CS3523: Operating Systems-II

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Lecture 0

Tentative Syllabus

- *What is OS? History of OS? OS Structure*
- *System Calls, System Programming*
- *Process and Thread Management: Processes, Inter Process Communication, Threads, Scheduling*

  Concurrency, Synchronization, Deadlocks
- *Memory Management: Memory allocation, Paging, Virtual Memory*
- *I/O: Storage devices, File systems*
- *Protection and Security*
- *Virtualization and Cloud*
- *OS Design, Case Study on Linux/Android, Windows 10*

Reference Theory Books

- Operating Systems: Principles and Practice by Thomas Anderson and Michael Dahlin, 2nd Edition, Recursive Books, 2015.
- Operating System Concepts by Abraham Silberschatz, Greg Gagne, and Peter B. Galvin, 8/9th Edition, Wiely Publication.
- Operating Systems: Design and Implementation by Andrew S. Tanenbaum and Albert S.Woodhull, 3rd Edition, Prentice Hall.
- Modern Operating Systems by Andrew S. Tanenbaum and BOS, 4th Edition, Pearson, 2014.

Reference Linux/Unix Books

- Linux System Programming: Talking Directly to the Kernel and C Library by Love, Robert
- The Linux Programming Interface: A Linux and UNIX System Programming Handbook by Kerrisk, Michael
- Linux Kernel Development (3rd Edition) by Love, Robert
- Advanced Programming in the UNIX Environment (3rd Edition) by Stevens, W. Richard
- Check out Unix/Linux Reference Books in the Library

Administration

- Teaching Hours (Room): A-LH2
  - Mondays: 2:30 to 4pm
  - Thursdays: 4 to 5:30 pm
- CSE Teaching Lab (A-219)
  - Tuesdays: 2:30 to 5:30pm
  - Bring your own laptops
- TAs
  - Maruthi S Inukonda (PhD)
  - Veerendra Kumar Gautam (PhD)
  - Venkatrami Reddy (PhD)
  - Madhukar Mishra (M.Tech)
  - A few B.Tech TAs (TBA)

Administration: Website

- Google Classroom: https://classroom.google.com/u/0/c/NDg2MDc5MTAyMzha

Code: tncbqx5

  - The one-stop place for course info, announcements, lecture material
  - Assignments are to be uploaded here

- Gradiance OS-II website

http://www.newgradiance.com/services/servlet/COTC

  - Online Homework assignments and tutorials
  - Gradiance Help: http://www.newgradiance.com/services/servlet/COTC?Command=Help
  - Register with IITH Email ID and enroll into OS-II class:

Class Token: 7AC700BE

Grading Policy (Tentative)

CS3523:

- Labs/Assignments: 40%
- Tutorials/Quizzes: 50%
- Attendance (classes and lab sessions): 10%

Academic Dishonesty Policy

- Submitted work should be your own
- Plagiarism detection s/w MOSS to check CODE similarity
- Acceptable collaboration:
  - Clarify problem, syntax doubts, debugging strategy
- Dishonesty has no place in any community
  - May NOT be in possession of some other Group's project
  - May NOT copy code from another group or Internet!
  - May NOT copy in lab and term exams
- Penalty
  - If found guilty of copying assignments (high similarity in submitted assignments), both copy-er and copy-ee will get <0 Marks
  - Serious cases like stealing others work/cheating in lab and term exams → FR Grade
  - A note is also sent to Dean Academic Office