Master thesis - Preparatory Meeting

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What you will learn

- Applying knowledge from your courses to **solve a practical real-world problem**.
- **Scientific reasoning** on a problem that has not yet been solved.
- **Communication** with non-statistical commissioners.
- **Short-time comprehension of a problem area**, including previous work.
- **Project planning** in order to keep with the schedule.
- **Compiling** months of work on literature studies, data cleaning, statistical modelling and computer programming into a **comprehensive scientific report**.

A MASTER THESIS IS A COURSE

- Starts in January. Ends in June.
- **Successive deadlines** and **compulsory moments**:
  - Thesis **proposal seminar**
  - **Mid-term report**
  - **Revision meeting** (pre-defense meeting)
  - **Defence seminar**
- You shall act as **opponent** on another thesis and that should be done according to the schedule.
- Course web page `https://www.ida.liu.se/~732A64/info/courseinfo.en.shtml` containing:
  - Timetable for this year
  - Theses from previous years
  - Thesis template files

More info

- Three options:
  - External commissioner (e.g. a company, see `https://github.com/STIMALiU/MasterThesisCourse/tree/master/Proposals/2017/External`)
  - STIMA commissioner (you apply for STIMA issued projects, see `https://github.com/STIMALiU/MasterThesisCourse/tree/master/Proposals/2017/Internal`)
  - STIMA assigns a topic for you (only as last resort, you do not get to choose topic).
- Individual work
- Graded on A-F scale
- A supervisor is appointed from STIMA (and often also at the commissioner)
- An examiner is appointed (not the same as supervisor)
- Circle of opposition (you are not the opponent on your opponent's thesis).

Finding a project

- Each student is responsible themselves for finding a subject proposal by contacting potential commissioners in Sweden or abroad.
- Talk to former students of the program, look at thesis subject from previous years etc.
- Possible commissioners:
  - **Governmental authorities**: SCB (Statistical office of Sweden), Sveriges Riksbank (Sweden's central bank), Hälsouniversitetet (Faculty of Health Sciences, Linköping university), Karolinska institutet (Medical university of Stockholm), VTI (The Swedish National Road and Transport Research Institute, Linköping), Östergötlands landsting (regions health service), SMHI (Meteorological inst, Norrköping)
  - **Private companies**: Ericsson (Stockholm and Linköping), Siemens (Finspång), Scania (Södertälje), Volvo (Gothenburg), Insurance companies (FOLKSAM, If, ...), Autoliv (Linköping), Private banks (Swedbank, Nordea, SEB, Handelsbanken), Start-ups in Mjärdevi Science Park near LiU, Spotify, Google Stockholm etc etc

Finding a project

- Send e-mails, try to contact by phone. Try to avoid personnel departments, try to find specialists.
- Describe yourself as a Master's student in Statistics and Data Mining.
- Emphasize your:
  - deep knowledge in Statistics and Machine Learning
  - abiliy to work with large datasets
  - programming skills
- Contact several commissioners at a time.
- Be clear to the commissioner about:
  - The thesis is 30 credits and **5 months** of intensive work.
  - The level should be **advanced**.
  - **Scientific thesis**. You need to put your work in a scientific context. Previous literature. Analyze **why** your solution works.
  - The **thesis is public**. There might be issues of confidentiality attached to the thesis work. If such issues are too restrictive, you may enter into difficulties. Some data/info can be masked, but not too much.
  - That there should be **enough data** and data of **good enough quality**.

Applying for a STIMA project

- Research-related projects.
- See `https://github.com/STIMALiU/MasterThesisCourse/tree/master/Proposals/2017/Internal` for offered project. This folder will be added to in the coming 7-10 days.
- Apply by sending a short application to the STIMA researcher listed on the project.
- Application should include:
  - Your name!
  - A short CV
  - Explanation why you want to work with the project
  - Describing your competences (courses taken) that especially suitable for the project
- Deadline for applications: Nov 26.