Week	Date	Topics	To-do list of this week
1	1/12	1. Know each other; 2. syllabus; 3. download class materials; 4. Course pack, Cygwin, miniconda, gcc, Linux, and Vi.	1. Read "McNamara-CoursePack-01.pdf" and "McNamara-CoursePack-02.pdf"; 2. Follow "McNamara-SettingUpCygwin.pdf" and install Cygwin (for Windows); 3. Read "install and configure miniconda.pdf" and install miniconda; 4. Read "McNamara-Linux and vi basics.pdf" and practice using the Linux commands and Vi editor. 5. After lecture #1, think about how to write a code to find solution of equations. 6. Homework #1 (due 1/21).
	1/14	1. Setup computers; 2. Lecture #1: Find solution of equations; 3. Handout Homework #1.	
2	1/19	1. Write python code to make plots.	1. Read "McNamara-CoursePack-03.pdf", "McNamara-CoursePack-04.pdf", "McNamara-CoursePack-05.pdf", and "McNamara-CoursePack-06.pdf".
	1/21	1. learn basic C 2. In-class exercise 01	
3	1/26	Learn basic C (loops and conditions);	1. Homework #2 (due 2/4)
	1/28	Write C code to find the solution of equation; EX02	
4	2/2	1. Lecture #2: integration-Rectangle method; 2. EX03	1. Read "McNamara-CoursePack-07.pdf", "McNamara-CoursePack-08.pdf", "McNamara-CoursePack-09.pdf" 2. Homework #3 (due 2/11)
	2/4	1. Integration-Trapezoid method 2. EX04: (trapezoid, loop of n)	
5	2/9	1. Continue EX04 (C function, write data to file, plot data in python) 2. C: string, and read data 3. EX05	1. Homework #4 (due 2/18) 2. Learn and practice Linux commands: Tutorial 1-2 in LINK.
	2/11	1. Simpson's method; 2.EX06	
6	2/16	1. Double-integration; 2. Interpolation	1. Homework #5 (due 2/25) 2. Learn and practice Linux commands: in LINK
	2/18	1. Interpolation; 2. EX07;	
7	2/23	1. C code for interpolation (EX07.c), learn **array, memory control, read from command line, function**	2. Learn and practice Linux commands: in LINK
	2/25	1. review EX07.c	
8	3/2	1. Interpolation for a long series data (linear, quadratic, and cubic interpolation); 2. EX08	1. Homework #6 (due 3/11)
	3/4	1. Review homework 5. 2. Solution of ODEs.	
9	3/9	1. Solution of ODEs: EX09	1. Homework #7 (due 3/18)
	3/11	1. Solution of ODEs	
10	3/16	2^{nd} and 4^{th} -order Runge-Kutta; EX10	1. Homework #8 (due 3/25)
	3/18	Second-order ODEs; EX11	
11	3/23	1. Code to solve 2^{nd} order ODE with Euler; while loop to determine n steps.	1. Homework #9 (due 4/1)

	3/25	1. Finite difference method	
12	3/30	2. Code for Finite difference method	1. Homework #10 (due 4/8)
	4/1	1. Fourie series	
13	4/6	1. Fourie series	1. Homework #11 (due 4/22)
	4/8	1. Discrete Fourier transformation 2. Coding for DFT	
14	4/13		
	4/15		
15	4/20		
	4/22		