination	Running
8.2.	Coordination Meetings	Running

Main tasks and activities for third project year and period after the end of financing

Sustainability through implementation dissemination and exploitation

- Further development of teaching material and modules incl. learning environment according to the market demand
- Further execution of trainings for enterprises
- Further activities of the MESO Offices network and involving new participants



Work plan overview

Disseminations & Sustainable Activities

From the first till the last day of project life are planned activities on dissemination of information and ensuring of sustainability of project outcomes. Each target university will work out timetables for publications, information and sustainability ensuring events based on project activities especially by MESO.

It is planned to invite representatives from stakeholders and universities outside the consortium to promote and disseminate the project outcomes.

To involve new participants into the project activities there will be developed the "MMATENG Plus" agreement.

- Conferences & workshops
- Project web portal
- Involving stakeholders
- Finding and attracting sponsors
- Commercialization of results

Implementation of MESO Offices

General activities of the MESO:

- assisting graduates in employment and adaptation;
- networking of market databases;
- preparation of recommendations for updating of existing courses/subjects and development of new one;
- organization of informational and promotional activities;
- cooperation with the student and youth organisations;
- organization of „Softskills“ courses;



Consortium meeting:

- Prolongation of the project:
 - Delay at start of the project (late signing of the contract with EU)
 - Delays because of problems with equipment
- To reach outcomes: prolongation till after end of academic year:
 - Pilot teaching finished
 - More time for extra master classes: Magnitogorsk

Consortium meeting:

- Problem 1: co-financing.
 - Equipment (budget finished)
 - Printing-publishing, travel
- Problem 2: documents.
 - Documents for staff costs: latest deadline at the final meeting. (timesheets, staff cost reports, contracts...)
 - Documents for mobility: latest deadline just after the final meeting.
- **Important: payments must be made + financial information for the final report.**

Consortium meeting:

- Final report:
 - Describing the relation between application and real outcomes
 - Statistics on actions (development, trainings, pilot teaching, MESO/MITL actions, dissemination)
 - Financial report: proof of the use of EU-grant

Therefore very important:

- To answer on the questionnaire.
- To have all financial documents in order.

Final conference: 29 -31 May 2017.

- Sunday 28 May:
 - arrival to Brussels
 - Transfer to Lille by bus
- Monday 29 May:
 - Final consortium meeting: gathering all information for the final report.
 - Each partner presents most important outcomes
 - Project dinner
- Tuesday 30 May: company visit
- Wednesday 31 May: transfer to Brussels and return of participants

Questions?

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