



# **Lebanese University**

## **Faculty of Engineering**

### **SELF-ASSESSMENT REPORT**



**BEIRUT  
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## **Lebanese University Faculty of Engineering**



**Towards the Quality Assurance Agency**

# **Self-Assessment Report**

### **Comity of Quality**

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## Self-Assessment Report

### SUMMARY

This report gives a quick look at the faculty of engineering at the Lebanese University. This faculty exists in three branches and the quality of graduated students is very high. This report is a self-assessment report and results from the analysis of the strengths and weaknesses of the Faculty with a focus on “Teaching and Learning” as the core standards requested in the Tempus TLQAA pilot evaluation. The assessment is evidence-based and the report includes in the main document or in the appendixes all data (students, Professors, Staff...) about the faculty.

This report shows the different learning methods applied in order to reach the specific objectives of the programmes (knowledge, skills and competences). Also it shows the curriculum of the different programmes in the Faculty, the category of courses, the student participation in the learning process by means of different projects achievement. It gives ideas about organization of the final year projects, the summer training and the work load.

The report presents some statistics about the number of yearly enrolled students with percentage of fails per semester or per year, the selection of students. Human resources, facilities and problems at the faculty are presented.



## I. INTRODUCTION

### I.1. The Lebanese University [1]

Founded in 1951 [2], the Lebanese University is the only public university in Lebanon. It is composed of 16 faculties and institutes. In addition to those faculties, the Lebanese University has recently founded three postgraduate doctoral schools. Teaching languages are Arabic, French and English depending on the Faculty, Programme and course. Nearly 40% of the Lebanese higher education students are enrolled in the different faculties of the Lebanese University. The University is financially supported by the government, therefore on one hand registration fees are negligible but on the other hand required learning and management resources and materials are affected by the economic status of the country.

The University is governed by a board composed of the rector as president and the members: Deans of faculties, a faculty' representative from each faculty, two academic referees and the general secretary of the University. The president of the board (the rector) is nominated for a 5 years mandate by the Council of Ministers. The responsibilities of the University' Board are detailed at the University web site <http://www.ul.edu.lb>.

### I.2. The Faculty of Engineering

The Faculty of Engineering was founded in 1974 by a Presidential Decree number 9305 (21 October 1974) [2]. Due to the civil war a Decree number 2373 on 1979 divided the Faculty into three geographically distributed branches: in Beirut (Branch III - Hadath), Mount Lebanon (Branch II - Roumieh) and North of Lebanon (Branch I - Tripoli). In 2005 the Beirut branch moved to a new campus: "Rafic Hariri Campus - Hatath" equipped with high level laboratory equipment implemented over an infrastructure of international standard.

These branches are administrative entities that are considered as an integral part of the Faculty of Engineering. The faculty branch is academically managed by a board formed of the Dean, the branch director, head of departments, an instructors' representative and a representative of students' league.

The Faculty maintains an official website [ulfg.ul.edu.lb](http://ulfg.ul.edu.lb) that is update continually.

The table 1 shows, for the academic years 2011-2012, students' distribution across the programmes provided by the Faculty of engineering in each programme (for years 2001-2012see Annex-4)



Branch	Common first 2 years programme	Electrical & Electronic programme	Mechanical programme	Civil programme	Total
Branch I	221	88	58	154	521
Branch II	404	143	176	266	989
Branch III	373	105	149	259	886
Total	998	336	383	679	2396

Table I.1: Total number of students in each department for the academic year 2011-2012

### I.3. Departments and Academic Structure

There are four departments in each branch of the Faculty:

- The Common Trunk Department (Common Engineering Core Programme, first 2 years)
- The Civil Engineering Department (Civil Engineering Programme, 3 years)
- The Electrical & Electronic Engineering Department (Electrical/Electronic Engineering Programme, 3 years)
- The Mechanical Engineering Department (Mechanical Engineering Programme, 3 years)

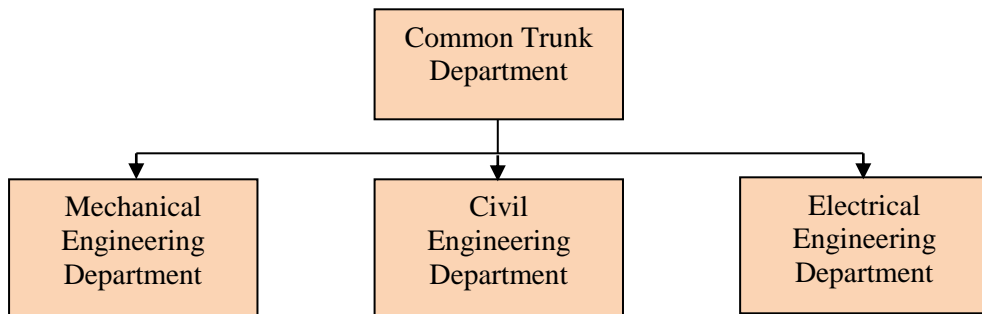


Figure 1. General academic structure of the Faculty of Engineering of the Lebanese University

### I.4. Term of Studies and Provided Programme

The Faculty of Engineering provides the same programmes in all branches and delivers an **Engineering Diploma** after 5 years (10 semesters) of successful study in the faculty (2 years of common core engineering + 3 years of engineering major).

All programmes in the Faculty are divided in to semesters; two semesters per year (fall and spring). Students must succeed in each semester of the programme in order to be accepted into the next one. A semester program is provided once a year. Criteria of



success are the same for all engineering diploma programmes (see Annex-1 PS1- PS4 Section 5: “Progression Requirements” for details on these criteria).

- **Duration of common studies that precede major field studies:** All recruited students at the first year have to follow a Common Engineering Core Programme of two years (4 semesters);
- **Duration of engineering major field studies:** After a successfully completion of two years in Common Engineering Core Programme, students are allowed to postulate for the Electrical-Electronic, Mechanical, or Civil Engineering programme of 3 years (6 semesters) as mentioned below:
  - 1- Civil Engineering Programme:** 4 semesters of Common Civil Engineering Core and 2 semesters for specialty:  
1- Building (B), 2- Public works (T), 3-Structures (S), 4- Hydraulics (H)
  - 2- Electrical & Engineering Programme:** 3 semesters of Common Electrical Engineering Core and 3 semesters for specialty:  
1- Power (P), 2- Telecommunication (T).
  - 3- Mechanical Engineering Programme:** 4 semesters of Common Mechanical Engineering Core and 2 semesters for specialty:  
1- Energetics (E), 2- Construction (C)

### **I.5. The Common Trunk Department**

The Common Engineering Core Programme (CECP) is academically managed by the Common Trunk Department which is an independent department in the faculty. Acceptance into the CECP is conditional upon success in a national written entrance exam specific to the Faculty of Engineering of the Lebanese University [10]. The majority of applicants to this exam are highly ranked in the national scientific baccalaureate. The percentage of success in the Faculty entrance exam is around 23% (See statistical tables below). Accepted students are divided into English educated and French educated groups, where they follow the same programme and perform the same exams but in French or in English.

This department provides the necessary provision for students who will be following later on one of the Civil, Electrical & Electronic or Mechanical Engineering Programs. During the Common Engineering Core Programme, students are subjected to competitive exams mostly concerning fundamental science theory (math, physics, chemistry, mechanics...).

The objective is to form students with the following profile:

- Fundamental scientific, mathematical and programming knowledge
- Able to solve scientific and mathematical problems of high level of complexity
- Skills to use basic engineering equipment in the laboratory
- Capacity of easily following any engineering major programme
- Knowledge for drawings
- Familiar with software to be used as drawing and calculation tools for engineers
- Reinforced English and French language skills



- Able to pursue engineering courses either in English or in French
- Hard workers

### **I.6. Languages Used for Teaching and Assessment**

During the two first years of Common Core Programme, students follow their studies in English if they are previously English educated or in French if they are previously French educated students. Furthermore, English students follow specific French language courses and vice versa for French students. During the next three years English educated and French educated students are grouped together and follow the same courses either in English or in French depending on the instructors' decisions.

### **I.7. External References**

- The programme refers to French preparatory two years for entering engineering schools.
- In our case the mentioned above preparatory years (Common Engineering Core Programme) are provided by the faculty itself managed by an independent department (Common Trunk Department) which is part of the Faculty of Engineering (refer to Annex-1 PS1-Section 1: curriculum outline tables).
- The programme was implemented for the first time (at the end of seventies), by a committee formed of advisors from French “Grandes Écoles”, local Directors, the Dean and other specialists.
- Actually, any update of the programme take into consideration the actual French “Grandes Écoles” programmes.
- The Faculty benefits from foreign consultancy which is continuously given to the Lebanese University. European aid programmes support the transfer to the LMD system [21]. Tempus Programmes are actually supporting accreditation activities [22].

### **I.8. Self-Evaluation Process**

In 2004, the Lebanese University issued its Report "Self-Assessment at the Lebanese University" about the application of academic standards in different academic domains of the University (all Faculties). The report contained a set of recommendations for these domains [28].

In the years 2007-2008 the Beirut Branch III of the Faculty of Engineering participated in the workshops " Enhancement of Quality Assurance and Institutional Planning at Arab Universities", organized by the United Nations Development Programme (UNDP). The Faculty issued the “self-Evaluation Document” for its Electrical Engineering Programme [29]. The same process has been extrapolated to all programmes.





In 2012 the Faculty of Engineering designates a committee for quality assurance, planning and accreditation. The first objective is to establish a self-evaluation process in order to meet in the future an international accreditation standard