American University of Beirut- AUB - (Lebanon)

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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.

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

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

Expertise

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

Target curricula

Core Majors

Faculty of Engineering and Architecture (FEA)	• Applied Energy • Environmental Engineering	ME
	• Energy Studies	MSc
	• ProGreen	Diploma
Faculty of Arts and Sciences (FAS)	• Environmental Policy Planning (Interfaculty Degrees)	MSc

Potential Majors:

Faculty of Agriculture and Food Sciences (FAFS)	• Landscape Architecture	BA, MA
Faculty of Engineering and Architecture (FEA)	• Urban and Regional Planning	MA

Target curricula

Courses

ProGreen Diploma: 3 areas of specialization	Energy
	Building (General Green Building Modules and Mechanical and Electrical Engineering Modules)
	Water

Educational models

Complete List of Energy Related Courses

FAFS (Faculty of Agriculture and Food Sciences)
Natural Resource Management
Sustainable Landscape Planning and 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
Waste Minimization 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 Electricity
Energy Audit Lab
Special Projects on Renewable Energy Systems Design
Computer Modeling and Building Physics Applications
Contemporary Topics in Energy Management
Environment I – Climate Responsive
Environment II – Building Systems
Environmental Impact Assessment
Environmental Aspects of Energy Systems
Renewable Energy Systems
Energy Planning and Policy
Environmental Regulation and Legislation
International Environmental Policy
Power System Planning
Environmental Engineering

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
Frontal Lectures
Hands on Experience
Group Discussions
Open System (Studio)
Mentoring – one to one
Online Courses
Blended Courses

Educational models

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

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

Qualiy of Educational Model

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

Thank You