

# FACULTY OF SCIENCE (FS)

## HISTORY

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When you choose to join FS, you're opting to discover what's new in a faculty where academic excellence is required, and technological innovation is a tradition. In fact, FS is a privileged place for the production of knowledge and know-how, in optimal conditions, for top higher education and for technological innovation and valorization. Founded in 1997, FS aims to train researchers in basic and applied sciences, as well as multidisciplinary scientific professionals, enabling them to enter the job market by meeting its requirements and needs. To achieve these objectives, it has put in place a strategy enabling it to become a scientific platform for industrial and commercial companies, not forgetting its role in training French-speaking secondary school teachers in the basic sciences: mathematics, physics, chemistry and life and earth sciences-biochemistry.

Since its establishment, FS has undergone considerable development and growth at both academic and research levels. FS offers 17 academic programs, five bachelor's degrees, ten master's degrees and four PhDs, all recognized by the Lebanese Ministry of Education and Higher Education.

It has succeeded in setting up three multidisciplinary research units: Research Unit: Agri-Food Technologies and Valorization (UR-TVA), Research Unit: Environment, Functional Genomics, and Proteomics (UR-EGP) and the Research Unit: Mathematics and Modeling (UR-MM). The three Research Units (RU) bring together 25 instructors-researchers and some forty PhD candidates working in seventeen research teams.

Through the Center for Research and Analysis (CAR), the Laboratory of Metrology and Isotopic Fractionation (LMFI) and the Lebanese Human Tissue Bank (BLTH), it also offers routine expertise and analysis. It is worth noting that the CAR is recognized by the Ministry of Agriculture for various analyses in the food sector. In the same context, several contracts have been signed with the Lebanese industry, which has benefited greatly from the know-how of LMFI researchers through the transfer of its cutting-edge technology, developed over the last fifteen years. The LMFI is ISO 17025 accredited and is the only laboratory in its field in all of Asia. FS is also home to the NGO *Jouzour Loubnan*.

Since 2012, FS has set up three regional branches in the North Lebanon Campus (CLN), the South Lebanon Campus (CLS) and the Zahle and Beqaa Campus (CZB). CLN and CLS offer a Bachelor in Mathematics, option: Data Science and a Bachelor in Life and Earth Sciences - Biochemistry, while CZB offers a Bachelor in Mathematics, option: Data Science.

FS programs are recognized and in demand on the Lebanese job market. As a result, almost all our new graduates find employment within three months of graduation.

Our students benefit from the presence of world-class research laboratories at FS, enabling them to take part in research internships that deepen their scientific knowledge and help them explore potential career paths.

Bridges exist between FS and other USJ institutions, mainly the Faculty of Engineering and Architecture and the faculties of medical sciences. Students can transfer to these institutions through competitive exams or file review processes. These bridges were designed to support our students' academic journeys in Lebanon's highly competitive academic environment.

FS's openness to external partnerships has allowed it to build collaborative networks on both national and international levels, with local companies, NGOs, ministries, and municipalities, as well as with academic institutions, particularly in France, as well as in the United States and Canada. These networks and partnerships consolidate our academic training and considerably simplify the choice of career opportunities and the integration of our graduates into the job market.

Finally, it is crucial to mention that FS has adopted an "Open Doors" strategy, centered on student support and guidance. At any time during their studies, students can rely on dedicated tutors and an attentive administrative team, who are always available to guide them through their academic journey.

## MISSION

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The mission of the Faculty of Science of the Saint Joseph University of Beirut is summarized as follows:

- Applying the charter and bylaws of the Saint Joseph University of Beirut.
- Developing live research in applied fields.

- Training teachers for complementary French-language science teaching at secondary and university levels.
- Providing initial and lifelong training in mathematics, physics, chemistry and life and earth sciences - biochemistry.
- Meeting new market requirements.
- Becoming a national scientific platform.

## ADMINISTRATION

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**Dean:** Maher ABOUD

**Honorary Deans:** Ragı ABOU CHACRA, Toufic RIZK, Richard MAROUN

### Heads of Department

Mathematics: Gihane MANSOUR

Physics: Marie ABOUD

Chemistry: Charbel AFIF

Life and Earth Sciences - Biochemistry: Zeina HOBAIKA

**Research Center Directors:** CAR (Center for Research and Analysis)

Director: Nicolas LOUKA

Technical Director: Charbel AFIF

## ADMINISTRATIVE STAFF

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### Secretariate

**Academic Affairs Administrative Coordinator :** Rita ABOU JAOUDE BRAX

**Assistant to the Dean :** Jeannette KHOURY

**Academic Support Officer :** Gladys Haykal

**Academic Support Officer :** Myrna Abi Nahed Iskandar

**Academic Support Officer :** Georges RAÏ

### Laboratory Managers

**Life and Earth Sciences - Biochemistry :** Joseph YAGHI

**Computer Science :** Edgard SEIF

### Laboratory assistants

**Chemistry :** Hilda HNEIN

**Center for Research and Analysis :** Helga FRANCIS KEHDI

**Physics :** Rita MATAR

## FACULTY

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### Professors


Maher ABOUD, Marie ABOUD MEHANNA, Charbel AFIF, Joseph BEJJANI, Magda BOU DAGHER KHARRAT, Wehbeh FARAH, Ziad FRANCIS, Mireille KALLASSY AWAD, André KHOURY, Nicolas LOUKA, Roger LTEIF, Richard MAROUN, Dominique SALAMEH, Toni SAYAH, Toufic RIZK

### Associate Professors

Joanna BODGI TARAIZI, Laure (EL) CHAMY, Georges FARES, Rami (EL) HADDAD, Zeina HOBAIKA KHOURY, Gihane MANSOUR ABOU JAOUDE, Joseph YAGHI

### Lecturers

Georges GERMANOS, Marc BOUJI, Edgard SEIF, Helga FRANCIS KEHDI, Denise ABOUD, Elie ABOUD, Andre ABI AWAD, Walid ABI HABIB, Martine ABI KHALIL, Tony ABI TANNOUS, Tony AL KHAWAND, Minerva ANDREA, Jennifer AOUAD AL HALABY, Randa AOUN, Jean-Claude ASSAF, Ortanse ATTARIAN JABRE, Soumaya AYADI, Roula AZAR DOUGLAS, Farès AZOURY, Georges BADR, Elias BÉCHARA, Nadine BEJJANI, Liliane BOU KHDOUD, Sarah BOU MAROUN, Fadi BOUTROS, Elias CHAHINE, Lamia CHAMAS, Alain CHEBLY, Aïcha CHEIKH, Jad CHÉMALY, Ronald CHIDIAC, Nancy Choucair Alam, Jessy CHRABIEH, Christian CREMONA, Rudy DACCACHE, Roua DAOU, Carla DEEB, Sami DIB, Adham DIMASHKI, Gilbert DOUMIT, Joanne DOUMIT, Wissam (EL) AMIL, Cynthia (EL) HAJAL, Pamela (EL) HAJJ, Leina (EL) HOSRY, Rita (EL) SOKHN, Dany ELIAS, Carine ELYA, Cynthia ESBER, Nancy FAKHRI, Nicolas FARAH, Nancy FAYAD, Christelle FRANSAWI, Samih GEHA, Ziad GEMAYEL Roger GHANEM, Nathalie GHANTOUS, Tala GHANTOUS, Hussein GHAZI, Lamice HABIB, Elias HADDAD, Consuelle HAJJ, Christine HAJJAR MOUAMMER, Sara HARIRI HAYKAL, Maha HOTEIT (EL) HAGE, Bachir ISKANDAR, Rosario ISSA, Christian JREYSSATY, Rhea



KAHALE, Hani KALLASSY, Elias KAMMOUN, Steve KARAM, Gaby KHALAF, Hanane KHANAFER, Grace KHOURY, Rindala (EL) KHOURY, Sandra KOBAITER MAARRAWI, Chloé KOLEILAT LADKI, Joseph KOZAILY, Ralph LTEIF, Samar MALEK, Julie MALKOUN, Waleed MALLAH, Maya MARGIE YOUNÉS, Chadi MASSOUD, Antoine MATAR, Elie MÉDAWAR, Jean-François MÉGARBANÉ, Chadi MEHANNA, Marvin MOGHABGHAB, Tharwat MOKALLED, Abbas MOURAD, Ramzi MRAD, Marc MSANNE, Youssef NADDAF, Joanna NADER ABDO, Grace (EL) NAJJAR, Benoît NAOUS, Fadi NASSIF, Rabih RAMMOUZ, Justin RAPHAEL, Chadia RIZK, Najat RIZK, Nour ROUMIEH, Rock ROUPHAEL, Fadi SAADE, Nada SABRA, Amani SALAMEH, Lucille SALHA, Nada SALIBA, Youakim SALIBA, Lara SAMAHA, Dana SANIOURA, Mabelle SAYAH, Pierre SEBAALANI, Rola SHEIKH, Mayada SLAYMAN, Didier SLOUKGI, Carol SUKHN Wassim TABBAH, Arlette TABET, Tania TABET SADAKA, Nagi TANNOUS, Elias TAWIL, Elie WAKIL, Diala WEHBEH, Grace YOUNES MADI, Sahar YOUSSEF, Sahar ZALLOUA, Rola ZANTOUT (EL)YAMAN, Maya ZEENY, Sally ZGHEIB, Antoine ZOGHBI

## **DEGREES, DIPLOMAS AND CERTIFICATES AWARDED**

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### **Bachelor**

Bachelor in Chemistry  
Bachelor in Mathematics  
Bachelor in Mathematics, option: Data Science  
Bachelor in Physics  
Bachelor in Life and Earth Sciences - Biochemistry

### **Master**

Master in Analysis and Probability for Partial Differential Equations  
Master in Food Chemistry  
Master in Functional Genomics and Proteomics  
Master in Sensor Physics and Instrumentation  
Master in Sensor Physics and Instrumentation, concentration: Medical Radiophysics  
Master in Actuarial and Financial Sciences  
Master in Environmental Science and Management  
Master in Industrial Technology  
Master in Astrophysics  
Master in Biomarketing  
Master in Data Science

### **PhD**

PhD in Chemistry  
PhD in Mathematics  
PhD in Physics  
PhD in Life Sciences


## **JOB OPPORTUNITIES**

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### **BIOMARKETING**

- Marketing manager
- Product range manager
- Market research manager
- Technical sales manager
- Sales representative
- Communication manager
- Project manager
- Consultant
- Executive courses (MBA, eMBA, DBA) in management, marketing and communication
- PhD studies

### **FOOD CHEMISTRY**

- Research and development in food processes
  - Food analysis, control and audit
  - Food quality and safety
  - Standardization of industrial processes and systems
  - PhD studies
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## **ENVIRONMENTAL SCIENCE AND MANAGEMENT**

- Experts, consultants, project managers or even eco-advisers in consultancy firms, research consultancies, international organizations, public administrations, companies and local authorities
- Secondary school science teacher/coordinator
- PhD studies

## **FUNCTIONAL GENOMICS AND PROTEOMICS**

- Research in the public and private sectors
- Management of research and development departments in biotechnology, pharmaceutical and parapharmaceutical companies
- Consulting firms: pharmaceutical, parapharmaceutical and biotechnology sectors
- Specialists in diagnostics and biological and biochemical analyses in the medical or industrial sectors
- PhD studies

## **INDUSTRIAL TECHNOLOGY**

- Industrial research and development
- Industrial design and engineering
- Process or chemical engineering
- Industrial logistics
- Production: processes, management
- Analysis and control laboratories
- Quality, safety and environment
- Quality management systems
- Industrial management
- PhD studies

## **SENSOR PHYSICS AND INSTRUMENTATION**

- Project responsible and/or mission in the following sectors: medical, hospital, environmental, agri-food, electromechanical, electronics, etc.
- Hospital physicist
- Metrologist
- Industrial control professional
- Secondary school physics teacher/coordinator
- PhD studies
- Project responsible in industrial research and development of sensors, acquisition systems, computer simulations of instrumentation and data processing

## **ASTROPHYSICS**

- Head of observatory, science museum or planetarium
- Scientific mediator in an observatory, science museum or planetarium
- Secondary school physics teacher/coordinator
- PhD studies

## **ACTUARIAL AND FINANCIAL SCIENCES**

- Banks, insurance companies, finance companies, industrial or service companies:
- Technical management assistant
- Risk management manager
- Asset and liability manager
- Trader
- School teaching: mathematics, computer science
- PhD studies

## **DATA SCIENCE**

- Data Scientist
  - Chief Data Officer
  - Data analyst and manager
  - Data strategist, Consultant
  - Big Data Consultant
  - Statistical expert
  - Project manager
  - Business developers
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## TUITION FEES

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### **Bachelor's and Master's courses:**

1 credit costs \$192 US paid in two parts: 60% fresh US dollars, i.e. \$115, and 40% in Lebanese pounds, i.e. LL. 2,769,000.

### **PhD training:**

1 credit amounts to \$108, paid in two parts: 60% fresh US dollars (\$65) and 40% Lebanese pounds (LL. 1,550,000).

## SPECIFIC PROVISIONS OF THE INTERNAL REGULATIONS OF STUDY

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### **Article 1. Diplomas**

The diplomas awarded by the Faculty of Science are as follows:

#### **Bachelor in:**

- Mathematics
- Mathematics, option: Data Science
- Physics
- Chemistry
- Life and Earth Sciences
- Biochemistry

#### **Master in:**

- Actuarial and Financial Sciences- Data Science
- Astrophysics
- Sensor Physics and Instrumentation
- Environmental Science and Management
- Food Chemistry
- Industrial Technology - Functional Genomics and Proteomics
- Analysis and Probability for Partial Differential Equations
- Biomarketing

#### **PhD in:**

- Mathematics
- Physics
- Chemistry
- Life Sciences

### **Article 2. Admission**


- Admission to the bachelor's degree program is follows the procedures outlined in Article 12 of the "Common Provisions" of the USJ Internal Regulations of Study.
- Admission to the first year of the Master's program is based on a study of the student's application to the Faculty of Science. Admission is subject to an interview with a selection jury on dates set by the Faculty Board. Students from outside the Faculty of Science wishing to enroll in a Master's program in the second year may apply. They must submit their application and attend an interview with the selection jury. If they are admitted, a request for equivalence will be examined by the USJ Equivalence Commission.
- Students holding a Master's degree (M2) from the Faculty of Science or another diploma deemed equivalent by the USJ Equivalence Commission may apply for a PhD on the basis of their qualifications. Admission to the PhD program is governed by the rules and regulations of the Doctoral School of Health and Science and the Doctoral School of Engineering, Science and Technology.

### **Article 3. Academic Cycles and Course Organization**

The courses (UE) offered in each cycle, as well as their description and distribution over the semesters, are published on the Faculty website: <http://fs.usj.edu.lb/>

### **Article 4. Changes to Registration**

Course registration is completed before classes begin, but students are allowed a two-week period at the start of each semester to adjust their registration, as outlined in Article 20 of the "Common Provisions" of the USJ Internal Regulations of Study. All changes must be approved by the student's advisor. Any withdrawal requests made after the registration period requires approval from the Faculty administration.



  
**Article 5. Assessment System**

Any absence from an assessment, other than the final examination, shall result in the grade of zero, unless an exemption is made by the Head of the cycle upon the presentation of a valid written excuse within three working days.

**Article 6. Practical Work Sessions**

Practical sessions are compulsory and are graded as part of the corresponding course. Any damage to laboratory equipment resulting from improper handling by the student will be reimbursed on an ad hoc basis.

