

Graduate level statistical mechanics - 2018-2

Professor: Gabriel Teixeira Landi

General information

- **Lectures:** Mondays and Wednesdays from 16:00 to 18:00
- **Location:** Auditório Norte.
- **Course website:** www.fmt.if.usp.br/~gtlandi/courses/statmech2018

Contact

- I'm at room 211, Alessandro Volta, Block C.
- Phone: 916776.
- e-mail: gtlandi@if.usp.br
 - Feel free to come to my office to discuss physics anytime.

Grading

Grading will be based on problem sets only (around 4 or 5 during the semester). No exams.

Bibliography

In this course I won't follow a specific book, but I will try to mix a several sources. In the website I will publish some lecture notes which I think will help you navigate through the course. In each set of notes I will specify the books and papers which you should read to complement the lectures.

Mathematica

In this day and age you *must* have access to a good numerical library for simple problems, such as finding eigenvalues, computing numerical integrals and so on. Feel free to use any library you prefer (Maple, Matlab, scipy, etc.), but in this course we will use Mathematica. USP has unlimited Mathematica licenses, so you can install it in any computer you want (even your mom can use Mathematica!).

A list of softwares available at USP can be found at

<http://cetirp.sti.usp.br/atendimento/licenca-de-software/>

To install Mathematica, access

<http://www.cce.usp.br/atendimento/software/mathematicaStudent/>

and follow the instructions. I suggest you sign up on the Wolfram User Portal to get the updates.

Useful sources on how to use Mathematica can be found at

<https://www.wolfram.com/language/elementary-introduction/>

On the website you will also find the library `qulib.nb` which was developed in our group. The library is very simple, but incredibly useful in dealing with the problems we will have to deal in this course. I recommend everyone install it (instructions are given in the Mathematica notebook).