General Physics (II) Course Introduction

Department of Computer Science & Information Engineering

Tzu-Cheng Chao

Mar 1 2018

Course Information

- Lecture Room : 65304

- Schedule: Every Thursday from 3/1 to 6/14

  (3/1 – 4/26) 14:00-17:00 -some lectures may require longer time but will be finished by 18:00

  (5/3-6/14) 14:00- finishing the assignment.

  Midterm Exam: 4/30 18:00 – 21:00
  Final Exam : 6/28 14:00 – 17:00

- Contact: tcchao@mail.ncku.edu.tw (ext.62555)
- Office Hour: by appointmen (CSIE 65C04)

Course Contents

- Website: Moodle for course announcement
- Textbook:
  - A Course in Classical Physics 3 —Electromagnetism by Alessandro Bettini
  - Essential University Physics by Richard Wolfson
  - Computational Physics: Problem Solving with Computers, 2nd ED by Rubin H. Landau et al
  - Computational physics [electronic resource] : simulation of classical and quantum systems / by Philipp O. J. Scherer.

- Reference Book:
  - University Physics by Harris Benson
  - Physics for Scientists and Engineers by Raymond A. Serway and John W. Jewett.
  - Fundamentals of Physics, David Halliday by Robert Resnick and Jearl Walker.
  - The Feynman Lectures on Physics by Richard Phillips Feynman.

Tentative Schedule

	Date	Content
1	1-Mar	Course Introduction + Electric Chages & Field
2	8-Mar	Gauss' Law + Electric Potential
3	15-Mar	Electrostatic Energy and The Capacitor (2pm - 6pm)
4	22-Mar	Electric Current and Electric Ciruit
5	29-Mar	Electric Circuit and Magnetif Field
6	5-Apr	Spring Break
7	12-Apr	Magnetic Field and Magnetif Force
8	19-Apr	Magnetic Induction and Inductance
9	26-Apr	Maxwell's Equations
Midterm	30-Apr	Midterm Exam (18:00 - 21:00)
10	3-May	Understanding How to Program with Numbers
11	10-May	Numerical Differentiation
12	17-May	Numerical Integration
13	24-May	Finding Roots of a nonlinear equation
14	31-May	Systems of Linear Equations
15	7-Jun	Ordinary Differential Equations
16	14-Jun	Simulation of the Classical Dynamic System(2pm - 6pm)
17	21-Jun	No Class (Away for a conference)
18	28-Jun	Final Exam

Grading

- 作業 (20-30%)
  - 前半學期電磁學習題 (0%)
  - 隨堂程式練習 (5%-15%)
  - 程式作業 (10%-15%)
- 期中考(35-40%)+期末考(35-40%)
- 課堂參與 (分數微調用)
  - 提問 & 回答問題
- 課堂出席
  - 三次以上無故缺課，不列入分數調整名單

IMPORTANT NOTICE

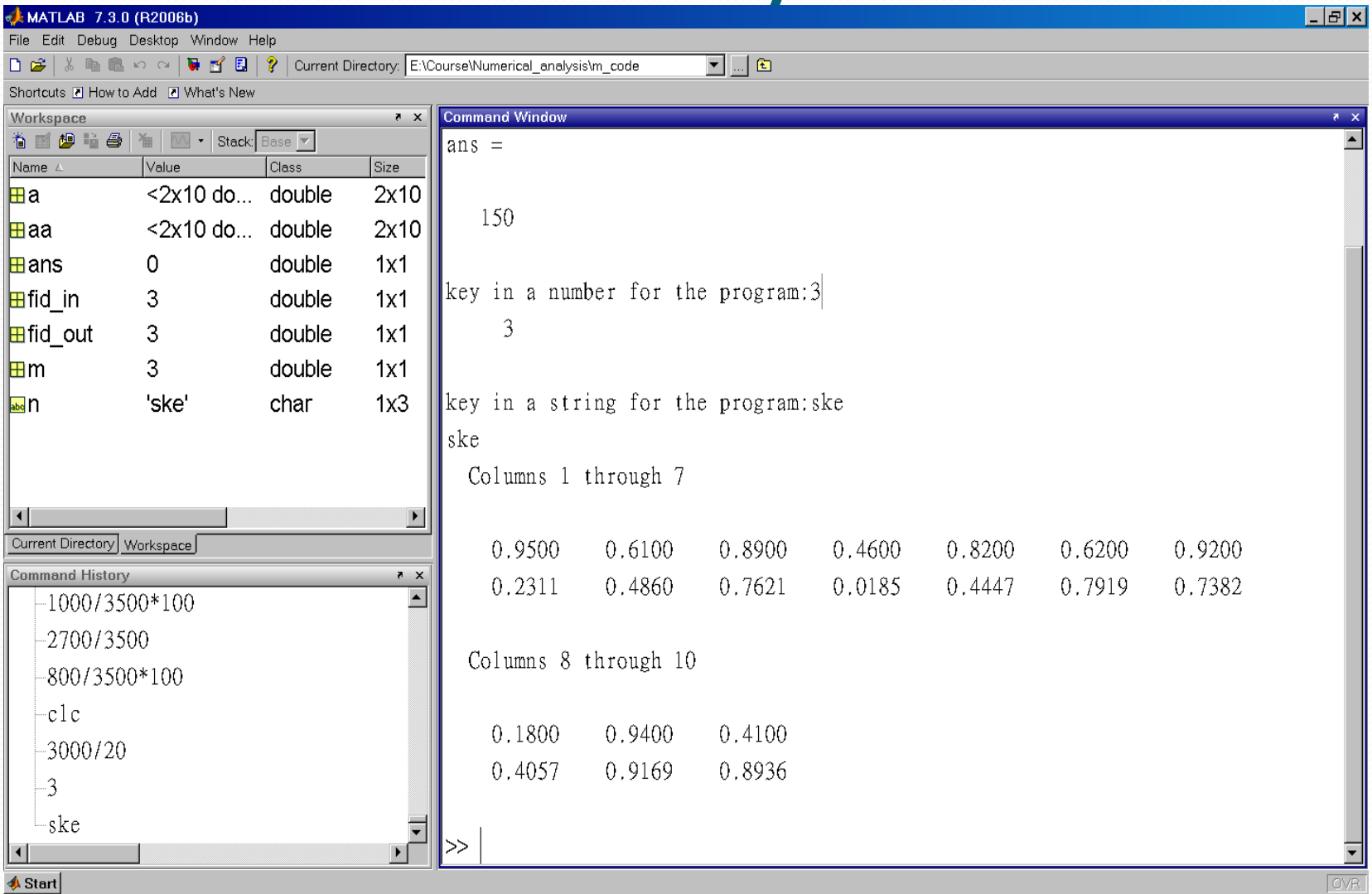
- 作業/程式請勿抄襲
  (疑似抄襲的作業，抄襲與被抄襲者均以零分計算)

- 請遵守考試規定
  - 違反考試一般規定考卷以0分計算
  - 疑似作弊者，學期成績以零分計算並依校規給予大過一次，不得消過。
  - 確認有作弊行為者，學期成績以零分計算並依校規給予大過兩次，不得消過。

Assignment 0

- Install and review Matlab basic functions and commands.
- Download the textbooks for computational physics
- DO NOT distribute the book files

MATLAB default layout



Shape of a Matlab Script