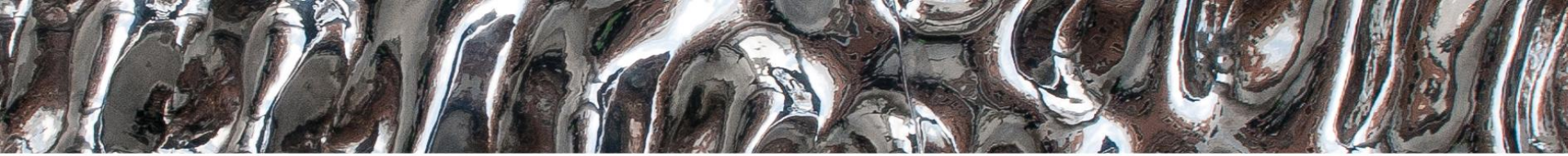

UiO : Department of Informatics
University of Oslo

Informatics: Language Technology

Welcome to the master's program!

Erik Velldal (erikve@ifi.uio.no)

Today's schedule

Information from the program manager

- About the master program, expectations and courses

Information from the student administration

- Practical and study related

Food in the LTG kitchen

Who are we?

- The MSc-program is offered by the Language Technology Group (LTG)
- Do research on a range of different problems in NLP
- Part of the Machine Learning Section (MLS) at IFI
- Offices at the 4.th floor of OJD – same as for the MSc computer room

  - ~~https://x.com/ltgoslo~~
  - https://bsky.app/profile/ltgoslo.bsky.social
  - https://sigmoid.social/@ltgoslo
  - https://www.linkedin.com/company/ltg-language-technology-group
  - https://www.mn.uio.no/ifi/english/research/groups/ltg/

Who are you?

How many from the MSc program in Data Science?

How many have their BSc degree from…

- IFI?
- the Language Technology program at IFI?
- another program at UiO?
- another Norwegian university?
- a university abroad?

The general structure

Course of study

4th semester	Master's thesis	Master's thesis	Master's thesis
3rd semester	Master's course	Master's thesis	Master's thesis
2nd semester	IN5550 – Neural Methods in Natural Language Processing	Master's course	Master's thesis
1st semester	IN4080 – Natural Language Processing	Master's course	Master's course
	10 ECTS credits	10 ECTS credits	10 ECTS credits

- Make sure to carefully read the landing page for the program:
- https://www.uio.no/english/studies/programmes/informatics-language-master/structure/

The general structure

Course of study

4th semester	Master's thesis	Master's thesis	Master's thesis
3rd semester	Master's course	Master's thesis	Master's thesis
2nd semester	IN5550 – Neural Methods in Natural Language Processing	Master's course	Master's thesis
1st semester	IN4080 – Natural Language Processing	Master's course	Master's course
	10 ECTS credits	10 ECTS credits	10 ECTS credits

- 60 credits of thesis work +
- 60 credits of course work
- IN4080 and IN5550 should be taken in order the first two semesters to get a foundation for the thesis work.
- The additional courses in the 2nd and 3rd semester might depend on the thesis topic and will be chosen together with your supervisor.
- The course work has to be completed before the semester where you deliver your thesis.

Which courses should I choose?

- Depends on
  - What you have taken already
  - Your interests
  - Thesis topic
- At least one course has to be chosen from the list of **core courses** to the right
  - (The web page isn't quite updated)
  - Of course, you may choose more than one of them ☺ - it is even recommended
- Up to 20 credits may be chosen from other subjects than informatics.

Autumn courses:

- IN4120 – Search technology
- IN-STK5000 – Responsible Data Science
- IN5490 – Advanced Topics in Artificial Intelligence for Intelligent Systems
- IN4050 – Introduction to artificial intelligence and machine learning
- ~~IN4110 – Problem solving with high level languages~~ (discontinued)

Spring courses:

- IN4060 – Semantic Technologies
- IN4310 – Deep Learning for Image Analysis

Core courses, fall (1:2)

IN4120 – Search Technology

- Recommended if not already part of your BSc. Offered by LTG.
- A great basis for master's projects combining NLP and information retrieval.

IN4050 – Introduction to Artificial Intelligence and Machine Learning

- Recommended if not already part of your BSc.
- Previously a spring class, now running in the fall.
- General and hands-on introduction to ML.

Core courses, fall (2:2)

IN5490 – Advanced Topics in Artificial Intelligence for Intelligent Systems

- This is an advanced course and is not recommended for the first semester
- Consider it for your third semester when you have a background from IN5550
- But accepts a limited number of students, so you are not guaranteed a place!

IN-STK5000 – Responsible Data Science

- Previously “Adaptive methods for data-based decision making”
- Broaden your knowledge in machine learning and data science
- Mandatory in the Data Science master's program
- Assumes some knowledge of probability

Other relevant courses in the fall semester

Depending on background and interests, these can also be recommended:

- LING4120 – Linguistics Specialization on Meaning
- ~~MULTI4110 – Introduction to Statistical Analysis for Language Students~~
  - (discountinued)
- IN4070 – Logic
- FYS-STK4155 - Applied Data Analysis and Machine Learning
- TEK5040 – Deep Learning for Autonomous Systems
  - This assumes some knowledge of deep learning and will fit well in the third semester, after IN5550
  - Given by Department of Technology Systems located off-campus at Kjeller

Core courses, spring

IN4310 – Deep Learning for Image Analysis

- A bit more math-heavy than IN5550
- Recommended to have some knowledge of image processing, e.g. IN2070,
- but not required.

IN4060 – Semantic Technologies

- Ontologies, databases, formalisms for semantic and syntactic reasoning, etc.
- Standards for formal representation and exchange of data
- Not ML/NLP, but a nice complement

Master's thesis and supervision

- During semesters 2–4 you will work on a master's thesis in close cooperation with your supervisor(s). The choice of thesis project and supervisor is important.
- Sep/Oct: LTG will have a meeting where we present available topics. (So will the other research groups.)
- See previous topics here (will be updated for the current cycle later): mn.uio.no/ifi/studier/masteroppgaver/sprakteknologi
- Talk to the potential supervisors and apply for a project of your choice.
- You have to make your decision well before 1 Dec., when it has to be included in your study plan.

The transition from BSc to MSc

- More responsibility and independence
- Need to structure your time wisely
- Biggest challenge for many: writing