OUTPUT - 1.1
Kick-off Workshop report

<table>
<thead>
<tr>
<th>Work package:</th>
<th>1 Preparation</th>
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<tr>
<td>Task:</td>
<td>1.1 Kick off - Transfer of C-map methodology</td>
</tr>
<tr>
<td>Author:</td>
<td>ROMA TRE, Federica Benelli</td>
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<tr>
<td>Review:</td>
<td>1</td>
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<tr>
<td>Date:</td>
<td>10/04/2016</td>
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The University of Roma Tre is the lead partner of the ENEPLAN Project, financed within the Erasmus+ program for Higher Education Institutes. The ENEPLAN project involves 18 institutions from 6 Mediterranean Countries and aims at developing interdisciplinary skills through the promotion of innovative educational approaches to energy planning and the collaboration with Research and business activities operating in the renewable energy sources sector.
# Meeting programme

<table>
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<tr>
<th>Mon 14th</th>
<th>Room Urbano VIII (first floor)</th>
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| 16.00 - 18.00 | RomaTre:  
• Presentation of the project activities  
• Presentation of the working plan update proposal  
• Presentation of the meeting program and objectives |

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<thead>
<tr>
<th>Tue 15th</th>
<th>Room Urbano VIII (first floor)</th>
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| 9.00 - 9.15 | Roma Tre:  
• Welcome speech by the Rector |
| 9.15 - 11.15 | Project partners (RomaTre, ALMEE, ASU-FE, AUB, BAU, JUST):  
• Presentation of the partner organisation and its contribution to project activities and objectives (20’ each) |
| 11.15 - 11.30 | Coffee break |
| 11.30 - 13.30 | Project partners (LU, MEDGREEN, MIEMA, PSUT, RSS/NERC, UALG):  
• Presentation of the partner organisation and its contribution to project activities and objectives (20’ each) |
| 13.30 - 15.00 | Welcome light lunch |
| 15.00 - 17.00 | Project partners (UJ, UNICAM, UNISI, UOP, UPO, ZEWAIL):  
• Presentation of the partner organisation and its contribution to project activities and objectives (20’ each) |

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<tr>
<th>Wed 16th</th>
<th>Room Urbano VIII (first floor) + Room De Vecchi (second floor)</th>
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</table>
| 9.00 - 11.15 [Urbano VIII] | Workshop (led by RomaTre):  
• Presentation of the concept maps |
| 11.15 - 11.30 | Coffee break |
| 11.30 - 13.00 [Urbano VIII] | Workshop (led by RomaTre) [Urbano VIII]:  
• Presentation of the Cmap software |
| 13.00 - 14.30 | Lunch break (free) |
| 14.30 - 16.30 [DeVecchi Room] | Workshop (led by RomaTre) - [DeVecchi Room]:  
• Exercise on the concept maps |

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<tr>
<th>Thu 17th</th>
<th>Room Urbano VIII (first floor) + Room De Vecchi (second floor)</th>
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</table>
| 9.00 - 11.15 [Urbano VIII] | RomaTre:  
• Presentation of the updated working plan and the expected outputs  
MIEMA:  
• Presentation of the web platform: Eneplan web-site, Cmap Cloud, E-learning platform. |
| 11.15 - 11.30 | Coffee break |
| 11.30 - 13.00 | RomaTre:  
• Overview of the project activities  
• Presentation of the Cmap Cloud software  
• Exercise on the concept maps |


<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>9.00</td>
<td>RomaTre: How to provide geographic data for the project’s database</td>
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<td>AUB: Presentation of the communication and dissemination plan</td>
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<td>13.00 - 14.30</td>
<td>Lunch break (free)</td>
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<tr>
<td>14.30 - 17.30</td>
<td>RomaTre: Presentation of the financial reporting rules</td>
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<td>RomaTre: Presentation of the Management Plan</td>
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<td></td>
<td>JUST: Presentation of the Quality Plan</td>
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<tr>
<td>16.30 - 18.00</td>
<td>Steering Committee meeting (moderated by RomaTre) Review and approval of the updated working plan</td>
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<tr>
<td>Fri 18th</td>
<td>Room Urbano VIII (first floor)</td>
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<tr>
<td>9.00 - 10.30</td>
<td>RomaTre: Presentation of next project activities</td>
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<tr>
<td>11.00 - 14.00</td>
<td>Guided tour to the Roman Forum</td>
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# List of participants

<table>
<thead>
<tr>
<th>Partner</th>
<th>Name</th>
<th>14 (aft.)</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>SC del.</th>
<th>18 (morn.)</th>
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<tbody>
<tr>
<td>1 UNIROMA 3</td>
<td>Anna Laura Palazzo</td>
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<tr>
<td></td>
<td>Federica Benelli</td>
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<tr>
<td></td>
<td>Stefano Magauda</td>
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<td></td>
<td>Noemi Tulii</td>
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<td>2 UNISI</td>
<td>Elena Neri</td>
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<td>Riccardo Pulselli</td>
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<tr>
<td>3 UNICAM</td>
<td>Prof. Andrea Catorci</td>
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<td>Federico Maria Tardella</td>
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<tr>
<td>4 MIEMA</td>
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<td>6 UPO</td>
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<td>7 AUB</td>
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<td>9 ALMEE</td>
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**Total number participants from partner organizations**

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<tr>
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<th>26</th>
<th>35</th>
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<th>36</th>
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(*) Representing also MEDGREEN and LU
Project summary and introduction of the meeting programme

Since not all the scheduled participants had arrived yet and not all partners were represented, during the first meeting session just the main components of the project were reviewed, the work plan update was simply introduced pointing out which tasks and activities should be adjusted due to the 3 months delay in project start, its discussion in detail was postponed to Thursday, the meeting programme and the folder content were also presented. The introduction was accompanied by a power point presentation, see Annex 1.
Presentation of the Partner Organizations

The second meeting session was opened by the welcome speech of the Rector, then each partner was called to present its organization and its contribution to the project according to a brief format previously shared. ROMA TRE, as hosting partner, presented first and other partners followed in short name alphabetical order, each presentation took approximately 20’ and the sequence was suspended by a coffee break in the morning and a light lunch. See Annex 2 for the following power point presentations:

- ROMA TRE - University of Roma Tre (Anna Laura Palazzo)
- ALMEE - Lebanese association for Energy saving and Environment (Rita Najjar)
- ASU/FE - Ain Shams University, Faculty of Engineering (Hoda Soussa)
- AUB - American University of Beirut (Yaser Abunnasr)
- BAU - Al-Balqa’ Applied University (Tariq A. Al-Azab)
- JUST - Jordan University of Science and Technology (Fahmi Abu Al-Rub)
- LU - Lebanese University/MEDGREEN - Mediterranean Durably Green (Rita Najjar on behalf of Chafic Salame)
- MIEMA - Malta Intelligent Energy Management Agency (Jesmond Xuereb)
- PSUT - Princess Sumaya University for Technology (Walid A. Salameh)
- RSS/NERC - Royal Scientific Society (Nidal Abdalla)
- UALG - University of Algarve (Flávio Martins)
- UJ - University of Jordan (Ahmed Al-Salaymeh)
- UNICAM - University of Camerino (Andrea Catorci)
- UNISI - University of Siena (Elena Neri)
- UOP - University of Petra (Ali Al Maqousi)
- ZEWAIL - Zewail City of Science and Technology (Ibrahim Ashour)
Introduction to the concept map methodology and the C-MAP software

This session has been dedicated to the presentation of concept maps and a workshop intended to demonstrate how they can be a useful tool in higher education. Since concept mapping is the cornerstone of the ENEPLAN project, such presentation and workshop have been essential in order to make Roma Tre aware of how many partners had already used such tool, and to allow the others to become acquainted to it.

The presentation has focused on concept maps as a tool for developing “meaningful learning”, intended as a means for acquiring new knowledge starting from one’s own previous knowledge. A simple example of such learning method has been provided, demonstrating how the concept of “car”, hypothetically unknown to a given person, can be developed using a concept map and starting from the concepts of “carriage” and “internal combustion engine” – these latter concepts being already known by the same person. The concept map has been therefore presented as a “self-learning” tool that a student can use – if adequately guided by a teacher and by other, valid supporting learning materials – in order to develop new knowledge in an interactive way.

In the second part of the presentation, the ENEPLAN project, its objectives and its method have been illustrated using another, specific concept map, in order to provide a further example of how such tool can be used.

Partners have been then engaged in a workshop intended as a collective exercise demonstrating the possible uses of concept maps. They have been divided into groups, and asked to prepare a list of concepts related to the following focus question: given the need to organise a university course teaching students how to plan renewable energy networks while at the same time protecting landscape features, what are its contents and tools? The lists produced by partners have been commented, and, finally, a tentative concept map has been collectively created starting from one of them.

Besides its main objective of making partners aware of the potentials of concept mapping and meaningful learning, the workshop has been also useful in order to start a collective reasoning about the possible format for the students’ workshop that will have to be organised as a future project activity.

The presentation was accompanied by a demonstration of the C-Map software, see Annex 3 for the screenshots.
Presentation and discussion on forthcoming activities

The Thursday session of the meeting was opened by RomaTre, reviewing the main elements of the project: Consortium structure, WPs, tasks, outputs and coordinating partners. Then RomaTre presented in detail its proposal concerning the workplan update. Some adjustments are in fact needed because of a delay of 3-4 months in starting the project activities. The changes in the time table have consequences mostly on the WP2 and in particular on the workshop schedule and allocation, RomaTre proposed to cut one of the thematic workshops, merging two topics into one and to relocate the next workshop from Beirut to Rome. The proposal need to be discussed and approved by the steering committee in the afternoon.

Then the 5 work package leaders presented the activities they are going to coordinate and gave indications about the contribution expected by the other partners.

See Annex 4 for the following power point presentations:

- MIEMA: Presentation of the web platform: Eneplan web-site, Cmap Cloud, E-learning platform (Jesmond Xuereb)
- ROMA TRE: Characteristics of the geographic data for the project’s database (Stefano Magaudda)
- AUB: Presentation of the communication and dissemination plan (Yasser Abunnasr)
- ROMA TRE: Presentation of the financial reporting rules (Morena Rizzo, representative of the Roma Tre University European Programmes Office)
- ROMA TRE: Presentation of the Management Plan (Federica Benelli)
- JUST: Presentation of the Quality Plan (Hikmat Ali)
Minute of the steering committee

SC meeting is held on Thursday 17th and starts at 2.30 PM.
[No representative from MEDGREEN and LU are present, ALMEE representative - Rita Najjar - has been delegated in written]

Mr. Fahmi Abu Al-Rub (JUST) asks if it is possible for ROMA TRE to transfer the entire budget of four Jordanian partners (Al-Balqa’ Applied University, Jordan University of Science and Technology, Princess Sumaya University for Technology, University of Jordan) to the Jordan University of Science and Technology (JUST) for administrative streamlining. Ms. Anna Laura Palazzo (ROMA TRE), despite underlying the fact that the signed Partnership Agreement would not allow such solution, proposes to ask Commission if this would be possible.

Ms. Federica Benelli (ROMA TRE) asks each partner to appoint the official members of Steering Committee, which has to be composed of one member per partner. The appointed members are indicated in the meeting attendance list (see pag.6).

Ms. Federica Benelli then asks partners to appoint the members of the Quality Board, which has to be composed of one member per participating country. The appointed Quality Board is composed of:
- Egypt: Mr. Fareed Aboul-ela(Zewail City);
- Italy: Mr. Andrea Catorci (UniCam);
- Jordan: Mr. Ali Maqousi (UOP);
- Malta: Mr. Jesmond Xuereb (MIEMA);
- Spain: Ms. Pilar Paneque Salgado (UPO);
- Portugal: Mr. Flávio Martins (UAAlg).

As regards Lebanon, two partners are missing; Mr. Yaser Abunnasr from AUB therefore declares that he cannot decide because the other Lebanese partners are not present. SC therefore decides that the Lebanese member of the Quality Board will be appointed in the next meeting.

Mr. Fahmi Abu Al-Rub from JUST proposes ROMA TRE, as project coordinator, to take part of the Quality Board in addition to the appointed Italian representative. SC agrees.

Ms. Federica Benelli (ROMA TRE) proposes to merge two of the future thematic workshops, since project started 3-4 months late, there are many meetings and workshops planned (approximately one every four months) and the task is very demanding. SC agrees and decides to merge two of the thematic workshops, decision about which ones will be merged is postponed.

Ms. Federica Benelli (ROMA TRE) opens discussion about the date and location of next workshop. As regards the location, she proposes to organise it in Rome (instead of Beirut as originally planned) for the following reasons:
- it is the easiest location to reach, especially for those coming from partner countries;
- it would imply the minimum change in the budget, keeping in mind that the changes cannot exceed the threshold of 10%;
- it would allow ROMA TRE, who is in charge of the coordination of the WP to involve more people in its organization and coordination, otherwise just 2 people travelling - as planned -would be insufficient to successfully coordinate the workshop for the construction of the basic conceptual map (C-MAP 1.0).

SC agrees on location in Rome.
As regards the date, many proposals are made and a long discussion takes place. Dates in June and July do not meet everyone’s needs, in particular concerning the Ramadan, the university exams and the summer courses.

[At 5.30 PM, UniSi leaves the meeting and delegates ROMA TRE].

Apparently, having the workshop in September would be too late according to the current time plan and the dates scheduled for the following workshops. Therefore, ROMA TRE proposes to shift all the workshops by two or three months in order to allow for the next workshop to be held in September while keeping them distributed all over the project duration.

In the end, SC agrees to organise the workshop in Rome from 5th to 9th of September. UniCam is the only partner that will not be able to attend the workshop; however, such decision is taken given the impossibility to meet everyone’s needs. SC agrees to find an alternative solution to ensure the representation of UniCam’s technical and methodological point of view within the workshop activities, since such point of view would not be otherwise represented by anyone else in the partnership.

SC agrees also on the approximate dates of the following workshops, as follows:

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<tr>
<th>Year</th>
<th>Workshop on C-Map 1.0</th>
<th>Location</th>
<th>Date</th>
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<tr>
<td>2016</td>
<td>Thematic Workshop</td>
<td>Rome</td>
<td>5-9 Sep</td>
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<td>As planned</td>
<td>Dec</td>
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<td>2017</td>
<td>Thematic Workshop</td>
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<td>2018</td>
<td>Workshop on C-Map 2.0</td>
<td>As planned(Cairo)</td>
<td>Mar</td>
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<td>Workshop with students</td>
<td>As planned(Amman)</td>
<td>May</td>
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<td>Final conference</td>
<td>As planned(Leirut)</td>
<td>Oct</td>
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SC approves this tentative time plan.

SC ends at 6.00 PM.
## Partnership

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<th>Country</th>
<th>HEI/University or Organisation</th>
<th>Programme/Country</th>
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<tbody>
<tr>
<td>P1 Italy</td>
<td>University of Roma Tre</td>
<td>ROMA3</td>
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<td>University of Siena</td>
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<tr>
<td>P5 Portugal</td>
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<td>P6 Spain</td>
<td>University “Pablo de Olavide”</td>
<td>UPO</td>
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<td>P7 Lebanon</td>
<td>American University of Beirut</td>
<td>AUB</td>
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<td>P8 Lebanon</td>
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<td>P9 Lebanon</td>
<td>Lebanese association for Energy saving and Environment</td>
<td>ALMEE</td>
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<td>P11 Egypt</td>
<td>Zewail City of Science and Technology</td>
<td>ZEWALL</td>
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<td>ASU-FE</td>
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<td>Al-Balqa’ Applied University</td>
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<td>P14 Jordan</td>
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<td>JUST</td>
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# Workpackages and tasks

<table>
<thead>
<tr>
<th>WORK PACKAGE</th>
<th>WP COORD.</th>
<th>TASKS</th>
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</table>
| WP1 PREPARATION | MIEMA | Task 1.1. Kick off - Transfer of C-map methodology  
Task 1.2. State of the art and case studies  
Task 1.3. Realisation of the C-map web platform  
Task 1.4. Realisation of a webgis platform |
| WP2 DEVELOPMENT | ROMA3 | Task 2.1. Construction and validation of C-map 1.0  
Task 2.2. Development of thematic OERs  
Task 2.3. Construction and validation of C-map 2.0  
Task 2.4. Testing of C-map 2.0 with students  
Task 2.5. Maintenance of the Cmap web platform and the webGIS platform/GDB |
| WP3 QUALITY PLAN | JUST | Task 3.1. Quality assessment of OERs  
Task 3.2. Quality assessment of workshops  
Task 3.3. Quality assessment of collaborative tools and cooperation activities |
| WP4 DISSEMINATION EXPLOITATION | AUB | Task 4.1. Preparation of a shared communication plan  
Task 4.2. Website and communication materials  
Task 4.3. Final conference |
| WP5 MANAGEMENT | ROMA3 | Task 5.1. Technical and financial management  
Task 5.2. Financial management |
ANNEX 2
Roma Tre University of Rome - UNIROMA 3 - (Italy)

Anna Laura Palazzo  eneplan@os.uniroma3.it

ALL ROADS LEAD TO ROME - THE ROMAN PATTERN
The radiocentric pattern is still conditioning urban development defined as an “oil stain”.
Continuity in the fruition of the city core is witnessed by many monuments re-shaped and re-used. Next to them, many private dwellings would make their way from the Middle Ages onwards and the big “void” of the Forum would accommodate a brand new urban life.
CONSERVATION VS DEMOLITION

Only “recently” was the Forum placed under protection by revealing its ancient structures. A disruption in everyday life. The “Foro Romano” as it was in the Nineteenth Century and in the Twentieth Century.

Via Alessandrina after the demolition works under the Fascism and today.

RIONE MONTI IN THE XVIIIth CENTURY

Ideal reconstruction of the built up area.
THE RIONE MONTI TODAY

The Ancient City, or at least its real memory, thus lives extensively within the current one. It defines layouts of buildings and the shape of open space in the historical districts, where it is common to observe specific evolutions of the urban fabric that result from the presence of previous objects such as ancient structures or boundary lines. The City’s archaeological facts are just the emerging part of a relation system deserving further investigation.

WHERE WE ARE – UNIVERSITY SETTLEMENT PATTERNS

"ROMA TRE", CREATED IN 1992, ALLOWS FOR "THE CITY WITHIN THE CITY" MODEL

"LA SAPIENZA", DATES FROM THE XV CENTURY. THE 1932 MASTERPLAN SET IT IN A DOWNTOWN AREA (22 HA), ACCORDING TO THE CONCEPT OF "THE CITY INSIDE THE CITY".

"TOR VERGATA" (1982) STANDS IN A LARGE RURAL AREA (680 HA) AND REFLECTS THE IDEA OF "THE CITY SETTING APART FROM THE CITY".
The urban transformation launched in the early 90es (The Progetto urbano Ostiense-Marconi) occurred along the Tiber River and along an old consular road, the via Ostiense.

The development strategy was expected to contribute to the regeneration of the whole city sector, shaping its public spaces and improving urban and environmental quality.

The location of Roma Tre complies to accessibility standards (subway-line, railways and international airport), and availability of formerly industrial and disused public areas.

URBAN LANDSCAPES. THE RIVER BANKS
THE CITY WITHIN THE CITY. ROMA TRE FACILITIES IN THE OSTIENSE-MARCONI DISTRICT
FROM THE FACTORY CITY TO THE KNOWLEDGE FACTORY

The areas were yielded by the Municipality of Rome to the University which undertook some projects for the community, such as: greenspaces for recreation and sports, cultural equipments, etc.

Roma Tre facilities were located in several brownfields and formerly factory buildings. The functional resumption involved a series of industrial buildings.

THE UNIVERSITY IN FIGURES

- 40,000 students enrolled;
- 12 Departments;
- 70 Degree courses;
- 22 PhD courses;
- 80 Post-degree courses.

FROM THE FACTORY CITY TO THE KNOWLEDGE FACTORY

VIA OSTIENSE. THE FORMER GLASS FACTORY, NOW RECTORATE AND DEPARTMENT OF LAW (ARCH. ALFREDO PASSERI, ARCH. GIUSEPPE PASQUALI).

DEPARTMENT OF ENGINEERING (ARCH. ANDREA VIDOTTO) (ARCH. LORENZO DALL'OLIO, ARCH. MARIO PANIZZA)
Valco San Paolo is both an unsettled place and a rich repository of overlapping memories related to the different stages of its history. It holds a piece of almost untouched nature invisible to pedestrians and city users and deeply deteriorated, awaiting for a better destiny as a Botanical Garden.
The City of Arts was conceived in the former slaughterhouse in the Testaccio District. It consists of the Department of Architecture, collecting University and Research activities, the headquarters of the Academy of Fine Arts, new facilities for cultural life, the Testaccio Centre for popular music and other social, leisure and retail activities. A pedestrian path will provide a direct connection between two districts of the City that are currently set apart by the large enclosure of the building complex.

WHO WE ARE

The Department of Architecture consists of 64 teaching staff members, with 3 PhDs and 6 third level masters. The Planning staff (8 professors and 8 research grants on topics related to landscape planning, climate change and GIS) carry out research on the environmental and landscape quality, climate change, on the relationship between existing historical and development programs, communication and strong involvement of civil society, management of territorial sources and environment. The Department is a founding member of UNISCAPE - European Network of Universities, for the implementation of the European Landscape Convention.
ACTIVITIES
We are committed to the fields of spatial planning, environmental assessment, and landscape studies, through the use of Geographic Information Systems and its cartographic archive. It is also open to external consultancy, especially to public authorities, for the implementation of geographic databases and the elaboration of territorial studies.

AREAS OF EXPERTISE
The staff is expert in the fields of spatial planning, environment, landscape and the historical city, but at the same time has gained experience in the elaboration of GIS and webGIS tools on open source platforms, and their compliance with the interoperability specifications set by the process of implementation of the European INSPIRE Directive. It is therefore open to interdisciplinary collaborations aimed at the application of advanced tools on territorial information and historical knowledge.

RESEARCH OUTPUTS
- urban and regional planning, urban regeneration, heritage;
- conservation and enhancement of natural and landscape values;
- environmental protection and climate change adaptation and mitigation;
- governance issues;
- cultural sustainability;
- RES and energy planning;
- conservation and dissemination of historical documentation;
The specific purpose of the Enerscapes project, funded by the MED Programme, was to define a sound and replicable methodology for the landscape assessment within policy, planning and decision-making procedures devoted to renewable energy sources.

In terms of contents, a main concern in the methodological approach has been to bridge the gap between the rationality stemming from planning culture, linked to an “ends-means” approach, and the one related to the environmental approach, in which capability, compatibility and performance are at stake.
Educational model

Our academic studies are divided into three levels: Bachelor, or First Level, gives a well-structured and complete basic training; Master, or Second Level, aims to achieve an advanced and extensive professional ability enriched by a specific practical and cultural orientation; the PhD, or Third Level of studies, is oriented to a research career in universities or public and private institutions. We have also professional training courses (Second level Masters).

Bachelor Degree
- Architecture (3 years, 180 ECTS) – 200 students * - (frontal lectures & laboratories)

Master Degree
- Architectural Design (2 years, 120 ECTS) – 60 students * - (frontal lectures & laboratories)
- Architecture and Urban Design (2 years, 120 ECTS) – 60 students * - (frontal lectures & laboratories)
- Architectural Restoration (2 years, 120 ECTS) – 60 students * - (frontal lectures & laboratories)

Second level Masters
- Eco-sustainable Design (1 year, 60 ECTS)

PHD courses
- Local Project and Territorial Policies (half a dozen thesis have been tackling climate change, strategic assessment and other environmental issues).
- Landscapes of the contemporary City. Policies, Techniques and Visual Studies (cityscape in a topic performed).

To whom is the course addressed
- Graduates in engineering and architecture.

Educational goals
- Training professionals in urban sustainable redevelopment applying techniques, methods and operational instruments focusing on energy efficiency, renewable sources and eco-compatibility.

Career opportunities
- Design, calculation, control and certification in architecture and engineering works, urban environment, cultural heritage.

Expected learning outcomes
- Technical awareness and cultural sensitivity in architectural and urban design, at different scales and levels of intervention.

To whom is the course addressed
- Civil servants, officials, consultants, lawyers, professionals, young graduates with four-year or master degree.

Educational goals
- Training professionals specializing in environmental legislation.

Career opportunities
- Master students will access to the highest positions both in the public and the private sector regarding environmental issues (business consultant, company manager, careers in public bodies).

Expected learning outcomes
- Legal issues concerning environmental issues; problem solving skills.

To whom is the course addressed
- Graduates in engineering and architecture.

Educational goals
- Methods, materials and technologies for cultural heritage.

Career opportunities
- GIS and Regional Governance

Expected learning outcomes
- Affinity
Whenever town and regional planning are involved, landscape needs to be previously “referred to”: as a visible and sensitive expression of environmental fragility, it should be the proper “reception frame” for any transformation, while focusing on “the aspirations of the public with regard to the landscape features of their surroundings”, according to the European Landscape Convention.

Current curricula lack a common language among different disciplines at all scales involved – regional planning, urban design and architecture - affected by new phenomena of climate change.

It is increasingly necessary to re-arrange our higher education curricula in order to convey since the early design phase different expertise and address settlement patterns more performative from the energy saving point of view along with eco-sustainable design issues. Innovation in educational models should overcome the traditional separation among disciplinary strands, and directly cope with protection, management and planning policies.
Lebanese Association for Energy Saving and environment - ALMEE - (Lebanon)

Rita NAJJAR, Ph D
najjar_rita@yahoo.com

Profile

- Founded in 1993
- Non Governmental Organization – NGO
- Member of International and Regional Networks
  - MEDENER
  - IMEDER
  - WEEO
  - …
- Main Activities
  - Renewable Energy Sources
  - Energy Efficiency Measures
  - Other “Green issues” (Climatic Change-GHG, …)
  - Environmental impacts of the energy

(www.almeelebanon.org)

- Lebanon
- Mediterranean Basin

(ALMEE, Rita NAJJAR)
Kick off meeting - Rome, March 14-18

Working group

Multidisciplinary group of experts
• Energy Efficiency
• Renewable Energy
• Climate Change
• Energy Policies

ALMEE’s team goal
• Develop
• Increase
• Promote

Scientific method, means contributing to better management of energy and related economic policies
• Build awareness and support

Local, regional and international collaborations
• Governments
• Civil society
• Private sector

(ALMEE, Rita NAJJAR)

Ongoing and achieved projects

• RAMseS (EU Synergy Program)-http://www.ec-ramses.net
• REACT (EU-FP6)
  www.crear.unifi.it/react
• Hy-Pa (EU-Mediterranean Renewable Energy Partnership (MEDREP)-sixth framework program)
  “Renewable energies for Mediterranean specific needs”-www.hy-pa.org
• RESSOL (EU- FP7)
  http://www.ressol-medbuild.eu
• Med-Algae (EU-ENPI CBC Mediterranean Sea Basin Programme)
  http://med-algae.com/

(ALMEE, Rita NAJJAR)
Self-Sufficient Renewable Energy Air-Conditioning

Set-up 2 innovative pilot Renewable Energy systems for Solar cooling in highly sun-irradiated Mediterranean Countries:
- Moulad Houssef Hospital in Casablanca, Morocco
- Dead Sea Hotel in Amman, Jordan
The system produces hot water and air-conditioning

Main objective:

To improve the research and technological Development (RTD) capabilities of mediterranean partner countries, and encourage the establishment of links between partner’s research centers and other stakeholders in society.

Project Partners
- CREAER Centro Ricerca Energie Alternative e Rinnovabili at the University of Florence, Italy
- Deutsches Zentrum für Luft- und Raumfahrt, Germany
- Solitem Energy Technologies Co. Ltd, Turkey
- Lebanon Association Libanaise pour la Maitrise de l’Energie et de l’Environnement
- Jordan National Energy Research Center
- Morocco Centre de Développement des Energies Renouvelables
Kick off meeting - Rome, March 14-18

Manufacturing of collectors in Ankara

Packaged modules

Module frames

Ribs of collector modules

(AlMEE, Rita NAJJAR)

Assemble the solar field at EU laboratory

Unloading of truck arriving at Cologne

(AlMEE, Rita NAJJAR)
Solar Cooling Installation at Casabianca

Collectors above parking area

Chiller

(ALMEE, Rita NAJJAR)

Solar Cooling Installation at Dead Sea Spa Hotel

(ALMEE, Rita NAJJAR)
Renewable Energy Agriculture Multipurpose System for Farmers

Provides rural communities an integrated solar power system which includes battery storage, usable as to power an all purpose vehicle.

(ALMEE, Rita NAJJAR)

Ramses

Outputs of the project

- Vehicle can transport a load of 500Kg agricultural products with 2 persons on a distance 30 Km and return
- Working time in the greenhouse or garden 4-5 hours (pure time) per 24 h day
- Max charging time 6-8 hours per day
- Supplying necessary house equipment (TV, fridge, air conditioners etc.)

(ALMEE, Rita NAJJAR)
Surface tilling; deep tilling; chisel plough; Seed bed preparation; sowing; thinning out; grafting; harvesting; pruning; harrowing. Moving; rolling; transportation; clod breaking; fertilization.

(RESSOL-MEDBUILD)

Annual Direct Solar Irradiance

Jordan: 5-7 kWh/m²/day
Lebanon: 4-6 kWh/m²/day

(RESSOL-MEDBUILD)

(ALMEE, Rita NAJJAR)
RESSOL

Project concept

Field 1
Solar thermal heating and cooling and PVs in buildings

Field 2
Simulation models and optimization of solar heating/cooling systems and PV technologies

Field 3
Energy modeling and decision support in energy planning

(RESSOL, Rita NAJJAR)

RESSOL

Project objectives

Overall Goal
Capacity building to NERC and ALMEE

Objective 1
Enhance scientific knowledge and research experience

Objective 2
Upgrade research equipment

Objective 3
Establish international and national networking relations

Objective 4
Enrich scientific staff

Objective 5
Disseminate knowledge

ALMEE prepared in the frame of RESSOL project a market studies for Solar Water Heater and PV in Lebanon

(RESSOL, Rita NAJJAR)
Production of biodiesel from Algae in selected Mediterranean Countries

Partners

PROJECT PARTNERS:
Cyprus Energy Agency
Malta Intelligent Energy Management Agency
FondazzjoniTemplammit
Studio Sardo
National & Kapodistrian University of Athens
National Research Centre
The Lebanese Association for Energy Saving & for Environment
Faculty of Science, Alexandria University
American University of Beirut
National Technical University of Athens
Universita’ Mediterranea Di Reggio Calabria

Cyprus
Malta
Malta
Italy
Greece
Egypt
Lebanon
Egypt
Lebanon
Greece
Italy
Med-Algae

Objectives
To enhance regional and cross-border collaboration for the development of a new generation of biofuels from micro-algae

*experimental laboratory & pilot growth systems*

to enable production of bio-diesel

(ALMEE, Rita NAJJAR)

Med-Algae

ALMEE has secured supporting ways for development of a regional network, and facilitate its development through:

• an IMS platform:

The Med-Algae VCE supports the network structures. The Mediterranean Renewable Energy Stakeholder Networks
- Currently have over 302 members from across the globe including countries such as China, the USA, France, Ukraine, Russia and Indonesia...
- The members of the networks are diverse and include universities, NGOs, government bodies, consultancies, technology companies and green energy businesses.

Easy to access through the home page of Med-algae project home page: [www.med-algae.eu](http://www.med-algae.eu)

(ALMEE, Rita NAJJAR)
Med-Algae

ALMEE has secured supporting ways for development of a regional network, and facilitate its development through:

• and professional social media:

  • MED-ALGAE group on LinkedIn
    ALMEE created a LinkedIn account for the Med-Algae project.

  • Biofuel & co-products from Microalgae Network

(ALMEE, Rita NAJJAR)

Med-Algae

• Virtual Learning Environment, VLE.

  ALMEE has developed a Virtual Learning Environment to undertake internal e-learning courses. It provides the communication among the project participants, Network members a character of training.

Easy to access through the home page of Med-algae project home page: www.med-algae.eu

(ALMEE, Rita NAJJAR)
Med-Algae

• GIS.

Algae cultivation near power plants is fairly simple. The idea is to pipe the flue gas from the exhaust to the open or closed algae cultivation systems which are preferably located nearby the power plant. For this purpose ALMEE prepared an inventory of GHG emissions from industrial and power sector in Lebanon breakdown by municipalities.

Easy to access through the home page of Med-algae project home page: www.med-algae.eu

(ALMEE, Rita NAJJAR)

GRASS - Green Recovery And Sustainable Solutions

"GRASS" is a new rating system that covers the main features of Green Buildings Standards that are suitable for Mediterranean Climate, Environment and Lifestyles.

GRASS- A new approach of rating system for new designed and existing commercial & Residential buildings in Mediterranean region
Its intent is to mitigate negative impacts of the environment including CO2 emissions, heat island effect, intensive energy consumption, etc.

(ALMEE, Rita NAJJAR)
Consists of four major indicators
Kick off meeting - Rome, March 14-18

**GRASS – Green Recovery And Sustainable Solutions**

Four levels with respect to the percentage of Awarded points

1. ≥ 80.1%
2. 70.1% – 80%
3. 60.1% - 70%
4. 50% - 60%

(ALMEE, Rita NAJJAR)

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Kick off meeting - Rome, March 14-18

**Working Group**

Present the expertise your organization intends to bring about the project (urban and regional planning, environmental impact assessment, life cycle assessment, landscape design, RES technologies, GIS, SMEs involvement, …)

- Environmental impact assessment (ALMEE has expertise in analyzing EIA of projects – ALMEE is using the Ministry of Environment Referential regarding EIA assessment – Also Site assessment is an important part of GRASS green building rating system developed by ALMEE)
- Life cycle assessment (ALMEE Developed the Thermal Standard of Building in Lebanon – Life cycle assessment method was used by ALMEE for the parametric economic analysis – Also LFA is commonly used by ALMEE to compare EE and RE projects – More ALMEE has a good experience in developing BUDGET ALOCATION CHART that compare the potential of energy efficiency measures at level of town or country)
- RES technologies (projects-www.almeelebanon.com)
- GIS (e.g GIS _MED-ALGAE project www.med-algae.eu)
- SMEs involvement (ALMEE work closely with SME)
Target curricula

As research is not a one person business and as ALMEE is in line with the spirit of the university.

What kind of students (level, course, curriculum) are you planning to involve in task “2.4 - Testing of Cmap 2.0 tool” (10 students for each partner country university are expected)

Students that might be involved:
• 2 students MASTER Renewable Energy (LU and USJ)
• 4 Students (Civil Engineers UL and ESIB) Level final year
• 4 Students (Architects and Urban Planning from UL) Level Final year

Acheivements models

This question aims to understand the differences among educational models in the involved countries

Please specify:
• structure of the courses (duration, usual number of students per course, …)

  Course can be of 18- 36- 48 or 62 hours

  Number of students from 20 to 30 students

  * most used “tools” (frontal lecture, laboratories, …)

  Frontal lecture & laboratory

  * availability of e-learning platform or other web based tools

  Yes, e-learning experience with GRASS and Med-Algae

  * use of GIS

  * point out if the education model your organization is following can be considered in your country ordinary or advanced/experimental

    Advanced
Thank you for your attention!
Ain Shams University Faculty of Engineering
ASU-FE - (Egypt)

Prof. Dr. Hoda Soussa, profhsoussa@gmail.com, Hoda_Soussa@asu.eng.edu.eg

Working group
Civil Engineering Department, Water Resources, Hoda Soussa
Electrical Power and Machines Department, Walid EL Khattam,
Mohamed Kamh, GhadaSoliman.

RE-Program in ASU-FE
- The undergraduate Energy and Renewable Energy Program had started in 2009.
- The first RE specialization in all undergraduate university-level education in Egypt.
- It incorporates all RE technologies basics, theories, equipment, and applications.

(ASU-FE) Hoda Soussa
ASU-FE

• RE program defines the problems and finds appropriate solutions for the effective use of new energy sources in different industrial areas.
• Today, with one group graduated from this program, an evaluation has been conducted to study the achievements and assess the drawbacks.
• **The main future target** is the development of new syllabus based on international standards and link it to the appropriate laboratory experiments.
Modifying one course syllabus in the Photovoltaic field and add Renewable energy to the Water Resources elective course:

The PV course syllabus under study is: **Solar Energy (1) (3 Credit Hours):**

It studies solar thermal energy: Its intensity in outer space and the calculation of the solar intensity on earth with different models. Availability and usability of solar energy. Study of solar angles, Shades and the equation of time. Theory of the flat plate collector, transmission through glass, heat loss calculations and definitions of all parameters involved in collector performance.

- **Lecture:** 2 hours/week, **Tutorial:** 2 hours/week

**Prepare a laboratory experiment** to be used to understand the concepts taught in that course. **The required experiment equipment are:**

- Four solar panels (250 W each)
- Test solar panel samples of different technologies
- Two measuring solar irradiance devices.
- Lab view software to interface the solar panels with a computer
- A shade analysis software

(ASU-FE) Hoda Soussa
Educational Models

- Almost all courses are 3 Credit Hours:
  - Lecture: 2 (most of courses) to 3 hours/week, Tutorial: 0 (does not exist) to 4 hours/week (most of courses are 2), Laboratory: 0 (Does not exist) to 2 hours/week
  - Students’ numbers range from 80 to 120 students in core courses, however, elective courses the minimum is 10 students.
- Most used “tools” are Lecturing
- The e-learning platform and web based tools are still under development.
- Level of diffusion/use of concept maps
  Rarely used and students will develop them while they are studying.
- Level of diffusion/use of GIS
  It is not used in PV courses but in water resources engineering
- The education model in ASU-FE is average but working on improving it.

(ASU-FE) Hoda Soussa
American University of Beirut- AUB - (Lebanon)

Presented by: Dr. Yaser Abunnasr - ya20@aub.edu.lb
Compiled by: Petra Samaha and Yaser Abunnasr

About AUB

- Founded in 1866
- 857 (65% full-time) faculty members
- Student body of 8,438 (20% graduate students)
- 100 undergraduate & graduate programs
- 7 Faculties/Colleges
  - Faculty of Arts and Sciences
  - Sulieman S. Olayan School of Business
  - Faculty of Engineering and Architecture
  - Faculty of Health Sciences
  - Faculty of Agricultural and Food Sciences
  - Faculty of Medicine/School of Nursing
  - Interfaculty Programs.
Kick off meeting - Rome, March 14-18

Working group

Department of Landscape Design and Ecosystem Management
Faculty of Agriculture and Food Sciences (FAFS)
Landscape and Land use Planning – Research Management – Sustainable Landscapes

• Prof. Yaser Abunnasr, Project Manager, PhD Regional Planning, MA Landscape, B. Arch.
• Petra Samaha, Researcher, MA Urban Design, MA Arch.

Climate Change and Environment in the Arab World Program
Issam Fares Institute for Public Policy and International Affairs (IFI)
Policy – Sustainable Cities – Energy, Water, Food Nexus – Climate Change

• Prof. Nadim Farajalla, Senior Researcher, PhD Environment Engineering

American University of Beirut – Dr. Yaser Abunnasr

Working group

Angela and Munib Masri Institute of Energy and Natural Resources (MI)
Energy, building and water – Green Economy – Green Technologies

• Prof. Rabih Jabr, Senior Researcher, PhD Power Systems, BE Electrical Engineering

Academic Core Processes & Systems (ACPS)
Office of Information and Technology
IT for Education – Trainings and Tutorials

• Rayan Fayed, IT, Instructional Designer

Urban Design and Planning Program
No focus on energy - partners to be defined

American University of Beirut – Dr. Yaser Abunnasr
**Expertise**

- Landscape and Land Use Planning
- Regional Planning
- Urban Planning
- Environmental Impact Assessment
- GIS
- IT Educational Tools

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**Target curricula**

**Core Majors**

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<td>Environmental Policy Planning (Interfaculty Degrees)</td>
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**Potential Majors:**

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<tr>
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*American University of Beirut – Dr. Yaser Abunnasr*
Target curricula
Courses

ProGreen Diploma:
3 areas of specialization

Energy

Building
(General Green Building Modules and Mechanical and Electrical Engineering Modules)

Water

American University of Beirut – Dr. Yaser Abunnasr

Educational models
Complete List of Energy Related Courses

FAPS (Faculty of Agriculture and Food Sciences)
- Natural Resource Management
- Ecological Landscape Design and Planning
- Sustainable Water Management Techniques
- The Environment and Sustainable Development
- Rural Social Change, Development and the Environment
- Resource and Environmental Economics

FEA (Faculty of Engineering and Architecture)
- Energy Economics and Policy
- Energy Efficiency in the Process Industry
- Desalination
- Energy Efficiency in the Power Sector
- Environmentally Responsive Architecture
- Energy Conservation and Utilization
- Solar Energy
- Laboratory for Renewable Energy in Buildings
- Modeling Energy Systems
- Efficient Buildings with Good Indoor Air Quality

FEA (Faculty of Engineering and Architecture)
- Renewable Energy Potential, Technology, and Utilization in Buildings
- Building Energy Management Systems
- Passive Building Design
- Heat Pumps
- Solar Energy
- Energy Audit Lab
- Special Projects on Renewable Energy Systems Design
- Computer Modeling and Building Physics Applications
- Environmental Impact Assessment
- Environmental Aspects of Energy Systems
- Renewable Energy Systems
- Energy Planning and Policy
- Environmental Regulations and Legislation
- International Environmental Policy
- Power System Planning
- Environmental Engineering

American University of Beirut – Dr. Yaser Abunnasr
Target curricula

Current curricula: very discipline oriented

Deficiencies:
- Disconnected, integrated program needed
- Other fields missing (e.g. Water, food, land use, etc)
- No foundational courses in integrated energy planning

Students involved in task “2.4 - Testing of Cmap 2.0 tool”:
- Urban Planning and Policy (MA)
- Landscape Architecture (BA)
- Engineering (MA, BA, ME)

Educational models

Courses Structure
- 2 semester System – Fall (Sept-Dec) & Spring (Feb-May)
- Course Credit System

Course Types
- 3 credit course – 3 meetings/week – 1 hr duration – seminars are 3 hr sessions (20 - 40 students)
- 4 credit course (course with lab component) – 3 meetings/week – 1 hr duration – labs are 4 hr sessions (20 - 30 students)
- 6 credit design studios (Landscape, architecture/planning) – 3 meetings/week – 4 hrs duration (20 – 40 students)
- Large lecture courses (40 -150 students)
## Educational models

### Most Used Tools

<table>
<thead>
<tr>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frontal Lectures</td>
</tr>
<tr>
<td>Hands on Experience</td>
</tr>
<tr>
<td>Group Discussions</td>
</tr>
<tr>
<td>Open System (Studio)</td>
</tr>
<tr>
<td>Mentoring – one to one</td>
</tr>
<tr>
<td>Online Courses</td>
</tr>
<tr>
<td>Blended Courses</td>
</tr>
</tbody>
</table>

### E-Learning Tools

- Moodle as standard practice (across university)
- Blended Learning (Online courses + class meetings)
- Online Courses (ProGreen is completely an online certificate)
- Massive Open Online Courses – MOOC (recent)
- Blogs and discussion forums related to courses
- Articulate Story Line for interactive lectures
- Nearpod Application
- Office 365
- Links to online repositories: OCW, Merlot (US Universities)
- Member of the GEANT / NREN (France)
Educational models

Level of diffusion/use of concept maps

American University of Beirut – Dr. Yaser Abunnasr

Educational models

Level of use of GIS

Courses: Landscape, Engineering...

Research: by professors

Resources

GIS Lab – Faculty of Agriculture and Food Sciences

GIS Lab – Faculty of Engineering

Quality of Educational Model

• Ordinary – compared to U.S. universities
• Advanced/experimental – compared to universities in our region

American University of Beirut – Dr. Yaser Abunnasr
Thank You

American University of Beirut – Dr. Yaser Abunnasr
Al - Balqa Applied University
BAU
P13 - ENEPLAN

ENEPLAN KICK-OFF MEETING
14 – 18 March 2016
Jordan

UNIVERSITY OVERVIEW
VISION
COLLEGES
PROGRAMS
ERASMUS PROJECTS
UNIVERSITY OVERVIEW

- In accordance with a Royal Decree issued on 22nd August/1996, Al Balqa Applied University was established. It started teaching in 1997/1998 to overarch community colleges before which they had been merely scattered all over the kingdom.
- Provides applied education, especially in engineering programs
- Offers Master, Bachelor, and Diploma (2 & 3-years) Programs

15 campuses
+1400 Lecturer
+40,000 Students
+100,000 graduates
UNIVERSITY OVERVIEW

Recognized by:
- Council of Higher Education in Jordan
- Association of Arab Universities
- International Association of Universities
- International Academic Commissions

VISION

- Platform for quality Higher Education to cater market's needs on all levels: Diploma, Undergraduate, and Graduate
- Applied implementation of various academic programs, including orienting research towards the development of local communities
BAU has 21 colleges all around Jordanian governorates and cities (8 at main campus in Al-Salt city).

BAU supervises all 46 community colleges in Jordan (21 public colleges, 17 private colleges, 6 military colleges, and 2 UNRWA colleges).

**Center Colleges:**
- Faculty of Graduate Studies
- Faculty of Engineering
- Faculty of Medicine
- Faculty Prince Abdullah bin Ghazi for Information Technology
- Faculty of Science
- Faculty of Technological Agriculture
- Faculty of Business
- Salt Faculty of Human Sciences
External Colleges:

- Huson University College
- Irbid University College
- Ajloun University College
- Faculty of Engineering Technology
- Amman University College for Banking and Financial Sciences
- Princess Alia University College
- Zarka University College
- Princess Rahma university College
- Karak University College
- Shobak University College
- Maan University College
- Aqaba University College

PROGRAMS

- 2 Vocational Diploma
- 18 Bachelor
- 132 Diploma
- 60 Master
ERASMUS PROJECTS

- Modernization of institutional management of innovation and research in South Neighboring Countries
- Developing skills in the field of integrated energy planning in Med Landscapes
- Master curriculum, capacity building and network development in traffic safety in Egypt, Jordan and Lebanon
- New Jordanian MSc in Water Management and Desalination Engineering (JoMDE)
- Vocational Training Center for Undergraduate University Students and Teachers in Jordan

COOPERATION AGREEMENTS BETWEEN BAU AND OTHERS

<table>
<thead>
<tr>
<th>Organization</th>
<th>Country</th>
<th>Agreement date</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>The School for Advanced Studies in Conservation and Restoration</td>
<td>Italy</td>
<td>2015</td>
<td>5 years</td>
</tr>
<tr>
<td>Federal State Educational Budget-Financed Institution of Higher Vocational Education “The Bonch-Bruevich Saint-Petersburg State University of Telecommunications” (SUT)</td>
<td>Russia</td>
<td>2014</td>
<td>4 years</td>
</tr>
<tr>
<td>Southwest State University</td>
<td>USA</td>
<td>2014</td>
<td>4 years</td>
</tr>
<tr>
<td>Moscow State University of Economics, Statistics and Informations (MESI)</td>
<td>Russia</td>
<td>2014</td>
<td>4 years</td>
</tr>
<tr>
<td>Kazan National Research Technology University</td>
<td>Russia</td>
<td>2014</td>
<td>4 years</td>
</tr>
<tr>
<td>UNIVERSITAS NEGERI JAKARTA</td>
<td>Indonesia</td>
<td>2015</td>
<td>4 years</td>
</tr>
<tr>
<td>Jamia Millia Islamia</td>
<td>India</td>
<td>2015</td>
<td>5 years</td>
</tr>
<tr>
<td>Environmental Research Center</td>
<td>Helmholtz Germany</td>
<td>2015</td>
<td>5 years</td>
</tr>
</tbody>
</table>
THANK YOU!
Malta Intelligent Energy Management Agency – MIEMA - Malta

Jesmond Xuereb, Director
Director@miema.org

- Malta’s only energy management agency
- Set up in 2007 through the IEE programme
- Aims to promote energy efficiency and RES
- Public equivalent body with representatives of ministries, local authorities and national agencies
- Partner in various European and local projects under a range of programmes
Set up

• Offices in Valletta and Kercem (Gozo)
• Joint MIEMA-MCAST Research Centre for RES & Environmental Sustainability, based at the Institute of Applied Science, on the main campus of the MCAST University College, in Kordin
• Planning to set up MIEMA Academy

Background

• 2006 – Mandate from Ministry for the Environment and Rural Affairs and Parliamentary Secretariat for Small Business
• 2007 – Establishment of the Agency
• 2010 – Participation in first European projects
• 18 European projects since 2010
Energy situation in Malta

- Heavy reliance on fossil fuels
- Massive rise in consumption patterns of residents and high influx of tourists
- Desalination plants increase demand for energy
- High ownership and use of private cars

Recent initiatives

Research, education & training
- Setting up the Crim-Safri Research Centre with MCAST
- Establishing the MIEMA Academy

Transport
- Conversion of traditional water-taxi to electric-powered boat
- Initiatives to promote electric scooters
- Research on the production of biodiesel from microalgae

RES installations
- Exploring the option of offshore wind farms
- Studies on the potential of wave energy
- Studies on PVs and solar energy installations
Activities

- Contribution to policies (e.g., NREAP)
- Energy audits and related services
- Training courses and information sessions
- Pilot projects/studies on:
  - Smart metering
  - Energy certification and retro-fitting of buildings
  - Biofuels from micro-algae
  - Clean transport initiatives
  - Energy needs of the tourism industry
- Communication and dissemination:
  - Awareness-raising events on specific themes
  - Technical work sessions with professional bodies
  - Leaflets distributed to all households
  - Promotional activities through various media

Projects

- Territorial, landscape and renewable energies
- Mediterranean Implementation of EEA
- Light Mobility & I.T. FOR Weak Demand Areas
Projects

- Project on the retro-fitting of low-income households to reduce energy consumption

The project builds on the results of MIEMA’s participation in the Enerscapes and other projects: MER – Marketing and goVerning innovative industrial areas.
Projects:

Production of biofuel from micro-algae

Projects

- Erasmus+: EH-Cmap – ERESPLAN – ENEPLAN
- Lifelong Learning Programme: SEOP
- Horizon 2020: EMPOWER
- Interreg IVC: 4POWER
Thank you

Jesmond Xuereb
Director@miema.org
Kick off meeting - Rome, March 14-18

Lebanese University - MEDGREEN - (Lebanon)

Working group

Chafic Salame, Mario Tahchi, Hassan Cherif, Michel Aillerie, Fouad Hajj Hassan, Roland Habchi, Youssef Zaatar, Nathalie Bassil, Jean Zaraket.

Staff members from the department of physics and from the MEDGREEN organisation will be involved in the project.

Our teams will mainly work on green and renewable energies, in particular solar energy.

The studies will involve the reliability and the functioning of PV solar modules.

Lebanese University, MEDGREEN
Target curricula

Our BS and Master of Physics contains several courses involving energy related studies. As an example: Electronic device Physics, Energy transfer, computational thermal transfer.

Almost every training or Master thesis contains energy related topics. In particular:

- Studies on PV modules, conditioning of power devices for a maximum saving of energy, computational energy transfers and thermal studies ...
- Masters students of Physics and electronics would be involved.
- Also PhD candidates with renewable energy related topics would be welcomed to work within the ENEPLAN

(about 10 to 15 students in total)

---

Educational models

- Courses are taught over a semester: between 36 and 48 teaching hours per course and per semester
- The number of students is around 40 in undergraduate courses and around 15 in Masters courses
- The used tools are mostly frontal lectures and Lab courses, in addition to research for masters and PhD candidates
- All our campuses are equippe with WIFI and wired internet
- All students are free to reach the university website for emails and announcements
- All informations related to the courses and Masters curricula are available online and on the university’s facebook page
- This educational model is becoming the standard model for universities in Lebanon

---

Lebanes University, MEDGREEN
About JUST

- Was established in 1986 with a spacious campus of 11 km²

- Current enrollment statistics:
  - About 44,000 graduates so far
  - About 24,000 undergraduate students
  - About 1,400 postgraduate students
  - About 300 students in higher specialty in medicine
  - About 5000 foreign students coming from 45 different nationalities
  - About 15,000 new applicants every year with 30% acceptance rate
More About JUST

• Employs around 1550 faculty members:
  • About 950 are Ph.D. holders from well-known reputable international universities
• Employs around 1500 Administrative and technical staff

Faculty Members Country of PhD

- USA: 51%
- Canada: 7%
- Australia: 3%
- Germany: 3%
- England: 21%
- Other Countries: 15%
Academic Programs at JUST

- There are 12 faculties (i.e. colleges) and 2 deanships:
  - Medicine, Engineering, Science & Arts, Pharmacy, Dentistry, Agriculture, Veterinary Medicine, Architecture & Design, Information Technology, Applied Medical Sciences, Nursing, and Graduate Studies
  - The Deanship of Scientific Research and the Deanship of Students’ Affairs

Distribution of Faculty Members
JUST Ranking

- Ranked as the 362\textsuperscript{nd} among 3,000 universities worldwide in the fields of engineering and technology; according to the latest QS ranking.

- Ranked 6\textsuperscript{th} in engineering among 400 Arab universities participating in the ranking.

- Ranked 115\textsuperscript{th} in terms of international students, as foreign students constitute about 25\% of the student body.

<table>
<thead>
<tr>
<th>QS Rank</th>
<th>School Name</th>
<th>Country</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>95</td>
<td>King Fahd University of Petroleum &amp; Minerals</td>
<td>Saudi Arabia</td>
<td>71.2</td>
</tr>
<tr>
<td>233</td>
<td>King Saud University</td>
<td>Saudi Arabia</td>
<td>63.7</td>
</tr>
<tr>
<td>304</td>
<td>Cairo University</td>
<td>Egypt</td>
<td>60.5</td>
</tr>
<tr>
<td>322</td>
<td>United Arab Emirates University</td>
<td>UAE</td>
<td>59.7</td>
</tr>
<tr>
<td>323</td>
<td>American University of Beirut (AUB)</td>
<td>Lebanon</td>
<td>59.6</td>
</tr>
<tr>
<td>362</td>
<td>Jordan University of Science and Technology</td>
<td>Jordan</td>
<td>58</td>
</tr>
<tr>
<td>368</td>
<td>King Abdul Aziz University</td>
<td>Saudi Arabia</td>
<td>57.7</td>
</tr>
<tr>
<td>365</td>
<td>Ain Shams University</td>
<td>Egypt</td>
<td>57.8</td>
</tr>
<tr>
<td>373</td>
<td>Alexandria University</td>
<td>Egypt</td>
<td>57.5</td>
</tr>
</tbody>
</table>
Green Metric Global Ranking

- Ranks universities around the world in terms of sustainability of its operations and the extent of its compliance with clean environment standards

- JUST was ranked 1st in the Arab World and 49th globally

Accreditation

- National: JUST is accredited by the Higher Education Accreditation Council for all undergraduate and graduate programs

- International: Some colleges that obtained international accreditation
  - Chemical, Industrial, and Biomedical Engineering programs are fully accredited by ABET
  - Mechanical, Civil, Electrical, and Computer Engineering as well as Information Technology programs are in the process of ABET Accreditation
  - The college of Medicine and Surgery has been listed in the AVICENNA Directory for Medicine
  - The Occupational Therapy program has received full accreditation from the International Federation for Occupational Therapy (WFOT)
  - The Healthcare Center is accredited by the Health Care Accreditation Council (HCAC)
International Relations

- To promote internationalization of university education, JUST eagerly works to build cooperative relations with associations, universities, and other academic and scientific institutions around the world.

**JUST's Signed Agreements**

<table>
<thead>
<tr>
<th>Region</th>
<th>Signed Agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>42</td>
</tr>
<tr>
<td>Canada</td>
<td>9</td>
</tr>
<tr>
<td>Germany</td>
<td>9</td>
</tr>
<tr>
<td>France</td>
<td>12</td>
</tr>
<tr>
<td>Greece</td>
<td>5</td>
</tr>
<tr>
<td>England</td>
<td>6</td>
</tr>
<tr>
<td>Other EU</td>
<td>33</td>
</tr>
<tr>
<td>Asian</td>
<td>25</td>
</tr>
<tr>
<td>Australia</td>
<td>5</td>
</tr>
<tr>
<td>Malaysia</td>
<td>9</td>
</tr>
<tr>
<td>Arab Umm.</td>
<td>41</td>
</tr>
<tr>
<td>USA + Others</td>
<td>54</td>
</tr>
</tbody>
</table>
JUST Scholarships

- About $64M was invested in sponsoring 828 scholarships so far to pursue postgraduate studies at top schools in the world

- Currently, there are 116 sponsored postgraduate students worldwide

Currently Sponsored Scholarships

- USA: 81
- Canada: 6
- England: 9
- Germany: 3
- Australia: 8
- Ireland: 5
- Italy: 9
- Others: 9
### International Funded Projects 2009-216

<table>
<thead>
<tr>
<th>Funding Agency</th>
<th>Number of Projects</th>
<th>Total Budget (Euro)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENPI</td>
<td>8</td>
<td>14M</td>
</tr>
<tr>
<td>TEMPUS</td>
<td>7</td>
<td>8M</td>
</tr>
<tr>
<td>ERASMUS+</td>
<td>12</td>
<td>11.7M</td>
</tr>
<tr>
<td>FP7</td>
<td>3</td>
<td>2.5M</td>
</tr>
<tr>
<td>USAID</td>
<td>7</td>
<td>4M</td>
</tr>
<tr>
<td>NIH</td>
<td>4</td>
<td>6M</td>
</tr>
</tbody>
</table>

### International Funded Projects

<table>
<thead>
<tr>
<th>Funding Agency</th>
<th>Number of Projects</th>
<th>Total Budget (Euro)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qatar National Research Fund</td>
<td>2</td>
<td>2M</td>
</tr>
<tr>
<td>Ministry of Education /National Technical University of Athens</td>
<td>1</td>
<td>1 M</td>
</tr>
<tr>
<td>(NATO ) North Atlantic Treaty Organization</td>
<td>1</td>
<td>0.3 M</td>
</tr>
<tr>
<td>New Mexico State University</td>
<td>1</td>
<td>75K</td>
</tr>
<tr>
<td>Arab Science and Technology Foundation</td>
<td>1</td>
<td>45K</td>
</tr>
<tr>
<td>Spanish Jordanian Commission</td>
<td>3</td>
<td>45K</td>
</tr>
</tbody>
</table>
International Funded Projects

<table>
<thead>
<tr>
<th>Funding Agency</th>
<th>Number of Projects</th>
<th>Total Budget (Euro)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Agriculture, USA</td>
<td>5</td>
<td>40K</td>
</tr>
<tr>
<td>Cisco</td>
<td>1</td>
<td>35K</td>
</tr>
<tr>
<td>IBM Middle East FZ.-L.L.C,</td>
<td>4</td>
<td>30K</td>
</tr>
<tr>
<td>San Diego State University Research Foundation</td>
<td>1</td>
<td>25K</td>
</tr>
</tbody>
</table>

Research Centers

- Queen Rania Al-Abdullah Center for Environmental Sciences & Technology
- Princess Haya Biotechnology Center
- The Nanotechnology Center
- The Energy Center
- The Pharmaceutical Research Center
- The Health Center
- The Dental Center
King Abdullah University Hospital

- The overall area of the hospital is 95583 m²
- The current capacity is 683 beds with a potential of 800 beds

JUST’s Excellence in:
- Teaching
- Research
- Graduate Employability
- Internationalization
Thank You
Kick off meeting - Rome, March 14-18

Princess Sumaya University for Technology- PSUT -
(Jordan)

Prof. Walid A. Salameh
walid@psut.edu.jo

Working group

- King Abdullah II Faculty of Engineering at Princess Sumaya University for Technology (PSUT)
- Electrical Power and Energy Engineering

- Staff Members:
  1. Dr. Khaldoun Abu Gharbeyyeh
  2. Dr. Ayman Fazaa
  3. Dr. Majd Batarseh
  4. Dr. Fadi Shahroui

The Department place a high priority on improving the education levels and working very hard to improve curriculums. The B.Sc. degree of the Electronics Engineering is accredited by Engineering Accreditation Commission (ABET). The mission of the Department of Electrical Engineering is to provide level education and perform quality research.

(more than one slide if necessary)

(PSUT, Walid A. Salameh)
Target curricula

The Department place a high priority on improving the education levels and working very hard to improve curriculums. The B.Sc. degree of the Electronics Engineering is accredited by Engineering Accreditation Commission (ABET). The mission of the Department of Electrical Engineering is to provide level education and perform quality research.

The Electrical Engineering Department prepares graduates with scientific and professional accomplishments and complete understanding of: mathematics, basic sciences, basic electrical engineering, selected areas in Electronics Engineering or Electrical Power and Energy Engineering. Also using state-of the art in scientific and practical approaches to find solutions in the electrical engineering disciplines and help them to develop their decision making processes for sound decisions.

There are many courses that would deal with the ENEPLAN issues like renewable energy systems, high voltage engineering, power electronics, Transmission and distribution systems, etc).

We are planning to involve the third, fourth yera students in task 2.4.

(PSUT, Walid A. Salameh)
## Educational models

The BSC program at PSUT and imposed by the MHE in Jordan consists of 160 credit hours. The duration of the study is five years. There are two main semesters: the fall and the spring, besides an optional one: the summer session. The main mission of the department is to provide students with the fundamental knowledge, skills, and professional experience necessary for successful careers in industrial or academic roles that involve alternative energy and sustainable technologies. Graduates of the program will be able to work collaboratively, conduct independent and multidisciplinary research and recognize their role in solving global challenges. In principle, the teaching is a traditional one where the eLearning platform is used for some courses and labs (eLab). The students are entitled to follow a predefined degree map, where each course(s) has prerequisites; therefore, this concept map is a must to be followed. The educational model at PSUT and in Jordan in general is considered ordinary to advanced experimental one in this discipline.

*(PSUT, Walid A. Salameh)*
Royal Scientific Society/National Energy Research Center - RSS/NERC- (Jordan)

Nidal Abdalla
n.abdalla@nerc.gov.jo

Introduction to RSS/NERC

The Royal Scientific Society (RSS) is the largest applied research institution, consultancy, and technical support service provider in Jordan and is a regional leader in the fields of science & technology.
About RSS

Applied Science

- Research, Consulting & Projects
- Scientific Analysis, Public Health & Safety
- Calibration, Conformity & Engineering Maintenance
- Public Awareness, Training, Enterprise Creation, & Social Development

Energy, Water, and Environment (EWE)
Industrial and Economic Consultations (IEC)
Construction, Infrastructure, Manufacturing (ICM)
Information and Communication Technology (ICT) for Development
1. ICT
2. Building research center
3. Environment center
4. Bio-safety center
5. Scientific research center
6. **NERC**

National Energy Research Center (NERC) is the department that will be involved in the project.
NERC Activities

- Research & Technical Studies
- Pilot Project Implementation
- Preparation of Solar/wind data base
- Know-how transfer
- Laboratory Testing of Components
- Technical Services & Consultations
- Capacity Building

Lighting Testing Lab (accredited laboratory)

The lab is capable of testing and verifying energy efficiency class of lamps by measuring luminous flux and input power parameters. The energy efficiency of the lamp is rated in terms of a set of energy efficiency classes from “A” to “G” on the label, “A” being the most energy efficient, “G” the least efficient. The lab has been accredited by Jordan Standards and Metrology Organization (JSMO).
Air conditioner lab: Balance ambient room calorimeter test lab

- The target of this lab to evaluate the needed parameters for energy efficiency label of air conditioners, such as SCOP and SEER.
- The lab is now on accreditation processes.
Washing machine test lab

- The target of this lab to evaluate energy efficiency label for the washing machines.
- The lab is under commissioning status.

Solar water heater laboratory

- It is an Out Door test lab. The target of this lab to evaluate the thermal quality of the solar collector and SWH sys (thermal shock, maximum pressure, etc.). Also, the lab will be used to estimate the thermal efficiency of the collector and whole system. All tests procedures are conforming with local and international standards.
- The lab is under construction.
• NERC has 25 well qualified engineers in the fields of Energy Efficiency (EE) and Renewable Energy (RE).
• In this project, two seniors from NERC will be mainly involved:
  1. Walid Shahin, NERC director.
  2. Nidal Abdalla, RE and EE expert.

The expertise of NERC that will be presented in field of urban planning

1. Improving the efficiency of energy use in cities project (Irbid Municipality)
2. Green development at Sahab Municipality project
The expertise of NERC that will be presented in field of urban planning

1) Energy Efficiency & the Urban environment, European MEDA Program.

- This project was implemented for Irbid Municipality, which tilted “Improving the efficiency of energy use in cities”.

---

“Improving the efficiency of energy use in cities”

The Objectives:

1. Using of geographic information system (GIS) in mapping the lighting network to determine the location of public lighting lamp posts and their transformers and its energy consumption rate.

2. Using GIS for designing and mapping of public transportation and determining the their lines and stations.

3. Using efficient lighting systems for the street lightings.

4. Distribution of leaflet guide about transportation maps for the public.
The expertise of NERC that will be presented in field of urban planning

2) Sustainable Urban Demonstration Project – SUDEP (EU project, 2015 - 2016)

• NERC is currently implementing SUDEP project, which is funded by EU. Within this project, a sustainable urban demonstration called “Green development at Sahab Municipality project” is now on going.
Green development at Sahab Municipality project

- Promote and implement energy efficiency, energy savings & renewable energy measures at Sahab Municipality buildings and Introduce energy efficient technologies.
- Build capacities of employees of Sahab Municipality in the field of sustainable energy & public awareness of the general public and relevant stakeholders.

Energy Assessments for targeted buildings at Sahab Municipality:

1) Municipality Main Building
   - Lighting Retrofit; replacing fluorescent lighting units to LED lighting units.
   - Install 10 kWp rooftop PV system.
   - Install Solar Thermal Unit.
Energy Assessments for targeted buildings at Sahab Municipality:

2) Cultural Center
- Lighting Retrofit; replacing fluorescent lighting units to LED & External Lighting to LED.
- Install motion & occupancy sensors
- Install Solar Thermal Unit for domestic hot water uses.

3) Sahab Schools
- 4 Schools are included; two boys schools and two girls schools.
- Energy Saving Measures are:
  1. Lighting retrofit; replacing fluorescent lighting units to LED, External Lighting to LED.
  2. Install Rooftop Photovoltaic systems to cover partially the electric demand of each school
Energy Assessments for targeted buildings at Sahab Municipality:

4) Sahab’s Masjids
   ➢ 3 Masjids were included.
   ➢ Energy Saving Measures are:
     1. Lighting retrofit; replacing fluorescent lighting units with LED.
     2. Install Rooftop Photovoltaic systems to cover partially the electric demand of each Masjid.

5) Sahab Main Street
   ➢ Replace the street lighting units with LED street lighting units

6) Sahab Public Garden
   ➢ Replace the outdoor lighting units with LED outdoor lighting units

7) Sahab Bus Station
   ➢ Install Street LED lighting units with PV panels
Internship of student and training courses by NERC:

- NERC is one of largest training center in fields of RE and EE, and carrying out the following activities:
- Internship for newly graduated students: Where students introduced the actual work in RE and EE.
- Holding annual pre-scheduled Training courses for the following specific topics:
  - Solar thermal training course
  - Solar PV training course
  - Wind energy training course
  - Energy Efficiency training course.

Thank you
Working group

Please specify what department(s) will be involved in the project
National Energy Research Center (NERC) is the department that will be involved in the project.

Introduce staff members/working group
Present the expertise your organization intends to bring about the project (urban and regional planning, environmental impact assessment, life cycle assessment, landscape design, RES technologies, GIS, SMEs involvement, …)

(more than one slide if necessary)

(Partner organization name and speaker’s name)

Target curricula

Please describe the current curricula provided by your organization on the energy related issues pointing out current orientations and deficiencies (for not HEI partners describe your main activities concerning the energy issues);
Specify what courses/modules within courses/post-graduate course/training courses deal with ENEPLAN issues;
What kind of students (level, course, curriculum) are you planning to involve in task “2.4 - Testing of Cmap 2.0 tool” (10 students for each partner country university are expected)

(Partner organization name and speaker’s name)
Educational models

This question aims to understand the differences among educational models in the involved countries.

Please specify:
- structure of the courses (duration, usual number of students per course, …)
- most used “tools” (frontal lecture, laboratories, …)
- availability of e-learning platform or other web based tools
- level of diffusion/use of concept maps
- level of diffusion/use of GIS
- point out if the education model your organization is following can be considered in your country ordinary or advanced/experimental

(Partner organization name and speaker’s name)
The geographical position of the Algarve gives it distinctive climatic characteristics: the average annual temperature is the higher in Portugal, and one of the highest in the Iberian Peninsula at around 18ºC and the sun shines approximately 3000 hours annually.
GENERAL PRESENTATION OF THE ALGARVE

The economic sector with more expression in the Algarve is the tertiary sector (trade and services), resulting from the region's main economic activity - **tourism**.

This activity sub-sector assumes such importance in the Algarve which is directly and indirectly responsible for approximately **60% of total employment and 66% of regional GDP**. The Algarve receives about **5 million tourists per year**.

THE REGIONAL ENERGY SECTOR PROFILE

Algarve is one of the European regions with highest number of sunlight hours per year, the region receives public incentives (grants and fiscal) to the installation of solar-powered facilities.
The production of energy in the Algarve is almost insignificant when compared with the national production (0.73%); it increased significantly in the period 2007-2010 (almost 144% per year when the country grew 4.7%).

The energy sector in the Algarve is fairly fragmented. The entrepreneurial activity in this sector is characterized by SMEs operating in renewable energies, especially in solar energy consulting (e.g. certification and energy audits) and installation.
THE REGIONAL ENERGY SECTOR PROFILE

Energy dependency:

The Algarve region is one of the Portuguese regions with higher values of energy dependence (deficit) contrasting with the other regions of the country in which the balance between production and consumption of electricity is generally positive.

THE REGIONAL ENERGY SECTOR PROFILE

Strategy:

To respond to these trends, one of the objectives to be pursued in the several strategic documents is to reduce this dependency by restraining the growth in demand and increasing production from renewable energy sources. Hence, it is considered that the energy resources with more potential to be developed and reinforced in the Algarve region are Biomass, Solar and Wind.
Kick off meeting - Rome, March 14-18

THE UNIVERSITY

UAlg
UNIVERSIDADE DO ALGARVE

Flávio Martins; António Mortal

Penha Campus
Gambelas Campus
Airport
Saúde/Health Campus
FACTS & FIGURES

- young state university, established in 1979 (two subsystems - Polytechnic and University)
- 4 Campuses (3 in Faro – Penha, Gambelas and Saude & 1 in Portimão)
- 7 Faculties
- 9000 students
- 700 academics

FACTS & FIGURES

- 48 undergraduate
- 5 Integrated Masters, 68 MsC (7 Erasmus Mundus Master Courses)
- 23 Phd (2 Erasmus Mundus Doctorates)
- 9 Research Centers
- 13 Study and Development Centers
CAMPUS DA SAÚDE

School of Health (ESS)

PORTIMÃO CAMPUS

School of Management, Hospitality and Tourism (ESGHT)
### FACILITIES

- 10 University Residences
- 2 canteens, 1 restaurant, 2 grill, 8 bars
- Access to several medical services
- Access to different kinds of sports (offered by the Students Union)
- 2 main libraries (one in Penha Campus and other in Gambelas Campus)
- Wi-fi in all University Campus

### RESEARCH CENTERS

- **CBME**- Centre for Molecular and Structural Biomedicine
- **CCMAR**- Centre of Marine Sciences
- **CEOT**- Centre of Electronics, Optoelectronics and Telecommunications
- **CIAC**- Research Centre in Arts and Communication
- **CIEO**- Research Centre for Spatial and Organisational Dynamics
- **CIMA**- Centre for Marine and Environmental Research
- **CIQA**- Chemistry Research Centre of Algarve
STUDY AND DEVELOPMENT CENTERS

CASEE- Centre for Advanced Studies for Economics and Econometrics
CECTA- Centre for Studies in Agricultural Sciences and Technologies
CEDMES- Centre for Studies and Development of Mathematics in Higher Education
CECL- Centre for Studies in Language Sciences
CFMFT- Centre for Mathematic Physics and Theoretical Physics
CINTAL- Centre for Technological Research of the Algarve
CTA- Centre for Water Sciences and Technologies
CUIP- University Centre for Psychology Research
GLACIP- Plant Science Laboratories Group
ILAB- Informatics Laboratory
NAP- Nucleus of Archaeology and Palaeoecology

CRIA- Division of Entrepreneurship and Technology Transfer

UNIVERSITY OF THE ALGARVE STUDENTS

N = >9,000

Portuguese  Other nationalities

ERASMUS  EMA1  EMA2  FREE MOVER  PROTOCOLS  FULL STUDENTS  CSF

Flávio Martins; António Mortal
<table>
<thead>
<tr>
<th>Algeria</th>
<th>East Timor</th>
<th>Pakistan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>France</td>
<td>Paraguay</td>
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<tr>
<td>Austria</td>
<td>Finland</td>
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<td>Bangladesh</td>
<td>Germany</td>
<td>Philippines</td>
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<td>Greece</td>
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<td>Belgium</td>
<td>India</td>
<td>Romania</td>
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<td>Bosnia and Herzegovina</td>
<td>Indonesia</td>
<td>Russia</td>
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<td>Bulgaria</td>
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<td>Croatia</td>
<td>Norway</td>
<td>Yemen</td>
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</table>

Diagram of the Portuguese Higher Education System according to Bologna
Relevant programs focusing on Energy at UAig

<table>
<thead>
<tr>
<th>TEsP (120 ECTS)</th>
<th>Licenciatura (degree) (180 ECTS)</th>
<th>Master (120 ECTS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewable Energies</td>
<td>Mechanical Engineering (Thermic profile)</td>
<td>Mechanical Energy, HVAC &amp; Refrigeration</td>
</tr>
<tr>
<td>HVAC &amp; Refrigeration</td>
<td>Civil Engineering</td>
<td>Energy and HVAC in Buildings</td>
</tr>
<tr>
<td>Electric Installations, Domotics and Automation</td>
<td></td>
<td>Post-grad in Geographic Information Systems</td>
</tr>
<tr>
<td>Geographic Information Systems</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Educational models

- Structure of the courses:
  - Duration: 15 weeks (Sep-Dec or Feb-May)
  - Usual # students: 10-30
  - Used “tools” (frontal lecture, Laboratories, Computer Classes, Workshop)
  - e-learning platform: moodle 2.7
  - level of diffusion/use of concept maps (LOW)
  - level of diffusion/use of GIS (MEDIUM)
Contributions of UA to project activities and objectives

WP 1: Project preparation
- Task 1.1. Transfer of Cmap methodology
- Task 1.2. State of the art and case studies

WP 2: Project development
- Thematic workshop 5: “Innovation, applied research and relationships with SMEs” (Faro, Portugal)
- Workshop report
- Data for Cmap 1.0 and Cmap 2.0
- Students for Workshops

WP 3: Quality assessment
- Collaboration in QA reports

WP 4: Dissemination and exploitation
- Collaboration in the ENEPLAN newsletter
- Collaboration in creation of ENEPLAN information materials
- Dissemination of Cmap Technology among students and SMEs

Flávio Martins; António Mortal
Kick off meeting - Rome, March 14-18

The University of Jordan-UJ-(Jordan)

Prof. Ahmed Al-Salaymeh
Prof. Mohammad Hamdan
Prof. Abdulsalam Shboul
Dr. Hashem Al-Khaldi

School of Engineering
The University of Jordan
Amman - Jordan

The Hashemite kingdom of Jordan

[Map of Jordan]
The Hashemite kingdom of Jordan

- **Location**: Middle East, northwest of Saudi Arabia.
- **Geographic coordinates**: 31 N, 36 E
- **Area**: total: 89,213 km²
  - land: 88,884 km²
  - water: 329 km²
- **Land boundaries**: total: 1,635 km
- **Coastline**: 26 km
- **Climate**: mostly arid desert; rainy season in west (Nov. to April)

Total Population: 9.5 million (6.5 million is Jo)
Total area: 89,34 sq.km
GDP per Capita: (4,900 US$)
Electricity Consumption: 2,403 KWH/Capita
Population Under Supply: 99.9%
Kick off meeting - Rome, March 14-18

- **Terrain:** mostly desert plateau in east, highland area in west; Great Rift Valley separates East and West Banks of the Jordan River

- **Elevation extremes:**
  - lowest point: Dead Sea - 420 m
  - highest point: Jabal Ram 1,734 m

- **Land use:** arable land: 3.32%, permanent crops: 1.18%, other: 95.5%

---

**Country:**
The Hashemite Kingdom of Jordan, known as Jordan. A country located in the heart of the Middle East;
A population of over 5 million.

**City:**
Amman, the capital of Jordan, a city of about 2 million people. Like Rome, originally established on 7 hills.

**Nearby attractions:**
- Intact Roman Theatre in Amman, from UJ 15 minutes by car.
- The Dead Sea, River Jordan and the Baptism Site, 40 minutes;
- Petra, 3 hours;
- Jerusalem, 1 hour, and Damascus, 3 hours.
Higher education in Jordan began with the second half of the twentieth century, namely the sixties, when numerous Teachers' Colleges were established throughout the country.

The first public Jordanian university, The University of Jordan (UJ), was established in 1962. Yarmouk University followed in 1976, and eight more public universities were established in different parts of the Kingdom since that date.

In 1989 the Council of Higher Education endorsed the first policy document authorizing the establishment of private universities. Amman University, the first Jordanian private university, was established in 1990.

During the last two decades, the sector of higher education in Jordan witnessed a prominent development as well as progress evidenced by the increasing number of institutions of higher education, enrolled students, faculty members, administrative and academic members.

The number of public universities reached now (10), besides (20) universities that are private, and (51) community colleges.

This progress in numbers of universities accompanied by significant increase in number of students enrolled to study in these universities nearly (250) thousand; (28) thousand out of the total are from Arab or foreign nationalities.
THE UNIVERSITY OF JORDAN

- UJ prides itself on the beauty of its one-campus university.
- The landscape (area of 120 Ha (1,200 dunums)) is composed of flat ground and mild slopes covered with evergreen pines, elms and olive trees.
- Special climate, breezy and cool for most summer days and rainy in the winter time with many spectacular sunny days. In some winters, snow falls.
- Springtime is breathtaking when wild flowers of all kinds of exotic colors and almond, plum, and apricot trees blossom.
- Four distinct seasons: Spring, Summer, Autumn, and Winter.

Established in 1962, UJ is the leading and the oldest institution of higher education in Jordan. It is often referred to as the “mother” university.

UJ has 18 academic faculties, two deanships, 11 centers, and many other facilities.

The number of faculty members stands at about 1200 at present.

It has a student population, at both the graduate and undergraduate levels, of about 41,500. Graduate students: 5,500; undergraduate students: 36,000. The overall ratio of female to male students is nearly 60 to 40.

UJ began with the year system. In 1972-73 it switched to the credit-hour system. It was the first in the Arab-World to do so.

UJ is a “public” university: it is semi-independent, neither totally state-run or supported, nor privately endowed or invested.
Recent university strategy 2013-2018 Focus on:

- Increasing emphasis on Teaching & Learning, and recognition of the ‘scholarship of teaching’
- Shifting of focus from ‘Teaching’ to ‘Learning’;
- Calling for greater transparency and accountability in university programme.

University of Jordan vision: is managing and organizing a society of knowledge and leading the University to be a world – Class University within 2018.
The mission of The University of Jordan is

Growing to become a leading university among world-class universities, providing students with: quality education and learning experience, adopting research program, producing and disseminating theoretical and practical knowledge, contributing effectively in building up the culture of "lifelong" learning, and improving the quality of life within its local, regional and international community.

Degree Programs: 257

- Bachelor: 97
- Master: 112
- Ph.D.: 30
- Higher Specialization: 9
Students: 41692

Nationality
- Jordanian: 85%
- International: 15%

Level
- Undergraduate: 67%
- Graduate: 13%

Academic Staff: 1861

Nationality
- Jordanian: 87%
- International: 13%

Degree Held
- Ph.D.: 19%
- Master and Bachelor: 81%
SCHOOL OF ENGINEERING: 1975

Recent Related Experience at UJ

Eco Street  Solar Car

Eco House  Solar Cooker
Kick off meeting - Rome, March 14-18

Solar Cafeteria

A project with the German Space Agency (DLR)

To transfer the CSP technology to Jordan and North Africa region. The agreement elaborated the following achievements:

- Installation of the meteorological Station in MDA
Kick off meeting - Rome, March 14-18

Training Jordanian
Expertise in the field of CSP in Spain

Train a pull of engineers from different organizations in the CSP technology in Spain. The trained experts will hold similar training sessions inside Jordan to transfer what they learned.
**DESERTEC University Network (DUN)**

Establishing a University Network between Jordan, Egypt, Tunis, Algeria, Libya and Morocco in addition to German, French and Spanish Universities. The University network will cooperate effectively in the Desertec Project to produce electricity in the region.

**Solar Cooling Project**

The project is very important for consumer, environment and economy. This design is expected to satisfy the demand of household heating and cooling in many low and medium-latitude locations, with lower costs than standard roofs with similar thermal quality.

The project is funded from the GTZ and aims to study the potential of using solar cooling in Jordan experimentally and a theoretical simulation will be carried out.
# Awarded past EU & Tempus Projects

<table>
<thead>
<tr>
<th>Nu.</th>
<th>Project Title: MAnSUr</th>
<th>Project Acronym</th>
<th>Partners Universities</th>
<th>UJ Main Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MAster on SUsustainable development and Renewable energy</td>
<td>MANSUR</td>
<td>Italy, Jordan, Sweden, UK</td>
<td>Coordinator &amp; To develop, establish and accredit a RE master program</td>
</tr>
<tr>
<td>2</td>
<td>MAster Program of Environmental engineering and Climate change</td>
<td>MAPEC</td>
<td>Jordan, Syria, Germany, Austria, Portugal</td>
<td>MAPEC Project Coordinator &amp; To develop, manage and accredit Climate Change master program</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nu.</th>
<th>Project Title: Modernising Undergraduate Renewable Energy Education: EU Experience for Jordan</th>
<th>Project Acronym</th>
<th>Partners Universities</th>
<th>UJ Main Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Modernising Undergraduate Renewable Energy Education: EU Experience for Jordan</td>
<td>MUREE</td>
<td>Jordan, Germany, Austria, Italy, Spain, Cyprus</td>
<td>Develop, integrate, accredit and evaluate a B.Sc. program in renewable energy jointly taught by universities in Jordan and brought into line with the Bologna requirements</td>
</tr>
<tr>
<td>Nu.</td>
<td>Project Title: Project Acronym</td>
<td>Duration</td>
<td>Partners Universities</td>
<td>UJ Main Role</td>
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<tr>
<td>4-</td>
<td>EU-EG-JO Joint Master Program in Intelligent Transport Systems</td>
<td>15/10/12 – 14/04/16</td>
<td>Sweden, Jordan, Poland, Slovakia, Egypt</td>
<td>master program will be established at Al-Ahliyya Amman University and Mutah, UJ will help and support courses development</td>
</tr>
<tr>
<td>5-</td>
<td>Development of an interdisciplinary program on climate change and sustainability policy</td>
<td>1/12/13 – 30/11/16</td>
<td>Greece, Jordan, Germany, Cyprus, Egypt, Lebanon</td>
<td>Introduce the Euro-Arab pass Diploma in the CLIMASP undergraduate program</td>
</tr>
</tbody>
</table>

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**Awarded Projects of The University of Jordan through Erasmus + call**

<table>
<thead>
<tr>
<th>Nu.</th>
<th>Country Of Applicant Organization</th>
<th>Applicant (Coordinator)</th>
<th>Application Title</th>
<th>Role</th>
<th>Partners Universities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>Jordan</td>
<td>The University Of Jordan</td>
<td>Modernization of teaching methodologies in higher education: EU experience for Jordan and Palestinian territory</td>
<td>Grant holder</td>
<td>Jordan, Palestine, Germany, Bulgaria, Spain, England, Denmark</td>
</tr>
<tr>
<td>2-</td>
<td>Bulgaria</td>
<td>Plovdiv University &quot;Paisii Hilendarski&quot;</td>
<td>Improving Higher Education Quality in Jordan using Mobile Technologies for Better Integration of Disadvantaged Groups to Socio-economic Diversity</td>
<td>Partner</td>
<td>Bulgaria, Spain, England, Jordan</td>
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<tr>
<td>Nu.</td>
<td>Country Of Applicant Organization</td>
<td>Applicant (Coordinator)</td>
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<td>Role</td>
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<tr>
<td>3-</td>
<td>Jordan</td>
<td>University Of Science And Technology</td>
<td>Promotion of Innovation Culture in the Higher Education in Jordan</td>
<td>Partner</td>
<td>Jordan, Germany, Spain, Portugal, Cyprus, Italy, Greece</td>
</tr>
<tr>
<td>4-</td>
<td>Germany</td>
<td>Hochschule Für Technik, Wirtschaft Und Kultur Leipzig</td>
<td>Vocational training center for undergraduate university students and teachers in Jordan</td>
<td>Partner</td>
<td>Germany, Spain, Slovakia, Portugal, Jordan</td>
</tr>
<tr>
<td>5-</td>
<td>United Kingdom</td>
<td>Staffordshire University</td>
<td>Smart Control Systems for Energy Management: New Master Degree</td>
<td>Partner</td>
<td>Egypt, England, Spain, Portugal, Cyprus, Greece, Jordan</td>
</tr>
<tr>
<td>6-</td>
<td>Italy</td>
<td>UNIVERSITA DEGLI STUDI ROMA TRE</td>
<td>Developing skills in the field of integrated energy planning in Med Landscapes</td>
<td>Partner</td>
<td>Italy, Jordan, Malta, Spain, Portugal, Lebanon, Egypt</td>
</tr>
<tr>
<td>Nu.</td>
<td>Country Of Applicant Organization</td>
<td>Applicant (Coordinator)</td>
<td>Application Title</td>
<td>Role</td>
<td>Partners Universities</td>
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<tr>
<td>7</td>
<td>Jordan</td>
<td>German Jordanian University</td>
<td>Development of higher Education teaching modules on the Socio-economic Impacts of the Renewable Energy implementation</td>
<td>Partner</td>
<td>Jordan, Egypt, Syria, Germany, Cyprus, Italy</td>
</tr>
</tbody>
</table>

1- Involvements of University top management in Tempus Project

MANSUR Kick off meeting
1- Involvements of University top management in Tempus Project

MAPEC Kick-Off Meeting

Second MAPEC StC & TSC at Hamburg & Hoxter, Germany
Kick off meeting - Rome, March 14-18

Global Conference for Renewables and Energy Efficiency for DESert Regions GCREEDER 2013 Under the Patronage Of his Royalty Prince Hamzeh ibn Al-Hussein

Tempus Project info-corner

2- Stakeholders Involvement

MAPEC official Info. day
2- Stakeholders Involvement in sponsoring radio program (Competence) to disseminate MAPEC
2- Stakeholders Involvement

Meeting with NIN Stakeholders for CLIMASP project

3- Involvements of University Staff
Second MAPEC StC & TSC meeting at Germany
Kick off meeting  - Rome, March 14-18

3- Involvements of University Staff
Second MAPEC StC & TSC meeting at Germany

Fourth MAPEC StC & TSC at University of Innsbruck
Kick off meeting - Rome, March 14-18

15/03/2016
3- Involvements of University Staff

Fifth MAPEC StC & TSC at Portugal

4- Involvement of Students

Info. Day
Contribution of UJ to ENEPLAN Project

UJ, together with PSUT and UOP, will be responsible of the workshop in Amman “Testing of Cmap 2.0 through interaction with students” hosting 90 students (10 for each university from the Partner countries).

The other activities will be:
• To coordinate and manage the project activities.
• To contribute in the Networking of the companies and to develop the public administrations
• To implement and manage the interactive platform for distance learning
• To update the didactic material and to develop a new and effective training method
• To organize and manage the project Courses
• To participate in the monitoring of the project, providing index and planning
• To develop the laboratories and to ensure that efforts are not duplicated
• To participate in surveying and benchmarking activities.

Working group

The University of Jordan, Prof. Ahmed Al-Salaymeh.
Kick off meeting - Rome, March 14-18

Staff Members

Mechanical Engineering Department
- Prof. Ahmed Al-Salaymeh
- Prof. Mohammad Hamdan
- Dr. Hashem Al-Khaldi

Architectural Engineering Department
- Dr. Abdulsalam Al-Shboul
- Dr. Wael Azhari
- Eng. Kholoud Hassoneh

The current curricula provided by UJ on the ENEPLAN related issues

On post-graduate level:
- MAsser on SUsainable development and Renewable energy, MANSUR.
- MAsser Program on Environmental engineering and Climate change, MAPEC.
- Master Degree in Architecture.
- Master Degree in Energy Management.

On under-graduate level:
- Modernizing Undergraduate Renewable Energy Education, MUREE.
- B.Sc. in Architectural Engineering.

(The University of Jordan, Prof. Ahmed Al-Salaymeh)
MANSUR Master Program

Objectives

1. To establish and credit a Master Course following the Bologna requirements
2. To improve and diffuse REEE in public and private buildings, according to the National Energy Plan
3. To join companies, public administrations and Universities
4. The additional specific objectives of the project are to promote and publicize new REEE technologies in the country

Partners

www.mansur-energy.eu

1. Basic information

<table>
<thead>
<tr>
<th>Country</th>
<th>Jordan</th>
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<tbody>
<tr>
<td>University</td>
<td>The University of Jordan</td>
</tr>
<tr>
<td>Department/Faculty</td>
<td>Mechanical engineering</td>
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<tr>
<td>Program Title</td>
<td>Master of Renewable Energy</td>
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<tr>
<td>Web site</td>
<td><a href="http://www">www</a>. Mansur-energy.eu</td>
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<tr>
<td>No of Semesters</td>
<td>4</td>
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<tr>
<td>ECTS/CHS total</td>
<td>33 CHS</td>
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2. Program details

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<tr>
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<td>2nd Semester</td>
<td>6 CHS</td>
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<tr>
<td>3rd Semester</td>
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15/03/2016
## 1. Summary of Courses

### Core Courses

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<th>Course Title</th>
<th>Prerequisites</th>
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<td>Scientific Research Methods</td>
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<td>3 CHS</td>
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<tr>
<td>0904751</td>
<td>Renewable Energy Systems</td>
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<td>3 CHS</td>
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<tr>
<td>0904761</td>
<td>Energy Efficiency</td>
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<td>3 CHS</td>
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<tr>
<td>0904762</td>
<td>Energy Conversion</td>
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<td>3 CHS</td>
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<tr>
<td>0904771</td>
<td>Energy Management</td>
<td></td>
<td>3 CHS</td>
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<tr>
<td>0904772</td>
<td>Economic aspects of renewable energy and energy</td>
<td></td>
<td>3 CHS</td>
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<tr>
<td></td>
<td>efficiency (REEE)</td>
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### Elective Courses

<table>
<thead>
<tr>
<th>Course Name</th>
<th>No of ECTS/CHS</th>
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<tbody>
<tr>
<td>Modeling, Simulation and Optimization</td>
<td>3 CHS</td>
</tr>
<tr>
<td>Market Communication, Strategies and Tools</td>
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</tr>
<tr>
<td>CSP – Concentrated Solar Power</td>
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<td>Wind Energy</td>
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<td>Photovoltaic Energy</td>
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<td>Solar Desalination</td>
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<td>Environment and Sustainable Development</td>
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</tr>
<tr>
<td>Bio-fuels</td>
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</tr>
<tr>
<td>Low Carbon Buildings</td>
<td>3 CHS</td>
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<tr>
<td>Energy Regulations</td>
<td>3 CHS</td>
</tr>
<tr>
<td>Special Topics in Renewable Energy</td>
<td>3 CHS</td>
</tr>
</tbody>
</table>
MAPEC Program

- To develop, manage and accredit MAPEC master program.
- To enhance the didactic and contents of the curriculum.
- To improve the quality of education in the field of Environment and Climate Change.
- To train personnel in Environmental and Climate Change fields (engineering, science, economics, law)

http://mapec.ju.edu.jo/

- To develop interaction between Jordanian and Syrian Universities and EU Universities with respect to Environment and Climate Change.
- To reduce the environmental pollution and to improve the health conditions in the partner countries.
- To contribute to the conservation of conventional energy resources.
- To Improve the employability of professionals in the labor market of this program at national and international level.

1. Basic information

<table>
<thead>
<tr>
<th>Country</th>
<th>Jordan</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
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<tr>
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<tr>
<td>Web site</td>
<td><a href="http://www">www</a>. Mansur-energy.eu</td>
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2. Program details

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<td>3rd Semester</td>
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## 1. Summary of Courses

### Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>0934741</td>
<td>Scientific Research Methods</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>0941772</td>
<td>Air Pollution</td>
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<tr>
<td>0904775</td>
<td>Climate Change Impacts and Adaptation</td>
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<td>0935757</td>
<td>Environmental Impacts of Energy</td>
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<tr>
<td>0932731</td>
<td>Environmental Design</td>
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### Elective Courses

<table>
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<tbody>
<tr>
<td></td>
<td>Industrial Processes and Pollution Prevention</td>
<td>3</td>
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<tr>
<td></td>
<td>Hazardous Substances and Waste Management</td>
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<td>Simulation in Environmental Engineering</td>
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<td>Remote Sensing</td>
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<td>Building Preserving and Reusing</td>
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<td>Environment and Sustainable Development</td>
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<td>Renewable Energy Systems</td>
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<td>Environmental law and policies</td>
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<td>Biological Treatment of Wastewater</td>
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<td>Disaster risk reduction</td>
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<td>Energy efficiency in Buildings</td>
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1. Basic information

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<th>Country</th>
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<td>No of Semesters</td>
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2. Program details

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<td>6 CHS</td>
</tr>
<tr>
<td>4th Semester</td>
<td>6 CHS</td>
</tr>
</tbody>
</table>

(The University of Jordan, Prof. Ahmed Al-Salaymeh)
Educational models

• UJ Website.
• UJ e-learning platform/Portals
• Online e-courses
• state-of-the-art educational technologies.
• ICT laboratories.
• Video conferences rooms.

Global Development Learning Network (GDLN) Center

The Global Development Learning Network "Atheer" is established through financial support from the government of the Hashemite Kingdom of Jordan and the Government of Japan. The World Bank helped in all of its establishment. The section is part of a network linking Africa, Latin America and the Caribbean, Middle East and North Africa, Asia, Europe and North America. The GDLN, relying on ISDN communication technology, can provide live video conferencing, interactive classrooms and multimedia laboratory

Objectives:

➢ Provides interactive learning capabilities to the participating countries across geographic and time barriers.
➢ Provides a platform for sharing of real time experience on different issues of development among participating developing countries.
Global Development Learning Network (GDLN) Center

- Develop Human Resources for the effective utilization of the ICT in Jordan
- Disseminate and promote the effective utilization of ICT for education and Learning
- Provide the opportunity for Jordanian policy makers and leaders to improve the Policymaking process through access to information and international discussions
- The University of Jordan will be offering credit courses and non-credit programs by Distance Learning Media to UJ students and the general public, inside and outside Jordan.

THANK YOU
The University Schools - Architecture and Design; Biosciences and Veterinary Medicine; Law; Pharmaceutical Science and Health Products; Science and Technologies; School of Advanced Studies (PhD Courses)

Under the new status, Faculties and Departments have been merged into autonomous structures called University Schools or SARRFs, which are responsible for Research and Training. They have scientific, educational, organizational autonomy. Under University Regulations for the administration, the SARRFs also have financial management and accounting autonomy. The SARRFs unify the skills of the previous structures, namely Departments (research) and Faculties (training). The new units are responsible for conducting and coordinating research, training, transfer of skills and knowledge services.
**Working group**

School of Bioscience and Veterinary Medicine - UNICAM  
School of Science and Technologies - UNICAM  

Andrea Catorci - Associate Professor in Environmental and Applied Botany (School of Bioscience and Veterinary Medicine)  
Expertise: Geobotany; Ecology and ecosystems management; Landscape Ecology; Applied Botany and land planning; Biodiversity conservation; Sustainable Development; and evaluation of the effects of plans, projects and activities on plant communities and ecosystems.  
Collaboration in national projects related to environmental impact of wind farms and wood-energy chains.  
Coordinator of projects aimed at: environmental impact assessment of wind-farm and photovoltaic plans; assessment of impacts of projects on Natura 2000 sites; definition of guidelines for the implementation of management plans of Natura 2000 sites; management plans of Natura 2000 sites; sustainable development of local communities.  
Teachings (ongoing): Geobotany; Principles of landscape ecology; Applied Geobotany.

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**Working group**

Federico Maria Tardella - Research fellow (School of Bioscience and Veterinary Medicine)  
Expertise: plant ecology, vegetation analysis, monitoring and mapping, ecosystems management, and biodiversity conservation. research applied to land planning, ecosystems monitoring, evaluation of the effects of plans, projects and activities on plant communities and ecosystems.  
Collaboration to the draft of technical-scientific publications, technical reports, assessment of impacts of project and plans on Natura 2000 sites, environmental impact assessment of wind power and photovoltaic plants, vegetation and geobotanic quality maps, maps of habitats of community interest in Natura 2000 sites, management plans and conservation measures for habitats of community interest in Natura 2000 sites.  
Teachings: Environmental impact assessment - Master in "Production, Use and Management of Energy from Renewable Sources" (2008); Thematic mapping" - School of Environmental Sciences (2010/2011).
Working group

Rosario Culmone - Assistant Professor (School of Science and Technologies)
Expertise: Computer Science.

Involved in many projects for the design and developing of hardware and software systems, committed by Administration Army, Industrial Companies and Public Administration [1986-2005].


He has taught Operative Systems, Algorithms, Data Base Management Systems, Theoretical Computer Science, Programming Languages, Software Engineering for the Degree in Computer Science at University of Camerino [1989-].

University of Camerino – Andrea Catorci

Working group

Expertise to bring inside the project

Given its field experience in Environmental Impact Assessment at local and regional scale, UNICAM staff can provide insight into monitoring strategies and protocols and field survey methods aimed at assessing the impacts of energy production plants on the environment, with particular focus on vegetation, biodiversity, and habitats.

Our expertise includes vegetation description and dynamic processes assessment and monitoring aimed at assessing impacts on ecosystems and their services and proposing mitigation measures.

Previous experience in integrated land use planning, sustainable development and plant community management allows to set all the methods, strategies and measures in the frame of a systemic, adaptive approach that takes into account the complexity of the management context when evaluating the sustainability of infrastructures and energy plants.

University of Camerino – Andrea Catorci
Target curricula

Course in Environmental Biomonitoring and Elements of Environmental Impact Assessment (ST – 057), 64 h, 8 CFU
School of Science and Technologies
Degree Courses: Natural and Environmental Sciences (L - 32)
Geological Sciences (L - 34)

Educational models

Structure of the courses: two-cycles degree structure (3+2 years, bachelor-type degree and master-type degree), 20 students,…
Most used “tools”: frontal lecture, laboratories, exercises, field activities
Availability of e-learning platform for some courses
Level of diffusion/use of concept maps: not used
Level of diffusion/use of GIS
Course in Topography, mapping and GIS - School of Science and Technologies - Degree Courses: Natural and Environmental Sciences (L - 32) and Geological Sciences (L - 34)
Courses in Geostatistics, Geobotany, Advanced GIS, Geographical Information Systems - School of Science and Technologies - Master Degree Course: Geoenvironmental Resources and Risks (LM-GRR)
Ecodynamics Group, University of Siena (Italy)

Elena Neri, Riccardo M. Pulselli, Simone Bastianoni – elena.neri@unisi.it

Working group

Ecodynamics Group, Dep. of Earth, Environmental and Physical Sciences, University of Siena

Staff members:

Elena Neri
Kick off meeting - Rome, March 14-18

Working group

Ecodynamics Group, Dep. of Earth, Environmental and Physical Sciences, University of Siena

Staff members:

Elena Neri

Working group: methods and indicators to assess sustainability

- **LIFE CYCLE ASSESSMENT**: Method that estimates different environmental impact categories (e.g. acidification and eutrophication potential, carbon footprint and water footprint) of a production process/system throughout its life-cycle, from raw materials withdrawal to the end-of-life.

- **GHG INVENTORY**: Greenhouse gas emission and uptake accounting at local/company level.

- **EMERGY EVALUATION**: The solar energy embodied in goods/services. It highlights the eco-efficiency of a system.

- **ECOLOGICAL FOOTPRINT**: Supply of and demand on productive territory that is directly and indirectly necessary to support our activities (i.e. 1.6 Earths per year).

- **ECOSYSTEM SERVICES EVALUATION**: All the benefits that people obtain, directly or indirectly from nature.

Elena Neri
Target curricula/Educational models

Courses @University of Siena:

Course name: Sustainability
Kind of students: Access to all students, technical/administrative University staff, enterprises
Coordinator: Prof. Simone Bastianoni
Duration: 48 hours
Usual number of students: 150+
Used “tools”: frontal lectures
Course description: interdisciplinary course on environmental, economic, political, energetic and social aspects of sustainability

Elena Neri

Target curricula/Educational models

Courses @University of Siena:

Course name: Environmental Sustainability Indicators
Kind of students: M.Sc. in Ecotoxicology and Environmental Sustainability
Usual number of students: 20
Coordinator: Prof. Federico Maria Pulselli
Duration: 48 hours
Used “tools”: frontal lectures
Course description: theoretical and practical knowledge about the concept of sustainability and the tools for operationalizing it at the environmental, economic, social and institutional level. Ecological and ecological-economic sustainability indicators: Material Flow Accounting; Emergy evaluation; Ecological Footprint; IPCC GHG Inventory; ISEW-Index of Sustainable Economic Welfare; Ecosystem Services Evaluation

Elena Neri
Target curricula/Educational models

Courses @University of Siena:

Course name: Environmental Physical Chemistry and LCA
Kind of students: M.Sc. in Ecotoxicology and Environmental Sustainability
Usual number of students: 20

Module #2: Life Cycle Assessment and Certification
Coordinator: Prof. Simone Bastianoni
Duration: 64 hours
Used “tools”: frontal lectures and laboratories
Web based tools: open LCA
Course description: evaluation of impacts due to human activities by using methodologies and sustainability indicators as Emergy and LCA. Processes of certification of results by a third part (e.g. ISO conformity).

Target curricula/Projects

PRJ title: MAB3 - The Macro Algae Biorefinery
Programme: Strategic Research in Sustainable Energy and Environment - Danish Council for Strategic Research
Dates: 2012-2016
Website: http://www.mab3.dk
Objectives: Including 12 partners from 3 European countries, the Macro Algae Biorefinery (MAB3), presents an integrated macroalgae biorefinery concept. Objectives of the MAB3 project are to develop new technologies in laboratory and pilot scale, leading to a sustainable production and further conversion of two brown macroalgae i.e. Saccharina latissima and Laminaria digitata into three energy carriers and fish feed: Bioethanol, Biobutanol, Biogas and a protein rich fish feed supplemented with essential amino acids.
Target curricula/Projects

PRJ title: Biowaste 4SP - Turning BIOWASTE into Sustainable Products: development of appropriate conversion technologies applicable in developing countries

Programme: FP7 - Conversion of bio-waste in developing countries
- SICA (African ACP, Mediterranean Partner Countries)

Dates: 2012-2015

Website: www.biowaste4sp.eu

Objectives: Including 16 partners from 10 European and African countries (Denmark, Sweden, Italy and Turkey, Malaysia and about Africa Egypt, Ghana, Kenya, Morocco and South Africa), Biowaste4SP aims to develop and check feasibility-sustainability of systems-processes to convert agricultural and industrial waste in African countries into biofuels (bioethanol and biogas), biomaterials (fertilizers and feed) and other value-added products.

Elena Neri

Target curricula/Projects

PRJ title: CityZen - a balanced approach to the city of the future

Programme: FP7-ENERGY-SMART CITIES-2013

Dates: 2014-2019

Website: http://www.cityzen-smartcity.eu/home/

Objectives: Including 23 partners from 5 European nations, the City-Zen project aims to develop and demonstrate Zero Energy Cities with a central role of the citizens. Partners cooperate to achieve a future-proof grid, innovative heat/cold generation solutions and energy efficient buildings.

Elena Neri
Target curricula/ Projects

**PRJ title:** ENERBIOCHEM – Eco-compatible processes of energy and biochemical production from renewable sources and for the land valorization

**Programme:** National Operational Programme (NOP) for Research and Competitiveness 2007-2013

**Dates:** 2012-2015

**Website:** http://www.ponrec.it/open-data/progetti/scheda-progetto?ProgettoID=5166

**Objectives:** Including 8 Italian partners (5 enterprises, 2 Universities, 2 Public Research Organizations) the ENERBIOCHEM project aims to define a model of energetically, economically and environmentally sustainable industrial development in order to optimize the energetic efficiency of an agro-industrial system, in marginal areas, for obtaining of non-food biomasses to be used as raw-materials for industrial production of renewable energy and biochemicals and to contribute to re-launching of regional and national economy, integrated with environment and with productivity abilities of regional agriculture.

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Target curricula/ Projects

**PRJ title:** BALLO - Biofuels from Algae in the Lagoon of Lesina and Orbetello

**Programme:** Ministry of Agriculture D.M. 26271/7303/

**Dates:** 2010-2013

**Website:** http://www.ecodynamics.unisi.it/?p=195&lang=en

**Objectives:** Including 2 Italian partners (1 University, 1 Public Research Organization) the BALLO project aims at investigate and try to find sustainable solutions for the production of biofuels that have traditionally been produced from “energy crops”, through the assessment of the energy potential of aquatic biomass residues (macroalgae), in the two lagoons of Lesina and Orbetello, compatible with environmental balance and sustainable in terms of resource usage for the entire process.
Kick off meeting - Rome, March 14-18

Reduction of GHG emission in the Province of Siena (REGES PROJECT 2007-present)

**SIENA CARBON FREE 2015**

- **ENERGY SAVING**
  - e.g. service for heater maintenance i.e. 90k houses

- **RENEWABLE ENERGY**
  - Geothermal heat 92.2%; PV 4.2%; Waste 3.6%

- **WASTE MANAGEMENT**
  - Integrated waste management system implementation
  - n.8 plants: n.2 treatment plant + n.4 landfill gas capture + n.1 compost + n.1 incinerator

- **COMMUNICATION/DISSEMINATION**
  - People behaviour: waste, mobility, indoor lighting and electrical appliances (e.g. stand-by, energy class), water management

- **ANTI-FIRE PLAN**
  - Reduction of fire risk in woods

- **PUBLIC TRANSPORT**
  - Electric buses; electric bicycles; electric vehicles

**SIENA GREEN LANDS BRAND**
- Short chain, Green, Carbon free

Elena Neri
**Kick off meeting - Rome, March 14-18**

**Elena Neri**

**PRJ title:** MED-SDSN, Sustainable Development Solutions Network Mediterranean

**Website:** http://www.sdsn-mediterranean.unisi.it/about/sdsn-mediterranean/

**Objectives #1:** Including 51 MED members, the MED-SDSN is the Regional hub for the Mediterranean of the Sustainable Development Solutions Network (SDSN), directed by Professor Jeffrey Sachs (Columbia University), Special Advisor to United Nations Secretary-General Ban Ki-moon on the Millennium Development Goals.

UN Secretary-General Ban Ki-moon commissioned the SDSN to mobilize academia, research institutes, civil society and the private sector in pursuit of practical solutions for sustainable development at global level.

**SDSN Mediterranean is hosted by the University of Siena (Italy).**

The University of Siena, founded in 1240, is one of the world’s oldest Universities with long-standing research and project activities in sustainable development with a particular focus on the Mediterranean.

**Target curricula/ Projects**
Objectives #2: Activities of SDSN Mediterranean include:

• Cooperation and joint research activities among Mediterranean countries, universities and businesses;

• Development of practical solutions to sustainability issues relevant to the future of the region;
Target curricula/Projects

Objectives #2: Activities of SDSN Mediterranean include:

- Cooperation and joint research activities among Mediterranean countries, universities and businesses;
- Development of practical solutions to sustainability issues relevant to the future of the region;
- Elaboration of SDG indicators for the Mediterranean area;
- Promotion of networking activities among research centers, the diffusion of education tools in the Mediterranean, and Euro-Mediterranean joint programming in the context of EU planning activities through 3 web-based platforms:

Kick off meeting - Rome, March 14-18

Elena Neri
THANK YOU FOR YOUR ATTENTION

Mail: elena.neri@unisi.it
Web: http://www.ecodynamics.unisi.it/
Social: https://it-it.facebook.com/EcodynamicsGroup

Elena Neri
Kick off meeting - Rome, March 14-18

University of Petra - UOP- (Jordan)

Ali Al Maqousi, PhD
amaqousi@uop.edu.jo

UOP Location & Map

- UOP is located in Amman city
- on 180,000 m²
**UOP Profile**

- Private HEI, established since 1991
- 7 Faculties, 26 Bachelor Programs & 6 Master programs
- 7100 Students, 20% international students
- Academic Staff/Administrative Staff ratio 1:1
- Staff / Students Ratio 1: 25
- Quality Assurance Certificate 2015
- Green Campus

---

**UOP Faculties:**

1 – Architecture & Design
2 – Arts & Sciences
3 – Information Technology
4 – Pharmacy & Medical Sciences
5 – Administrative & Financial Sciences
6 – Law
7 – Mass Communication

26 Bachelor Programs & 6 Master programs
UOP Profile (The Faculty of Architecture)

UOP centers:
1. E-Learning Center
2. Continuing Education Center
3. Language Center
4. Innovation Center
5. Pharmaceutical Center
6. ICT & Control Center
7. Academic Development Center
8. Free WiFi within the campus

University of Petra – Ali Al Maqousi
**UOP & EU Funded Projects**

- UOP staff has participated in Several EU Funded projects.
  - FP7, Tempus, Erasmus Mundus, Erasmus+, etc..
- Tens of bilateral agreements with EU & international HEIs.
- UOP established OFFER office to deal with External funding for research projects
- To build a Strong collaboration relationships with European, Mediterranean & in particular with Jordanian counterparts.

*University of Petra – Ali Al Maqousi*

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**Working group**

Project Team
- Faculty of Architecture & Design
  - Dr. Hadeer Merza / Faculty Dean
  - Dr. Fatima Al Namari / faculty staff
- Faculty of Information Technology
  - Dr. Ali Al Maqosui / OFFER Director
  - Dr. Tatiana Balikhina / faculty staff

Prof Badran, the UOP Chancellor is one of the leaders in the region specialized in Environment, Energy & Renewable Energy (Masder Institute Board of Trustees Member & AFED Chairman of Board of Trustees (2008))
The faculty of Information Technology held in 2013 an international conference on ICT applications for Renewable Energy systems, the conference will be held in May next year.
The team has been involved in designing and building UOP 1.5 MW RE system to generate Electricity for university consumption.

*University of Petra – Ali Al Maqousi*
Working group (Cont.)

Berlin University and Petra University were jointly invited by the German Development Cooperation (GIZ) and United Nations Relief and Works Agency (UNRWA) to conduct an international student workshop in Jerash Refugee Camp, Jordan.

Examples from students’ work that integrate energy planning with urban design

Students include design elements that enhance energy saving, and energy generation such as solar panels, electrical cars charging, etc.
Target Curricula

Description of the educational curricula offered by UOP
(Petra University/ Faculty of Architecture & Design, Department of Architecture)

A: UNIVERSITY REQUIREMENTS:

9400151  Ecology  (3-3-0)

B: FACULTY REQUIREMENTS:

201432  Local and Regional Architecture  (3-3-0)
201416  Architectural Design (6)  (4-0-4)
201562  Urban Planning & Design  (4-0-4)
201565  Urban Planning  (3-3-0)
201421  Building Legislation and Professional Practice  (3-3-0)
201424  Construction Project Management  (3-3-0)
201545  Environmental Design  (3-3-0)

(University of Petra Ali Al Maqousi)

Target Curricula

Introduction to climatic factors and their effects on buildings, neighborhoods, cities, & regions including natural and mechanical systems for maintaining sustainable and ecological and environmental considering all aspects regarding social and environmental sustainability.

Course Description:

Our built environment has a substantial impact on energy and material resources as well as being a critical determinant of health, comfort, and productivity for occupants. In response, there are numerous local, national, and international entities adopting green, sustainable criteria for new construction and renovations. This course approaches sustainable development for buildings by examining physiology required for human function and then by considering how building components and systems affect human performance and well being. Sustainable development starts with site planning and evaluation, and proceeds through construction, commissioning, and occupancy phases.

(University of Petra Ali Al Maqousi)
Target Curricula

Students to be involved in task 2.4

<table>
<thead>
<tr>
<th>Courses</th>
<th>Level</th>
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<tbody>
<tr>
<td>201416 Architectural Design</td>
<td>(4-0-4) Year 4</td>
</tr>
<tr>
<td>201562 Urban Planning &amp; Design</td>
<td>(4-0-4) Year 5</td>
</tr>
</tbody>
</table>

(UUniversity of Petra Ali Al Maqousi)

Educational Models

UOP model: 5 Years Architecture Bachelor Program (165 Credit Hours)

- structure of the courses (duration: 1 course (16 weeks), 3 (4) credit hours, 3 (8) contact hours/week, usual number of students per course: 25 (15 – 20) students per section, lecture (project based))
- most used “tools” (frontal lecture, projects & labs)
- availability of e-learning platform or other web based tools (Moodle + Blackboard)
- level of diffusion/use of concept maps No
- level of diffusion/use of GIS No
- point out if the education model your organization is following can be considered in your country ordinary

(UUniversity of Petra Ali Al Maqousi)
Kick off meeting - Rome, March 14-18

Thank You
Kick off meeting - Rome, March 14-18

Zewail City for Science and Technology - Zewail City - Egypt

Dr Ibrahim Ashour, iashour@zewailcity.edu.eg

Egypt's National Project for Scientific Renaissance

Visionary Behind the Project

Nobel Lauriat Ahmed Zewail (1999 in Chemistry)
City Objectives

Prepare a New Generation Capable of

- Thinking Critically and Creatively
- Mastering Basic Sciences
- Linking Academia with Industry
- Building Entrepreneurship
- Delivering Outcomes that Have a Significant Impact on Society and Economics

Structure of Zewail City
Kick off meeting - Rome, March 14-18

Undergraduate Curriculum

First Year
Core Courses (STEM Based)

Engineering Majors
Four Years
- Nanotechnology Engineering
- Environmental Engineering
- Renewable Energy Engineering
- Space and Communication Engineering

Science Majors
Three Years
- Intellectual Property, Technology Transfer & Commercialization
- Humanities and Social Sciences

Engineers
- Nanoscience
- Materials science
- Biomedical Science
- Physics of Earth and Universe

Admission Criteria

High School Score
- > 90% for 2013/2014

Score of Basic Sciences
- Physics, Chemistry, Biology and Mathematics

Admission Exam
- To measure depth of knowledge and understanding

Interview

English Proficiency Exam
- Pre-university English Program

Academic Excellence is the Only Admission Criteria
Research Institutes at Zewail City

- Imaging and Visualization
  - Center for Imaging and Microscopy
- Energy, Environment and Space
  - Center for Photonics and Smart Materials
- Nanotechnology
  - Center for Nanoelectronics and Devices
  - Center for Material Science
- Economics and Global Affairs
  - Talaat Harb Center for Economics
- Basic Sciences
  - Center for Theoretical Physics
- Helmy Institute for Medical Science
  - Center for Aging and Associate Diseases
  - Center of Excellence for Stem Cells and Regenerative Medicine
  - Center for Genomics

Master Plan
Kick off meeting - Rome, March 14-18

Working group

Program of Renewable Energy Engineering (REE)
Program of Environmental Engineering (ENV)

Staff Members:
Dr Ibrahim Ismail (REE)
Dr Fareed Aboul Ela (ENV)
Dr Ibrahim Ashour (ENV)
Students from the two programs

(Zewail City of Science and Technology – Ibrahim Ashour)

Kick off meeting - Rome, March 14-18

Working group

The expertise ZC organization intends to bring about the project

Environmental impact assessment
RES technologies
SMEs involvement
Recycle of solid wastes
Desalination
Cleaner Production

(Zewail City of Science and Technology – Ibrahim Ashour)
Target curricula

Curricula have developed in ZC are undergraduate programs, namely Renewable Energy Engineering and Environmental Engineering, which are related to energy.

Current Orientations:
• Establishment and building a foundation for identify development our students as thoughtful individuals growing intellectuals and active members of society.
• Research oriented
• Shift from teaching to learning
• Incubator for industrial innovation and development project

Deficiencies:
• Some laboratories are still under establishment
• Space problems till moving to new campus
• English language
• Unsatisfactory scholarship
Target curricula (Cont.)

Internship (Industrial Training), and Capstone (Graduation project) (IGP) are our target in ENEPLAN

Students whom involve in Task 2.4 testing in Cmap 2.0 Tool:
   Year 4 /course IGP
       5 students from REE
       5 students from ENV

Educational models

- Two semesters per year 18 credits each, number of students ranges from 12 to 30 per section.
- Frontal lecture, laboratory.
- Elearning is available (Learning management system (LMS) using black board).
- Educational model is problem based and project based learning, and problem solved learning is used in basic courses and considered advanced in my country.
REE Program

Basic Courses Math, Physics and Chemistry → In year 2 and 3

Engineering Sciences and humanities → In year 2, 3, 4

Applied and technical elective courses → PV, Wind, Biofuels in year 3, 4, 5

Internship (summer of year 3 & 4)

Capstone courses (Graduation project) → Integrated Knowledge bounded by Environmental, economic and design constraints

Education model is credit system and based on student centered
1 - WHAT IS A CONCEPT MAP?

concept

linking phrase

concept

linking phrase

concept

linking phrase

concept

linking phrase

concept

linking phrase

concept

concept

concept

concept

concept
2 - WHAT IS A CONCEPT MAP?

cat is on table
3 - WHY DO WE USE CONCEPT MAPS?

CONCEPT MAP

as a means for developing

meaningful learning

for acquiring

new knowledge

is related with

previous knowledge

opposed to

rote learning

is

memorisation technique

is based on

repetition
6 - WHY DO WE WANT TO USE CONCEPT MAPS IN THE ENEPLAN PROJECT?
7 - WHAT IS ENEPLAN ABOUT?

- architects/planners
- engineers
- regional planning
- energy planning
- urban planning
- RES technologies
- Open Educational Resources
- landscape planning/landscape protection
- concept maps
- integration of disciplines
- Sustainable Energy Action Plan
- integrated plans
- interdisciplinary approach
- environment
- new professional profiles
- technology
- holistic approach
- planning
- innovative educational approaches
- landscape
- universities
- research centres
- energy agencies
- Mediterranean landscapes
9 - WHAT IS ENEPLAN ABOUT?

- Regional planning
- Urban planning
- Landscape planning/landscape protection
- Energy planning
- RES technologies
- Architects/planners do not have skills in
- Engineers do not have skills in
- Innovation educational approaches

Higher education needs integration of disciplines in order to create new professional profiles through technology and planning.

Holistic approach to needs environment:
- Technology
- Planning
- Landscape

Tools for integration of disciplines are integrated plans such as Sustainable Energy Action Plan.

ENPLAN R has workshops for teachers and students and proposes use of concept maps for learning.

ENPLAN R produces Open Educational Resources in partnership with universities and research centres.

Comprises universities, research centres, and energy agencies.
lack of cross-sector skills

highlights

to be solved through

innovative educational approaches

promotes

ENEPLAN project

needs in higher education
ANNEX 4
**WORKPLAN UPDATE PROPOSAL**

**KICK-OFF MEETING**

Rome, 14-18 March 2016

**Roma Tre University of Rome, Department of Architecture**

---

**Partnership**

<table>
<thead>
<tr>
<th>Partner</th>
<th>Name</th>
<th>Country</th>
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<tbody>
<tr>
<td>P1</td>
<td>Italy University of Roma Tre</td>
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<tr>
<td>P2</td>
<td>Italy University of Siena</td>
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<td>P4</td>
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<td>MIEMA</td>
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<td>Spain University &quot;Pablo de Olavide&quot;</td>
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<td>Lebanon Lebanese University</td>
<td>LU</td>
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<td>P9</td>
<td>Lebanon Lebanese association for Energy saving and Environment</td>
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<td>P10</td>
<td>Lebanon Mediterranean Durably Green</td>
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<td>P18</td>
<td>Jordan Royal Scientific Society</td>
<td>RSS/NERC</td>
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University degli studi Roma Tre, Dipartimento di Architettura – PhD Federica Benelli
### Workpackages and tasks

<table>
<thead>
<tr>
<th>WORK PACKAGE</th>
<th>WP COORD.</th>
<th>TASKS</th>
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</table>
| WP1 PREPARATION | MIEMA | Task 1.1. Kick off - Transfer of C-map methodology  
Task 1.2. State of the art and case studies  
Task 1.3. Realisation of the C-map web platform  
Task 1.4. Realisation of a webgis platform |
| WP2 DEVELOPMENT | ROMA3 | Task 2.1. Construction and validation of C-map 1.0  
Task 2.2. Development of thematic OERs  
Task 2.3. Construction and validation of C-map 2.0  
Task 2.4. Testing of C-map 2.0 with students  
Task 2.5. Maintenance of the Cmap web platform and the webGIS platform/GDB |
| WP3 QUALITY PLAN | JUST | Task 3.1. Quality assessment of OERs  
Task 3.2. Quality assessment of workshops  
Task 3.3. Quality assessment of collaborative tools and cooperation activities |
| WP4 DISSEMINATION EXPLOITATION | AUB | Task 4.1. Preparation of a shared communication plan  
Task 4.2. Website and communication materials  
Task 4.3. Final conference |
| WP5 MANAGEMENT | ROMA3 | Task 5.1. Technical and financial management  
Task 5.2. Financial management |

### Outputs (1/2)

<table>
<thead>
<tr>
<th>WORK PACKAGE</th>
<th>TASKS</th>
<th>OUTPUTS</th>
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</table>
| WP1 PREPARATION | Task 1.1. Kick off - Transfer of C-map methodology  
Task 1.2. State of the art and case studies  
Task 1.3. Realisation of the C-map web platform  
Task 1.4. Realisation of a webgis platform | Output 1.1 Kick-off workshop report (by April)  
Output 1.2 State of the art and case studies report (by June)  
Output 1.3 ENEPLAN Cmap web platform (by June)  
Output 1.4 ENEPLAN WebGIS – geodatabase |
| WP2 DEVELOPMENT | Task 2.1. Construction and validation of C-map 1.0  
Task 2.2. Development of thematic OERs  
Task 2.3. Construction and validation of C-map 2.0  
Task 2.4. Testing of C-map 2.0 with students  
Task 2.5. Maintenance of the Cmap web platform and the webGIS platform/GDB | Output 2.1 Cmap 1.0 - basic conceptual map  
Output 2.2 Workshops reports (for each one)  
Output 2.3 Cmap 2.0 (OER)  
Output 2.4 Cmap 2.1 (OER) |
## Outputs

<table>
<thead>
<tr>
<th>WORK PACKAGE</th>
<th>TASKS</th>
<th>OUTPUTS</th>
</tr>
</thead>
</table>
| WP3 QUALITY PLAN | Task 3.1. Quality assessment of OERs  
Task 3.2. Quality assessment of workshops  
Task 3.3. Quality assessment of collaborative tools and cooperation activities | Output 3.1 Quality assurance plan (by sept)  
Output 3.2 Quality reports (biannual) |
| WP4 DISSEMINATION EXPLOITATION | Task 4.1. Preparation of a shared communication plan  
Task 4.2. Website and communication materials  
Task 4.3. Final conference | Output 4.1 Communication dissemination plan (by jul)  
Output 4.2 ENEPLAN website  
Output 4.3 ENEPLAN newsletter (biannual)  
Output 4.4 ENEPLAN information materials: leaflet (by jul), poster1, poster2, brochure  
Output 4.5. Final conference proceedings |
| WP5 MANAGEMENT | Task 5.1. Technical and financial management  
Task 5.2. Financial management | Output 5.1 Project management plan (by may)  
Output 5.2 Yearly reports |

## WP coordinators

<table>
<thead>
<tr>
<th>WORK PACKAGE</th>
<th>WP COORDINATORS</th>
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| WP1 – PREPARATION | MIEMA  
Malta Intelligent Energy Management Agency |
| WP2 – DEVELOPMENT | ROMA3  
University of Roma Tre |
| WP3 – QUALITY PLAN | JUST  
Jordan University of Science and Technology |
| WP4 – DISSEMINATION AND EXPLOITATION | AUB  
American University of Beirut |
| WP5 – MANAGEMENT | ROMA3  
University of Roma Tre |
Work plan update proposal

Main changes:
• Overall timetable
• Workshops schedule and allocation
### Work plan update 2: events (1/2)

<table>
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<tr>
<th>OLD TIMEPLAN DAYS NUM.</th>
<th>EVENT CODE</th>
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<th>TASK</th>
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<td>KoM</td>
<td>Rome (Italy)</td>
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<td>Kick off meeting + Workshop on Cmaps Methodology</td>
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<tr>
<td>3</td>
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<td>JU</td>
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<tr>
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<td>TW1</td>
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<td>2.2</td>
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<td>TW2</td>
<td>Seville (Spain)</td>
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<td>La Valletta (Malta)</td>
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<tr>
<td>5</td>
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### Work plan update 2: events (option 1)

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<tr>
<td>(jul 2016) 5</td>
<td>W1</td>
<td>MALTA</td>
<td>2.1</td>
<td>Workshop for the construction of C-map1.0</td>
<td>JU</td>
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<tr>
<td>(oct 2016) 5</td>
<td>TW1+TW3</td>
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<tr>
<td>(feb 2017) 5</td>
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# Work plan update 2: events (option 2)

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Università degli studi Roma Tre, Dipartimento di Architettura – PhD Federica Benelli
Kick off meeting - Rome, March 14-18

Malta Intelligent Energy Management Agency – MIEMA - Malta

WP1 – Task 1.2 - State of the Art and Case Studies Report

Jesmond Xuereb
Director@miema.org

17/03/2016

WP1 - Project preparation

Task 1.1) Transfer of Cmap methodology
Task 1.2) State of the Art and Case studies report
Task 1.3) Cmap web platform
Task 1.4) WebGIS platform and geodatabase

Jesmond Xuereb - MIEMA

17/03/2016
Output 1.2 - State of the Art and Case Studies Report

1) State of the Art Report

A state of the art analysis will be conducted with the active collaboration of all partners, focusing on the educational options on integrated energy planning currently offered at the University and post-graduate level in the involved countries, of the legal framework and of the situation of the job market, highlighting current orientations and deficiencies.

Contents:
1. Legal framework on energy planning
2. Integration with spatial planning and the environmental sector
3. Offer of educational courses
4. Use of IT learning tools
5. Annexes

Output 1.2 - State of the Art and Case Studies Report

1) State of the Art Report – Contents:

1. Legal framework on energy planning
   - Describe the legislation on energy planning currently in force in your country and/or region;
   - Description of the energy plans existing in your country at the different government levels, even if not directly related to a specific national or regional law (for example: national energy plan, regional energy plan, provincial energy plan, municipal energy plan, Sustainable Energy Action Plan in the framework of the Covenant of Mayors, etc.).
   - Reference to plans concerning the development and use of renewable energy sources.
Output 1.2 - State of the Art and Case Studies Report

1) State of the Art Report – Contents:

2. Integration with spatial planning and the environmental sector

Describe any possible integration provided by the legislation and/or plan, between energy planning (in particular in the field of renewable energy), spatial planning and other related sectors.

- What authorities are responsible for energy planning?
- Do they have competences in other sectors? If so, are these sectors taken into account in the process of energy planning? If not, is any negotiation or consultation with other authorities normally carried out in the process of energy planning?
- Must spatial plans conform to energy plans?
- How far do energy plans include environmental considerations?

Output 1.2 - State of the Art and Case Studies Report

1) State of the Art Report – Contents:

3. Offer of educational courses

Explain the educational curricula offered by the partner (in case the partner is a university) or by the universities/institutes of the region where the partner is located (in case of other type of partners)

- How is the theme of energy and renewable energy planning included in the offer of higher education?
- Are there specific courses on energy planning?
- Is the theme of energy planning taken into account within other courses such as spatial planning, urban policies, environmental management, landscape planning and design, etc.?
Output 1.2 - State of the Art and Case Studies Report

1) State of the Art Report – Contents:

4. IT tools used in courses related to energy planning
   
   - Does your University offer the use of IT learning tools within its courses (e.g. e-learning platforms such as Moodle)?
   - Describe the functionalities of such tools, and whether there is any available content dedicated to energy planning.
   - Have you (or your colleagues) made use of concept maps within your educational activities? Describe your level of knowledge with such tool, and the software used.
   - If your organisation is not a university, please describe any educational tools you have used in your past activities, if any (for example, within the implementation activities of a past cooperation project).

Output 1.2 - State of the Art and Case Studies Report

2) Case studies Report – Contents:

Identify 2 case studies on energy planning and collect the related information by filling in specific data sheets;

- Case studies on sustainable energy planning. Start choosing two examples of sustainable energy planning in your countries/regions, such as:
- Regional energy plan, a municipal energy plan, a plan or programme for the development of renewable energy sources, etc. – which will be necessary for the final drafting of this project output and for the next project activities.
Kick off meeting - Rome, March 14-18

Thank you

Jesmond Xuereb
Director@miema.org

17/03/2016
Malta Intelligent Energy Management Agency – MIEMA

WP1 – Task 1.3 – Realizing the ENEPLAN web platform

Jesmond Xuereb
director@miema.org
www.miema.org
Tel: (00356) 2722 4409

ENEPLAN WEB PLATFORM

• The ENEPLAN web platform will include:

  - Project description / news / deliverables, etc.
  - E-learning Platform (Moodle)
  - Intranet for communication and file sharing among partners
  - Link to the partners’ webpages and to the Erasmus+ portal
  - Link to Cmap Cloud
  - Web GIS platform and geodatabase
  - Link to Social Networks
**ENEPLAN e-learning platform**

**Online Educational technology:**
- An effective use of technological tools in learning
- Adopting media, machines and networking hardware, and integrating theoretical perspectives for their effective application
- Not restricted to high technology
- Includes different approaches, components and delivery methods.

---

**Learning Management System**

- LMS is a software application for the administration, documentation, tracking, reporting and delivery of electronic educational technology.
- It ranges from systems for managing training and educational records to software for distributing online.
- With the possibility of blended/hybrid courses.
- Features for online collaboration.
- **Moodle** is the most popular open source licence of free Learning Management Systems
An e-learning environment – Moodle software

- The ENEPLAN e-learning environment will be organised using an open source software (Moodle).
- Will be designed and implemented in order to host online courses accessible by students from participating countries.
- The learning content will be adapted by each partner to its own specific local context;
- Testing activities will be included to verify the achievement of required knowledge and skills:
  - online assistance and a web forum (in English)
  - students and teachers can share info and discuss problems, and they can also debate the issues of the different educational activities.
- Allows registered users to easily store, access and manipulate their Cmaps from different locations, and share and collaborate in their construction.

Jesmond Xuereb - MIEMA
Moodle e-learning platform allows the insertion of videos and other media
Main characteristics of Moodle:

1) Free and open-source software (FOSS)
   - Moodle is a FOSS computer software, meaning that it is both free and open-source.
   - This implies that anyone is free to use, copy, study, and change the software in any way, and the source code is openly shared so that people are encouraged to voluntarily improve the design of the software.
   - The benefits of using FOSS include lower software costs, higher security and stability, protecting privacy, and giving users more control over their own hardware.
   - Free, open-source operating systems such as Linux and descendants of BSD are widely utilized today, powering millions of servers, desktops, smartphones (e.g. Android), and other devices.

Jesmond Xuereb - MIEMA

<table>
<thead>
<tr>
<th>Main characteristics of Moodle:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2) Interoperability</td>
</tr>
<tr>
<td>- Moodle runs without modification on Unix, Linux, FreeBSD, Windows, OS X, NetWare and any other systems that support PHP.</td>
</tr>
<tr>
<td>- Can easily integrate everything needed for a course using its complete range of built-in features, including external collaborative tools such as: forums, wikis, chats and blogs.</td>
</tr>
<tr>
<td>- Many Moodle themes, based on Responsive web design, allow Moodle to be used on mobile devices.</td>
</tr>
<tr>
<td>- A Moodle mobile app is available in Google Play, App Store (iOS), and the Windows Phone Store.</td>
</tr>
</tbody>
</table>

Jesmond Xuereb - MIEMA
Kick off meeting - Rome, March 14-18

**Integrated chat and forum features:**

![Image of chat and forum features](image1)

**Responsive design:**

![Image of responsive design](image2)
Main useful activities in Moodle: Wiki Module

- Wiki module is a series of web pages that anyone can add to or edit.
- It enables document pages to be authored collectively.
- Supports groups.
- In Moodle, wikis can be a powerful tool for collaborative work.
- The entire class can edit a document together, creating a class product, or alternatively, each student can have his/her own wiki and work on it with tutor and classmates.

Main useful activities in Moodle: Workshop Module

- Workshop module allows peer assessment of documents and the teacher can manage and grade the assessment.
- Supports a wide range of possible grading scales.
- Teacher can provide sample documents for students to practice grading.
**Main useful activities in Moodle: Database module**

- The database activity module allows the teacher and/or students to build, display and search a bank of record entries about any conceivable topic.
- The format and structure of these entries can be almost unlimited, including images, files, URLs, numbers and text amongst other things.

**Main useful activities in Moodle: Quiz**

- The Quiz activity module allows the teacher to design and build quizzes consisting of a large variety of Question types, including multiple choice, true-false, and short answer questions. These questions are kept in the Question bank and can be re-used in different quizzes.
Web page Traffic Analysis

- The platform will use standard web traffic analysis tools in order to monitor the number and typology of visitors and other statistics for the whole duration of the project.

Thank you

Jesmond Xuereb
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www.miem.org
Tel: (00356) 2722 4409
KICK-OFF MEETING
Rome, 14-18 March 2016
Roma Tre University of Rome, Department of Architecture

GIS data needed

Energy potentials:
• Solar (including photovoltaics and solar thermal)
• Wind (including offshore wind)
• Hydro-power
• Biomass
• Geothermal (including geothermal heat pumps)
• Ocean (wave power, tidal power)
GIS data needed

Example of wind energy potential map (Region of Thessaly, Enerscapes project)

GIS data needed

Example of offshore wind energy potential map (http://www.4offshore.com/offshorewind/)
GIS data needed

Land cover:
• CORINE Land Cover led by the European Environment Agency

Example of land cover map (Italian Ministry of Environment, http://www.pcn.minambiente.it/viewer/)
GIS data needed

Land use:
- Regional/provincial/municipal spatial plans (zoning)

Example of land use map (City of Cape Town, http://emap.capetown.gov.za/egispbdm/)
GIS data needed

Natural and ecological landscape:
- Natural resources
- Protected areas
- Areas with traditional agriculture
- Water network
- etc.

Example of natural/ecological landscape map (Province of Vercelli, Enerscapes project)
GIS data needed

Historic and cultural landscape:
• Archaeological areas
• UNESCO sites
• Valuable rural buildings
• Scenic points
• etc.

Example of historic/cultural landscape map (Regio of Lazio, Enescapes project)
Metadata needed

Examples of metadata elements:
• Geographic reference system
• Person/authority responsible for the data
• Producer of the data
• Short description of the resource
• Date of production
• Date of updating
• Scale of representation
• Link to web resource
• Etc.
Communication & Dissemination Plan

Presented by: Dr. Yaser Abunnasr - ya20@aub.edu.lb
Compiled by: Petra Samaha and Yaser Abunnasr

Goals of the Plan

➢ raise interest and awareness towards a wide audience in Europe and in Mediterranean countries
➢ engage stakeholders and target groups
➢ Influence teaching approaches and practice develop new partnerships
➢ extend the impact beyond the project through three main components:
  • Final conference: proceedings, partners, HEI networks
  • Website: three years after project
  • E-learning platform: three years after project
Objectives of the Plan

- Understand target groups: stakeholder analysis
- SWOT analysis of conditions
- Effective Implementation
- External communication
- Further Exploitation of Results
- Evaluation of Success of communication Activities

Target Groups

**Stakeholders** can be categorized according to their potential role and impact on the project to main and secondary stakeholders.

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td></td>
</tr>
<tr>
<td>Governmental</td>
<td></td>
</tr>
<tr>
<td>Non-Governmental</td>
<td></td>
</tr>
<tr>
<td>Business Private Sector/professional</td>
<td></td>
</tr>
</tbody>
</table>

**Stakeholders Analysis**

- Perceptions & understandings of energy-related issues
- Threats and Potentials
- Knowledge
- IT Educational Tools
### Target Groups

**Stakeholders List**
- HE Students
- Professors
- Researchers
- Professionals
- Public Officers
- Companies

**Emailing List**
- List of all partners’ Networks Contacts
- Disseminate the newsletter
- Announce conferences and main events
- Continuously updated throughout the project duration

---

### SWOT Analysis

- Understand dissemination needs
- Identify opportunities for development
- Investigate current situation in each country

---

### Time Frame

- Agree on realistic deadlines
- Monitor progress
- Align dissemination with key activities

---

American University of Beirut - (Lebanon)
Action Plan  
Objective 1: Ensure the effective implementation of the dissemination plan

Action 1.1  
Create local dissemination plans by partners
- Form to be filled by each partner

Action 1.2  
Create tools for internal communication among partners
- Steering committee
- Emails
- Video conferences
- Free online transfer tools

Action 1.3  
Identify/collection the source of topics/material to disseminate
- Kick-Off Meeting
- Workshops
- Seminars or conferences
- Final conference
- Any other related partner activity related to project (conference presentation, publication, etc.)

Objective 1: Ensure the effective implementation of the dissemination plan

Action 1.4  
Set up a time table with partners
- Align dissemination plan with main activities
- Prepare action plans per 3 months period

Action 1.5  
Create a shared graphic identity complying with EU standards
- Colored logo
- Black & White variations
- Rules of use and application
## Action Plan  Objective 2: External Communication Tools & Knowledge Transfer

### Action 2.1 Create and manage Website
- Access to the ENEPLAN web platform and to the web GIS platform
- Link to E-learning Platform (Moodle) and Cmap Cloud
- Include a restricted area for communication and file sharing among partners
- Link to the partners’ webpages and to the Erasmus+ portal
- Other links to main social networks

### Action 2.2 Communicate a biannual newsletter
- A newsletter in English - every six months
- Sent via e-mail to the stakeholders included in the project mailing list

### Action 2.3 Posters
- Workshop announcement
- Conference announcement

### Action 2.4 Leaflets/brochures
- Workshop announcement
- Conference announcement

### Action 2.5 Additional promotional material
- Bags, folders and pens
- Roll-ups, banners

### Action 2.6 Final International Conference
- The final conference proceedings together with a final report on the project results, will represent the ENEPLAN final publication.
### Action Plan  
**Objective 2: External Communication Tools & Knowledge Transfer**

<table>
<thead>
<tr>
<th>Action</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action 2.7</strong></td>
<td><strong>Social Media</strong></td>
</tr>
<tr>
<td>• Facebook</td>
<td></td>
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<tr>
<td>• Twitter</td>
<td></td>
</tr>
<tr>
<td>• YouTube</td>
<td></td>
</tr>
<tr>
<td><strong>Action 2.8</strong></td>
<td><strong>Disseminate on the EU platform</strong></td>
</tr>
<tr>
<td><strong>Action 2.9</strong></td>
<td><strong>Form informal network of organizations, experts and stakeholders</strong></td>
</tr>
<tr>
<td>• Development of networks among teachers/researchers for further collaboration</td>
<td></td>
</tr>
<tr>
<td><strong>Action 2.10</strong></td>
<td><strong>Organize press conferences and releases</strong></td>
</tr>
<tr>
<td>• Frequency adapted to project’s main outcome</td>
<td></td>
</tr>
</tbody>
</table>

**Connect to other websites, and platform**

<table>
<thead>
<tr>
<th>Action</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action 2.11</strong></td>
<td><strong>Connect to other websites, and platform</strong></td>
</tr>
<tr>
<td>• Website or online platforms relevant to the theme</td>
<td></td>
</tr>
<tr>
<td>• Partners’ websites and network, i.e. through open access, peer-reviewed journals relevant to project topics</td>
<td></td>
</tr>
<tr>
<td><strong>Action 2.12</strong></td>
<td><strong>Translate material to partners’ languages</strong></td>
</tr>
<tr>
<td>• Task to be partaken by partners sharing the same native language based on rotations</td>
<td></td>
</tr>
<tr>
<td><strong>Action 2.13</strong></td>
<td><strong>Publish articles</strong></td>
</tr>
<tr>
<td>• On open platforms</td>
<td></td>
</tr>
<tr>
<td>• On the project website</td>
<td></td>
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</tbody>
</table>
## Action Plan  Objective 3: Further Exploitation

**Action 3.1  Identify funding opportunities**
- Allow new investments to build on the project’s results
- List of potential donors per partner

**Action 3.2  Promote project results in Educational Material**
- Prepare a list of universities offering education on integrated energy planning
- Integrate material in relevant courses or add new courses
- Organize workshops, conferences, and trainings

**Action 3.3  Communicate with policy makers in the field**
- Integration of results into policies and decision-making

---

## Kick off meeting - Rome, March 14-18

American University of Beirut - (Lebanon)
Action Plan  

Objective 4: Evaluation of success

**Action 4.1 Final Reporting**
- Quality report plan
- Dissemination strategy report including adjustments

**Action 4.2 Track traffic on the online platforms**
- Facts and figures related to the website of project organizers (updates, visits, consultation, cross-referencing)
- Visibility in the social media and attractiveness of website

**Action 4.3 Evaluate exploitation activities accomplished**
- Numbers of participants involved in discussions and information sessions (workshops, seminars, peer reviews); follow-up measures
- Media coverage (articles in specialized press newsletters, press releases, interviews, etc.)
- Feedback from end-users, other stakeholders, peers, policy-makers

---

Rules & Procedures

**Visibility of the Erasmus+ Programme:**

- Official Logo
- Acknowledgement
- Disclaimer

**Division of Tasks:**

- Participation of all partners: input, networks, implementation...

**Timely Response to requests by all partners**

---

American University of Beirut - (Lebanon)
### Forms

#### Partners’ logos and information

<table>
<thead>
<tr>
<th>Organization</th>
<th>Country</th>
<th>Website</th>
<th>Logo</th>
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<tbody>
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</tbody>
</table>

#### Stakeholders list

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Website</th>
<th>Description</th>
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</tbody>
</table>

#### Emailing List

<table>
<thead>
<tr>
<th>Organization</th>
<th>Field of expertise</th>
<th>Contact Person</th>
<th>Country</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

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American University of Beirut - (Lebanon)

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### Stakeholder Analysis

#### Main Stakeholders

<table>
<thead>
<tr>
<th>Category</th>
<th>Stakeholder</th>
<th>Involvement</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

#### Secondary stakeholders

<table>
<thead>
<tr>
<th>Category</th>
<th>Stakeholder</th>
<th>Involvement</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
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<td></td>
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</tr>
</tbody>
</table>

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American University of Beirut - (Lebanon)
Forms

Local Dissemination Plan

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Location and Country</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brief</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Related events/conferences

List of potential donor organizations

<table>
<thead>
<tr>
<th>Program</th>
<th>Website</th>
<th>Notes</th>
<th>Grant Size</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Next Steps

Collect suggestions from Partners
Finalize Plan and share with partners
Develop time based implementation plan
Initiate local dissemination plans
Issue First Newsletter

Comments & Suggestions
WP3: Quality Plan
Leading Organization: JUST

Start-End Date: 15.11.2015 - 15.9.2018

A Four-Phase Process for Developing a Quality Plan

Phase 1: Initiation
- the strategic direction is set and organizational resources are assigned to begin the process.

Phase 2: Development
- the procedures documents, and tools that form the quality system are brought together

Phase 3: Implementation
- the system is made operational through training and execution of the quality system procedures throughout the organization.

Phase 4: Ongoing Maintenance and Improvement
- the system is monitored and evaluated to ensure that it continues to satisfy the organization’s needs and to identify and implement opportunities for improvement.
For each phase

- Plan—Analyze the situation, develop solutions;
- Do—Implement the planned solutions;
- Check—Assess the results of the implementation; and
- Act—Take corrective action after assessment.

Take necessary countermeasures so that results are reflected in the future plans.
WP3/Description

-The WP aims at assessing the overall quality of the project outputs (namely; the OERs) and activities.

The consortium will establish a Quality Board, formed by 1 resource for each partner, that will be in charge of conducting the assessments and reporting their results to the Steering Committee.

(JUST, Prof. Fahmi Abu Al-Rub)

WP3/Description

- Quality assessment of OERs will be conducted through the application of specific evaluation criteria and through the monitoring of the ENEPLAN online discussion forum, allowing participating students and professors to comment on the quality of Cmaps and propose modifications. The Quality Board will provide the partners with all necessary indications on how to improve OERs quality.

(JUST, Prof. Fahmi Abu Al-Rub)
WP3/Description

- Quality assessment of workshops will be conducted through evaluation questionnaires prepared by the Quality Board and distributed to the participants at the end of each workshop. The questionnaires will focus on: the quality of teaching; the adequacy of training materials; the usefulness and quality of Cmaps and workshops.
- The best ways to target the distribution and collection of the questionnaires will be agreed upon by the partners after discussing with the HEI involved. The Quality Board will analyse the questionnaires and report to the SC.

(JUST, Prof. Fahmi Abu Al-Rub)
Kick off meeting - Rome, March 14-18

(TASKS)

Task 3.1: Quality Board
Task 3.2: Quality Assessment
Task 3.3: Quality Reports
Task 3.4: External Monitor

(JUST, Prof. Fahmi Abu Al-Rub)

Task 3.1: Quality Board

Type: Report

Quality Board (QB) will be formed in the kick-off meeting. It will be composed of six members; one from each country. The quality committee will design a proper evaluation process and be responsible for creating a set of indicators. In coordination with the project manager and other project consortium members, the QB chair (Quality Manager) will set criteria for the selection of members of the “External” Monitor.

Due date: Kick-off meeting

(JUST, Prof. Fahmi Abu Al-Rub)
### Task 3.2: Monitoring, Evaluation, and Quality Plan

**Type:** Report

A quality management, monitoring and evaluation system will be set up to. This system will be developed by the QB. The QB will design a proper evaluation process and be responsible for creating a set of indicators. The monitoring and evaluation of the project will take into account measures of the European Standards and Guidelines for Quality Assurance. Selected measures will be implemented within the first year of project duration by the QB. The evaluation will concern all work-packages.

**Due date:** August 2016

(JUST, Prof. Fahmi Abu Al-Rub)
Task: 3.2: Monitoring, Evaluation, and Quality Plan

Type: Report

Tools for assessing quality of the activities carried out during the life of the project will be:
- Checklists prepared in order to monitor the progress of the project. Checks will be carried out every month according to the project schedule and the actions planned;
- Evaluation Questionnaires, in order to monitor
  - (1) usability of ENEPLAN OERs;
  - (2) intelligibility of learning objectives and instructional design;
  - (3) learning interaction;
  - (4) tutoring and supporting.

Due date: on M6 and reviewed every 6 months

(JUST, Prof. Fahmi Abu Al-Rub)

Task 3.3: Quality Reports

Type: Report

Two quality reports will be drafted by the Quality Board and delivered containing the results of the quality assessment activities conducted on OERs, on workshops and on the collaborative tools and cooperation activities envisaged

Due date: at M16 and at M26

(JUST, Prof. Fahmi Abu Al-Rub)
Task 3.3: Quality Reports

Type: Report

The Quality Reports could be supported in form of a Excel table. This Excel table could be used in a dynamic way in order to support all the process of validation and follow up of implementation of corrective actions and the assessment of its effectiveness.

The columns to be considered in that table would be:

ACTIVITY / WP / DELIVERABLE CHARACTERISATION
- Activity no. and title
- Deliverable no. and title
- Partner(s) Responsible/Coordinator
- Partner(s) involved
- Initial date
- End date

(JUST, Prof. Fahmi Abu Al-Rub)
Task 3.3: Quality Reports

Type: Report

VALIDATION BY THE PROJECT COORDINATOR/STEERING COMMITTEE:
- Result (Validation of QB Assessment) – “Yes” or “No” (If “No” in the fields filled by the QB Committee what is not accepted could be strike through and a new text added by the Project Coordinator/Steering Committee)

IMPLEMENTATION OF THE CORRECTIVE ACTION:
- Date
- Partner Responsible

(JUST, Prof. Fahmi Abu Al-Rub)

Task 3.4: External Monitor

Type: Report

External evaluator with scientific expertise in the fields as well as EU projects will be selected by the QB. She/he will verify the quality of the project, the achievement of milestones and objectives, and evaluates the results of each WP based on the mid-term and final report as well as on audits with the project partners at one project meeting in beginning of 2017.

Due date: June-Sept. 2016

(JUST, Prof. Fahmi Abu Al-Rub)
Thank you
FINANCIAL MANAGEMENT OF ENEPLAN PROJECT
Università degli Studi Roma Tre- (Italy)

Morena Rizzo- EU Projects Office
morena.rizzo@uniroma3.it

Outline

• ENEPLAN project’s figures
• General financing principles
• Eligible costs
• Ineligible costs
• Actual costs
• Unit costs
• How to report
• Final grant

(Università degli Studi Roma Tre- Morena Rizzo)
Kick off meeting - Rome, March 14-18

ENEPLAN PROJECT’S FIGURES

<table>
<thead>
<tr>
<th>EU GRANT REQUESTED FROM THE EUROPEAN UNION (in EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Staff Costs</td>
</tr>
<tr>
<td>2. Travel Costs</td>
</tr>
<tr>
<td>3. Costs of Stay</td>
</tr>
<tr>
<td>4. Equipment Costs</td>
</tr>
<tr>
<td>5. Subcontracting Costs</td>
</tr>
<tr>
<td>A. Grant for Project Activities</td>
</tr>
<tr>
<td>B. Additional Grant for Special Mobility Strand</td>
</tr>
<tr>
<td>Total Grant requested from the European Union (A+B)</td>
</tr>
</tbody>
</table>

(Università degli Studi Roma Tre- Morena Rizzo)

General financing principles

Financial Management is based on:
- E+ CBHE official Documents
- Other documents published by the EACEA
- (such as the Guidelines for the use of the grant)
- Recommendations from the EACEA coordinators’ meeting 2016
- General quality standards in EU project management
- Rules, frameworks agreed by the partnership
- BENEFICIARIES SPACE


(Università degli Studi Roma Tre- Morena Rizzo)
General financing principles

Funding rule ➔ Co-funding principle

Grant ≠ from total costs

<table>
<thead>
<tr>
<th>Budget Heading</th>
<th>Financing Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>I  STAFF COSTS (max 40% of the grant)</td>
<td>Unit Costs</td>
</tr>
<tr>
<td>II TRAVEL COSTS</td>
<td>Unit Costs</td>
</tr>
<tr>
<td>III COSTS OF STAY</td>
<td>Unit Costs</td>
</tr>
<tr>
<td>IV EQUIPMENT (max 30% of the grant)</td>
<td>Actual Costs</td>
</tr>
<tr>
<td>V SUBCONTRACTING (max 10% of the grant)</td>
<td>Actual Costs</td>
</tr>
<tr>
<td>TOTAL GRANT (total I-V)</td>
<td></td>
</tr>
</tbody>
</table>

(Possibility to adjust the estimated budget (Annex III):

1) Increase up to 10% (even above the ceilings for staff, equipment and subcontracting)
   ➔ no prior authorization

2) Increase > 10% ➔ Legal amendment is needed
   The ceilings (for staff, equipment and subcontracting) cannot be exceeded.

(Università degli Studi Roma Tre- Morena Rizzo)
AMENDMENTS

• **Who?** Coordinator – request **duly signed by the Legal Representative of the Co-ordinating organisation**

• **When?** Requests should be introduced **before** they take place and **at the latest two months before the end of the eligibility period**. Only in case of **ESSENTIAL changes that do not substantially modify the project**

• **Where?** **To the Executive Agency** – the relevant sub-programme/action

(Università degli Studi Roma Tre- Morena Rizzo)

---

ELIGIBLE COSTS

(Università degli Studi Roma Tre- Morena Rizzo)
Eligible costs

- incurred by member organizations of the partnership
- recorded in their accountancy (documented)
- relate directly to the implementation of approved activities
- according to the work plan and necessary for the execution of the project
- must be foreseen in the estimated budget
- activities must take place in countries eligible
- identifiable, verifiable, reasonable and justified
- generated during the project’s lifetime
- properly reported and documented by the beneficiary
- Comply with requirements of applicable tax and national legislation

(Università degli Studi Roma Tre - Morena Rizzo)

Eligible costs

All the *invoices* (e.g. hotel, lunch, taxi...) must refer to:

**ENEPLAN project - ref. 2015-3653/001-001**

Costs refer to a specific activity (WP) according to the workflow

(Università degli Studi Roma Tre - Morena Rizzo)
Ineligible costs

Articles I.10.4/II.19.4 of Grant Agreement

• Costs outside of the eligibility period
• Costs which cannot be evidenced
• Exchange rate losses
• VAT (unless it cannot be recovered)
• Costs already covered by other sources
• Excessive or reckless expenditure
• Costs for products/material without correct EU logo and funding disclaimer
• Costs not timely recorded and paid (documents created after the period in which the costs were incurred)
• equipment such as: furniture, motor vehicles, alarm systems
• costs linked to the purchase of real estate
• -activities not carried out in the project beneficiaries’ country, unless prior authorisation
• -in kind contribution
Exchange Rate

Transactions # EUR must be converted and reported in EUR in the Financial Statement of the final report

Which exchange rate should be applied?

From start of eligibility period until date of receipt of second pre-financing: rate of month in which the coordinating institution received the first pre-financing

From date of receipt of second pre-financing until end of eligibility period: rate of month in which the coordinating institution received the second pre-financing

Rate to apply: monthly rate established by the Commission:
http://ec.europa.eu/budget/inforeuro

Example:
1st Pre-financing: 23 Dec 2015 – 2nd Pre-financing: 22 Nov 2016
Invoice date: 09 January 2016   Applicable monthly rate: December 2015

Actual costs

1) EQUIPMENT
- Relevant to the objectives of the project
Examples: (e-)books and periodicals, fax machines, photocopying machines, computers, software, machines and equipment for teaching purposes etc.
- Total purchase cost (not depreciation)
- Exclusively for Partner Country Higher Education Institutions
- Installed as soon as practically possible
- Recorded in inventory of institution where it is installed
- Not eligible: furniture, motor vehicles, telephones, mobile phones, alarm systems and anti-theft systems etc.
- Labelled with E+ stickers

Not foreseen in the application/budget? Prior written authorisation from Agency

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**Actual costs**

### 2) SUBCONTRACTING

The beneficiary shall apply the **tendering procedure** for the purchase of **any kind of goods or services** **WHENEVER** the amount of the purchase/sub-contract is between **EUR 25,000 and 134,000**

- Principles of transparency, equal treatment of potential contractors, avoiding conflicts of interests

Criterion for selection of offer: **best value for money**

If value of purchase/sub-contract > **EUR 134,000**: 
**national legislation applicable**

Not foreseen in the application/budget? **Prior written authorisation from Agency**

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**Unit costs**

**Fixed contribution** (not fractioned) multiplied by number of units

- "Triggering event" activities implemented/outputs produced
- No need to justify level/amount of costs incurred
- Activities implemented during the **eligibility** period
- In case of financial control/audit **declared unit costs supported with proof** demonstrating that activities implemented
- If activity/output not accepted (e.g. not supported by concrete evidences) **no corresponding unit costs is granted**

**Examples:** travel activity for teaching not sufficiently documented (e.g. with presence or participation lists, or with a certificate of attendance)

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Unit costs

Staff Costs
Performing tasks necessary to achievement of the project

Formal employment relationship

Calculation of the grant: 2 variables: staff category and country in which staff member is employed

Each unit cost corresponds to an amount in Euro per working day per staff

Categories: Managers/Researchers, Teachers and trainers/Technical staff /Administrative staff

Staff category: work performed, not status of individual

Unit cost: country in which staff is employed, independently of where tasks are executed

Example: a staff employed in Lithuania performing teaching activity for 3 days
222 Euro (3 unit costs of 74 Euro each)

Calculation of grant:

• based on application of unit costs and independent from actual remuneration (defined in the Partnership Agreement)
• obtained by multiplying unit cost (corresponding to category of country and staff) by number of working days spent on the project per staff member

One working day defined according to applicable national legislation/ institutional practice.

Declared working days per individual may not exceed 20 days per month or 240 days per year

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### Unit costs

#### Staff Costs

**TO BE KEPT (in case of financial check)**

- **Timesheets (formats will be provided)**
  - Refer to a specific activity in the workplan
  - **SEND a copy every 3 months** to the coordinator
- **Official payrolls** (copy of internal documents)
- **Proof of payment** (copy of bank transfer)
- **STAFF CONVENTION** for each person employed in the project
- **Any evidence** allowing to verify that declared workloads correspond to actual activities/outputs (e.g. attendance lists for lectures given, tangible outputs/products, etc.)
- **Employment contract**

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### Unit costs

#### Travel Costs and Costs of Stay

Unit costs to apply  

- **3 variables**: travel distance (for travel costs), duration (for costs of stay and type of participant)

**Who may benefit?**

**Staff**

- Under contract with beneficiary institutions and involved in the project
- **Duration**: Max. 3 months

**Students**

- Registered in one of the beneficiary institutions
- Targeted mainly at Partner Country students
- **Duration**: Min. 2 weeks – Max. 2 months

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Unit costs

Travel Costs
Justification for the following elements:
- Journeys actually took place
- Journeys connected to specific project-related activities

To be retained with project accounts:
INDIVIDUAL TRAVEL REPORT + Supporting documents (e.g. travel tickets, boarding passes, invoices, receipts, proof of attendance in meetings and/or events, agendas, tangible outputs/products, minutes of meetings)

Each unit cost corresponds to a fixed amount in Euro per travel per person

2) Apply corresponding unit cost regardless of the expenses actually incurred

If place of departure different from place of home institution: prior authorisation
No financial contribution for travels < 100 km (costs of stay eligible)

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Unit costs

Costs of Stay
Each unit cost contributes to costs of stay regardless of expenses actually incurred

- Unit costs can only be claimed if there is at least 1 overnight stay

Each unit cost corresponds to a fixed amount in Euro per day per participant

How to apply unit costs?

(1) Identify the duration in days of the activity (including the travel from their place of origin to the venue of the activity and vice-versa)
(2) Number of unit costs = numbers of days of activity performed.

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# Financial Reporting

Final financial statement — main financial reporting tool:

- Financial reporting with final report (request of final grant)
- Financial reporting during project implementation (monitoring budget consumption)

**Reporting of Actual costs**
- Equipment and Sub-contracting: reporting of costs incurred (based on costs actually incurred, e.g. amounts corresponding to invoices, contracts, etc.)

**Reporting of Unit costs**
- Staff, Travel costs and Costs of stay: reporting of unit costs (based on information for calculation of units, e.g. km, working or travelling days, etc.)

Origins kept by beneficiaries. Copies kept by coordinator and submitted with Final report, when requested.

In case of financial checks/audits, or if doubts on implementation of any particular activity or expenditure, the Agency may request corresponding supporting documents.


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### Reimbursement basis

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Budget Headings</th>
<th>Documents to retain with project accounts</th>
<th>Documents to be sent with the Final report</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Actual</td>
<td><em><strong>Invoices</strong></em></td>
<td><em><strong>Invoices</strong></em></td>
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<td></td>
<td></td>
<td><em><strong>Bank statements</strong></em></td>
<td><em><strong>Any prior authorisation from the Agency</strong></em></td>
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<td><em><strong>Proof that the equipment is recorded</strong></em></td>
<td><em><strong>Proof that the equipment is recorded</strong></em></td>
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<td>in the inventory of the institution</td>
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<td>Subcontracting</td>
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<td><em><strong>Tendering procedure for expenses</strong></em></td>
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<td>exceeding 25,000€</td>
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<td><em><strong>Tangible outputs/products</strong></em></td>
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<tr>
<td>Staff</td>
<td></td>
<td><em><strong>Formal employment contract</strong></em></td>
<td><em><strong>No supporting documents</strong></em></td>
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<td></td>
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<td><em><strong>Staff convention</strong></em></td>
<td><em><strong>No supporting documents</strong></em></td>
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<td><em><strong>Time sheets</strong></em></td>
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<td><em><strong>Agendas</strong></em></td>
<td><em><strong>No supporting documents</strong></em></td>
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<td><em><strong>Attendance / Participant lists</strong></em></td>
<td><em><strong>No supporting documents</strong></em></td>
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<td><em><strong>Tangible outputs/products</strong></em></td>
<td><em><strong>No supporting documents</strong></em></td>
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<td><em><strong>Minutes of meetings</strong></em></td>
<td><em><strong>No supporting documents</strong></em></td>
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<tr>
<td>UNIT</td>
<td></td>
<td><em><strong>Individual Travel Report (ITR)</strong></em></td>
<td><em><strong>Individual Travel Report (ITR)</strong></em></td>
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<td><em><strong>Invoices, receipts, boarding passes</strong></em></td>
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</tbody>
</table>

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**STAFF CONVENTION**

**Ref. No………….……………….……  Project No. ………….…… ..**

The reference number must correspond to the progressive numbering indicated in the financial statements of the Final report.

**Hereinafter “the Institution”**

**NAME: ........................................... ................................**

**Address: ........................................ ................................**

**The following has been agreed:**

1. The Institution is a member of the partnership for the above-mentioned project.
2. The Staff member is employed by the Institution and is part of its payroll system.
3. The Institution and Staff member agree that the Staff member has worked on this project and performed the following duties during the project’s eligibility period.

   **FROM** 

   **TO**

   Please describe the outputs produced (short overall indication since detailed information has to be given in the accompanying time sheets):

   …………………………………………………………………………………………………………………… ………
   ……………………………………………………………………………………………… ............................................
   ………………………………………………………………………………………………………………………… …
   ………………………………………………………………………………………………………………………… …

4. Please complete the following information.

   **Staff category (Manager / Researcher, Teacher, Trainer / Technician / Administrative staff)**

   **Country of the Institution in which the Staff member is employed**

   **Number of days worked on the project (according to time sheets)**

   **Number of days worked on the project (accordance to time sheets)**

5. This agreement does not alter in any way the employment conditions already existing between the Institution and the Staff member and has been concluded solely for the purpose of justifying the Staff costs that the Institution will charge to the Erasmus+ Capacity Building in Higher Education grant.

**Done in .................................................................   Date ..................... ..............................................**

**Name……………………………………………**

**Function…………………………………………**

**Institution .............................................................   Staff member name…………..... ............................**

**Signature and Stamp of the Institution    Signature of the Staff member**

*The convention must be signed by the person concerned, then signed and stamped by the person responsible in the institution where this person is normally employed. The Institution must be a member of the partnership.*

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**KICK OFF MEETING - Rome, March 14-18**

**Università degli Studi Roma Tre - Morena Rizzo**
Calculation of the Final Grant

- The grant may not exceed the maximum amount authorised in the Agreement (Article I.3 and Article II.25.2)

- Final grant: determined following examination of financial statements and eligibility of activities implemented and declared expenses. Declared unit costs/expenses identified as ineligible will be deducted from the total amount declared

- Balance = final grant – pre-financings – penalties

- Penalties related to the implementation of the action
THANK YOU!

Grazie a tutti

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(Università degli Studi Roma Tre- Morena Rizzo)
Management Plan

• Work plan update and other important changes  
  → Steering committee
• Administrative/financial aspects  
  → Management board
• Quality aspects  
  → Quality board
• Operational aspects  
  → WP coordinators+ workshop hosting partner
Kick off meeting - Rome, March 14-18

WP coords + Workshop hosts

Steering committee

1 representative per partners

Management board

Università degli studi Roma Tre, Dipartimento di Architettura – PhD Federica Benelli

EC EACEA

Report to

WP coords + Workshop hosts

WP1 Coord MIEMA
WP2 Coord ROMA3
WP3 Coord AUB
WP5 Coord JUST
WP5 Coord ROMA3

1 Project coord

WP coords + Workshop hosts

WP1 Coord MIEMA
WP2 Coord ROMA3
WP3 Coord AUB
WP5 Coord JUST
WP5 Coord ROMA3

1 Project coord

Management board

Expenditure progress
Activity progress
Critical issues (if any)

Reporting forms (time sheets,...) + Check spreadsheet

3 months Report

Implementation Report and Request for Payment

Yearly Report (joint report)

EC EACEA

Università degli studi Roma Tre, Dipartimento di Architettura – PhD Federica Benelli
Payments

- **First pre-financing payment: 50%**
  
  (already received by Roma Tre, transfer submitted to bank details and signed grant agreement, bank operation requires 4-5 days)

- **Second pre-financing payment: 40%**
  
  (may be requested when at least 70% of the previous pre-financing payment has been used up; request for payment to be accompanied by Interim/progress report)

- **Balance payment: 10%**
  
  (on the basis of a final report including financial audit – funding reduction in the case of: implementation different than planned, lower incurred costs, low quality outputs)