

Teaching

Teaching at the University of Halle:

In winter term 2013/14 I am on sabbatical and hence not teaching. For summer term 2014 the current plan is for me to lecture an advanced course on group theory, possibly with exercise classes or a complementing module.

1. Course “Galois theory”, summer term 2013.
2. Seminar “Algebra and number theory”, summer term 2013.
3. Seminar “Group theory in physics and chemistry”, summer term 2013.
4. Course “Representation Theory” with exercise classes, winter term 2012/13.
5. Course “Algebra”, winter term 2012/13.
6. Course “Linear Algebra” for first year students, with accompanying workshops. Winter term 2011/12 and summer term 2012.
7. Course “Groups and Geometries” with lectures and exercise classes, summer term 2011.
8. Algebra Seminar, summer term 2011.
9. One-Day-Workshop “Language and mathematical expression”, 2011.
10. Course “Chamber systems and buildings” with lectures and exercise classes, winter term 2010/11.
11. Number Theory Seminar, winter term 2010/11.
12. Course “Galois theory” with lectures and exercise classes, summer term 2010.
13. Course “Algebra”, winter term 2009/10.
14. Group Theory Seminar, winter term 2009/10.

Teaching at the University of Birmingham:

- Course “Number Theory II”, spring term 2009.
- Course “Number Theory II”, spring term 2008.
For this course I was awarded the **Head of School’s Prize for Excellence in Teaching**.
- Course “Number Theory II”, spring term 2007.
- Course “History and Context of Mathematics (Pure Mathematics)”, spring term 2007.
- Exercise classes “Sequences and Series”, spring term 2007.
- Exercise classes “Number Theory” and “Polynomials, rings and metric spaces” and a master class, autumn term 2005.

Teaching at the University of Kiel (2001-2004):

- Exercise classes “Linear Algebra and Analysis for physicists”,
- Exercise classes “Linear Algebra I, II” (several times),
- Exercise classes “Mathematics for first year students”,
- Exercise classes “Group Theory I, II”.

Other teaching experience, supervision and organisation

- Two students are currently working under my supervision (a PhD project and a Bachelor thesis), with more requests for supervising projects pending.

- In the last few years I have supervised six theses already, on the topics of local group theory for the Odd Order Theorem, base sizes for permutation groups, subgroup lattice theory, prime graphs for finite groups and solving strategies for Diophantine Equations. The next project for a Master's thesis will begin in spring 2014.
- In March 2013 I gave a talk for students at a summer academy on the topic "Symmetry".
- In February 2012 I taught a masterclass on the topic "Diophantine equations" (one week) at the University of Halle.
- In November 2010 I supervised a school student who worked on mathematical problems for two weeks.
- In 2007 I organised working groups with PhD students in Birmingham. One of them was on Fusion Systems, the other one was on recognition problems for finite groups (via involution centralisers).
- In 2005 and 2006 I taught a course for a summer academy for school students (respectively), together with my colleague Lasse Rempe (University of Liverpool).
The course in 2005 was on primality testing and cryptography (and lead to the book [8] in the publications list) and the course in 2006 was on number systems.
- At the "Summer School on Finite Groups and Related Geometrical Structures" in Udine, Italy (2005) I gave lectures on spherical buildings, replacing Richard Weiss.