ZCE 111 Computational Approach in Physics Learning

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Elearning portal

- All course materials are to be made available in the ZCE 111 elearning portal.
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- Assignment submissions
- Lecture materials
- Asignment materials.
- Coursework grades
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Problem-based learning

- Wil try to make ZCE 111 a problem-based learning process
- Expect to do a lot of self-learning
- Use 'HELP' in Mathematica – this will be your major reference.
- Lecture materials and reference codes are given, and you are expected to write your own lines of Mathematica code to solve physics and mathematical problems.

Linux compute nodes

- Log in to the Linux compute nodes using your username and password.
- We will refer to the computers (PC) in the Rocks Computer Cluster as "compute nodes".

Using Linux Terminal

- In your Linux computer, open a terminal
- Syntax: Use "top" to check out the processes in your compute node (local PC).
- Syntax: Use "hostname" to check out the name your compute node.
- Syntax: Use "whoami" to check out your username.
- Syntax: Use "pwd" to check out your current directory
- Synatx: Use "ls" to check our the names of files and folders in your current directory.

Mathematica installation

- Bring your own laptop to class.
- Due to some reasons, Mathematica license has not been renewed until today.
- So we can't install them legally in the PCs in the computer lab.
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What to do if your compute node hangs?

- Remedy 1: Press ctrl+alt+delete
- Remedy 2: Log in to your node (say compute-0-10 in anicca) from another compute node using your current username. Type "ps – u *username*", where *username* stand for your username (e.g., human2). Then kill off the process you think is causing the problem in compute-0-10 by typing "kill -9 *XXXX*", where "*XXXX*" stands for the process id (e.g., 334320). Alternatively, kill the processes by typing "pkill -9 *process*", where *process* stands for the name of the process you want to kill, e.g., Mathematica or MathKernel.
- Remedy 3: Log in to your node (say compute-0-10 in anicca) from another compute node using your current username. Then type "/usr/sbin/gdm-restart"
- Remedy 4: Yell "SOS".

Acessment

- 100% coursework
- 1 weekly assignment to be submitted
- 2 + 2 hours contact hours per week
- Presentations of assignments by selected students each week. Each will present for 5 mins.
- Presentation is to be arranged in the first 15 mins during Thursday lecture.

Acessment

- Every 2-hour lecture slot will occasionally be ended with an 'on-the-spot exercise' (OTSE).
- A 15-min exercise will be given at the end of each lecture slot. You have to submit them 'on the spot' via online submission to elearning before going back home.

VERY IMPORTANT RULES TO OBEY

- All the pc in the computer lab are used for running research projects by the researchers from computational research groups when the ZCE 111 classes are not being conducted.
- So they must always be switched on 24 hours.

VERY IMPORTANT RULES TO OBEY

- NEVER SWITCH OFF THE PC

- NEVER UNPLUG THE PC's POWER POINT SOCKET

- PLUG OUT ONLY THE MONITOR's POWER POINT SOCKET WHEN YOU WANT TO USE IT FOR YOUR OWN LAPTOPS.