

Course Summary: ICS 2305 System Programming

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The Unit ICS 2305 System Programming revolves around the following items

- 1. Process Management** – Process creation, process priorities , process types such as Zombies etc ; deleting processes, forking processes
- 2. File management** – how to create files in unix, directories (creation, copying ,Assigning permissions etc) , reading and writing in files (text manipulation etc)
- 3. Memory Management** – Memory allocation (malloc), dealloc, free, calloc etc ; Memory violations and how they occur ...The heap and stack memory management
- 4. Output/ input redirection Pipes** and how to handle them etc
- 5. Signals and their actions** and how they are handled , sockets etc
- 6. User Management** – adding users, deleting users , giving user permissions on files

The materials are abundant online such as

<https://www.doc.ic.ac.uk/~wjk/UnixIntro/Lecture7.html>

is a good start point

The course involves writing C programs to execute this aspects and also writing shell programs for unix commands .

Note : For writing unix commands , we usually need editors such as

1) nano / pico

2) vi

3) emacs

We have added an easy to follow tutorial on how to deal with these aspects on unix environment named GOOD STEP BY STEP UNIX TUTORIAL

<http://www.ee.surrey.ac.uk/Teaching/Unix/unixintro.html>

Or use this <https://www.doc.ic.ac.uk/~wjk/UnixIntro/>

We have also added a summary of all the point 1-4 in form of powerpoint slides with sample programs for those who are busy and cannot go through the cookbook and other text books .

If one can handle the aspects 1-6 , You can consider yourself successful in Systems Programming

In case of any challenge write an email to us via email or post a note to us on the Piazza

We wish you well and stay safe