

EACH Excellence in Analytical Chemistry

Duration

2 years

Course description

This international two-year joint master degree programme, EACH - Excellence in Analytical Chemistry, educates specialists in analytical chemistry well qualified to work in industry (food, pharmaceutical, materials, energy, etc) and chemical analysis laboratories (environment, food, health, etc) worldwide. EACH provides knowledge and skills in both fundamental and applied aspects of modern analytical chemistry. The programme is taught by four universities: University of Tartu (UT, coordinator), Estonia; Uppsala University (UU), Sweden; University Claude Bernard Lyon 1 (UCBL), France; and Åbo Akademi University (AAU), Finland. The language of instruction is English, but students will also learn to communicate in one of the languages of the countries involved. Double degrees are awarded on completion of the studies. The first degree will be from UT: Master of Science in Engineering (Applied Measurement Science). The second degree will be one of the three:

- Master of Science 120 Credits (UU)
- Master of Science in Analysis and Control (UCBL)
- Master of Science in Technology (AAU)

Students spend the first study year at UT learning the fundamental concepts and skills of analytical chemistry, metrology in chemistry, and the quality and socio-economic aspects of analytical chemistry. The second year is oriented towards specific applications of analytical chemistry and is spent either at UCBL, UU or AAU. The particular strengths of the partner universities are:

- UU: organic analysis, separation methods and mass spectrometry, especially as applied to biological samples;
- UCBL: industrial analytical chemistry and process control;
- AAU: sensors, advanced analytical instrumentation and electrochemistry.

The complementary competences of the universities enable the students to acquire both fundamental knowledge and practical skills at the highest level. The EACH programme has well-established cooperation with a number of companies: Solvay, Bruker, Perkin Elmer, Ruuki, Avenisense, etc. Their active involvement via teaching courses and supervising internships ensures that EACH responds to needs in industry, including the newly emerging areas of analytical chemistry: nano-analysis, in vivo microanalysis, "omics", process control, etc. This "practical touch" ensures good employment prospects of the EACH graduates. EACH is suitable both for the graduates of bachelor's studies (or equivalent), and analytical chemists in industry and labs. EACH is distinguished from other analytical chemistry programmes by its strong emphasis on metrology (traceability, measurement uncertainty, etc) and on the socio-economic aspects of analytical chemistry (costs and legal implications of chemical analysis, climate, public security, etc).

Web sitewww.ut.ee**Partners**

TARTU ULIKOOL, Estonia (coordinating institution)
UNIVERSITE LYON 1 CLAUDE BERNARD, France
ABO AKADEMI, Finland
UPPSALA UNIVERSITET, Sweden

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