

Word Template for EGREEN project

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Hochschule Ostwestfalen-Lippe
University of Applied Sciences



Workshop
Introduction about EGREEN
Wednesday 15/3/2017

Development of environmental engineering courses and injection of climate change concept for undergraduate curriculum: EU experience for Jordan and Syria

Project Number:

573927-EPP-1-2016-1-JO-EPPKA2-CBHE-JP

The project started on 25/10/2016

❖ **List of partners Universities**

#	Organisation name& acronym
P1	The University of Jordan (UJ)
P2	German Jordanian University (GJU)
P3	Al Albayt University (AABU)
P4	Al-Zaytoonah University of Jordan (ZUJ)
P5	Mutah University (Mutah)
P6	Jordan University of Science and Technology (JUST)
P7	Al-Baath University (ABU)
P8	University Of Aleppo (U.A)
P9	Tishreen University (TU)
P10	TechnischeUniversität Hamburg Harburg (TUHH)
P11	HochschuleOstwestfalen-Lippe (University of Applied Sciences) ; OWL UAS
P12	University of Innsbruck (UIBK)
P13	Paulo & Beatriz – ConsultoresAssociados, Lda (P&B)
P14	UNIVERSIDADE CATOLICA PORTUGUESA (UCP)

❖ **Egreen Objectives:**

1. Develop, integrate, accredit and evaluate Environment modules with an appropriate laboratory component in environment jointly taught by universities in Jordan and Syria and brought into line with the Bologna requirements.
2. Engage faculty in the development of interactive instruction techniques for lectures and laboratory courses and sharing experiences with EU partner universities.
3. Develop and implement course content using e-learning .
4. introduce a climate change course.

❖ **The role of Tishreen University in the project**

1. To assist in Network development
2. To assist in the development of interactive instruction techniques.
3. Will contribute in most wps and in updating the curricula and will insert a new course related to climate change.
4. To design, establish and credit 7 Environmental and Climate Change Modules for B.Sc. programmes following the Bologna requirements.
5. To introduce 2 e-learning courses & ECTS course for large number of undergraduate students.
6. To develop the laboratories to serve the elaborated courses
7. To participate in Academic visits & Students visit
8. To participate in surveying and benchmarking activities
9. To organize training workshops
10. To lead disseminating Egreen project through designing dissemination plan and following with the partners.
11. To organize Egreen info-day & Participate in final conference
12. To participate in Egreen Steering & scientific meeting in addition to local & regional meeting
13. To participate in surveying and benchmarking activities
14. Assisting in implementing the interactive platform for distance learning

❖ **Work packages**

The project consists of 8 workpackages

1. Work package1- PREPARATION

- **Title : Networking**
- **Description :**

To subscribe the agreements and network statute to be followed for all the members, which declare the objectives, rules, conditions and rights.

- **Tasks**

- To assist in managing the relationship between partners.
- To draw the formal documents of agreements and statute on collaboration with other EGREEN's partner universities.
- To contact Jordanian, syrian and European companies, enterprises and public administrations interested to be a member.
- Create data base of interesting parties and programmes
- Organise workshops and seminars to exchange information and knowledge

Estimated Start Date	15/10/2016	Estimated End Date	14/10/2019
Lead Organisation	JUST		
Participating Organisation	UJ,MUTAH, GJU, AABU,TU, ABU, AU, HS-OWL, TUHH, UIBK, UCP, P&B		

2. Work package 2- DEVELOPMENT

- **Title : Scoping and training needs**
- **Description :**

The project will commence in a scoping and needs analysis exercise to investigate the current status of Environmental Engineering and climate change in Jordan and Syria.

- **Tasks**

Scoping and Market Needs Analysis

Verifying Partners facilities

Planning and Methodologies

Estimated Start Date	1.1.2017	Estimated End Date	1.7.2017
Lead Organisation	UIBK		
Participating Organisation	UJ,MUTAH, GJU, AABU, JUST, TU, ABU, AU,HS-OWL, TUHH, UCP, P&B		

3. Work package 3- DEVELOPMENT

- **Title : Development of Study Plan and Curricula**
- **Description :**

This WP, is the major activity of the project. It aims to update and improve the content of state-of-the art for 7 courses according to WP 2.3 report and then deliver, accredit and adapt to add value to the existing programme at Jordanian & Syrian partner universities and have technological and economical impact on the environmental and climate change sector in Jordan. Among 7 courses in environmental engineering and climate changes, two of them will be elaborated in e-learning courses and 1 course will be elaborated in the ECTS

- **Tasks**

Attend the seminar at Höxter, select the courses and the labs, write the report, design and deliver one environment pilot course and coordinate the two assessment and evaluation reports

Estimated Start Date	1/8/2017	Estimated End Date	1/4/2018
Lead Organisation	HS-OWL		
Participating Organisation	UJ,MUTAH, GJU, AABU, JUST, TU, ABU, AU, UIBK, TUHH, UCP, P&B		

4. Work package 4- DEVELOPMENT

- **Title : Development of Online Content and Competencies**
- **Description :**

2 courses in e- Learning Environment will be developed during the first year of the project as means of an eLearning delivery mechanism of the proposed new and other courses. Staff from Jordan and Syria will visit EU partners to attend workshops on e-

learning platforms and alternative delivery mechanisms such as Blackboard, Moodle and other Web-based mechanisms, to eventually adopt the most suitable platform.

- **Tasks**

select , construct and operate a suitable VLE, lead its personalization process, design content of two courses on environment and deliver in eLearning format, and their develop assessment and evaluation strategies .

Estimated Start Date	1/12/2017	Estimated End Date	1/4/2018
Lead Organisation	UCP		
Participating Organisation	UJ,MUTAH, GJU, AABU, JUST, TU, ABU, AU, UIBK, TUHH, HS-OWL, P&B		

5. Work package 5- DEVELOPMENT

- **Title :** Capacity Building

- **Description :**

The aim is to develop a capacity building and staff development programme in the field of environment and climate change. This will be designed by Hamburg University of Technology. The main focus of the activities will be on developing human resources and upgrading skills and capacities in the field by providing exposure to practical training, experiments and equipment.

- **Tasks**

Developing the long-term capacity building plan, set up the training centre, help Jordanian and Syrian partner universities set the criteria of selection, host trainees from partner Jordanian and Syrian universities, prepare training materials and contribute to the preparation of the Jordan workshops.

Estimated Start Date	1/1/2018	Estimated End Date	1/10/2018
Lead Organisation	TUHH		
Participating Organisation	UJ,MUTAH, GJU, AABU, JUST, TU, ABU, AU, UIBK, UCP, HS-OWL, P&B		

6. Work package 6- QUALITY PLAN

- **Title :** Monitoring and Evaluation

- **Description :**

Forming Quality Committee will start by the kick-off meeting, formed and chaired by GJU, with consortium members from EU, Jordan and Syria and one Quality Manager. The duty of the quality committee is to monitor and evaluate the progress of the project and to ensure that all its activities are carried out properly according to European Standards and Guidelines for Quality Assurance and ensuring proper execution of the project to achieve its objective.

- **Tasks**

Monitor the project at different points using different types of evaluation including exploratory evaluation to support the process, and experimental study designs to

evaluate the outcomes. Summative final evaluation report will include an impact study and a benchmarking study to evaluate the quality of the resulting courses, labs and e-learning.

Estimated Start Date	1/11/2016	Estimated End Date	1/10/2019
Lead Organisation	GJU		
Participating Organisation	UJ,MUTAH, AABU, JUST, TU, ABU, AU, TUHH, UIBK, UCP, HS-OWL, P&B		

7. Work package 7- DISSEMINATION & EXPLOITATION

- **Title :** Dissemination and Sustainability
- **Description :**

EGREEN will be disseminated in the workshops, seminars, conferences and journals. All universities will be invited to the workshops and are expected to adopt the project. Also, it will be disseminated through publications in international research journals and presentations at international conferences.

Also, an external expert will ensure that the outcomes will be evaluated from an external point of view and meet the actual needs and standards of end users and target groups. Towards the end of the first year, a dissemination workshop will be held in Jordan and Syria to publicise developments and encourage participation of students from all over Jordan and syria.

- **Tasks**

chair the dissemination committee, coordinate and oversee all dissemination activities of the project, prepare the dissemination plan, produce the promotion materials, design and operate the website, organize the two networking events and one dissemination workshop, and organize the final dissemination conference.

Estimated Start Date	1/11/2016	Estimated End Date	1/10/2019
Lead Organisation	ABU		
Participating Organisation	UJ,MUTAH, GJU, AABU, JUST, TU, AU, TUHH, UIBK, UCP, HS-OWL, P&B		

8. Work package 8- MANAGEMENT

- **Title :** Management
- **Description :**

The University of Jordan will be the project manager (PM) responsible for the overall operation of the project and its smooth running, financial and administrative management including the preparation of budget and reports, timeliness and accomplishment, in addition to being responsible to the EC for the activities of the consortium.

- **Tasks**

Coordinate academic, financial and administrative management of the project; to be transparent and accurate in all transactions; and maintain effective communication with all partners, organise the kick-off meeting and appoint the project staff, attend

the Erasmus representatives meeting in The University of Jordan, and complete and submit the intermediate and final reports of the project.

Estimated Start Date	15/10/2016	Estimated End Date	14/10/2019
Lead Organisation	UJ		
Participating Organisation	MUTAH, GJU, AABU, JUST, ABU, TU, AU, TUHH, UIBK, UCP, HS-OWL, P&B		

❖ **Activities:**

Each partner university in EGREEN project proposed 15 courses, Tishreen University proposal courses

Nominated courses

#	Course Title	Please specify, to be: 1- Created or 2- Developed	Department	Faculty	Compulsory or Elective	Credit Hours
1.	Environmental Management and Sustainability Development	1	Power, + Envir. Dept. + Forestry.	Mech& Elect Eng. Civil Eng. + Agric.	Comp	3
2.	Renewable energy	1	Power. + Soil & Water	Mech& Elect Eng. + Agric.	Comp	4
3.	Renewable energy and energy efficiency.	1	Power	Mech& Elect Eng.	Comp	3
4.	Wastewater Treatment	2	Environment	Civil Eng.	Comp	4
5.	Drinking Water Treatment and Distribution Systems.	2	Environment	Civil Eng.	Comp	4
6.	Environmental risk Assessment and evaluation.	2	Forestry	Agric.	Elective	2
7.	Environmental Chemistry	2	Chemistry + Essential Science.	Science. + Agric.	Elective	4
8.	Clean Production and Green Marketing	1	Marketing	Economic	Elective.	2
9.	Environmental Policies and Laws.	1	Forestry. + Env, + RE &Env.	Agric. + Civil. Eng. + Mec& Elect. Eng.	Elective	2
10.	Natural Resources Management	1	Forestry. +Water Reso. Eng.	Agric. +Civil. Eng + Mech&	Elective	4

11.	Environmental quality control technology	1	+ Power. Power. + Construction . Eng.	Elect. Eng. Mech& Elect Eng. + Civil. Eng	Comp	2
12.	Green Buildings	1	Const. Eng& Managemen t. + Environment .	Civil. Eng. Architect Eng.	Comp	3
13.	Climatology	2	Geography	Art.	Comp	2
14.	Environmental Science	2	Geography	Art	Comp	2
15.	Climatic Geomorphology	2	Geography	Art	Comp	2

- The first meeting was hold in the University of Jordan in Amman from 20 to 22 February 2017
 1. The discussion included the beginning of the project and the various tasks distributed on all partners in the project. Tishreen University defined as an active partner in this project through providing a general view about the University and its buildings and the number of its students and professors and its vision and mission.
 2. The participants were divided into 3 working groups to study the nominated courses through three workshops which proposed these courses within its group:
 - 1. Workshop of environmental group :**
 - Waste Management
 - Contents which have to included:
 - Recycling, Energy Recovery
 - Solid Waste (e. g. Electronic and electric waste)
 - Liquid Waste
 - Waste Water
 - Hazardous Waste
 - Climate Change &Sustainability
 - Contents which have to included:
 - Global Climate Change Aims
 - Renewable Resources
 - Sources of Emission
 - Impact
 - Social, Technical, Economic

- Environmental Policies, Regulations & Laws
 - Contents which have to included:
 - Global Climate Change Aims, Regulations

- (Methods of)Environmental Assessment
 - Contents which have to included:
 - Life Cycle Assessments
 - EMAS (European environmental auditing system)
 - Technology assessment
 - REACH (Chemical Certification)

- Environmental Engineering (incl. measurement technologies and laboratory)
 - Contents which have to included:
 - Air Quality Management
 - Laboratory

- Clean Production and Green Marketing / Industrial Ecology
 - Contents which have to included:
 - Sustainability Monitoring

- Meteorology and climatology (OWL UAS)
 - Introduction to the atmosphere (history, agriculture, our economy and society)
 - Heating the Earth's surface and Atmosphere
 - Radiation
 - Temperature and heat
 - Moisture and atmospheric stability
 - Air pressure and wind
 - Weather maps
 - Circulation of the atmosphere
 - Clouds, precipitation and evaporation
 - Air sea interaction
 - Air pollution
 - World climates
 - Greenhouse effect
 - The changing climate
 - Urban and Bio-climate
 - Local climate management
 - Basics of climate modelling and prediction

- Air pollution, control and management (OWL UAS)
 - Major sources of Air pollution

- Types of pollutants
- Emission control
- Health effects of pollutants
- Regulatory framework
- Meteorology in the atmospheric boundary layer
- Plume rise, Source effects
- Gaussian plume model for continuous sources
- Statistical model for diffusion from continuous point sources
- Puff diffusion
- Similarity models of diffusion
- Gradient transport (K-) models
- Urban diffusion models
- Removal mechanisms
- Cooling tower plumes and drift deposition
- Air pollution meteorology in complex terrain
- Long range transport and diffusion

2. Workshop of water group:

- Waste water treatment – new approaches and technologies
- Water resources engineering
(Management, protection and economics)
- Non-conventional water resources
(reuse, harvesting, desalinization, ...)
- Water Supply (OWL UAS)
 - 1) Properties of water (Introduction to Hydrochemistry)
 - 2) Water demand and quality requirements for drinking water, process water and irrigation water
 - 3) Abstraction and transport of water from different sources
 - 4) Drinking water treatment: Removal of particles
 - 5) Drinking water treatment: Desalination
 - 6) Drinking water treatment: Removal of organic substances
 - 7) Drinking water treatment: Removal of inorganic impurities
 - 8) Drinking water treatment: Disinfection
 - 9) Drinking water treatment: Process combinations
 - 10) Drinking water treatment: Management of residuals
 - 11) Storage and distribution of drinking water
 - 12) Operation and maintenance of water supply systems
 - 13) Energy efficiency in water supply systems
 - 14) Water reuse schemes

3. Workshop of energy group:

- Course 1: Energy Efficiency and sustainability (intelligent energy service)
 - Part 1: how to integrate sustainability and ecology aspects (in an overall point of view)
 - Part 2: Buildings
 - Part 3: Mobility
 - Part 4: Industry
 - Part 5: Energy Rankings and Certificates
- Course 2: Energy efficient building services
 - HVAC
 - Refrigeration
 - Heating systems
 - electricity
- Course 3: Electricity: Energy economics, management and distribution
 - Energy distribution systems (electric networks)
 - Change of networks characteristics with increased decentralized el. producers
 - Storage of electricity
 - Energy tariff system and management
 - Policies and regulations, local subsidies and fundings, Economics
- Course 4: Heat/Fuel: Energy economics, management and distribution
 - Energy distribution systems (fuel distribution, cooling networks ?)
 - Storage of heat and cold
 - Tarif system for fuels
 - Policies and regulations, local subsidies and fundings, Economics
- Course 5: Conventional efficient Energy Supply
 - Applied Thermodynamics
 - Gas combined cycle, Gas Turbine, Rankine Cycles,...)
 - Increased Efficiency power stations (CHP)
- Course 6: Renewable energy Supply
 - Photovoltaics
 - Solar Thermal
 - Wind
 - Biogas

Energy Group	Water Group	Environmental Group
Energy Efficiency and	Waste water treatment	Waste Management

sustainability (intelligent energy service	– new approaches and technologies	
Energy efficient building services	Water resources engineering	Climate Change & Sustainability
Electricity: Energy economics, management and distribution	Non-conventional water resources	Environmental Policies, Regulations & Laws
Heat/Fuel: Energy economics, management and distribution	Water Supply	(Methods of) Environmental Assessment
Conventional efficient Energy Supply		Environmental Engineering (incl. measurement technologies and laboratory)
Renewable energy Supply		Clean Production and Green Marketing / Industrial Ecology
		Meteorology and climatology (OWL UAS)
		Air pollution, control and management (OWL UAS)

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