

Physics 404/604 Computational Physics

Professor: Stephen Lepp

Time: MW 1:00 - 2:15

Office Hours: MW 2:30 - 3:30

Text: Pang

Course Objectives:

To give the students an introduction to scientific programming.

Projects:

Chapter title

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|----|---------------------------|
| 1 | Introduction |
| 2 | Function Approximation |
| 3 | Numerical Calculus |
| 4 | ODE |
| 5 | Matrix Methods |
| 6 | Spectral Analysis |
| 7 | PDE |
| 8 | Molecular Dynamics |
| 9 | Continuous Systemes |
| 10 | Monte Carlo |
| 11 | Genetic Algorithm |
| 12 | Numerical Renormalization |

Grading:

Projects and Problems 60

Tests 40