CPSC 542g

Scientific Computing

Term II, January-April, 2018
Tuedays and Thursdays, 9:30-11:00, FSC1402.
http://www.cs.ubc.ca/~greif/542G-2018/

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This breadth course will investigate practical computational techniques, concentrating on methods in linear and nonlinear algebra and differential equations. Topics include:

- Introduction to numerical computing
- Linear systems: direct methods
- Least squares problems
- Linear systems: iterative methods
- Eigenvalues and singular values
- Interpolation and approximation
- Ordinary differential equations
- Partial differential equations

Reference: Uri Ascher and Chen Greif, *A First Course in Numerical Methods,* SIAM 2011.

This text can be downloaded from the UBC Library. We are currently working on the next edition.

Prerequisites: Consult us if in doubt.

Work: There will be approximately two assignments and your choice of a course project or a final exam.