Welcome Event

for Freshers to the Master's Programme

Winter Term 2022/23

The Master in Statistics and Data Science at LMU

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Welcome to the Master Program

It's good to have you here!

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1 Your Master's Degree Programme

2 The Institute; Important Places and Contacts

3 After the Lectures

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Mandatory modules:

Master's thesis (30 ECTS)

Consulting (12 ECTS)

Free Choice

Machine Learning 42 + 9 ECTS

Biostatistics 42 + 9 ECTS

Social Statistics and Data Science 42 + 9 ECTS

Econometrics 42 + 9 ECTS

Methodology and Modelling 42 + 9 ECTS

Free Choice

Mandatory modules:

Statistical Modelling (12 ECTS) Supervised Learning (3 ECTS) Statistical Inference (9 ECTS)
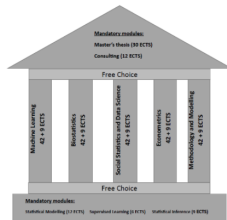
- Beginning in the winter term 2021/22, a new Master's degree program in *Statistics and Data Science* started

- Replacing three old Master's degree programs, all taught in German
- Modernized focus, 5 specialization tracks
- More than ever, open to quantitatively oriented students with no Bachelor in statistics $\implies$ fascinating mix of different backgrounds

The Basic Structure of the Master's Programme
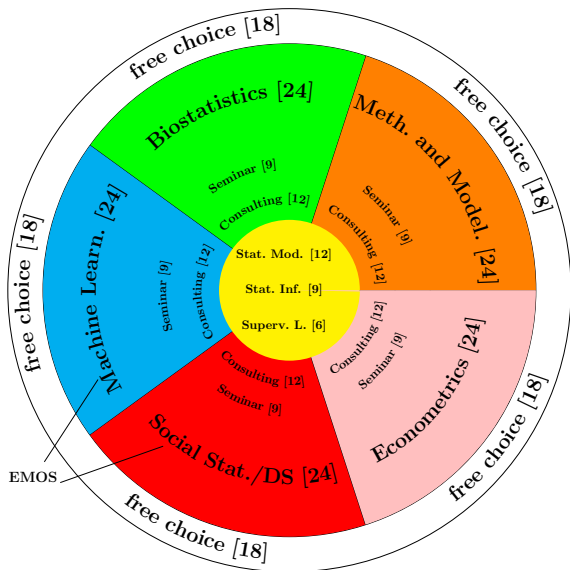
Comments and Tips: Structure and General Aspects

- Everyone has to choose exactly **one** of the five different specialization tracks.

- It is not necessary to choose the track already in the first semester. The track is formally fixed by choosing the seminar.

- Detailed information including exemplary study plans is available at
  https:
  //www.statistik.uni-muenchen.de/studium/studieninfos/
  statistik_im_master/master_statistik/index.html

!! To receive general important (short-term) information from the department register ASAP (at least) for the mandatory courses at the "moodle information forum"
https://moodle.lmu.de/course/view.php?id=6464 !

Comments and Tips: How to Study

- Typical for the German university system: high reliance on self-responsibility
- At least in lectures and exercise classes, there is no duty of personal or virtual attendance at all. How you learn the material is entirely up to you.

- Research is a social process!
- Work together! There is, (at least up to now) no relative marking of exams!
- Make the best out of different backgrounds and strengths!
- Develop your own profile!
- Try to see the big picture! Don't think only module by module! Resist "bulimic learning"!

Important Information for Choosing Courses

- For official information on the contents and other aspects of the single modules, see the "module catalogue" on https://www.statistik.uni-muenchen.de/studium/studieninfos/statistik_im_master/master_statistik/index.html
- **Find the lectures over the homepage:**
  All lectures of the semester are listed under:
  https://www.statistik.uni-muenchen.de/studium/lehrveranstaltungen/master/index.html
- **Find lectures over Moodle:**
  Nearly all lectures are managed over Moodle:
  https://moodle.lmu.de/course/index.php?categoryid=38.
  There you get the lecture materials and lecture-specific information. You can enroll in Moodle in as many courses as you please; only the exam registration at the end of the semester is binding.
- We use the "LSF" (central LMU system) only for room booking and seminar planning (see below). It plays a much more crucial role in some other degree programs (most notably sociology).

Some Further Aspects on (Choosing) Modules

- From a legal point of view, there is no fixed order in which the modules have to be taken.
- All semester numbers given in the study plans etc. are just recommendations.
- The plans are designed such that there are exactly 30 ECTS credits per semester, with the fourth semester fully devoted to the master's thesis. Other divisions of the workload are allowed and may make sense, taking individual interests and circumstances into account.

- A module typically consists of several, closely interrelated, courses (most often: lecture and corresponding exercise class).

- We distinguish between *concrete* and *generic* modules. Concrete modules are regularly offered under their title (e.g., "Statistical Modelling"); generic modules (e.g. "Selected Topics of . . . ") are placeholders for which several courses can be recognized.

Some Practical Aspects

- Most lectures take place in the main building (Geschwister-Scholl-Platz 1).
- Also the building of the Department of Mathematics (Theresienstr. 39) is often used.
- More on the Department's building below
- Rooms at LMU are designated in the form Area-Code (Letter), Floor (Number), Room Number

- "st": exact time, 'ct': add the "academic quarter" (e.g., 10 st= 10.00, 10 ct = 10.15)

- Most important libraries are in Ludwigstr. 28 and in the Math's building
- Electronic access to (a number of) books, many journals, and academic databases, including tutorials on how to use them: https://login.emedien.ub.uni-muenchen.de

Module Examination

- There is one examination per module, typically at the end of the lecture period.

- For every module there will be a retake opportunity within six months.

- A failed module can be repeated as often as the maximal study duration (see below) allows. (Exceptions apply for the thesis and the disputation.)

- To improve the mark assigned, a successfully passed module examination can be repeated the next time the module is offered again. (Exceptions again apply for the thesis and the disputation; improving the mark immediately in the retake exam is not possible.)

- Everyone who is affected has the right to have disabilities and other disadvantages compensated.

- In general, the maximal allowed enrolment time is five semesters plus one semester (thesis module) or two semesters (other modules) to finally complete all modules required.

Comments and Tips: Core Modules

- Attend the compulsory core modules (Modelling, Inference, Supervised Learning) in the first (two) semester(s)! Many lectures build on them!

- A full command of the material for the admission procedure is truly needed. Fill gaps as soon as possible.

- For "Supervised Learning" the content of "I2ML" is an indispensable prerequisite. (An online version of the module is available (https://slds-lmu.github.io/i2ml/). There is also a course for Bachelor's students that can be attended.)

- Currently, all three core modules can be attended in the winter and summer semesters!

- Try to improve your programming skills!

Comments and Tips: Specialication Tracks

- The aim is to bring you close to current research in your area of specialisation.
- All tracks have an internal structure with further requirements on the selection of modules.
- Take the core modules of your specialisation as soon as possible!
- The seminar taken must have been approved for the specialisation track. In addition, the consulting project and the master thesis are expected to fit to your specialisation, too.

An Additional Opportunity: EMOS Certificate

- Students in the "Social Statistics and Data Science" and the "Machine Learning" track, have the additional opportunity to apply for the EMOS certificate (European Master in Official Statistics) awarded by Eurostat (Statistical Office of the European Union) if they fulfill further requirements, namely
    - Modules and the master's thesis topic are chosen in a way fitting to modern official statistics
    - The consulting project is embedded into a practical at an official statistical authority
- Our list of cooperation partners includes
    - Bavarian State Statistical Office
    - German Labor Agency
    - Institute for Employment Research
    - Munich Statistical Office
- Many statistical authorities explicitly refer to the EMOS certificate in their job announcements and call it a "great asset".

The Consulting Module

- Mandatory for all students (special form for EMOS students)
- Project covers the whole statistical process.
- Close cooperation with external partners
- Very high workload (12 ECTS credits), but in retrospect extraordinarily valued by alumni
- Prof. Dr. H. Küchenhoff, Prof. Dr. G. Kauermann, Prof. B. Bischl, Dr. F. Scheipl und Dr. M. Windmann
- Consisting of:
  - participation in the introductory event
  - independent project work and presentation of the results
  - attendance of at least 4 final presentations
- The **introductory event** takes place **only in the winter semester**.
- In principle, a project can be started at any time after attending the introductory lecture – even outside the lecture period.
- For further information (including registration), please visit https://moodle.lmu.de/enrol/index.php?id=3136

The "Studien- and Prüfungsordnung"

- The ultimate reference and the only legally binding document!
- Can be downloaded from the Master's programme main page https://www.statistik.uni-muenchen.de/studium/studieninfos/statistik_im_master/master_statistik/index.html
- For legal reasons the text is available only in German.
- Nevertheless it is worth the effort to have a look at it, in particular at "Anlage 2" (Appendix 2), which contains a formalized study plan: regulations per module and selection rules
- "P" (Pflicht) corresponds to "mandatory", WP (Wahlpflicht) to different options
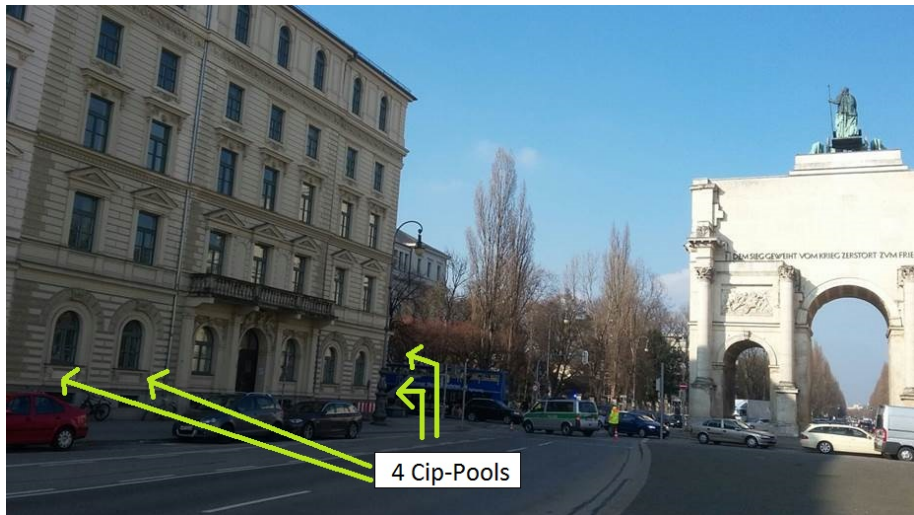- Just ask when you have special questions!
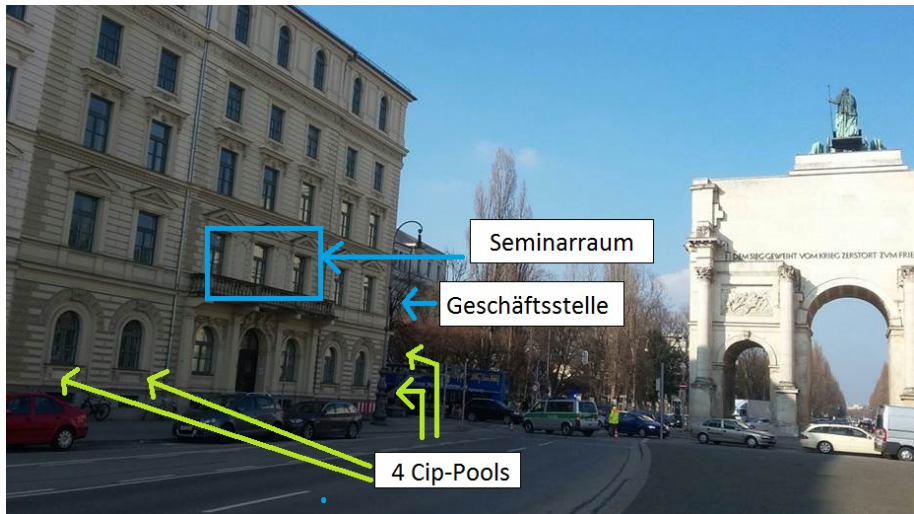
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The Institute of Statistics

The Institute of Statistics

4 Cip-Pools

The Institute of Statistics

Concerning the Covid-Situation

- For this semester mostly face-to-face teaching is planned.
- Specific Information will be available through the modules' Moodle pages

- Further information concerning the LMU is available via `https://www.lmu.de/en/about-lmu/information-regarding-the-coronavirus/index.html`, current department specific information via the "moodle information forum" (`https://moodle.lmu.de/course/view.php?id=6464`, see above)

Important Contacts

- Master programme advisor: Dominik Kreiß
  (dominik.kreiss@stat.uni-muenchen.de)
- Dean of Studies: Thomas Augustin
  (augustin@stat.uni-muenchen.de)
- Head of the examination board: Volker Schmid
  (pav@stat.uni-muenchen.de)
- Examination Office (PANI); the direct PANI contact person at the
  department: Elke Höfner (Kontaktstelle@stat.uni-muenchen.de)
- Erasmus coordinator: Fabian Scheipl
  (erasmus@stat.uni-muenchen.de)

- student council ("Fachschaft",
  fachschaft@stat.uni-muenchen.de)

A Very Brief History of the Department

- Until 1974 member of the Faculty (School) of Government

- 1974/1975 – 2001 Department of Statistics [and Philosophy of Science (until 1993)] in the Faculty of Philosophy, Philosophy of Science and Statistics

- 1979– 2013 Diploma Programme "Statistics" as a major subject

- 1995-2006 SFB (Collaborative Research Centre): Statistical modelling via extended regression models

- 1997– Stablab: Statistical Consulting Unit

- 2001 – in the Faculty of Mathematics, Informatics and Statistics

- 2002 Bachelor-/Master programs in Statistics, from 2007 on exclusively and Bologna-conform

- 2014 – Increasing activities in Data Science
Munich Center for Machine Learning and other large-scale projects

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Master

Institutskolloquium and Masterstammtisch

Institute Colloquium

- Regular date: Wednesday 4 pm in the seminar room (Zoom/Room 144).
- Presentation of research work (internal/external guests)
- Selected talks are now part of the module "Statistical Modelling"

Institutskolloquium and Masterstammtisch

Institute Colloquium

- Regular date: Wednesday 4 pm in the seminar room (Zoom/Room 144).
- Presentation of research work (internal/external guests)
- Selected talks are now part of the module "Statistical Modelling"

Masterstammtisch

- informal meeting point
- once a month
- today directly afterwards

⇒ **try to network and get to know each other**

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We wish you a great start in our Master Program!

$\Omega \quad \pi \quad \Phi \quad \alpha \quad \mu \quad \sigma^2 \quad \lambda$