

TEMPUS Project EDUWAT

“Development of a Modern Higher Education System for Water Engineering in Syria”

- Resume -

6th Workshop on M&S Umweltprojekt in Plauen
on 30th June until 4th July, 2014



TEMPUS IV 3rd Call: Reform of Higher Education through International University Cooperation

Development of Modern Higher Educations System for Water Engineering in Syria (EDUWAT)

Objectives:

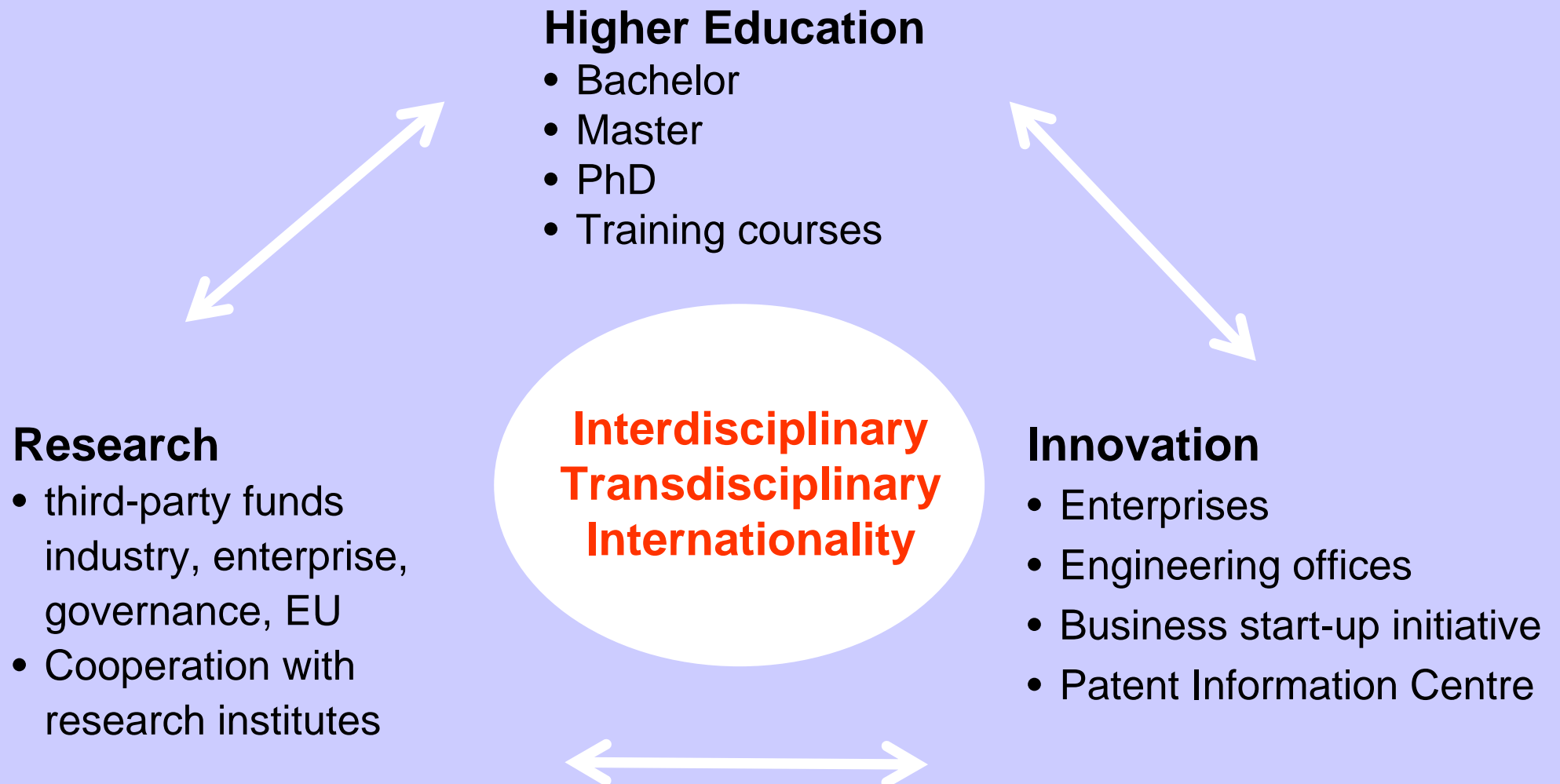
- Internationality of Higher Education; Introduction of the Bologna system,
- Inter-disciplinarity and trans-disciplinarity of natural sciences and engineering for new education and research fields
- Creation of master and PhD study courses in water engineering for all public universities in Syria under using of the existing study courses of the faculty civil engineering and/or agriculture to overcome the fragmentation.
- Development of Knowledge triangle Research – Education – Innovation

Goal:

Education of highly motivated scientists on the water sector as one of the priority sectors of Syrian economic system who correspond to the requirements of the modern working market

Knowledge triangle

Research – Education - Innovation



Work packages - overview

WP	Type	Lead Partner/Collaboration	Title of WP
WP.1	Development	TUD MHE, BOKU, URO, HTWD, CULS, UO, DAM, ALBA, TIU, AU, HIWM, SMUL, SEED, MUS, GCEC, ACSAD,	Higher education in the field of water engineering
WP.2	Development	BOKU TUD, MHE, URO, HTWD, CULS, UO, DAM, ALBA, TIU, AU, HIWM, SMUL, SEED, MUS, GCEC, ACSAD	Research at the universities
WP.3	Development	HTWD TUD, MHE, BOKU, URO, CULS, UO, DAM, ALBA, TIU, AU, HIWM, SMUL, SEED, MUS, GCEC, ACSAD,	Innovation
WP.4	Development	ALBA TUD, MHE, BOKU, URO, HTWD, CULS, UO, DAM, TIU, AU, HIWM, SMUL, SEED, MUS, GCEC, ACSAD,	Triangle of education, research and innovation
WP.5	Dissemination	AU TUD, MHE, BOKU, URO, HTWD, CULS, UO, DAM, ALBA, TIU, HIWM, ACSAD	Dissemination, Capacity building
WP.6	Exploitation	DAM TUD, MHE, BOKU, URO, HTWD, CULS, UO, ALBA, TIU, AU, HIWM, SMUL, SEED, MUS, GCEC, ACSAD,	Sustainability
WP.7	Quality plan	TUD	Quality protection
WP.8	Management	TUD DAM	Consortium Management

Deliverables - overview

	<i>Title</i>	<i>Leader</i>	<i>State</i>
1.2	Comparison of higher education systems	TUD	finished
1.4	Development of higher education structure for Syria	TUD	finished
1.6	Definition of the modules for the new education	TUD	finished
1.7	Developing of teaching materials	TUD	in progress
1.8	Quality Management and Accreditation	TUD	in progress
1.10	Developing of professional training courses	TUD	in progress
2.1	Comparison of research to quality and quantity	BOKU	finished
2.3	Developing of research structure in SY universities	BOKU	in progress
3.1	Comparison of innovation	HTWD	in progress
3.3	Developing of innovation transfer system	HTWD	in progress
4.1	Development of the triangle system	ALBA	in progress
5.1	Internal dissemination	AU	later
5.2	External dissemination	AU	later
6.1	Realisation of new structures	DAM	outstanding
6.2	Validation of new structures	DAM	in progress
7.1	Internal and external monitoring	TUD	in progress
7.2	Inter project coaching	TUD	in progress
8	Management	TUD, DAM	in progress

Workplan for 2014

February.	Workshop in Prague; Presentation of the results of the work packages by the WP leader
End of Mai	Hand over the final version of curriculum and module handbook
June	Workshop in Plauen
End of June	Hand over of deliverables for the final report from the WP leaders to the TUD
July/August	Evaluation/accreditation of the new study courses
September	Final discussion about the final report
End of September	Workshop in Dresden

Questions

What we can realize till end of the project?

- New curricula for AU, DAM, TiU
- Quality Management and Accreditation - example for DAM

What is not finished?

- New curricula for ALBA
- Development of triangle system
- Developing of professional training courses
- Developing of innovation transfer system

What is to do after finish of TEMPUS project?

- Adaption of Quality Management and Accreditation of TiU, ALBA and AU

Resume – previous workshops

I. Kick-off meeting Damascus 9th until 13rd January 2011

- Overview of Tempus in Syria by TEMPUS office – Dr. Ayubi
- Structure of HES in Syria by MHE – Dr. Wahed
- Presentation of the project EDUWAT by Project Coordinator - Prof. Gräber
Reform of Higher Education by
 - Knowledge triangle Research – Education – Innovation
 - Interdisciplinarity – Transdisciplinarity - Internationality
- Self-presentation of all partners
- Presentation of structures of Higher Education in the field of Water engineering/-sciences at participated Syrian and EU universities
- Visiting of University Damascus, Faculty of Civil Engineering
- Getting an overview of the culture, nature, history and living in Syria

I. Kick-off meeting Damascus 9th until 13rd January 2011



II. Workshop at TU Dresden 6th until 9th June 2011

- Reforming of the Higher Education in the field of water sciences by
 - Stronger linking between natural sciences, civil engineering and basic sciences
 - Greater involvement of research into the education;
 - Implementation of research results into the practice
 - Short-term implementing of innovative solutions from practice into the education
 - Defragmentation; more intensively connection between faculties (Export-Import of education)
- The principles of the Bologna-Process
- Presentation of the Department of Hydro Sciences - education concepts and equipments
- Visiting of practical examples for linking of education and research:
 - Tour of the river bank drinking water plant in Dresden-Hosterwitz
 - Tour of a sewage treatment plant in Dresden-Kaditz
 - Visiting of a remediation of contaminated site at former airport in Grossenhain
- Getting an overview of the culture, nature, history and living in Germany

II. Workshop at TU Dresden 6th until 9th June 2011



III. Workshop at BOKU Vienna 9th until 13th September 2011

- Discussion about the new Higher Education structure in the participating Syrian universities in accordance with the Bologna process
- Preparation of educational schemes for Bachelor and Master courses in the field of Water Engineering, Hydrology and Soil Sciences (group working)
- Getting an overview of the Quality Management and Research Service at the BOKU Vienna
- Introduction of Department Water, Atmosphere and Environment with the institutes of Waste Management, Hydrobiology and Aquatic Ecosystem Management, Sanitary Engineering and Water Pollution Control, Meteorology , - Hydraulics and Rural Water Management, Water Management, Hydrology and Hydraulic Engineering
- Visit of Laboratories of Department WAU
- Visit of “Hundertwasser” Waste Incinerator
- Fieldtrip Marchfeld, Field site of soil water content monitoring, farmers training,
- Getting an overview of the culture, nature, history and living in Austria

III. Workshop at BOKU Vienna 9th until 13th September 2011



IV. Workshop at CULS in Prague 26th March until 29th March 2012

- Explanations for the general situation
- Further realization of the TEMPUS project
 - The project will continue
 - Based of the current situation in Syria we have some delays in the project
 - A major obstacle for the progress of the EDUWAT project is the missing active role of the Syrian MHE as a full partner in the project.
 - The meetings in Lattakia (05/12) and Aleppo (12/12) are deleted
 - The possibility of individual visits to the EU-universities is to consider
- Next steps in the project
 - which requirements have the industry to a Syrian student of the "Water Science"
 - Bachelor and Master study courses with the topics "Water Engineering", "Water Sciences" und "Soil and Groundwater" of AU, TIU, DAM, ALBA
 - AU is supported by URO
 - DAM is supported by CULS and UO
 - TiU is supported by BOKU and SMUL
 - ALBA is supported by TUD and HTWD
 - Query of the Syrian universities to actual research activities
 - What are the requirements from MHE regarding of research activities
- The EU approve the continuation of the TEMPUS project EDUWAT

IV. Workshop at CULS in Prague 26th March until 29th March



After two years break continuation of workshops

V. Workshop at CULS in Prague 16th until 21st February 2014

New structures of Bachelor and Master for

- Water Management
- Hydrology
- Soil and Groundwater

Comparison of research to quality and quantity

Development of the triangle system

Realization and Validation of new structures

V. Workshop at CULS in Prague 16th until 21st February 2014



Current activities:

Adapting of education structure to Bologna-Process

- Development of 3 fields of study:
 - Hydro-Engineering/Management
 - Hydro-Sciences/Hydrology
 - Soil-and Groundwater Science and Engineering
- Reduction in the total study period of 5 years (Bachelor + Master)
- Modularization of the course structure
- Introduction of the of credit point system (ECTS)
- Acceptance of certificates in the EU
- Introduction of Long Life Learning process
- Inclusion of the students in the development and decisions about the education.

Current activities:

Adapting of education structure to Bologna-Process

General structure of Bachelor study

- Duration: 3 years (6 semester)
- Per semester 30 Credits , 180 Credits total
- Modularization of education
The curriculum is structured in a modular way.
In each module the course content lectures /exercises /seminar /practicum /field trips /selfstudy .
- Mandatory modules (...% of modules)
- Elective modules (.... % of modules)
- Practical training/projects (research, teamwork)
- Bachelor thesis (18 Credits)
- Study Regulations, Examination Regulations

Content:

- Modules with Basics in Mathematics and Natural Sciences
- Modules with Basics in Water Engineering
- Modules with subject-specific Basics
- Modules for general Qualification (foreign languages, social sciences, law, economics)
- Practical training /Project
- Defense of the Bachelor thesis

Current activities:

Adapting of education structure to Bologna-Process

General structure of Master study

- Duration: 2 years (4 semester)
- Per semester 30 Credits , 120 Credits total
- Modularization of education
- The curriculum is structured in a modular way
- Each module content lectures /exercises /seminar /practicum /field trips /self study .
- Mandatory modules (...% of modules)
- Elective modules (.... % of modules)
- Practical training/projects (research, teamwork)
- Master thesis (30 Credits)
- Study Regulations, Examination Regulations

Content:

- Modules for Water Engineering/Hydrology/Soil and Groundwater
- Modules with specialized Basics
- Practical training /Project
- Defense of the Master thesis

Resume – Further activities

After workshop in Vienna

Development and discussion of the drafts of the new study courses by the Damascus university , Tishreen university and Aleppo university

Travel activities

Visiting of TU Dresden / HTW Dresden by

- Dr. Hayek - TiU
- Dr. Abdulillah Abdou - ALBA
- Dr. Wael Seif - DAM

Other activities

Purchase of equipment for the hydraulic laboratory of the Faculty of Civil Engineering at Damascus University

IV. Workshop at University of Life Sciences Prague 26th until 27th March 2012

Work Package 1 - Development of Education structures

It is to define which requirements have the industry to a Syrian student of the "Water Science" For these purposes are Syrian companies to inquire.

- Drafts for Bachelor and Master study courses with the topics “Water Engineering”, “Water Sciences” und “Soil and Groundwater” of AU, TIU, DAM are present.
- Direct contact persons
 - AU is supported by URO
 - DAM is supported by CULS and UO
 - TiU is supported by BOKU and SMUL
 - ALBA is supported by TUD and HTWD
- Deliverables
 - 1.4 “Development of higher education structure for Syria”,
 - 1.6 “Definition of the modules for the new education”,
 - 1.7 „Developing of teaching materials“
 - 1.8 „Quality Management and Accreditation“

IV. Workshop at University of Life Sciences Prague 26th until 27th March 2012

Work Package 2 - Development of Research structures

- Actual Research activities in Syrian universities
- Practice of research activities in Syria
- Implementation of results of research projects in the education

IV. Workshop at University of Life Sciences Prague 26th until 27th March 2012



Report and Evaluation by the EU-Commission (1) in 2012

This project remains problematic insofar as it is addressed to Syria where all activities are blocked at the moment.

It has been taken note that the project is more than ten months behind the schedule and that the coordinator meets difficulties in having a dialog with Syrian partners,

due to fast changes in the government resulting in continuous turn-over in the Ministry of Education; electronic communication often hindered or even stopped by national authorities;

impossibility to deliver equipment in Syria;

problems with money transfer;

Syrian academic staff are not motivated to work for projects in the difficult socio-political context.

Report and Evaluation by the EU-Commission (2) in 2012

The recommendation is to keep the project on "stand-by" for the next several months. Then, according to the evolution of the events in Syria, several alternatives may be taken into account:

- (1) official suspension of the project with the possibility to restart it once the conditions would make it feasible;
- (2) leave the project run and apply in the end an extension if the consortium cannot catch up with the delays;
- (3) definitive suspension, in the event of impossibility to implement any of the project activities.

In any case, the "force majeure" provision is applicable. The situation should be closely followed-up by the project officer at the Agency level and the project coordinator at TU Dresden.

Extension of the eligibility period from 14 October 2013 until 14 October 2014

ARTICLE I

ARTICLE 1.2 - DURATION shall read as follows:

- 1.2.1 The agreement shall enter into force on the date when the last of the two parties signs.
- 1.2.2 The action and the period of eligibility of costs shall begin on 15-10-2010 (the "starting date of the action") and shall end on 14-10-2014 (the "closing date of the action")

ARTICLE II

All the other provisions and annexes of the Agreement and any previous amendments, which are not changed by this amendment shall remain unchanged and shall continue to apply.

ARTICLE III

This amendment shall enter into force on the date when the last of the two parties to the amendment signs it.

Technical meeting of Tempus and Erasmus Mundus representatives of projects involving Syria 10 December 2013, DG EAC

EU initiatives in Syria with focus on Education

- comprehensive approach
(€ 2,018 M of assistance, out of which € 977 M from EC and € 1,041 M from 28 EU Member States' humanitarian assistance) .
- relevance of education
as key to bringing “normality” in everyday lives of people, which is why half of the assistance through ENPI is provided to the education sector.
- Assistance in the education sector
provided to refugees in Lebanon, Jordan and Syria (Lebanon - €70m, Jordan - €65m, Syria - €28m).
- Special additional envelop of 5 million Euros under the last Erasmus Mundus call for Actions 1 and 2

Technical meeting of Tempus and Erasmus Mundus representatives of projects involving Syria 10 December 2013, DG EAC

Discussion (1)

- Online-communication (internet, skype, email,..)
- Visa problems: only in Beirut, Istanbul or Amman (dangerous, expensive, time consuming), Overload of applications, Inaccessibility of some embassies, cases of having residence permits but not entry visas (Germany)
- Travels: Impossible to Syria and very difficult from Syria (air traffic shutdown, expensive tickets and difficult to obtain), certain countries are closed to Syrian nationals (i.e. Egypt); Local transport/taxi needed to get to the nearest embassy - no official invoices to justify costs; Mobility between Syrian partners themselves is demanding and risky (in particular in Aleppo, Homs)
- Project monitoring: First-hand monitoring of projects by coordinators and EACEA is not possible.

Technical meeting of Tempus and Erasmus Mundus representatives of projects involving Syria 10 December 2013, DG EAC

Discussion (2)

- Transfers (money, equipment): High commissions requested by private banks; Fluctuating exchange rates; Projects coordinators are not able to deliver equipment to Syrian partners
- Positive developments: Remaining high motivation of Syrian partners,
- Discussion on Erasmus+

Technical meeting of Tempus and Erasmus Mundus representatives of projects involving Syria 10 December 2013, DG EAC

Discussion on Erasmus+

- Recognition: Public Syrian universities are legally not allowed to recognise credits/study periods abroad; They are not allowed either to deliver foreign students any certificates
- Exchange/Balance: One of the principles of Erasmus is balance. Exchange between certain countries will be problematic

Travelling Activities

Dr. Abdou ALBA Dr. Seif DAM	Dresden	12.-15. 09. 2011
Dr. Hayek TiU	Dresden	19.- 21. 12. 2011
Dr. Abdou ALBA	Dresden, HTW,	21.- 28. 04. 2012
Dr. Hassan TiU Dr. Bouras TiU Dr. Al Asadi TiU	Blauen Dresden	15.- 20. 07. 2012
Dr. Aldarir AU Dr. Haboub GCEC	Dresden + Rostock	21.-28. 07. 2012
Dr. Haboub GCEC	Rostock + Dresden	17. 02. - 01.03. 2013
Dr. Habub GCEC	Rostock + Dresden	20. – 28. 09. 2013
Dr. Seif DAM	Prag + Dresden	03.- 06. 12. 2013
Dr. Abdou ALBA	Dresden	03. 02. 2014

Visit of Dr. Wael Seif on the TU Dresden at 2nd until 6th December 2013

WP 1: Higher Education in the field of water engineering (1)

- **Development of higher education structure** is in processing
Without ALBA all other Syrian partners have delivered a draft the new structure. In some cases these drafts must be better adopted to the Bologna regulations, discussion with the different partners. The different partners have not shown the gearing between the different faculties, (e.g. civil engineering, agriculture, a. o.) in the field of education related to the subject water, special for DAM and ALBA. Only in the AU we have a combination between two faculties
- **Definition of the modules, including the modules descriptions**
In the most case only the titles of the modules are definite. Only HIWM has delivered the complete module hand book. This one can serve as a good example.

Visit of Dr. Wael Seif on the TU Dresden at 2nd until 6th December 2013

WP 1: Higher Education in the field of water engineering (2)

1.7 Developing of teaching material is not realised until now

It is not necessary to develop new(!) teaching material for each module, it is also to use e.g. current material with adaption of the modern state of sciences, to transfer teaching material from the EU partner to Syrian partners, to use printing books of public publisher and others. In all case in the module description must be definite which teaching material is necessary for this module

1.8 Quality management and accreditation

this activity is to seen in connection with the other TEMPUS-Project “Accreditation – Pathway to Quality assurance” (DAM). Therefore the leader of this deliverable 1.8, contact the leader of this other TEMPUS project

1.10 Developing of professional training courses for this deliverable activities and results are unknown. The leader of this deliverable is asked to work more. Additional a contact/cooperation is to realise to the TEMPUS project “Skills and Career Centre – pathway to the Labour market”

Visit of Dr. Wael Seif on the TU Dresden at 2nd until 6th December 2013

WP 2: Research at the universities (leader BOKU)

2.1 Comparison of research to quality and Quantity

2.2 Developing of research structure in Syrian Universities

WP 3: Innovation, (leader HTWD)

3.1 (Comparison of innovation)

3.3 (Developing of innovation transfer system)

Visit of Dr. Wael Seif on the TU Dresden at 2nd until 6th December 2013

**WP 4: Triangle of education, research and innovation,
(leader ALBA)**

4.1 (Development of the triangle system)

WP 5: Dissemination (leader AU)

5.2 (External dissemination)

goes over from the consortium to the Syrian society,

Translation of the material (and home page EDUWAT.eu) in the
Arabic Language,

Creation of new partners for networking in education and research.

Visit of Dr. Wael Seif on the TU Dresden at 2nd until 6th December 2013

WP 6: Sustainability (leader DAM)

6.1 Realisation of new structure

under this point the discussion about existed modern master programs is possible, e.g. in HIWM too

6.2 Validation of new structure

experience with the existed modern master programs and suggestions/remarks for improvement of the curriculum and modules.

WP 7: Quality protection (leader TUD)

7.2 Inter project coaching

cooperation with other TEMPUS programs,
“Accreditation – Pathway to Quality assurance” (DAM, Razouk) and
“Skills and Career Centre – pathway to the Labour market”
(DAM, Al-Shalabi)

Visit of Dr. Wael Seif on the TU Dresden at 2nd until 6th December 2013

17/21 Febr. 2014	Presentation of the results of the work packages by the WP leader
End of Mai	Final version of curriculum and module handbook
June/August	Evaluation /accreditation of the new study courses
End of June	Material for the final report from the WP leaders to the TUD
September	Final discussion about the final report
End of September	Workshop (the place is depending from the situation in Syria), alternative Dresden

Each partner who is responsible for WP and/or deliverables
is urged to **supervise the realisation.**

Each WP leader write a chapter of the final report