

Science
and Technology



University of
Applied Sciences

BACHELOR

Applied Chemistry

Are you interested in waste recycling and the use of renewable materials? Do you like work in the pharmaceutical industry? As a graduate of our Applied Chemistry bachelor degree programme, you will be able to find groundbreaking solutions to problems facing society today.

www.imc.ac.at

Special features

Outstanding job prospects

For a start, this new programme has been carefully designed to meet the requirements of today's chemicals industry and academic institutions – and this makes it unique. As a result, graduates have great career opportunities. Applied Chemistry students can make contact with companies at a very early stage so graduates have excellent prospects when they enter the job market. They are also perfectly prepared for finding work abroad, as the programme is taught in English and has a very strong international focus.

Cutting-edge courses with input from academia and industry

Right from the start, the programme develops your fundamental knowledge of chemistry in tandem with a focus on forward-looking methods. Computer-based modelling and statistical methods for optimal data collection and processing feature prominently on the curriculum. Thanks to the seamlessly integrated course design, you approach topics from a variety of perspectives in your courses. This helps you to identify the links between different disciplines more easily. The staff teaching the up-to-date content includes lecturers from industry and academia, meaning that you gain the latest insights in novel methods.

Focus on practice-orientation and intense international experiences make a difference

Comprehensive practical training in the lab forms the cornerstone of the programme. We place a strong emphasis on the synthetic production of substances in direct combination with modern analytical techniques, chemical databases and software tools. This lays the foundations for completing professional tasks in the field of synthesis – such as active ingredient synthesis in the pharmaceuticals industry and synthesis of materials in the polymers and materials sector – as well as analytical areas such as quality assurance. The application of renewable materials and waste utilisation are strongly represented in the programme. In addition to duties in the pharmaceutical industry and at regulatory authorities, you are thus well prepared for responsible jobs in the ever-growing environmental sector.

At a glance



Full-time

Courses take place from Monday to Friday between 8.00 a.m. and around 8.00 p.m. (in exceptional cases on Saturdays).



English

The language of instruction is English. This prepares you for a career in a multicultural environment.



Six semesters

The degree programme lasts three years, with a total workload of 180 ECTS. Graduates receive the academic degree of Bachelor of Science in Engineering (BSc).



22-week internship

You can quickly put into practice the expertise you have picked up during your courses. The internship is an obligatory part of the programme.



Study fee

EU/EEA citizens pay a study fee of EUR 363.36 per semester, plus the student union fee.

Curriculum

Semester I	CH	ECTS
APPLIED INFORMATICS FOR CHEMISTS		
APPLIED INFORMATICS I		
Applied Informatics I: Information Technology and Data Management	4	4
GENERAL AND INORGANIC CHEMISTRY		
Chemical Calculations – Stoichiometry	2	3
MATHEMATICS FOR CHEMISTS		
APPLIED MATHEMATICS I		
Applied Mathematics I	4	6
PHYSICS FOR CHEMISTS		
PHYSICS I		
Physics for Chemists I – Theory	3	4
Physics for Chemists I – Laboratory	2	2
INORGANIC CHEMISTRY		
GENERAL AND INORGANIC CHEMISTRY		
General and Inorganic Chemistry – Theory	5	7
General and Inorganic Chemistry – Laboratory	4	4

Semester II	CH	ECTS
ANALYTICAL CHEMISTRY		
ANALYTICAL CHEMISTRY I		
Analytical Chemistry I: Basic Principles and Qualitative Analysis – Theory	2	3
Analytical Chemistry I: Basic Principles and Qualitative Analysis – Laboratory	4	4
APPLIED INFORMATICS FOR CHEMISTS		
APPLIED INFORMATICS II		
Applied Informatics II: Chemistry-Related Applications	2	2
FUNDAMENTALS OF PHYSICAL CHEMISTRY		
PHYSICAL CHEMISTRY		
Physical Chemistry – Theory	3	4
Physical Chemistry – Laboratory	2	2
GENERAL AND INORGANIC CHEMISTRY		
INORGANIC CHEMISTRY I		
Inorganic and Applied Inorganic Chemistry I	3	4
MATHEMATICS FOR CHEMISTS		
APPLIED MATHEMATICS II		
Applied Mathematics II	3	3
PHYSICS FOR CHEMISTS		
PHYSICS II		
Physics for Chemists II	2	3
ORGANIC CHEMISTRY		
ORGANIC CHEMISTRY I		
Organic Chemistry I	4	5

FULL-TIME

Semester III	CH	ECTS
ANALYTICAL CHEMISTRY		
ANALYTICAL CHEMISTRY II		
Analytical Chemistry II: Quantitative Analytical Methods – Theory	2	3
Analytical Chemistry II: Quantitative Analytical Methods – Laboratory	3	3
APPLIED INFORMATICS FOR CHEMISTS		
APPLIED INFORMATICS III		
Applied Informatics III: Introduction to Programming	1	2
ORGANIC CHEMISTRY		
ORGANIC CHEMISTRY II		
Organic Chemistry II – Theory	3	5
Organic Chemistry II – Laboratory	6	6
INORGANIC CHEMISTRY		
INORGANIC CHEMISTRY II		
Inorganic and Applied Inorganic Chemistry II	3	3
SCIENTIFIC METHODS AND TOOLS		
SCIENTIFIC METHODS AND TOOLS I		
Scientific Skills and Writing	2	2
CHEMOMETRICS AND DATA MANAGEMENT		
Chemometrics and Data Management: Applied Statistics and Advanced Methods	2	2
SPECTROSCOPIC METHODS AND STRUCTURE ELUCIDATION		
Spectroscopic Methods and Structure Elucidation	3	4

Semester IV	CH	ECTS
INORGANIC CHEMISTRY		
MATERIAL SCIENCES		
Industrial Organic and Inorganic Chemistry, Polymers and Material Sciences	3	4
PHYSICAL CHEMISTRY – ADVANCED		
ADVANCED PHYSICAL CHEMISTRY		
Advanced Physical Chemistry	3	4
BIOCHEMISTRY AND BIOANALYTICS		
BIOCHEMISTRY AND BIOANALYTICS – THEORY		
Biochemistry – Theory	3	4
Bioanalytics – Theory	1	1
Biochemistry and Bioanalytics – Laboratory	3	3
TOXICOLOGICAL AND ENVIRONMENTAL ASPECTS		
SUSTAINABILITY IN THE CHEMICAL INDUSTRY		
Current Issues I: Green Chemistry, Renewables and Sustainable Methods in the Chemical Industry	1	1
QUALITY MANAGEMENT IN THE CHEMICAL INDUSTRY		
QUALITY MANAGEMENT IN THE CHEMICAL INDUSTRY I		
Quality Control, GMP and GLP	1	1

CHEMICAL ENGINEERING AND PROCESS CONTROL		
Chemical Engineering and Process Design	3	4
ANALYTICAL CHEMISTRY		
ANALYTICAL CHEMISTRY III		
Analytical Chemistry III: Instrumental Analysis – Theory	3	4
Analytical Chemistry III: Instrumental Analysis – Laboratory	3	4

Semester V	CH	ECTS
PRACTICAL TRAINING SEMESTER		
Practical Training (22 weeks à 30 hours)	0	28
Practical Training Coaching Seminar	1	2

Semester VI	CH	ECTS
ELECTIVE 1: INSTRUMENTAL ANALYSIS AND CHEMOMETRICS		
Multivariate Data Analysis (MVDA) and Design of Experiments (DoE)	2	3
Data Mining and Visualisation	2	2
ELECTIVE 2: ADVANCED ORGANIC CHEMISTRY		
Advanced Organic Chemistry Theory – Heterocycles and Molecules of Life	2	3
Advanced Organic Chemistry Laboratory – Method Development	3	3
TOXICOLOGICAL AND ENVIRONMENTAL ASPECTS		
TOXICOLOGY AND ASPECTS OF ECOLOGY		
Toxicology and Aspects of Ecology	2	3
QUALITY MANAGEMENT IN THE CHEMICAL INDUSTRY		
REGULATORY AFFAIRS AND INDUSTRIAL QUALITY MANAGEMENT		
Regulatory Affairs and Principles of Quality Assurance	1	2
Current Issues II: Business Models	1	1
SCIENTIFIC METHODS AND TOOLS		
SCIENTIFIC METHODS AND TOOLS II		
Bachelor Seminar and Bachelor Paper	1	8
Bachelor Exam	0	2
ELECTIVE 2: COMPUTATIONAL CHEMISTRY		
Computational Methods and Molecular Modelling	2	3
ELECTIVE 1: APPLIED ANALYSIS FOR FOOD, ENVIRONMENTAL ISSUES AND PHARMACEUTICALS		
APPLIED ANALYSIS FOR FOOD, ENVIRONMENTAL ISSUES AND PHARMACEUTICALS – SEMINAR AND LABORATORY		
Applied Analysis for Food, Environmental Issues and Pharmaceuticals – Seminar	1	2
Applied Analysis for Food, Environmental Issues and Pharmaceuticals – Laboratory	2	3
Applied Analysis for Food, Environmental Issues and Pharmaceuticals – Theory	3	4
ELECTIVE 2: MEDICINAL AND PHARMACEUTICAL SCIENCES		
Medicinal and Pharmaceutical Chemistry: Traditional Drugs and Biopharmaceuticals	2	3
Pharmaceutics	1	2

CH: Contact Hours

Subject to possible alterations.





Career options

After your studies, you have the choice of either enrolling for a related master degree or starting your career. Potential entry level positions include: the pharmaceuticals industry, the food industry, environmental authorities, polymer chemistry, bulk chemicals, chemical recycling plants, renewable raw materials processing, basic research (with additional postgraduate education)

A very personal story

HERWIG WEISSINGER COMES FROM LANGENLOIS IN LOWER AUSTRIA. HE APPLIED FOR THE APPLIED CHEMISTRY DEGREE PROGRAMME STRAIGHT AFTER FINISHING SECONDARY SCHOOL AT BUNDESREALGYMNASIUMKREMSRINGSTRASSE.

Perfect match for my interests

I have always been very interested in chemistry and science, but wanted to learn more about and understand the processes in our environment. One of my teachers at school recommended the Applied Chemistry programme because of my interests. I applied and was accepted straight away – which I was really pleased about.

programme is also an exceptional degree because of the focus on application – its practical design is especially attractive in the context of chemistry. I'm particularly interested in inorganic chemistry. It's so diverse and varied, with so many applications. At IMC Krems there is a special focus on computer-assisted methods – this is very forward-looking and provides a promising basis for my career.

Great place to study

Krems is a great place to do a degree like this, because the area has companies operating in the industry that offer internships and entry-level jobs. You're assured of top job prospects – the industry can't wait for us to graduate.

Forward-looking basis for my career

IMC Krems has an excellent reputation and a very international outlook, with students from all over the world. This makes it really special. And the Applied Chemistry

Tip

If your first language is German, there's no need to worry about English being the language of instruction. It's not a problem at the admissions interview – there's a really friendly atmosphere. If you're well prepared, you'll be able to pull it off.

IMC. It's all in me.

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Accreditations



Memberships

