



ERASMUS+ PROGRAMME

Project Number: 573927-EPP-1-2016-1-JO-EPPKA2-CBHE-JP

EGREEN:

Development of Environmental Engineering Courses and Injection of Climate Change Concept For Undergraduate Curriculum

**Minutes
of**

The Seventh Steering and Scientific Committee Meeting

With a parallel Training Workshop

**Hamburg University of Technology (TUHH)
Hamburg-Germany**

September 2-3, 2019



Co-funded by the
Erasmus+ Programme
of the European Union

This Project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

EGREEN Seventh Steering Committee and TOT sessions

September 2-3, 2019

Participants list:

No.	Participant Name	Position
The University of Jordan (UJ)		
1.	Prof. Ahmed Al-Salaymeh	EGREEN Project Coordinator
2.	Prof. Mohammad Hamdan	Professor at Mechanical Engineering Department
3.	Eng. Leena Marashdeh	Project Assistant on EGREEN at School of Engineering
4.	Eng. Rasha AlBaik	Project Assistant on EGREEN at School of Engineering
5.	Mr. Suhaib Al-Sharah	Accountant for EGREEN projects at Financial Department
The German-Jordanian University (GJU)		
6.	Dr. Muna HindiyeH	Faculty Member at Natural Resources School
7.	Ms. Mai ALZu'bi	E-learning Specialist
8.	Ms. Taghareed AlSwaeer	Assistant for EGREEN Project
Al al-Bayt University (AABU)		
9.	Prof. Adnan Omar	President of AABU
10.	Prof. Eqab Rabei	Vice President at AABU
11.	Dr. Moayyad Shawaqfah	Contact Person for EGREEN
12.	Eng. Ibtihal Alqdah	Faculty Member and EGREEN Team member
Al-Zaytoonah University of Jordan (ZUJ)		
13.	Dr. Loai Dabbour	Chairman of Architecture department, Contact Person for EGREEN
14.	Dr. Nabeel Abu Shaaban	Chairman of Mech. Eng. department, EGREEN team member
15.	Eng. Eman Abdelhafez	Lecturer in Alternative energy technology department, EGREEN Team member
Mutah University (MUTAH)		
16.	Prof. Omer Maaitah	Dean of the Graduate Studies faculty, Contact Person for EGREEN
17.	Dr. Mohammad Al-Majali	Faculty Member, EGREEN team member



18.	Dr. Mohammad Saraireh	Faculty Member, EGREEN team member
19.	Dr. Sameeh Al-Sarayreh	Faculty Member, EGREEN team member
Al-Baath University (ABU)		
20.	Prof. Bassam Kseibi	Vice-President for scientific research and higher studies, EGREEN team member
21.	Prof. Adnan Ghata	Professor at Chemical Engineering Department, Contact Person for EGREEN
Tishreen University (TU)		
22.	Prof. Moussa Al Samara	The Dean of the higher Institute for Environmental Research, Contact Person for EGREEN
23.	Prof. Ahmad Hamdan	Faculty Member, EGREEN team member
Aleppo University (AU)		
24.	Dr. Nahed Farhoud	Faculty Member, EGREEN team member
25.	Dr. Fatemah Jaara	Faculty Member, EGREEN team member
Hochschule Ostwestfalen-Lippe (OWL-UAS)		
26.	Prof. Salman Ajib	Head of the department renewable energies & decentralized energy supplying, Contact Person for EGREEN
Hamburg University of Technology (TUHH)		
27.	Prof. Martin Kaltschmitt	The Dean of the Environmental Technology and Energy, Contact Person for EGREEN
28.	Mr. Marvin Scherzinger	Research Assistant, EGREEN team member
University of Innsbruck (UIBK)		
29.	Prof. Wolfgang Streicher	Professor of Energy Efficient Buildings and Renewable Energies, Contact Person for EGREEN
30.	Eng. Apeksha Shandilya	Research Assistant, EGREEN team member
Catholic University of Portugal (UCP)		
31.	Dr. Eduardo Cardoso	Assistant Professor and Scientific Officer for Knowledge Transfer, Entrepreneurship and Partnerships at Faculty of Biotechnology, Contact Person for EGREEN
Paulo & Beatriz – Consultores Associados (P&B)		
32.	Dr. Maria Beatriz Marques	Director of P&B/ Chemical Engineer



Day 1
Monday, September 2, 2019

The Opening session

The opening session of the EGREEN Seventh steering committee meeting included welcome speeches from the hosting partner, project coordinator and partners, as follow:

- Welcome by project coordinator at Hamburg University of Technology and the Dean of the Environmental Technology and Energy, Prof. Martin Kaltschmitt
- Welcome by President of Al al-Bayt University, on behalf of the Jordanian Partners, Prof. Adnan Omar
- Welcome by Prof. Ahmed Al-Salaymeh, Egreen General Coordinator

**Presentation on the progress of EGREEN Project
by Prof. Ahmed Al-Salaymeh**

Prof. Al-Salaymeh delivered a presentation about the overall progress in the project, external evaluator comments and recommendations, project extension and the plan for implementation.

Session (1-A)
Project Implementation presentation by Partner universities in Jordan and Syria
Chaired by Prof. Salman Ajib

Partner universities in Jordan and Syria have presented the Project Implementation at their universities, covering the following topics

- ✓ EGREEN team
- ✓ Achievements in Networking
- ✓ Achievement in WP3 (Final list of courses, Accreditation letter, EGREEN offered courses each semester and number of enrolled students)
- ✓ Courses piloting and implementation reports
- ✓ Equipment procurement, installation place and usage (supported with photos)
- ✓ Conducted dissemination activities
- ✓ Conducted Quality activities (Submitted progress reports)

The presenters were as follow:



- ✓ P1: The University of Jordan, by Prof. Ahmed Al-Salaymeh
- ✓ P2: German Jordanian University by Ms. Taghareed AlSwaer
- ✓ P3: Al Albayt University by Dr. Mo'ayyad Shawaqfah
- ✓ P4: Al-Zaytoonah University of Jordan by Dr. Loai Dabbour
- ✓ P5: Mutah University by Prof. Omer Maaitah
- ✓ P6: Jordan University of Science and Technology by Prof. Ahmed Al-Salaymeh
- ✓ P7: Al-Baath University, by Prof. Adnan Ghata
- ✓ P8: University of Aleppo, by Prof. Khalaf Alabdullah
- ✓ P9: Tishreen University, by Prof. Moussa Al-Samara

Session (2-A)

Chaired by Dr. Maria Beatriz Marques (P&B)

WP6: Monitoring and Evaluation

Title	Major Activities	Coordination			Estimated Start\END Date	
		Coordinator	Co-Coordinator	Other partners involved		
WP6: Monitoring and Evaluation	Task 6.1: Quality Committee	GJU	TUHH	All	1/2/2017	1.11.2016 To 1/10/2019
	Task 6.2: External Evaluation				1/8/2019	
	Task 6.3: Monitoring and Evaluation Plan				1/9/2019	
	Task 6.4: Mid-Term Evaluation Report				1/4/2018	
	Task 6.5: Final Evaluation Report				1/9/2019	

Ms. Taghareed Alswaer, presented the tasks and activities of this work package and the action plan for the implementation. The partners agreed on the following:

No.	Task	Responsibility	Due Date
1.	Finalize the technical check for EGREEN Courses	GJU TH OWL	Sep, 2019



1.	Prepare and distribute evaluation surveys for the conducted training workshops/meetings	GJU	Sep, 2019
2.	Prepare and distribute Quality and impact surveys for piloting phase in the coming fall semester	GJU	Sep, 2019
3.	Appoint External Evaluator	UJ	Sep, 2019
4.	Prepare course summary template	GJU	Sep, 2019
5.	Prepare a summary template and survey to evaluate the content of the developed courses by Stakeholders	GJU	Sep, 2019
6.	Submit Progress reports by WP leader for P1, P2, P3, P4, P5 (P= Six months) to be provided for external evaluator	ALL	Oct, 2019
7.	Quality Committee meeting in Europe	ALL	Jan/Feb, 2020

Session (2-B)

Training session on E-learning

A parallel training session was conducted by Dr. Eduardo Cardoso (UCP) on e-learning issues (Moodle features, how to enrol students, how to make a quiz on Moodle, how to submit assignments).

Session (3-A)

Chaired by Prof. Mohammad Al-Majali (MUTAH)

WP3: Development of Study Plan and Curricula

Title	Major Activities	Coordination			Estimated Start\END Date	
		Coordinator	Co-Coordinator	Other partners involved		
WP3: Development of Study Plan and Curricula	Task 3.1: Workshop on Curricula Updating	HS-OWL	ZUJ, MUTAH, TU	All	1/9/2017	1.8.2017 To 1/4/2018
	Task 3.2: Selection of Pilot Courses and Labs				1/11/2017	



	Task 3.3: Detailed Design of Pilot Courses				1/2/2018	
	Task 3.4: Accreditation of New Curricula				1/6/2018	
	Task 3.5: New Curricula for environment Courses				15/9/2018	
	Task 3.6: Establishment of Environmental lab				15/4/2018	
	Task 3.7: Monitoring and Feedback Methodology and Reports				1/10/2018	

Prof. Salman Ajib, OWL-UAS, presented the tasks and activities of this work package and the action plan for the implementation. The agreed-on tasks were as follow:

No.	Task	Responsibility	Due date
1.	Each course leader has to check the uploaded course material on EGREEN Moodle	SY Partners JO Partners	Sep, 2019
2.	Each course leader has to review the syllabus against teaching material	SY Partners JO Partners	Sep, 2019
3.	Equip the labs and conduct official inauguration	SY Partners JO Partners	November, 2019 The latest
4.	Submit technical documentation about the installed equipment and its uses, supported by photos and university official letters: <ol style="list-style-type: none"> 1. Describe the equipment already acquired by the project and, if applicable, present the timetable and type(s) of equipment still to be acquired (by and for whom). 2. Justify how equipment items have been used in the project activities (for teaching, learning, research, the provision of new services, etc.) for the different target groups (specifying the 	SY Partners JO Partners	November, 2019 The latest



	<p>nature of these target groups and the estimated number of final beneficiaries of the equipment on a yearly basis) and describe the actions implemented (/foreseen) for maximising their usage;</p> <p>3. In what courses do the students benefits from the equipment</p> <p>4. Indicate where it has been installed.</p> <p>5. As compared to the proposal, what changes have occurred (/do you foresee) for the purchase and/or usage of equipment?</p>		
5.	Finalize 6.a. Introduction to environment and Climate change	<p>Prof. Salman (HS-OWL) Dr. Mo'ayyad Shawaqfah (AABU) Dr. Eduardo Luís Cardoso (UCP) Dr. MUNA Hindyeh(GJU) Dr. Fatima Jaara (AU)</p>	Sep, 2019
6.	Final courses to be submitted for Quality check	<p>JO Partners SY Partners</p>	Sep, 2019
7.	Prepare Survey reports for different courses (implementation reports)	<p>JO Partners SY Partners</p>	Fall semester, 2019
8.	Comments of the Quality Check and technical to be sent continuously to leaders	<p>GJU</p>	Sep, 2019
9.	Provide list of implemented courses for previous semesters with accurate number of Students	<p>JO Partners SY Partners</p>	Sep, 2019
10.	Provide list of courses to be implemented for fall semester 2019 including the Moodle course	<p>JO Partners SY Partners</p>	Sep, 2019
11.	Courses implementation next semester using EGREEN Moodle	<p>JO Partners SY Partners</p>	Sep, 2019

Course leaders and committees



Clusters	Course Title	EU Committee	JO, SY Committee	Responsible university to submit final teaching material
Cluster 1	Water Resources Engineering including non-conventional water recourses	Prof. Joachim Fettig (HS-OWL) Dr. Paulo Baptista (P&B)	Prof. Adnan Ghata (ABU) Prof. Abd-alsasser Alaaraj (ABU) Prof. Omer Maaitah (MUTAH) Dr. Mo'ayyad Shawaqfah (AABU)	Dr. Mo'ayyad Shawaqfah (AABU) Arabic version: Prof. Adnan Ghata (ABU)
Cluster 2	Water and Wastewater Treatment including Bio-Techniques for Waste Water Treatment	Prof. Martin Oldenburg (HS-OWL)	Prof. Adnan Ghata (ABU) Prof. Fahmi Abu Al-Rub (JUST) Prof. Juliet Saloum(TU) Prof. Ahmad Abu-Yaghi (UJ) Dr. Muna Hindiyeh (GJU) Dr. Mo'ayyad Shawaqfah (AABU)	Dr. Mo'ayyad Shawaqfah (AABU) Arabic version: Prof. Adnan Ghata (ABU)
Cluster 3	Design of Sustainable Buildings including Energy efficient building services	Prof. Wolfgang Streicher (UIBK)	Dr. Loui Dabbour (ZUJ) Dr. Hamzeh Ali (ABU)	Dr. Loui Dabbour (ZUJ) Arabic version: Prof. Adnan Ghata (ABU)
Cluster 4	Air Pollution and Air Quality Management	Prof. Klaus Maßmeyer (HS-OWL)	Dr. Mo'ayyad Shawaqfah (AABU) Prof. Khalaf Alabdullah (AU) Prof. Adnan Ghata (ABU) Prof. Ahmed Al-Mahmoud (ABU) Prof. Mohammad Hamdan (UJ) Prof. Ahmad Abu-Yaghi (UJ)	TU Arabic version: TU
Cluster 5	Environmental engineering and sustainable development	Prof. Martin Kaltschmitt (TUHH)	Prof. Fahmi Abu Al-Rub (JUST) Prof. Moussa Al-Samara (TU) Prof. Ahmad Abu-Yaghi (UJ) Dr. Muna Hindiyeh (GJU) Dr. Mo'ayyad Shawaqfah (AABU)	Prof. Moussa Al-Samara (TU) Arabic version: Prof. Moussa Al-Samara (TU)
Cluster 6.a	Introduction to Environment and Climate Change	Prof. Martin Kaltschmitt (TUHH) Dr. Eduardo Luís Cardoso (UCP)	Prof. Moussa Al-Samara (TU) Dr. Mo'ayyad Shawaqfah (AABU) Dr. Saeb Khresat (JUST) Dr. Muna Hindiyeh (GJU)	Dr. Eduardo Luís Cardoso (UCP) Dr. Mo'ayyad Shawaqfah (AABU) Arabic version:



		Prof. Klaus Maßmeyer (HS-OWL)		Prof. Moussa Al-Samara (TU)
Cluster 6.c	6.c Environmental Monitoring Systems (New Course)	Dr. Eduardo Luís Cardoso (UCP) Prof. Burkhard Wrenger (HS-OWL) Prof. Klaus Maßmeyer (HS-OWL)	Prof. Adnan Ghata (ABU) Prof. Ahmed Al-Mahmoud (ABU) Prof. Khalaf Alabdullah (AU) Prof. Moussa Al-Samara (TU) Prof. Ahmad Abu-Yaghi (UJ) Dr. Muna Hindiyeh (GJU)	AU Arabic version: AU
Cluster 7	Energy Resources and Engineering and Energy conversion Technologies	Prof. Martin Kaltschmitt (TUHH) Prof. Wolfgang Streicher (UIBK)	Prof. Mohammad Hamdan (UJ) Eng. Razan Al Rhia (TU) Dr. Loui Dabbour (ZUJ) Dr. Zayed Al-Hamamre (UJ)	Prof. Mohammad Hamdan (UJ) Arabic version: Prof. Moussa Al-Samara (TU)
Cluster 8	Design of Renewable Energy Systems	Prof. Martin Kaltschmitt (TUHH) Prof. Wolfgang Streicher (UIBK) Prof. Salman Ajib (HS-OWL) Dr. Eduardo Luís Cardoso (UCP)	Prof. Suhil Kiwan (JUST) Prof. Ahmed Al-Salaymeh (UJ) Prof. Mohammad Smairan (AABU) Prof. Chehadeh Moussa (ABU) Prof. Shoaib Mahmoud (TU)	Prof. Suhil Kiwan (JUST) Arabic version: Prof. Chehadeh Moussa (ABU)
Cluster 9	Heating Ventilating and Air Conditioning Systems including solar energy driven system	Prof. Wolfgang Streicher (UIBK) Prof. Salman Ajib (HS-OWL)	Dr. Mohammad Majali (MUTAH) Dr. Osama Ayadi (UJ) Eng. Eman Abdelhafez (ZUJ) Prof. Suhil Kiwan (JUST) Dr. Mohammad Al-Rbai (UJ)	Dr. Osama Ayadi (UJ) Arabic version: Prof. Moussa Al-Samara (TU)
Cluster 10	Power and Refrigeration Cycles	Prof. Salman Ajib (HS-OWL) Prof. Wolfgang Streicher (UIBK)	Prof. Mohammad Hamdan (UJ) Dr. Mohammad Majali (MUTAH) Prof. Suhil Kiwan (JUST) Dr. Osama Ayadi (UJ)	Eng. Eman Abdelhafez (ZUJ) Arabic version: AU



Cluster 11	Modelling and simulation of power plant cycles (new)	Prof. Salman Ajib (HS-OWL)	Prof. Suhil Kiwan (JUST) Dr. Mohammad Majali (MUTAH) Eng. Scandar Hadad (TU)	Dr. Mohammad Majali (MUTAH) Arabic version: AU
Cluster 12	Waste Resource Management including Solid Waste Management	Prof. Martin Kaltschmitt (TUHH)	Dr. Mo'ayyad Shawaqfah (AABU) Dr. Rasin Zakieh (ABU) Dr. Muna Hindiyeh (GJU) Dr. Loui Dabbour (ZUJ) Dr. Zayed Al-Hamamre (UJ) Dr. Mohammad Al-Rbai	Dr. Rasin Zakieh (ABU) Arabic version: ABU

Session (3-B)

Training session on Learning Methodologies

A parallel training session was conducted by Dr. Eduardo Cardoso (UCP) on Learning Methodologies (Problem based learning, Flipped/Inverted classroom, Competency based learning, Inquiry-based Learning, Game-based Learning).



Day 2
Tuesday, September 3, 2019

The second day started with a summary of the first day delivered by Prof. Ahmed Al-Salaymeh (UI)

Session (4-A)
Training on EGREEN Moodle

A practical session on EGREEN Moodle platform was conducted. A step-by-step process on how to use the platform was explained to the participants to let them start using the platform next semester easily.

Session (4-B)
Chaired by Prof. Wolfgang Streicher (UIBK)

WP4: Development of Online Content and Competencies

Title	Major Activities	Coordination			Estimated Start\END Date	
		Coordinator	Co-Coordinator	Other partners involved		
WP4: Development of Online Content and Competencies	Task 4.1: Development of e-Learning Environment.	UCP	JUST, AU	All	1/1/2018	1.12.2017 To 1/4/2018
	Task 4.2: Adaptation of e-learning Courses Content into curricula				1/4/2018	
	Task 4.3: Personalization of e-learning.				1/4/2018	

Dr. Eduardo Cardoso, UCP, presented the tasks and activities of this work package and the action plan for the implementation. The partners agreed on the following:

No.	Task	Responsibility	Due Date
1.	Each university will implement at least one course in fall semester 2019 by using EGREEN Moodle	JO Partners SY Partners	Fall semester, 2019
2.	Prepare and upload the courses material on portal	JO Partners SY Partners	Fall semester, 2019
3.	Apply quality tools (circulate surveys pre and post course surveys)	JO Partners SY Partners	Fall semester, 2019



4.	Provide list of courses to be implemented for fall semester 2019 including the Moodle course and the teachers names	JO Partners SY Partners	Sep, 2019
----	---	----------------------------	-----------

WP5: Capacity Building

Title	Major Activities	Coordination			Estimated Start\END Date	
		Coordinator	Co-Coordinator	Other partners involved		
WP5: Capacity Building	Task 5.1: Development a Capacity Building Programme	TUHH	GJU, ABU	All	1/3/2018	1.1.2018 To 1/10/2018
	Task 5.2: Academic Visits to EU Partners				1/7/2018	
	Task 5.3: Students Visits to EU Partners				1/7/2018	
	Task 5.4: Training Workshops in environment in Jordan and Syria				1/10/2018	

Mr. Marvin Scherzinger (TUHH), presented the tasks and progress of this work package and the action plan for the implementation. The partners agreed on the following tasks:

No.	Task	Location	Due Date
1.	Organize a training workshop on e-learning and Moodle for EGREEN faculty members who teach EGREEN courses next fall semester	Porto	Nov 14-16, 2019
2.	Training Workshop in Syria by Prof. Salman Ajib	Lattakia	Nov 24-30, 2019
3.	Training Workshop for Syrian Partners Students in Jordan	Jordan	March 1-12, 2020
4.	Training Workshop for Syrian Partners and Jordanian Staff in Jordan	Jordan	Feb 2-13, 2020 Or Mar 1-12, 2020
5.	EU professors visit to Jordan	Jordan	Feb 2-13, 2020 Or Mar 1-12, 2020



6.	Prepare agenda for student training and selection criteria	MU GJU AABU UJ	Oct, 2019
----	--	-------------------------	-----------

Session (5-A)
Training on EGREEN Moodle

The practical session on EGREEN Moodle platform was continued.

Session (5-B)
Chaired by Prof. Omer Maaitah (MUTAH)

WP1: Networking

Title	Major Activities	Coordination			Estimated Start\END Date
		Coordinator	Co-Coordinator	Other partners involved	
WP1: Networking	Task 1.1 : Elaboration of Agreement, Members List and Statute	JUST	P&B	All	15/10/2016 To 14/10/2019

Project coordinator presented the status and activities of this work package and the action plan for the implementation. The partners agreed on the following:

No.	Task	Responsibility	Due Date
1.	Disseminate EGREEN activities to EGREEN network members	JO Partners SY Partners	Sep-Nov, 2019
2.	Send a summary of developed EGREEN Courses to network members to get their feedback	JUST TU	Sep-Nov, 2019
3.	Carry out a workshop to explain and disseminate information, giving lectures about some selected topics in the developed courses	JO Partners SY Partners	Sep-Nov, 2019
4.	Conduct a stakeholder workshop in Aqaba	UJ JO Partners	Nov, 2019 Feb, 2020

WP7: Dissemination and Sustainability

Dr. Adnan Ghata, ABU, presented the prepared dissemination plan, tasks and activities of this

Title	Major Activities	Coordination			Estimated Start\END Date	
		Coordinator	Co-Coordinator	Other partners involved		
WP7: Dissemination and Sustainability	Task 7.1: Communication Plan to Disseminate Activities	ABU	ZUJ, P&B	All	1/3/2017	1.11.2016 To 1/10/2019
	Task 7.2: Info- Days "Environments and Climate Change"				1/6/2018	

work package and the action plan for the implementation. The partners agreed on the following:

No.	Task	Responsibility	Due Date
1.	Next issue of Newsletter	ZUJ, UCP	Oct, 2019
2.	Conduct Info-days (open door days-Environment and Climate Change) in each partner university for faculty member and students	JO SY	Once yearly
3.	Circulate the news letter to the mailing lists	JO SY EU	Over project life
4.	Final Seminar in Amman, Jordan	All	Mar 11-13, 2020



Session (6)
Chaired by Prof. Ahmed Al-Salaymeh

WP8: Management

Title	Major Activities	Coordination			Estimated Start\END Date	
		Coordinator	Co-Coordinator	Other partners involved		
WP8: Management	Task 8.1: Scientific committee	UJ	-	All	1/2/2017	15.10.2016 To 14/10/2019
	Task 8.2: Steering Committee				1/2/2017	
	Task 8.3: Operational management				14/10/2019	
	Task 8.4: EGREEN Website				1/4/2017	

Prof. Ahmed Al-Salaymeh, General Manager of Egreen Project, presented the financial management rules. The action plan for the management activities is as follow:

No.	Task	Responsibility	Due Date
1.	Final steering committee meeting will be conducted in Amman, Jordan along with final seminar.	All	Mar 11-13, 2020
2.	Prepare for the final report	All	April, 2020
3.	Submit financial report	All	Oct 15, 2019