

International Study Experience

School of Engineering

- Chemistry
- Chemical Engineering
- Biotechnology
- Biomedical Sciences
- Pharmacy
- Industrial Engineering

| Fall Semester



The following pages contain the list of courses offered to international students by the IQS School of Engineering during the Fall semester. Courses are grouped into separate modules in order to avoid scheduling conflicts and ensure a compatible timetable.

» Students must select all their courses from a **single track within the School of Engineering (A - H)**. However, students who wish to combine Engineering courses with some **Management courses** will be able to do so. More detailed information will be provided at a later stage.

» IQS does **not impose a minimum number of ECTS credits**; however, it is the student's responsibility to verify whether their home university requires a minimum number of credits, and to ensure that the selected courses will be recognized by their home institution.

» It is **strongly recommended** that students carefully review the **course content and any prerequisites** before finalizing their selection. **Course syllabi are accessible by clicking on each course title**.

» In addition to their course selection, all incoming international students will be automatically enrolled in the **International Experience** course (1 ECTS). This course includes all mandatory activities organized by the International Relations Office, such as the IQS Welcome Days.

» **Exchange students must remain flexible**, as course enrollment cannot be guaranteed due to prerequisites, classroom capacity, schedule conflicts, or class cancellations. IQS reserves the right to make last-minute changes to the course offering in the interest of academic development.

» All **Engineering courses** will take place between **September** and **December**, with **exams in January**. Some courses or exams may finish earlier, but these dates cover the full possible period.

» **Students who fail a course** may take a **retake exam**; however, it must must be taken **on-site at the IQS facilities** during the **Retakes Period**.



A course selection form will be sent to all accepted students once the application period has been finalized.

Track A

CODE	COURSE	ECTS	LANGUAGE
90034	<u>Biocatalysis and Biotransformations**</u>	5	English
90035	<u>Biomedical and Biomaterials Technologies</u>	5	English
90036	<u>Integrated Laboratory*</u>	5	English
90041	<u>Food, Environmental and Energy Biotechnology**¹</u>	5	English
90045	<u>Molecular Physiopathology**¹</u>	5	English
90042	<u>Plant Biotechnology**²</u>	5	English
90048	<u>Structure Determination**²</u>	5	English
90043	<u>Biotechnology Products and Drugs**³</u>	5	English
90046	<u>Tissue Engineering**³</u>	5	English

❗ (¹ , ² , ³) Only one course may be selected per pair.

*Requires prior experience in a Bioscience laboratory, preferably in Microbiology and Biochemistry. Check the syllabus for specific prerequisites.

**Requires basic knowledge in biochemistry, molecular and cell biology, and genetics. Check corresponding syllabus for additional details.

Track B

This module is intended for graduate level students. Previous knowledge of undergraduate level is required to be eligible. Please consult prerequisites of courses.

CODE	COURSE	ECTS	LANGUAGE
80169	<u>Cellular Engineering for biopharmaceuticals production</u>	6	English
80170	<u>Bioinformatics & Biomolecular Modelling</u>	6	English
80171	<u>Biopharmaceuticals bioprocessing and manufacturing</u>	3	English
80172	<u>Biopharmaceuticals design Lab: from gene to production in Pilot Plant</u>	6	English
80173	<u>Bioethics</u>	3	English
80174	<u>Advanced therapy medicinal products: cell, gene and Tissue therapies</u>	6	English

Track C

CODE	COURSE	ECTS	LANGUAGE
24035	<u>Industrial Chemistry</u>	4	English
24033	<u>Design and Project of Industrial Facilities</u>	5	English
24084	<u>Instrumentation and Process Control</u>	6	English
24052	<u>Environmental Chemistry</u>	5	English
42062	<u>Operations Management</u>	4	English
15595	<u>Electric Circuits</u>	6	English
15598	<u>Thermodynamics</u>	6	English
15597	<u>Machine Design</u>	6	English
15599	<u>Partial Differential Equations</u>	6	English
24083	<u>Simulación de Procesos</u>	5	Spanish

Track D

CODE	COURSE	ECTS	LANGUAGE
24050	<u>Structural Determination</u>	5	English
24067	<u>Inorganic Chemistry II</u>	4	English
24053	<u>Experimental Techniques in Biochemistry</u>	5	English
24052	<u>Environmental Chemistry</u>	5	English
24047	<u>Química Orgánica II</u>	5	Spanish

Track E

CODE	COURSE	ECTS	LANGUAGE
42031	<u>Automatics</u>	6	English
42034	<u>Computer and Communications</u>	6	English
42036	<u>Manufacturing Machines Technology</u>	6	English
42062	<u>Operations Management</u>	4	English
15595	<u>Electric Circuits</u>	6	English
15598	<u>Thermodynamics</u>	6	English
15597	<u>Machine Design</u>	6	English
15599	<u>Partial Differential Equations</u>	6	English
42029	<u>Termotecnia</u>	5	Spanish
42032	<u>Cálculo de Elementos de Máquinas</u>	6	Spanish

Track F

CODE	COURSE	ECTS	LANGUAGE
90563	<u>Molecular Design</u>	6	English
90566	<u>Advanced synthesis</u>	6	English
90565	<u>Process Chemistry</u>	6	English
90564	<u>Integrated Laboratory</u> *	6	English
90552	<u>Bioética</u>	6	Spanish



**Previous knowledge of Organic Chemistry and Structural Determination is required for the Integrated Laboratory course. Please refer to the corresponding syllabus.*

Track G

This module is intended for graduate level students. Previous knowledge of undergraduate level is required to be eligible. Please consult prerequisites of courses.

CODE	COURSE	ECTS	LANGUAGE
80604	<u>Fluid Dynamics</u>	3	English
80643	<u>Process & Separation Unit Design</u>	6	English
80644	<u>Process Simulation, Optimization and Control</u>	6	English
80646	<u>Project and Innovation Management</u>	6	English
15595	<u>Electric Circuits</u>	6	English
15598	<u>Thermodynamics</u>	6	English
15597	<u>Machine Design</u>	6	English
15599	<u>Partial Differential Equations</u>	6	English

Track H

This module is intended for graduate level students. Previous knowledge of undergraduate level is required to be eligible. Please consult prerequisites of courses.

CODE	COURSE	ECTS	LANGUAGE
80681	<u>Process chemistry.</u>	6	English
80682	<u>Synthesis and characterization of organic compounds</u>	6	English
80683	<u>Molecular Design</u>	6	English
80684	<u>Pharmaceutical Chemistry.</u>	6	English



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