CSE-3111: Computer Network Lab
[1.5 credits, 45 Hours Lab]

Every Sunday, from 8:30am to 11:10am in Room 706 (Gr. A) and Room 707 (Gr. B)

Marks Distribution (50)

Continuous Assessment	20
Midterm Exam	8
Lab Attendance	5
Lab Reports	5
Final Project (Report, Presentation, Defense)	12

Sl. No.	**Content of Lab Experiment**
1	Lab exercises on LAN Configuration and Troubleshooting Tools (Ping, Traceroute, ARP, Static Routing, Netstat, Ifconfig, nslookup, whois, etc.)
2	Introduction to Socket Programming using Java — Exercises on simple client-server communication
3	Socket Programming — Exercises on fault-tolerant communication in between client and server processes (e.g. implementation of exactly-once semantics)
4	DNS Name resolution (Multi-tier) using UDP Client-Server processes
5	Simple File Transfer between HTTP Web SERVER and Client machines using TCP socket
6	MID EXAM
7	Simulation of TCP Tahoe Connection Behavior (Slow-Start and Congestion Avoidance)
8	Simulation of TCP Tahoe Connection Behavior (Slow-Start, Congestion Avoidance and addressing timeout cases)
9	Simulation of TCP Reno Connection Behavior (Slow-Start, Congestion Avoidance, addressing timeout and triple duplicate acknowledgement cases)

10	Simulation of a Distance Vector Routing Algorithm (with/without link and node failures)
11	Simulation of a Link State Routing Algorithm (with/without link and node failures
12	Project planning and proposal submission
13	Project analysis, development and implementation
14	Project report submission, presentation and evaluation
15	Project report submission, presentation and evaluation

Except experiment 1, all other activities will be in groups (Two students make a group)

Preferred Language : Java [Python is also acceptable]