



EGREEN – Development of Environmental Engineering and injection of climate change concept for Undergraduate curriculum.

Sustainability Plan for EGREEN project

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TABLE OF CONTENT

Content		
1	Introduction	4
2	Elements of the Program	5
2.1	Location, logistics and labs	5
2.2	Academic Staff	6
2.3	Students	6
2.4	Curriculum	7
2.5	End users	7

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1 Introduction

The main objective of the EGREEN project is to improve the capacities of six Jordanian & three Syrian Universities on environment and climate change issues, to provide a high-quality education for Jordanian and Syrian undergraduate students, training new experts to be creative in the labor market so they can challenge and stimulate posts in industry or research field. This project has been designed along with the German, Austrian and Portugal Applied Universities model.

EGREEN aims to enable Jordanian and Syrian universities face the "environment challenge" by modernizing their 'environment' curricula, developing and implementing a sustainable bachelor degree program, building staff capacity and also enhancing the awareness of the Bologna process.

The outcomes of the project are explained below:

- Develop, integrate, accredit and evaluate some courses at a bachelor degree program with an appropriate laboratory component in environment jointly taught by universities in Jordan and Syria and brought into line with the Bologna requirements.
- 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 distance learning.
- 4. Extend services and training in collaboration with the local and regional industry and community.
- 5. Improve the human capacity of Jordanian, Syrian universities by providing training and upgrading opportunities in the EU for aspiring young and women academic members of staff.

The sustainability plan lays out a road map to guide us toward building responsible academic courses on environment, and climate change with adequate and reliable outputs. Building that future will require not only long-term actions, but also immediate actions and investments that will help to fulfil the short-term jobs required to satisfy the demand needed by environment businesses and establish the clean energy industry. However, courses that follow along term sustainable plans that will be more successful and competitive than others. As the world of academics becomes ever more competitive on labour market, sustainability will become

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important not only for success but also, eventually, for survival. This plan will give power to successively perform the EGREEN project through initiatives that are technically impact, environmentally responsible and economically justified.

2 Elements of the Program

Having sustainable courses elements and processes will lead to a sustainable program. Thus, we need to ensure the survival of course key components and processes. To do so, we need first to identify the key elements and process of the program. The following are the main elements of the program

- 1. Location, logistics and labs
- 2. Academic Staff
- 3. Students
- 4. Curriculum
- 5. End users

2.1 Location, logistics and labs

To secure sustainability of the above elements, the courses should run at each partner university simultaneously. The Commitment of each university toward the program will guarantee and secure a location to host the program. At the same time, performing the accreditation process of the bachelor program at all partner universities; will grant the approval and the commitment of all administrative levels in the universities toward the program. Thus, the logistics will be provided by each partner university to the new course in the same manner as it is given to other running courses at the university. This will add minimum cost on each university toward the new courses.

Furthermore, new lab equipment for the project should take into consideration the real need for the program. Labs equipment will be selected in such a way to strengthen the courses, allow offering increased training opportunities for the students, and it should enable students to continue producing visionary work. Thus lab equipment should be carefully selected to satisfy the academic need and proper demonstration. It also should take into consideration the type of research activity that students can use to carry out some of their final year thesis. Finally, this

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equipment should be used as training benches to improve capacities of students on state-of-the-art technologies and systems related to the program.

2.2 Academic Staff

Professors are key elements of any academic program. They educate future leaders by providing EGREEN courses in engineering research and education. This includes continued improvement of the undergraduate curricula for education of a new breed of environment and climate change specialist. The graduated students should possess not only a strong knowledge of fundamentals, but also the knowledge required for broad applications and an understanding of social and environmental issues that determine sustainable and technological choices. The faculty members should be aware that their tasks must include

- Commitment to provide students with fundamental knowledge within the main courses topics, and at the same time, broaden the curriculum by introducing new courses and real examples with continuing focus on professional team projects.
- Establish faculty task force to develop curriculum that fulfil project objectives.
- Develop seven courses elaborated on the base of local needs and state of the art technologies, and accredited following Bologna requirements including 2 E-learning courses and 1 ECTS

The above tasks can be achieved by attaching EGREEN program to the already "sustainable" programs in the universities.

2.3 Students

To achieve sustainability for the student element, we need to insure the enrolment of the maximum number of students at all times. The program student-capacity is usually defined by the accreditation committee according to the faculty members involved in the program. To ensure that, we need to attract engineers, architects, lawyers and economist students to the program by:

- Creating a more welcoming and diverse community through Info days, seminars and advertisement. This part is in process now and will be continue.
- Promote increased interaction between undergraduate students and different labour market to be a primary contributor to the environment researches.

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– Enhance the partnership with private sector

2.4 Curriculum

In order to have curricula that help in having sustainable courses, it must have the following characteristics:

- 1. Must be flexible to adapt the changes in the labour market.
- 2. Courses must be interactive; reviewed every year thru preset mechanisms
- 3. Must have all elements of any another BSc. program. This means to enable the undergraduate's student to complete higher education in any other field.
- 4. The actual courses taught in the program must meet the learning outcome

2.5 End users

To ensure the sustainable program and maintain high quality staff and hire professional technical and administrative specialist on this bachelor program, we should:

- Build a life communications plan between the academy and stakeholders.
 Develop marketing tools in collaboration with undergraduate Admission for EGREEN project and industry
- Prepare and market short courses related to program's topics in collaboration with private sector.

This plan can be achieved through:

- Activating the National and International Network (NIN) developed through the project.
- Having members of stakeholders. within the collage councils at faculties hosting the program
- Having a task force from faculty members and members representing the private sector which review courses outcome and recommend changes.

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