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Aalto University
School of Chemical
Engineering



Master's Programme in Chemical, Biochemical and Materials Engineering

Biotechnology Major

7.9. 2021 Sandip Bankar and Anna Mäkilä

Agenda

Who are we? Getting to know each other

Personnel of the major

Degree and major structure

Teaching in Autumn 2021

Study guidance and coaching

Practical study matters

Meeting the academic advisors

Who are we?

A short presentation of everyone present

Please tell briefly something about yourself to others, for example:

- Your name
- The country you are from
- Are you studying on campus or remotely?
- What do you expect from the forthcoming academic year 2021-2022?



Personnel of the major

Professors:

- Sandip Bankar– professor in charge
- Jan Deska
- Alexander Frey
- Markus Linder
- Katrina Nordström
- Merja Penttilä
- Silvan Scheller

Other teachers:

- Tero Eerikäinen
- Maria Sammalkorpi
- Heli Viskari



Learning services



Photo:Unto Rautio

Student advisor: Melissa Hendrén
m-sc-advisors-chem@aalto.fi

Study affairs secretary: Kati Sumu
studies-chem@aalto.fi

Planning officer: Anna Mäkilä
anna.makila@aalto.fi

Additional information:
<https://into.aalto.fi/display/encbme/Contact>

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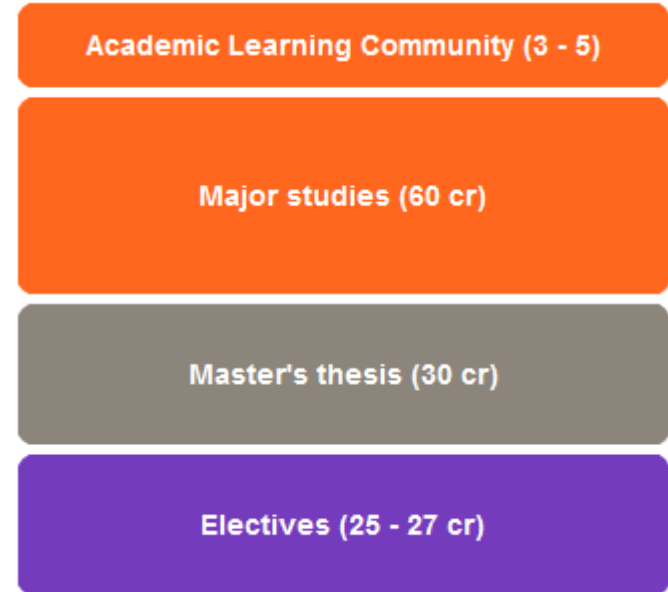


Degree structure and planning your studies

Degree structure

120 ECTS credits:

- **Academic Learning Community (3-5 cr)**
 - *common to all students in Master's Programme in Chemical, Biochemical and Materials Engineering regardless of the major*
- **60 cr major dependent studies**
 - *Compulsory studies*
 - *Specialization studies*
- **30 cr Thesis**
 - *Approx. 5 months active work*
- **25 - 27 cr Elective studies**
 - *Can include a minor*



→ **Master of Science (Tech.)**

Structure

BioTechnology Major

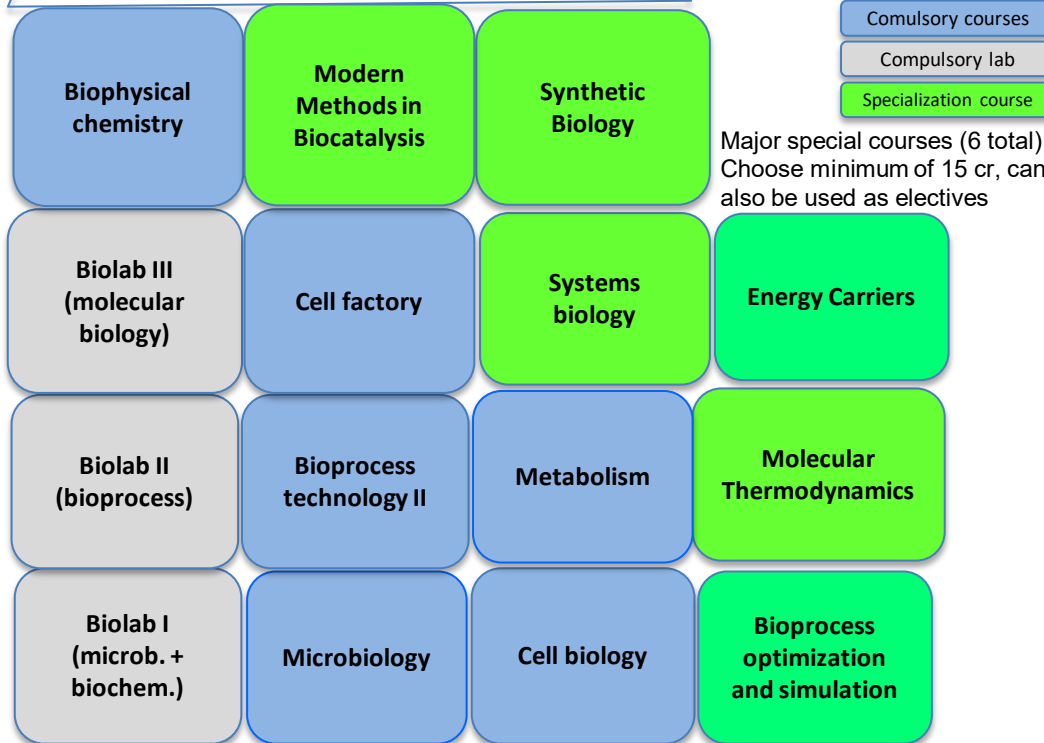
with the responsible teachers
and major specific special courses

Fall-Spring II
+ electives
(30cr)

M.Sc. Thesis
30 cr

Spring I or II
Spring I (30-35 cr)

Fall I or II
Fall I (25-35 cr)



Teachers:

- Alexander Frey
- Heli Viskari
- Jan Deska
- Katrina Nordström
- Maria Sammalkorpi
- Markus Linder
- Matti Larmi
- Merja Penttilä
- Sandip Bankar
- Silvan Scheller
- Tero Eerikäinen

Compulsory course (45 cr)

Code	Name	Credit	Period/year	Teacher
<u>CHEM-E3110</u>	Biolab I	5	I / 1st	Heli Viskari
<u>CHEM-E3120</u>	Microbiology	5	I / 1st	Katrina Nordström
<u>CHEM-E3190</u>	Metabolism D	5	I-II / 1st	Silvan Scheller
<u>CHEM-E3130</u>	Biolab II	5	II / 1st	Tero Eerikäinen
<u>CHEM-E3140</u>	Bioprocess Technology II	5	II / 1st	Sandip Bankar
<u>CHEM-E8120</u>	Cell Biology	5	II / 1st	Alexander Frey
<u>CHEM-E3150</u>	Biophysical Chemistry D	5	III / 1st	Markus Linder
<u>CHEM-E8115</u>	Cell Factory D	5	III / 1st	Alexander Frey
<u>CHEM-E3160</u>	Biolab III	5	IV-V / 1st	Heli Viskari

Specialisation courses (15 cr)

Code	Name	Credit	Period/year	Teacher
<u>CHEM-E3205</u>	Bioprocess Optimization and Simulation	5	I / 1st or 2nd	Tero Eerikäinen
<u>AAE-E3100</u>	Energy Carries D	5	I / 1st or 2nd	Matti Larmi
<u>CHEM-E4210</u>	Molecular Thermodynamics D	5	II / 1st or 2nd	Maria Sammalkorpi
<u>CHEM-E4109</u>	Modern Methods in Biocatalysis D	5	IV / 1st	Jan Deska
<u>CHEM-E3170</u>	Systems Biology*	5	IV-V / 1st	Alexander Frey
<u>CHEM-E8125</u>	Synthetic Biology	5	IV-V / 1st or 2nd	Merja Penttilä

* Course is offered even years

Teaching in Autumn 2021

- Majority of courses are on-line
- Some courses are in hybrid mode
- Few courses on campus (e. g. laboratory courses)
 - **Please, check MyCourses pages!!!**
 - **If you have some question, please, contact teacher in charge**

Elective studies / Minor

- Elective studies (25-27 cr) → build your own degree
- Possible to include a minor (15-25 cr) into elective studies
- Minor not compulsory → degree without minor
- Recommended minors
 - *Chemical and Process Engineering*
 - *Chemistry*
 - *Biomass Refining*
 - *Aalto Ventures Program*



Master's Thesis

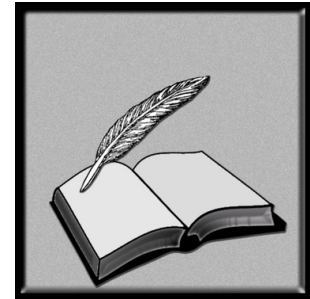
Goal: master's thesis completed by the end of the 2nd study year

Before you start your master's thesis:

- *complete all compulsory studies*
- *make sure your study plan is up-to-date*

How to find a thesis position/topic:

- *Be active!*
- *Start looking for a master's thesis position early, during the Spring of the 1st study year*
- *Be open to new ideas!*
- *Don't wait too long for the "perfect" master's thesis offer*



CHEM-E0105 Academic Learning Community

Let's make this the best course ever!

Please note: MATLAB module (1 ECTS) starts on Monday, Sep 13th, 8-10 am

What?

- Course for *all* master's students in CHEM
- 3-5 cr, depending on completed tasks

When?

- Periods I-V
- Starting on September 20th, 8:30-10 am

Why?

- Learning *general skills and knowledge*
- Helping you *succeed in your studies*

For more information: [MyCourses](#)



**Senior university lecturer
Kyösti Ruuttunen cannot wait
for the course to start!**

Photo: Kitty Norros

Personal supplementary studies



Some students are required to complete supplementary studies



Recommended to be completed as soon as possible



Not included in your degree (120 ECTS credits + supplementary studies)

Laboratory Safety Course

Compulsory, unless part of your Aalto BSc degree.

**Include it into your elective studies in SISU:
CHEM-E0140 Laboratory Safety Course**

CHEM-E0140

Laboratory Safety Course

itsenäisesti suoritettava vastaava henkilökohtainen kurssi

Instructions to Digital Lab Safety Course

kirsi.yliniemi@aalto.fi

Academic Year 2021-2022

**There are two courses,
you need to pass only one of them:**

CHEM-A1010 Turvallinen työskentely laboratoriossa
(Finnish version for bachelor students)

OR

CHEM-E0140 Laboratory Safety Course
(English version, mainly for master level and exchange students)

PLEASE NOTE!

- **Access to CHEM buildings is automatically linked to Lab Safety Courses**
 - So even if you would take only theoretical courses in Aalto CHEM, you still need to pass the Lab Safety to be able to access the building
- **Also, you must have a Lab Pass before entering the labs of CHEM**
(more info can be found from course pages)

CHEM-E0140 Laboratory Safety Course

= 100 % digital course
= You can do it already now

It allows you to familiarise with the material and take the exam whenever you want:

- 1. Familiarize yourself with Virtual Lab Space**
(link in MyCourses)
- 2. Take the digital exam**
(in MyCourses)

**This is for you own safety
– and your friends' safety –
so please, study the material carefully**

What to do?

1. Add ***“CHEM-E0140 Laboratory Safety Course”*** to your personal study plan (HOPS) in SISU (sisu.aalto.fi)
 - CHEM.E Elective studies.
2. Register to the course ***“CHEM-E0140 Laboratory Safety Course”*** in SISU (sisu.aalto.fi)
 - NOTE! You must have signed into Aalto before you can sign into courses
3. Go to MyCourses page of ***“CHEM-E0140 Laboratory Safety Course”*** (mycourses.aalto.fi)
4. Follow the link to Virtual Lab Space
5. Take the Digital Exam in the MyCourses
 - You will be notified immediately whether you passed the exam (to pass: 65 % of the points).
 - You can take the exam as many times as you like...but the questions keep changing.
 - It is recommended that you have Virtual Lab open at the same time as you take the exam:

Try not to just guess → This is for your own safety

Make the course **this week**

– you need a Lab Pass to enter the labs

- **After** passing Lab Safety Course, you will be printed a Lab Pass



- You have to have Lab Pass visible on your lab coat when entering labs

(Note! The printing is done only after passing the course)

- Pick up your Lab Pass from Study Advisors' pop-up desk (CHEM main lobby, Kemistintie 1) during its opening times

Study period when you take the Lab Safety	Passes ready in Study Advisors pop-up desk
Orientation Week September 2021 (no later than Sun 12 th Sep)	WED 15 th September onwards
PERIOD I (no later than Sun 19 th Sep)	WED 22 nd September onwards
PERIOD II (no later than 7 th Nov)	WED 10 th November onwards
Orientation Week January 2022 (no later than Sun 9 th Jan)	WED 12 th January onwards
PERIOD III (no later than 16 th Jan)	WED 19 th January onwards
PERIOD IV (no later than 6 th March)	WED 9 th March onwards
PERIOD V (no later than 24 th April)	WED 27 th April onwards

Laboratory coats and glasses

- School will provide laboratory coat and safety glasses. These will be picked up before laboratory work and returned when leaving from laboratory.
- Laboratory coats and safety glasses can be found from
 - B112b hall
 - C113 hallway cabinet
- Laboratory coats and safety glasses will returned after work to boxes, which are located near the front door of the laboratory
- More information from course lecturer

Planning your studies → HOPS/PSP

All students are required to prepare a **personal study plan (PSP)** as a part of their master's studies and always keep it up-to-date.

- The study plan is a **binding agreement** on both parties: the student and the university.
- Students can, at any time of their studies, **update** their study plan → approval if needed → *send an email to a planning officer*
- The study plan should at all times correspond to the student's current plan for his/her studies.
- Changes to the study plan should always be done before participating in courses → *not possible to enroll to a course, if it is not in your study plan*

Planning your studies → HOPS/PSP

The study plan includes:

1. Major courses, based on curriculum
Compulsory courses and specialisation courses
2. Elective courses
Possible to include a minor in the elective studies (minor not compulsory)
3. Timing of all chosen courses and the master's thesis

Study plans are created in **SISU**

Some parts require approval

Approved by the planning officer, deviations from the curriculum need to be separately approved by the professor in charge of the major

More instructions: <https://into.aalto.fi/display/encbme/Planning+your+studies>

- If a part of your study plan requires an approval
- If you have some questions to the content
→ send an email to anna.makila@aalto.fi

Why should you earn your degree within two academic years?

Requires an average of 60 credits per year

WHY?

- It shows your potential future employers that you are able to commit to your studies and that you can acquire a wide spectrum of new knowledge while keeping to an agreed schedule
- CHEM rewards students for degree completed within target time -> 500€
- It's a fast track to summer jobs at departments



More information: <https://into.aalto.fi/display/encbme/Planning+your+studies>



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Student guidance and coaching in Aalto CHEM

Academic advising

The academic advising at Aalto CHEM is organised in connection with the course CHEM-E0105 Academic Learning Community.

- *Two compulsory individual meetings with your academic advisor (academic advisor organizes)*
- *Support!*



Academic advising

Most students felt that they benefit from the meetings (86%)

Most students have met their academic advisor two times, some 3-5 times

Benefits for a student

- *Help, advice, tips, support ...*
- *have a mentor, someone confidential supporting you*
- *get feedback and ideas, other opinion*
- *good possibility to talk, to share feelings*
- *building an academic network*

“feeling more confident about my studies and future career”

“Discussion about the Master’s thesis, overall feelings and concerns, stress management, discussion/advising about summer job and career plans.”

“Guidance for the future.”

“Has helped me clear up my mind immensely”

“feeling of being heard”

All in all, I feel like academic advising is needed and welcome!

Academic advising groups

Sandip Bankar

Al-itawa Muhemmed
Gil González, Alexia
Lainio, Eveliina
Penttinen, Hanna-Reetta
Seppänen, Sami

Tero Eerikäinen

Huusela, Martina
Leppänen, Heidi
Rekinen, Sanna
Silmunen, Tua
Soininen, Wille

Markus Linder

Haikarainen, Ronja
Kivekäs, Linnea
Korkiakoski, Mikko
Leppäkangas, Emilia
Lohilahti, Olli

Merja Penttilä

Lamminjoki, Leevi
Tynkkynen, Milla

Maria Sammalkorpi

Hämäläinen, Petteri
Kangas, Laura

Silvan Scheller

Linna, Artturi
Oksa, Katri
Raiskio, Elisa
Rantanen, Rasmus
Virta, Nea

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Practical study matters

Student feedback



Be active in providing your feedback regarding courses and also the major as a whole



Course feedback is collected after every course and is valuable for course development



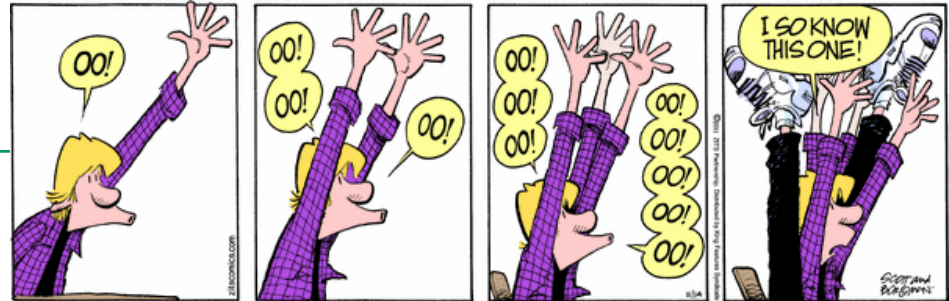
Feedback sessions with students and teachers will be organized

Twice in an academic year.

These sessions are a part of CHEM-E0105 Academic Learning Community course.

Be active and successful student!

- Prepare to study full-time
- Prepare to hear English spoken with Finnish, Indian, Swiss, German, ... accent
- Obey the universities' regulations and statutes
- Follow the curriculum → INTO, SISU, MyCourses
- Read your **aalto.fi e-mails**
- Take responsibility of your studies and be independent
- Can't find information or unsure -> please, ask!
- Participate actively in your courses and challenge your teacher!



In case any problems occur...

Notify your planning officer and your academic advisor immediately of any changes in circumstances which may affect your ability to follow the programme (i. e. you must suddenly leave home for personal reasons etc.)

And if necessary, see a doctor immediately! Not only for your own health and wellbeing, but also because notifications in retrospective (“I was so sick last semester that I couldn’t attend the courses” don’t help).

What's next?

- **Thur 9.9. at 10.00-12.00** IT services and course registration (*compulsory for students from outside Aalto, recommended for Aalto bachelors*)
- **Thur 9.9. at 13.00-15.00** Orientation to Services and Wellbeing, “Service fair” (*intended for students from outside Aalto, optional for Aalto bachelors*)
- **Fri 10.9. at 9:30-10:00** Student union (AYY) introduction (*optional for all*)
- **Fri 10.9. at 10.00-12.00** Q&A - session with Learning Services
- TeekkariLife lecture **~30 min** (*optional for all, you can watch at any time*)

Meeting the academic advisors



In small groups

- Getting to know each other
- Study plan
- Free discussion



In zoom breakout rooms

1. Sandip Bankar
2. Tero Eerikäinen
3. Markus Linder
4. Merja Penttilä
5. Maria Sammalkorpi
6. Silvan Scheller

Welcome to begin your Master Studies at Aalto University !

