CMPT 471 - D100 Networking II

Instructor(s): Qianping Gu

Calendar Objective/Description:
This course covers the fundamentals of higher level network functionality such as remote procedure/object calls, name/address resolution, network file systems, network security and high speed connectivity/bridging/switching.

Instructor's Objectives:
Covers in depth the operating protocols which surround TCP/IP in the Internet protocol suite, in a Linux operating system environment. Assignments and lab work will be related to the operation and administration of a network using Internet protocols.

Prerequisites:
CMPT 300 and 371.

Topics:
- Overview of Linux O/S
- Internet basics, underlying network technologies, IP, ICMP, UDP, TCP
- Address/name resolution, ARP, DHCP, NDP, DNS
- Creating route for packet delivery, RIP, OSPF, BGP, IP switching, MPLS, SDN
- Multicasting, IGMP
- Network virtualization, VPN, NAT, overlay networks
- Network security technologies, secret-key/public-key encryptions, digital signature, firewall
- Internet security, PGP, SSL, IPsec, LAN security

Grading:
Assignments 25%, midterm 25%, final 50% (tentative).

Students must attain an overall passing grade on the weighted average of exams in the course in order to obtain a clear pass (C- or better).

Required Books:

Academic Honesty Statement:
Academic honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty will be handled in accordance with the SFU Academic Honesty and Student Conduct Policies (http://www.sfu.ca/policies/gazette/student.html).