

322 Applied Dynamical Systems

Syllabus

Spring 2022

Class Information

- Lectures are TuTh 12:30-1:50 in M416 in Tech (applied math conference room)
- Professor: Hermann Riecke, Office Tech M458, h-riecke@northwestern.edu

Textbook

The excellent book *Nonlinear Dynamics and Chaos* by S.H. Strogatz is highly recommended. A large fraction of the class material is quite closely related to the book. It is very well written and stimulating. Used versions are available for around \$30.

Note, that the body of the text of the second edition is not really changed from that of the first edition. There are only a few additional, interesting problems in the second edition. A good fraction of the homework will be picked from the book. If you have the first edition, you may want to double-check that you are doing the correct assigned problems.

There are also very good videos of Steve Strogatz's course at Cornell:

https://www.youtube.com/watch?v=ycJEoqmQvwg&list=PLbN57C5Zd16j_qJA-pARJnKsmR0zPn09V

To some extent the covered material overlaps with that of our course, to some extent it is complementary.

Lecture Notes

My lecture notes for this class are available on canvas under Files. For the various topics these notes refer also to the relevant chapters in Strogatz' book and to the relevant videos.

Homework

There will be 7-8 homework assignments, which most times will be due on Thursdays.

Exams

There will be one midterm during regular class hours on May 3.

The final will be at the time assigned to this class by the registrar

Friday, June 10, 3-5pm, in the regular class room.

If you have a **conflict** with the time of the final please **let me know right away**.

Office Hours:

- Our TA will be David Sabin-Miller. He will have office hours *tba*.

Campuswire:

- For any kind of questions (regarding class material, homework,...) we will use campuswire.com. It provides a very good interface for math questions, i.e. it understands latex, and it allows also anonymous questions and responses. We will **not respond to direct email** (except, of course, in private matters), because the discussion of most questions are typically of interest also to students who did not ask the question. Moreover, of course students are also encouraged to answer questions.
To use campuswire you need to respond to the invitation that you will receive to your email address.

Grading: Homework 30%, Midterm 30%, Final 40%

NUHelp:

Please note that help of various kinds are available via the [NUhelp web site](#) and the NUHelp App (for IOS on the Apple App Store, for Android at the [link](#)).

AccessibleNU:

Students who need assistive technology or other accommodations, please, contact [Accessible NU](#).