

PHYS 411 Time Series Analysis - Fall 2026

Instructor: Johannes Gemmrich

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Lectures: 9:30 – 10:20 Tue, Wed, Fri

Office hours: Wed 13:00 – 14:30, or by appointment

Course information: **bright.uvic.ca** Check regularly!

Grading:	Assignments (4):	20%
	Mid term exam1:	14%
	Mid term exam2:	18%
	Class participation:	8%
	Term project:	40%

Late hand in (without previous discussion with me): -10%/day

Text book: The course does not follow a specific textbook. Suggestions for (online) textbooks are listed on the course Brightspace page.

Lecture notes will be made available on the course Brightspace page before each lecture.

Course outline:

- 1) Introduction to time series analysis
- 2) Univariate statistics
- 3) Bivariate statistics
- 4) Time series, correlations
- 5) Data interpolation, gridding
- 6) Fourier series, Fourier transform
- 7) Power spectra estimation
- 8) Data filtering
- 9) Selected topics:
 - Principal component analysis
 - Wavelets
 - Empirical Mode decomposition

Please familiarize yourself with the information posted at ‘Content’ - ‘General’ on the course Brightspace page!