

## MAT534: SEMINAR REPRESENTATION THEORY OF FINITE GROUPS

### What?

The philosophy is: Groups are symmetries, and symmetries are interesting, but hard. So we want to translate groups into (way easier) algebra. Preferable into linear algebra. This is the main idea behind representation theory, i.e. replace (usually non-linear) groups by their linear shadow (matrices). The seminar follows the book [St12].

### Who?

Bachelor students interested in a mixture of linear algebra and group theory, but everyone is welcome.

### Where and when?

- ▶ Time and date.
  - Every Monday from 13:00–14:45.
  - Room Y27H28, University Zurich, Institute of Mathematics.
  - First meeting: Monday 23.Sep.2019. Last meeting: Monday 25.Nov.2019.
- ▶ Preliminary meeting: Monday 16.Sep.2019, 13:15–15:00, room Y27H28.
- ▶ Website <http://www.dtubbenhauer.com/seminar-fgroups-2019.html>

### Preliminary Schedule.

- ▷ Group representations I. (23.Sep.2019)
- ▷ Group representations II. (30.Sep.2019)
- ▷ Morphisms of representations. (07.Oct.2019)
- ▷ Characters I. (14.Oct.2019)
- ▷ Characters II. (21.Oct.2019)
- ▷ The regular representation. (28.Oct.2019)
- ▷ A few applications I. (04.Nov.2019)
- ▷ A few applications II. (11.Nov.2019)
- ▷ A few applications III. (18.Nov.2019)
- ▷ The symmetric group. (25.Nov.2019)

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### REFERENCES

[St12] B. Steinberg. *Representation theory of finite groups. An introductory approach*. Universitext. Springer, New York, 2012. xiv+157 pp.

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