CS6150 – Advanced Programming

- Course Objectives: The objective of this course to learn advanced programming. Initially the focus will be on the ability to solve problems in a structured, and object oriented manner. Ability to build big projects with various team members is an important task. This is course runs in tandem with CS5800 – ADSA.
- Learning Outcomes:
  - Structured programming.
  - Application development using some of the ADTs done in CS5800.
  - Ability to build large software using ideas from object oriented design.
- Lab Content:
  - Platform: Any flavour of linux/unix.
  - Review of problem solving using C.
  - Review of ADT implementation using C++.
  - Advanced programming using C++/Java/python – we will decide based on the assignment.
  - Makefiles and shellscripts
  - Using GNU scientific library, Standard Template Libraries C++, Boost C++
  - Version control of software.
- TA Information:
  - Teaching Assistants (email address): cs6150-tas@googlegroups.com
  - Teaching Assistants:
    * T Anand (cs18d014)
    * Saish Jaiswal (cs20d405)
    * Abhishek Kumar (cs20m007)
    * Aditya Kumar (cs20m009)
    * Anuj Kumar Singh (cs20m013)
    * Athira PT (cs20m016)

    * B Sai Nitish Kumar (cs20m018)
    * Deepak Kumar P (cs20m019)
    * K Niskshith Reddy (cs20m030)
    * Manas Khan (cs20m035)
    * Shubham M R (cs20m064)

    The email address of each of the students (<rollNumber>@smail.iitm.ac.in)
    Every student will be assigned to a specific TA. Every week/alternate week – there will be a lecture by the instructor. Every week, each student has to join the google meet session of the corresponding TA. If there is a lecture s/he has to join the zoom link for the class, and the lab link later. All the links are available on moodle.

- Information for students:
  - Register on Moodle
  - Assignment submission on moodle/turnitin, HackerRank
- Evaluation:
  - Lab evaluation will use HackerRank (or any other platform) + Code Evaluation by TAs.
  - Assignments will be evaluated weekly or biweekly. Occasionally assignment evaluation will be done online via a viva.
  - Collaborative efforts will yield collaborative marks, most cases zero.
  - The weightage for every off-line lab evaluation will be the same (say X).
  - The weightage for on-line lab evaluation will be higher than off-line (1.5X-2X)
- Textbooks:
  - Use the textbooks as given in the theory course CS5800.
  - C – Kernighan and Ritchie
  - C++ – Deitel and Deitel – for beginners
  - Java – Deitel and Deitel – for beginners
  - C++ – B Stroustrup
  - Java reference manual – online

- Python – online tutorials are excellent.
- Scripting – online examples, examples done in class.
- Makefile – O'Reilly Associates – The Makefile, notes on moodle.

Homily: Honesty is assumed. Let us make this a course where all of us learn together happily.