# Presentation of group discussions at the teacher meeting 2018-11-01

# **1.** Concrete suggestions to improve/simplify the routines and administration for teaching

- Course webpages and learning management systems (Pingpong/GUL and in the future Canvas)
- Reporting exam results and managing bonus points
- or anything else that you find fits the topic

*Group 1. Members:* Jana Madjarova, Alexander Stolin, Jan Stevens, Mårten Wadenbäck, Thomas Wernstål, Elin Göthmark, Ann-Brith Strömberg, Jeanette Montell, Lukas Maly, Elisabeth Eriksson, Martin Hallnäs, Kristina Nyström:

- Some teachers have problems with students mailing a lot of diverse questions.
  - Elin: first homework is to read the whole homepage
  - Non-questions must not be answered
- Ladok3:
  - o "Resultatnotering" (duggor, tentor) will be possible
  - Old courses, there are soooo many columns. Impossible to write on the correct row.
  - "Plussning" is very complicated to register.
  - Is anyone at MV responsible for transferring questions or bug reports to Ladok's support? Stefan! Or a systematic way to collect opinions/feedback.
    - "List of known problems" at "insidan". But "insidan" is also growing continuously
    - A Q&A page where anyone can ask questions and anyone can answer (like Researchgate?). There is such a system in Lund (for math questions). E.g., Piazza.
  - Most of us are "sällananvändare" and the introductory online courses are not very specific. And probably the system has changed when we use it next time.
  - MV's teachers have been told to learn Ladok3, but we think that this should be *optional* (except for attesting).
- It would be practical to put the exams in the time-edit schedule. The (first-year) students do not find all the information.
- Canvas vs. Pingpong: Canvas is (probably) simpler.
  - Would like a function with shortcuts to *my favorite subpages*.

### 2. How do we best introduce new teachers to teaching at the department?

- Concerns everyone including (young) faculty, guest teachers, PhD students and students.
- Both practical issues and pedagogical support

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*Grupp 2a. Members:* Richard Lärkäng, Christian Johansson, Fredrik Olsson, Åse Falander, Umberto Picchini, Samuel Bengmark, Hossein Raufi

#### Needs

- Administration
  - Timeline with list of things to do, access to systems etc. Now you have to ask for it. (Different lists for different PhD and ne employees).
  - List of people to contact.
  - Introduction to systems. Support with systems.
- Teaching in practice
  - What one is expected to do.
  - How to handle hard questions.
  - How to handle email, private life
  - Mentally prepared for when the students stop coming.
- Stress that it is importance of teaching
- Pedagogical development
  - PhD get better att being TA, auscultation
  - How to prepare PhD for course responsibility

#### Suggestions

- For PhD-students
  - Examiner (practical, math, problems),
    - Meet before the course and discussion.
    - Support from examiner during the course.
    - Issues that have come up
    - Come by and get help
    - List, for the examiner, of things to discuss with PhD-student.
  - Supervisor (moral responsibility, work life)
  - Auscultation, by whom?
  - Seminars by experienced teacher for PhD?
- For all new employees
  - Handbook (on non-pedagogical aspects) for the newcomer.
  - Crash-course/meeting, 2-3 hour information for new employees. On demand.
- For less experienced employees, maybe offered to all new employees
  - Assigned mentor (development as teacher)
  - Auscultation by a mentor. How much and what to do has to be clear.

*Grupp 2b. Members:* Laura Fainsilber, Fardin Saedpanah, Henrik Imberg, Katarina Blom, Stig Larsson

Fixed group of mentors who contact new teachers, give some advice and encouragement, and then keep in touch in the beginning. The mentors are available for answering questions about teaching and administration. The mentor should offer to visit lectures or exercise classes and give feedback.

PhD students should be given the opportunity to give a single lecture while being teaching assistant in a course, for example, in the second year, in order to prepare for lecturing a whole course later on.

New PhD students should attend a few lectures in in the first course where they are giving tutorials. This should count as teaching hours.

Lecturers should meet the teaching assistants at least in the beginning of the course and communicate more with them. (Already a written rule.)

# 3. PhD courses

- Should we have basic Ph.D. courses that are given regularly? How many? Which courses?
- Would we need some guidelines for when to count Master's courses (included in the Master's degree) as Ph.D. courses? How many courses can we accept (Chalmers allows 30c)? Should the grade be high enough to be accepted (e.g. 4 at Chalmers and VG at GU)? Should the number of credit points be unchanged?
- Would we need some guidelines for reading courses?

Group 3a. Members: David, Petter, Lyudmila, Petter, Mats, Sunney, Gabrijela, Jakob

The issue of regular PhD courses

- *Background*: Big gap between the "two types" of courses, irregular and regular (which are offered also for MSc), e.g. in terms of prerequisites. Should strive to bridge the gap?
- *Question*: Are there subjects which are not covered in our courses but *should* be covered?
- The leaders of the 3 research groups maybe should decide what courses the students in their school need regularly. Perhaps by looking at the irregular courses and seeing which could be made regular. Also request suggestions from PhD students?
- Critical mass for regular course? 10 students? Or 4-5?
- It would be nice with regular PhD courses to be able to require more prerequisites than what is required for MSc courses (for MSc courses there are incentives to keep the prerequisites low)
- Difficult to plan studies when not known in advance what courses there are

Specific course suggestions:

- Specific suggestions for courses that are missing:
  (1) Advanced Probability, (2) Advanced Inference
- If integration theory is only mandatory for statistics, it should be changed to a probability course... Or maybe there should be one Integration Theory for mathematicians and one Measure Theoretic Probability for statistics

Related issues:

- Why not able to count more than 30 points of previously taken MSc courses? Should we try to make this change? Where do these rules come from?
- Or perhaps 120 points is too much in general?

- Try to have a better system for converting credits from foreign universities? Unfair disadvantage currently for foreign students?
- Idea: for a PhD student to count a MSc course, as a rule they should get at least a 4 (or similar). It would be good to have a fixed rule about this so it is not up to the examiner of the student to decide.

Reading courses:

- Should we require that reading courses have some king of course plan? E.g. which books and chapters to read and which exercises to do
- It would be good to have a data base of such course plans for reading courses so that one can "get an idea" what such courses usually look like, even if there are no "formal requirements" for the structure of a reading course

Grupp 3b. Members: Serik, Johan, Staffan, Bernt, Håkan SK, Jimmy, Anton

- We think we should continue PhD courses given on regular basis. If possible, such courses should be available also for master students
- Examples of broader courses: complex analysis, Dynamical systems, mathematical modeling, advanced PDEs, a mathematical course towards AI, harmonic analysis, mathematical physics, smorgasbord course in mathematics
- However, there are issues concerning financing, availability of teachers, and the number of students
- To get a larger number of students, explore collaboration with other universities
- How seldom can a regular course be given? It would be good if a PhD student has two possibilities to take a course
- We think that the grading system should be the same for PhD students and undergraduate students
- We think that we should accept 30c from the Masters' degree
- For each reading course, there should be a webpage with information about examination and literature...
- We should continue thinking about the number the mandatory of course points

# Group 3c. Members:

Up to 30 Credits of courses taken at the Master's level can used to cover up to 30 Credits total. However, an issue with this is that it could reduce the time that the student has to study (i.e. the time for the PhD is reduced by 6 months). There should be some kind if guidelines for this so that it is transparent to the students and examiners.

For Mathematics, all students are required to take before the licentiate a course in each of these topics:

- 1. Analysis
- 2. Algebra

- 3. Topology and geometry
- 4. Applied mathematics

1. In the area of analysis, students can choose from: Integration theory, functional analysis, distribution theory, complex analysis.

However, these are all master's level courses. Another point is that there is no regularly offered course in complex analysis at the PhD level offered regularly.

In the area of algebra, students can choose from:
 Galois theory, commutative algebra, linear and multilinear algebra.
 However these are also too basic for PhD level.

3. In the area of topology and geometry, students can choose from: higher differential calculus, topology, riemannian geometry.

In the area of applied mathematics: the requirement is very flexible.

We suggest that each research group should give a standard course, every second year. There are 10 research groups: Algebraic geometry and number theory Computational math Biomath and bio stats Harmonic and functional analysis Complex analysis in several variables Mathematical physics Mathematical statistics Optimization Probability theory Pedagogy

Our recommendation is that each research group has a meeting with teachers, researchers and PhD students. Each group creates a course which is offered every-other-year. All PhD students are required to take 5 of these 10 courses. 10 PhD courses per year get teaching hours, and each year there are 5 of these required courses (getting teaching credit). Then there are 5 other courses which get teaching credit as well.

Another reason to do this is so that there is a PhD level course introducing students to all of these areas. For example, there is the problem that PhD courses are offered at such a level where there is no introductory PhD course offered, so it is not possible to get the prerequisite knowledge for the more advanced topic.