



do illicit products have a signature?

master of science (MSc) in forensic science orientation chemical criminalistics

GENERAL OUTLINE

Objectives

The Master of Science in Forensic Science, orientation Chemical Criminalistics, aims to understand the contribution of analytical chemistry techniques to forensic science as well as to several other fields requiring instrumental analyses in order to solve problems. The programme of the Master includes a theoretical component supplemented by a large number of practical exercises involving analytical chemistry as well as the application of forensic science. In addition to courses taught by the School of Criminal Justice, the programme benefits from the collaboration of the Chemistry and Chemical Engineering Section (SCGC) of the Ecole polytechnique fédérale de Lausanne (EPFL) and of the University Centre of Legal Medicine Lausanne-Geneva (CURML).

Career prospects

University studies develop, in addition to specific academic skills, a great many transverse skills such as: problem-solving abilities, communication, critical, analytical and summarising faculties, abilities in research, and so on. This panoply of skills, combined with specialist knowledge acquired in the course of studies, is excellent preparation for a wide range of employment opportunities such as :

- Forensic science laboratories in Switzerland or abroad
- Swiss or foreign scientific police laboratories
- Cantonal laboratories
- Institutes of legal medicine and toxicology
- Private or public laboratories active in analytical fields, quality control, the environment, hygiene
- Academic and research careers in the forensic and analytical chemistry fields
- Organisations that combat counterfeiting and illicit trafficking
- Insurance companies, loss control

Alumni move into a wide variety of roles, for example as a scientist in a biomedical material testing laboratory.

www.unil.ch/perspectives/esc

GENERAL INFORMATION

Organisers

School of Criminal Justice, Faculty of Law, Criminal Justice and Public Administration:
www.unil.ch/esc

Degree awarded

Master of Science (MSc) in Forensic Science, orientation Chemical Criminalistics

ECTS credits

120

Duration

4 semesters

Teaching language

French. Recommended level: C1.

A good understanding of English is necessary since most of the literature is published in English and a few courses may be taught in English.

Contact

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More information

www.unil.ch/esc



EDUCATIONAL CONTENT

Description

During the 1st year, The Induction and in particular, the Mandatory courses module cover the interdisciplinary fields of forensic science, while the specialised subjects offer a detailed understanding of both theory and practice. Classes in the Chemical Criminalistics orientation provide a structured basis for problem-solving through specimen analysis. They also contribute to deepen students' knowledge by proposing different analysis methods. You have the opportunity to put your knowledge into practice within the framework of practical work and projects requiring a concrete and global approach.

In the second year, you put your knowledge into practice by working on fictitious cases covering several types of traces. This exercise stimulates you to use an approach centered on problem-solving. You also carry out diploma work consisting of personal research.

The programme is completed by optional courses equivalent to 18 ECTS credits spread over two years.

Mobility

The School has agreements in place with several international universities. You may spend one semester (max. 30 credits) abroad as part of your course, preferably during your second year. Semesters or projects successfully completed abroad are, in principle, recognised on the student's return from the relevant study periods. Some dissertation work may be completed in a professional setting with one of our partners.

SYLLABUS

Part 1: Induction (50 ECTS)

Module 1.1. Mandatory Courses

- Appraisals, Mandates and Reports
- Interpretation of Scientific Evidence
- Statistical Data Processing
- Investigation Methods (seminars)

14 ECTS credits

Module 1.2. Specialised Subjects (Optional)

- Narcotics Profiling
- Organic Microtraces
- Causes of Fire or Explosion
- Appraisal of Handwriting and Signatures
- Identification of Firearms based on Munitions Information
- Operational Criminal Analysis
- Web-Scale Analytics
- Criminality Analysis on the Internet
- IT Crime and Cybercriminality: case studies

18 ECTS credits

Module 1.3 Choice of subjects (18 ECTS credits over two years)

Part 2: Orientation Physical Identification (40 ECTS)

Module 2. CC. 1 Orientation Courses

- Fundamentals of Chemical Criminalistics
- Chemical Criminalistics: Applications
- Advanced Projects in Analytical Chemistry
- Analytical Toxicology and Doping

And 5 credits to be chosen from:

- Dating and Chronology
- Food Chemistry
- Mass Spectrometry
- Risk Management
- Ecotoxicology

20 ECTS credits

Module 2. CC. 2. Complex Cases

20 ECTS credits

Part 3: Master's Thesis 30 ECTS credits

PRACTICAL INFORMATION

Admission requirements

The candidate must be a holder of a Bachelor of Science in Forensic Science or in Chemistry awarded by a Swiss university.

Another degree or university title may be judged to be equivalent and give access to this Master's degree course, with or without further conditions. The School of Criminal Justice is competent for the final decision on equivalence (info.esc@unil.ch), subject to the candidate's formal admissibility to the Master's degree course.

Enrolment and final date

Applications must be submitted to the Admissions Department (www.unil.ch/immat) before 30 April.

Candidates needing a visa to study in Switzerland: 28 February

Start of courses

Mid-September

Academic calendar: www.unil.ch/central/calendar

Part-time Master's degree

Under certain conditions, a Master programme can be followed part-time. See www.unil.ch/formations/tempspartiel.

Timetables

www.unil.ch/esc

General information on studies, guidance

www.unil.ch/soc

Career prospects

www.unil.ch/perspectives

Accommodation and financial assistance

www.unil.ch/sasme

International

www.unil.ch/international



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Faculté de droit,
des sciences criminelles
et d'administration publique