

PHYS 411 Time Series Analysis

Instructor: Johannes Gemmrich

Gemmrich@uvic.ca

Phone 250-472-5573, Bob Wright Building A441

Available for discussion after the lectures, or by appointment

Course information (please check regularly!):

<http://web.uvic.ca/~gemmrich/PHYS411/>

Grading:

Assignments (~5): 50%

Term project: 35%

Computer lab / class participation: 15%

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

Text book: The course does not follow a specific textbook. Suggestions for text books are listed on the course web page.

Material on the course web page

Course outline:

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