PHY 381C COMPUTATIONAL PHYSICS
SYLLABUS
(tentative)

Fall 2019
Unique #: 55060
T-TH 2:00-3:30 p.m., RLM 5.120

INSTRUCTOR: Prof. Alex Demkov, office RLM 13.206, Phone: (512) 471-8560
E-mail: demkov@physics.utexas.edu
OFFICE HOURS: Monday 2-4 p.m. and by appointment

Course web page: https://web2.ph.utexas.edu/classes/demkov/phy381C/

Textbook:

Reference Books:

Grading:
Two in-class midterms: X% each
Two projects: X% each
A project will be used for a final exam: X%

Homework:
A few homework assignments will be given. HW will not be graded.

Languages: MATLAB
Syllabus:

The week of August 25   Lecture 1   Introduction
The week of September 1  Lectures 2&3  Fitting and Interpolation
The week of September 8  Lectures 4&5  System of Linear Equations
The week of September 15 Lectures 6&7  Linear System and Matrices
The week of September 22 Lectures 8&9  Matrix Computation
The week of September 29 Lecture 10   Matrix Computation

October 3, First Midterm

The week of October 6   Lectures 11&12  Numerical Calculus
The week of October 13  Lectures 13&14  Optimization
The week of October 20  Lectures 15&16  Ordinary Diff. Equations
The week of October 27  Lectures 17&18  Ordinary Diff. Equations
The week of November 3  Lectures 19&20  Partial Diff. Equations

November 12, Second Midterm

The week of November 10  Lecture 21  Partial Diff. Equations
The week of November 17  Lectures 22&23  Molecular Dynamics
The week of November 24  Lecture 24  Molecular Dynamics
The week of December 1   Lectures 25&26  Special Topics

November 12, Final Project is announced

December, Final Project is due

Projects (announced September 11):

Project 1 due October 9
Project 2 due November 6