Applied Measurement Science
Excellence in Analytical Chemistry

www.ut.ee/ams
www.analyticalchemistry.eu

Interdisciplinary 3+2 master’s degree programme
Tuned to the job market needs
Cross-sectorial
- Physical measurements
- Chemical measurements (chemical analyses)
- Metrology
- Quality systems
- Economic and legal aspects of measurements
- Practical placement

The education that you will get is of very broad applicability.

AMS Programme structure

Obliqatory Module (45 ECTS)
Courses: Measuring and Instrumentation, Measurement Data Processing, Lab of Physical Measurements, Practical Chemical Analysis Methods, Lab of Chemical Analysis Methods, Fundamentals of Metrology, Metrology in Chemistry, Seminar in Measurement Science, Quality Systems

Elective Module (30 ECTS, courses can be chosen from the list)

Optional Subjects
(6 ECTS, any courses can be chosen university-wide)
Internship
(9 ECTS, internship placement in industry or analysis or calibration laboratories)
Master’s thesis
(30 ECTS, research project with a topic related to measurement science)

Excellence in Analytical Chemistry
Stemmed from AMS via Erasmus Mundus
Full-fledged contemporary analytical chemistry master’s degree programme (120 ECTS)
Tuned to the job market needs
- Future-oriented
- Metrology topics, Socio-economic aspects
- Practical placement
- 2nd year at a different university

Four European universities excelling in different fields:
Organic and bioorganic analysis, advanced separation methods, mass spectrometry
Industrial analysis, process control and monitoring
Advanced analytical methods, environmetry, metrology
Environmental and ecological chemistry, metrology in chemistry, quality assurance, socio-economic aspects

UPPSALA UNIVERSITY
Lyon 1
"
University of Tartu
Fundamentals of analytical chemistry, metrology in chemistry, quality assurance, socio-economic aspects

Uppsala University
Organic and bioorganic analysis, advanced separation methods, mass spectrometry

University of Lyon
Industrial analysis, process control and monitoring

Åbo Akademi
Advanced analytical devices, sensors, miniaturization, electrochemistry

Year 1: Fundamentals + Internship placement 60 ECTS

Year 2: Specialisation + Master’s thesis 60 ECTS

Peculiarities of both programmes
• International programme
  – Students with different backgrounds
  – Introductory tests in some courses
  – Some levelling activities may be necessary
• Some of the topics are still new to university programmes
  – Harmonization underway

Optional courses
• Also electives can be selected for optional

Master’s thesis (30 ECTS)
• Research work in a research group
• Mostly during year 2
• Must be at least "potentially publishable"

Internship placement
• You have to be active!

Winter School
• January 2019 in Åbo (Turku), Finland
  – https://each.ut.ee/EACH/each-winter-school/

Summer School
• Summer 2019 (Lyon, not 100% sure yet)
  – https://www.msc-euromaster.eu/

Study progress requirements
• Study administration: SIS (ois.ut.ee)
  – New version will come in Dec 2018
• The overall programme is 120 ECTS
• Minimum numbers of ECTS:
  – I semester: 24 ECTS
  – I year: 54 ECTS
  – but 60 is VERY STRONGLY RECOMMENDED!
  – Special situation with Swedish language at UU
  – Special situation at UCBL (60 ECTS is needed during year 1)
• Please check:
  – www.ut.ee/EACH/student-agreement/
• If problems: contact Anu Teearu
Autumn and spring

- Course that takes place in autumn as a rule does not take place in spring
  - All obligatory courses that run in Autumn 2018 should be taken in Autumn 2018
  - EACH: If you cannot pass an obligatory 1st year course you cannot go to the second year and cannot graduate from EACH
    - In such cases we offer possibility to transfer to AMS
      - But tuition waiver cannot be 100% guaranteed
  - If problems:
    - First, talk to teacher
    - Then contact Ivo Leito

Registration to courses and cancelling registration

- You have to register yourself to courses
  - Via SIS, normally until 16.09.2018
  - If for some reason you did not manage to register
    - please go to the course anyhow!
    - Ask Anu
- Cancellation
  - Normally possible until 16.09.2018
  - Or two weeks from start of the course
  - Later cancellation is possible only in the case of very special circumstances
  - Questions, problems related to registration: Anu Teearu
    - (Cancellation: Ivo)
  - All courses will be on your transcript

Selecting students for study tracks

- You have two possibilities to express your preference:
  - When submitting application (in the motivation letter)
  - During Winter school
    - January 2019
      - see http://www.ut.ee/EACH/each-winter-school/
- Students are selected taking into account
  - Their preference
  - Grades of compulsory courses obtained during the first semester at Tartu
  - Knowledge of local language (to a very limited degree)
  - Possibly interview or presentation during Winter school
- Final decisions are made during Winter school in Jan 2019

Study track preferences: current status

- Your current preferences and tentative maximum numbers of students:

<table>
<thead>
<tr>
<th>Study track</th>
<th>UU</th>
<th>UCBL</th>
<th>AAU</th>
</tr>
</thead>
<tbody>
<tr>
<td>First preference</td>
<td>11</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Second preference</td>
<td>7</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Tentative maximum number for study track</td>
<td>5</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>
Aspects to take into account in selecting study track

– Research fields in the 2nd year universities
– Competition for the 2nd year universities
  • Your grades at Tartu matter!
– Language skills and what language you study at Tartu
  • French vs Swedish
– Practicalities
  • See next slide

On Nov 13, 2018 the 2nd year academics will be in Tartu to meet you and present the study tracks.

Sometime in Dec we will organise Skype sessions with 2nd year students.
Chemistry building
“Chemicum”
Ravila 14a

Physics building
Ostwaldi 1

Academic Coordination and Development

Ivo Leito, academic coordinator
• ivo.leito@ut.ee, +372 5 184 176,
  Skype: leitoivo (preferred),
  Ravila 14a - 4034

– Academic questions:
• contents of courses, which electives to take, finding supervisor, choosing study track, internship placement ...

Administrative Coordinator
Anu Teearu, administrative coordinator
• anu.teearu@ut.ee, +372 56 568 216,
  Ravila 14a - 4030

– Practical/technical questions:
• stipends, health insurance, admin documents, transfer to 2nd year, travel to winter school ...
• At 2nd year university: first local people, if no help, then Anu

Study Abroad Centre
https://sisu.ut.ee/gettingstarted/

• Central support unit for international students
  – Ülikooli 18 – 134, the „Main building”
  – Web explains, whom to contact
• Problems not directly related to the study programme
  – visa, residence permit, dormitory, bank account ...

Academic leaders at second year universities

• Prof. Jonas Bergquist (UU)
  • A worldwide leader in biomedical LC and MS
• Prof. Jérôme Randon (UCBL)
  • Founder of the unique industrial analysis programme at Lyon
• Prof. Johan Bobacka (AAU)
  • His work on miniature sensors is „probing” the future of analytical chemistry

Tutor

• Kristi Palk, tutor
• kristipalk@gmail.com

My name is Kristi and I’m actually a physics teacher. I teach physics in middle school and in high school. I studied to be a science teacher and then studied educational management and got a master's Degree in social Sciences. At the moment I’m getting also a master's Degree in education. I became a tutor because I thought that working with students would be an exciting challenge and I like to help people.
Communication with teachers

• The most common way: e-mail
  – If no response in 4 days – resend
  – If no response after 3 mails – find another way
• Some prefer Skype
  – Ivo Leito
• Facebook: not many teachers use Facebook for communication
  – Ivo Leito can use Facebook messenger

How to communicate with Ivo?

• If you want slow responses or want just to inform Ivo use e-mail
  – Typical response time: 4-6 days
  – Use CC liberally
• If you want fast responses, use Skype
  – Typical response time: few minutes to few of hours

Organisation of courses, Exam times

• Info from teacher is superior to SIS
• Attending courses – info from teacher
• Academic calendar:
  – SIS
  – http://www.ut.ee/EACH/study-regulations
• Course organisation is usually explained during the first class
  – Please be present
  – Please respect starting times!
• Exam times are agreed between students and teachers
  – Please take initiative!
• You may want to visit your homeland in Dec-Jan
• EACH Winter school: 21-25.01.2019
  – 20 and 26.01.19 are (probably) travel days
  – Winter School is compulsory for EACH students

Deadlines, Academic honesty

• Deadline is a DEADLINE
  – In general non-negotiable
  – Do not leave your assignments to the last minute!
• Academic honesty is a must
  – Any form of plagiarism is unacceptable!
  – May lead to expulsion from the programme
  – If in doubt, what is allowed, ask Ivo

Some more things

• Your contact data in SIS
• Order in classroom and lab
• Why we generally do not make exceptions?
• Letters of recommendation
• Avoiding loss of data
• Library, Printer
• Mailbox
• Application fee
• Group photo

Study agreements

• These are listed on each.ut.ee/EACH/student-agreement
  – Some changes will still be made
  – No need to print it out before signing
• To be signed during the second week of September
  – Anu will inform when and where the agreement can be signed
• If questions, please consult Anu
Scholarships

- **EU scholarship**
  - First payment September or October, depending on how fast you can open bank account:
    - monthly scholarship: 1000 euros
    - travel contribution: 1st half paid out in September/October 2018 and 2nd half in September 2019
    - installment contribution: 1000 euros for partner country students
  - No additional agreement needed – terms are in Study Agreement
  - The end date of your studies depends on 2nd year university
    - Probably: UCBL Aug 19, UU Jun 19, AAU Aug 19

Other scholarships

- Not abundant possibilities unfortunately
- Programme websites
- **Research Scholarships**
  - paid by research groups where you do your thesis work
- Some other options:
  - [www.ut.ee/en/study-allowances-0](http://www.ut.ee/en/study-allowances-0)
- [Erasmus+ mobility](http://www.ut.ee/en/erasmus)
- Student exchange
- EACH students for the 2nd year

Opening bank account

- Scholarships
  - cannot be paid in cash
  - UU, AAU: scholarships are paid to Estonian bank accounts only
  - UCBL: scholarships can be paid to French bank accounts
    - For opening an account in Swedbank TRP is not needed

Health insurance

- (EACH scholarship holders only)
  - Read the conditions carefully
  - If hospitalised, immediately inform the insurance provider – XL Catlin Insurance Company SE (in cooperation with Marsh Insurance)
    - 24/7 helpline: +44 800 279 9734
  - Be ready to cover your expenses first and then be reimbursed

Other details

- Original documents to Student Admissions – must be submitted by Sept 15
- Estonian ID number - *isikukood* (from your card of residency) - send to Anu and add to the SIS
- Orientation course presentations available on [sisu.ut.ee/gettingstarted/orientation-course-presentations](http://sisu.ut.ee/gettingstarted/orientation-course-presentations)

Lab skills

- **Questionnaire**
- **Introductory lab course**
  - For those with limited lab experience
  - Contains glassware calibration, titration, sample preparation and simple photometry
  - Two groups:
    - Monday 9.15 – 13.00
    - Thursday 12.15 – 16.00
- **Compulsory for all: introductory lab test**
  - On Mon 10.09 in two groups:
    - 9:00 – 12.00 and 13.00 – 16.00
    - Based on the results it will be decided, who will be taking the course
Safety in labs

• Highly important
• Modern labs, safety equipment according to EU standards is available
• You will undergo safety instruction in the beginning of practical courses
• Safety rules in UT labs:
  – https://each.ut.ee/EACH/study-regulations/
    (bottom of page)