



Course Introduction

Mouli Sankaran

Focus

- Course Introduction
 - Broad Course Coverage
 - Internal Evaluation Components
 - Textbooks
 - References

Course page where the course materials will be posted
as the course progresses:



Course Introduction

Course Details

- **Course Name:** Network Security
- **Course Code:** CS3403
- **Credits:** 4 (3-0-2: L-T-P)
- **Theory classes**
 - 3 lectures per week
- **Lab classes**
 - 2 Hours per week
 - Using the network lab with L2 and L3+ switches
 - Cisco Packet Tracer and other software tools will also be used
- **Course Lead**
 - Prof. Chandramouleeswaran Sankaran (Mouli)
- **Faculty**
 - **Section A:** Prof. Sheba Pari
 - **Sections B and C:** Prof. Chandramouleeswaran Sankaran (Mouli)

L: Lecture hours T: Tutorial hours P: Practical hours per week

Broad Course Coverage

Refer
course design doc or
the course page
for more details.

- New advanced topics in the field of computer networks and network security.
- Working principles of TCP, including flow control, connection management, state transitions, congestion control, etc.
- Routing protocols such as RIP and OSPF, including Routing domains, Autonomous systems.
- Border Gateway Protocol (BGP), IP Multicast, IGMP, MPLS, VPN etc.
- Real-time Transport Protocol, RTCP, Mobile IP, SDN.
- QoS, Resource reservation protocols, differentiated service
- Cryptographic algorithms and cyber security essentials.
- Introduction to network defense tools: Firewalls, VPNs, Intrusion Detection, and filters - Email privacy: Pretty Good Privacy.
- DNS security- Secure Socket Layer and Transport Layer Security.

Internal Assessment Plan

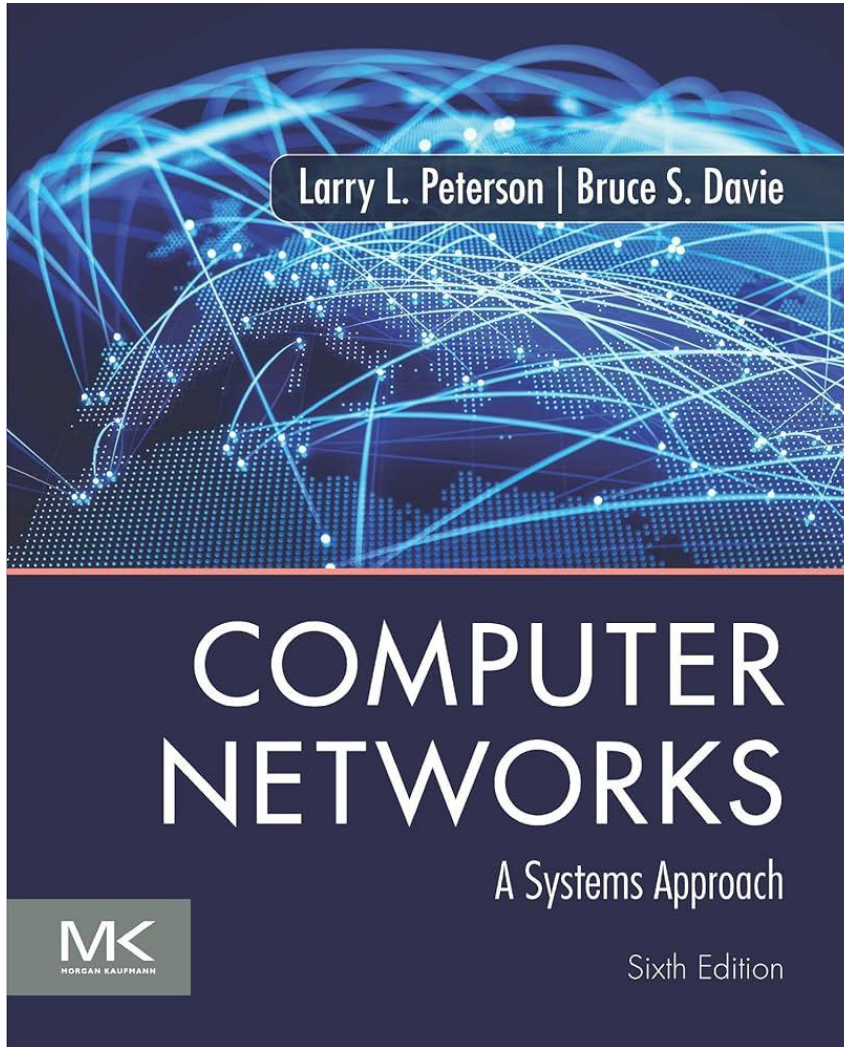
Internal Assessment Plan: 70 Marks				
Sl#	Component	Marks	Type of Assessment	Timeline
Continuous Internal Evaluation -1 (20 Marks)				
1	CO1	10	Graded Component 1 (Theory)	Week 3
2	CO2	10	Assignment1- 8 marks IBM Skill dev – 2 marks	Week 5
Continuous Internal Evaluation - 2 (25 Marks)				
3	CO1 - C04	25	Mid Sem Examination (Theory)	Week 9
Continuous Internal Evaluation - 3 (25 Marks)				
4	CO1 - CO5	10	Practical Component – Lab Assignments	Week 14, 15
		15	Mini Project	



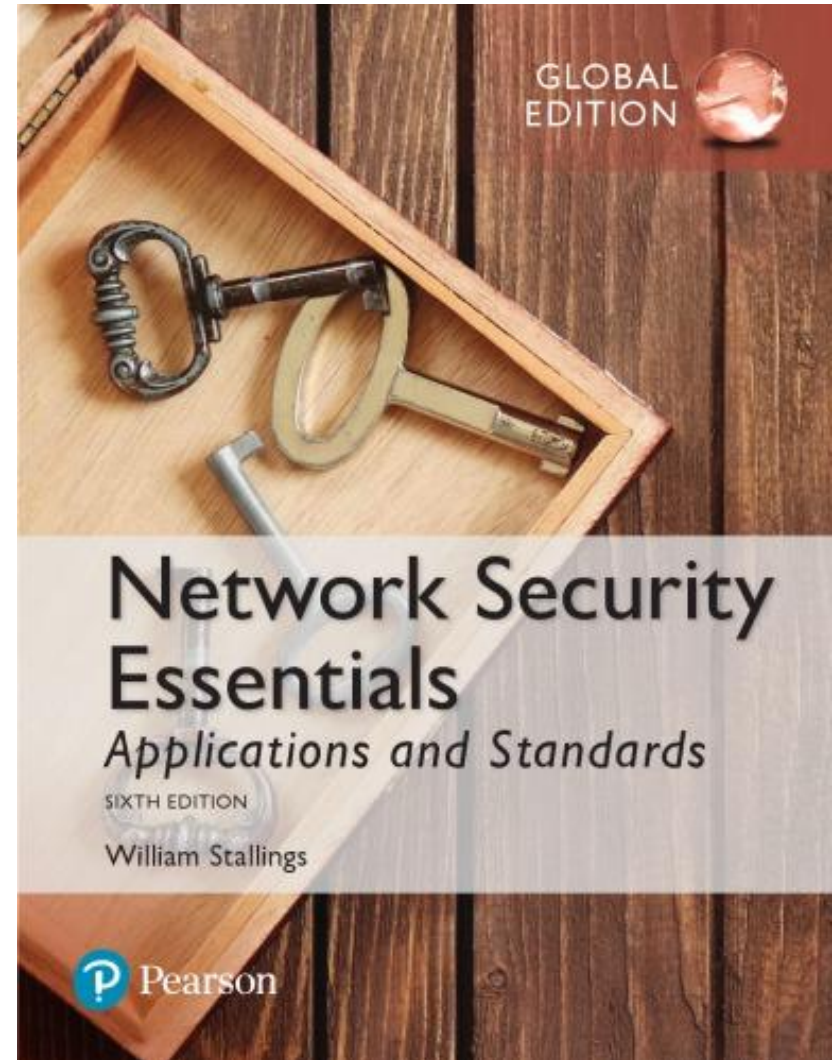
Reference Books

Textbooks

Textbook 1

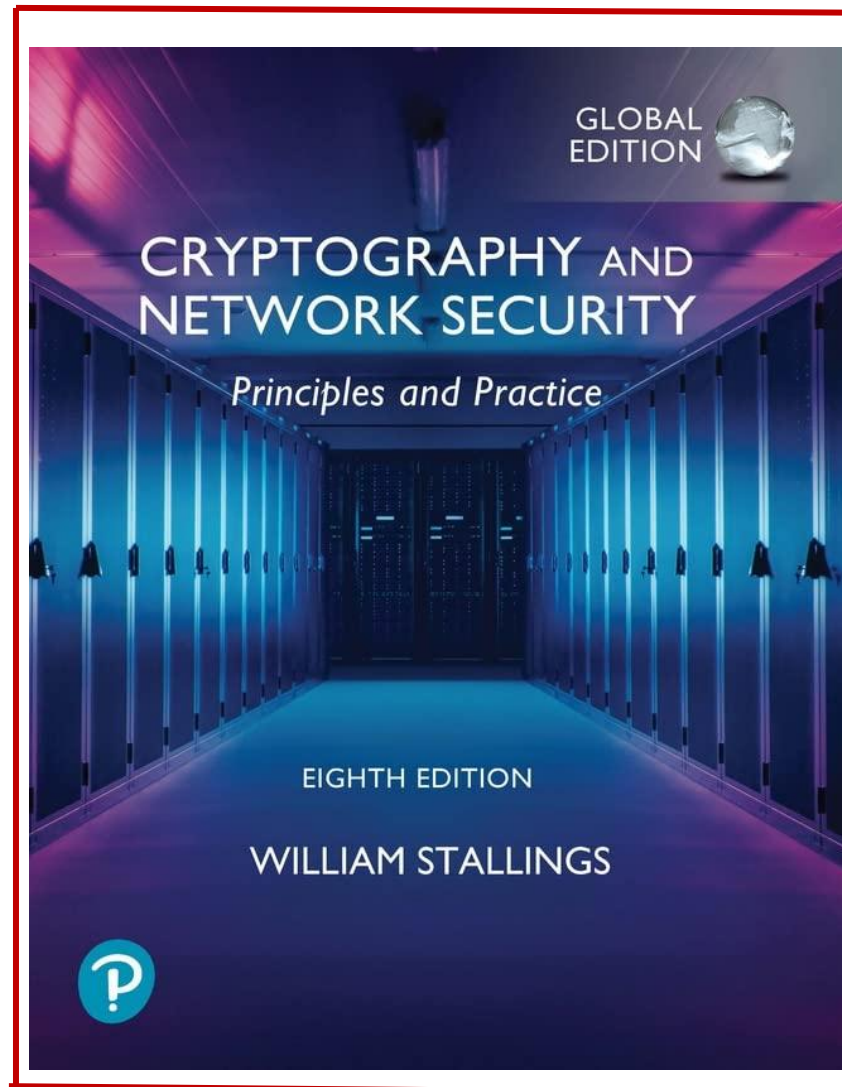


Textbook 2



Text Books

Textbook 3



References

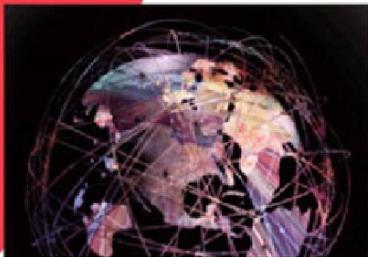
Ref 1

Ref 2

TCP/IP Illustrated, Volume 1

The Protocols
SECOND EDITION

Kevin R. Fall
W. Richard Stevens



ADDISON-WESLEY PROFESSIONAL COMPUTING SERIES

TCP Congestion Control: A Systems Approach

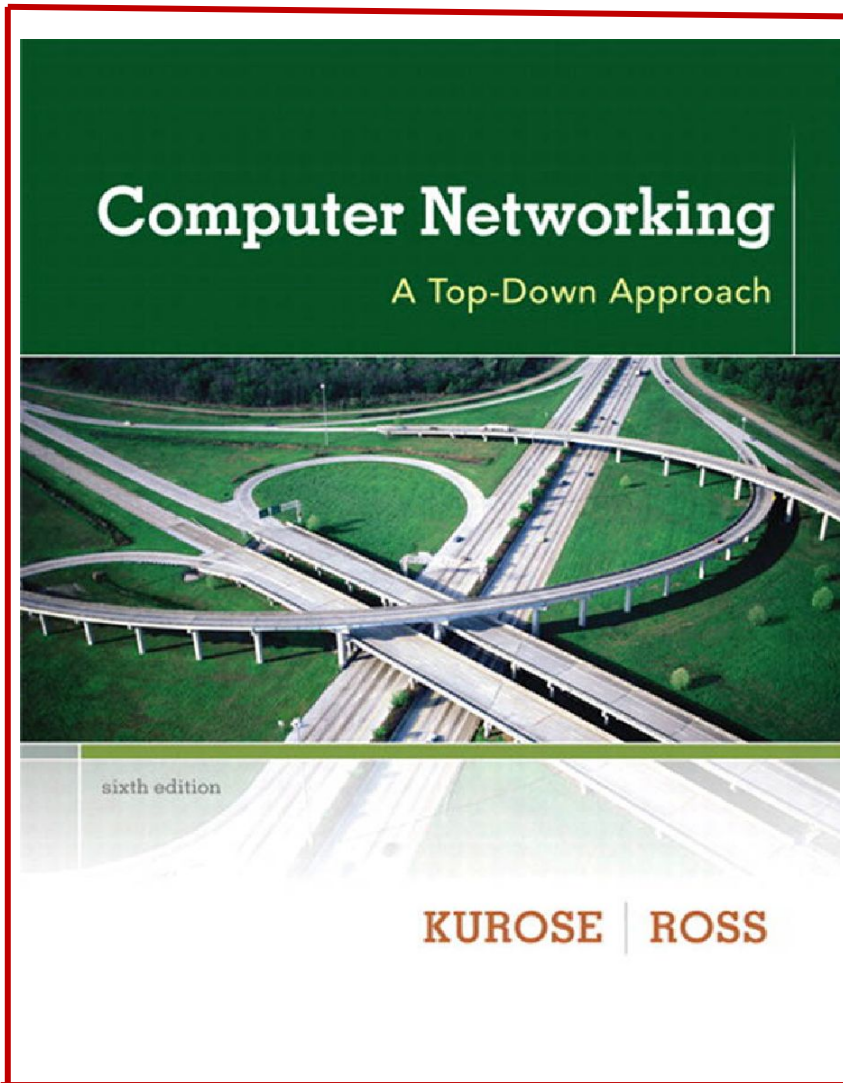


TCP Congestion Control: A Systems Approach

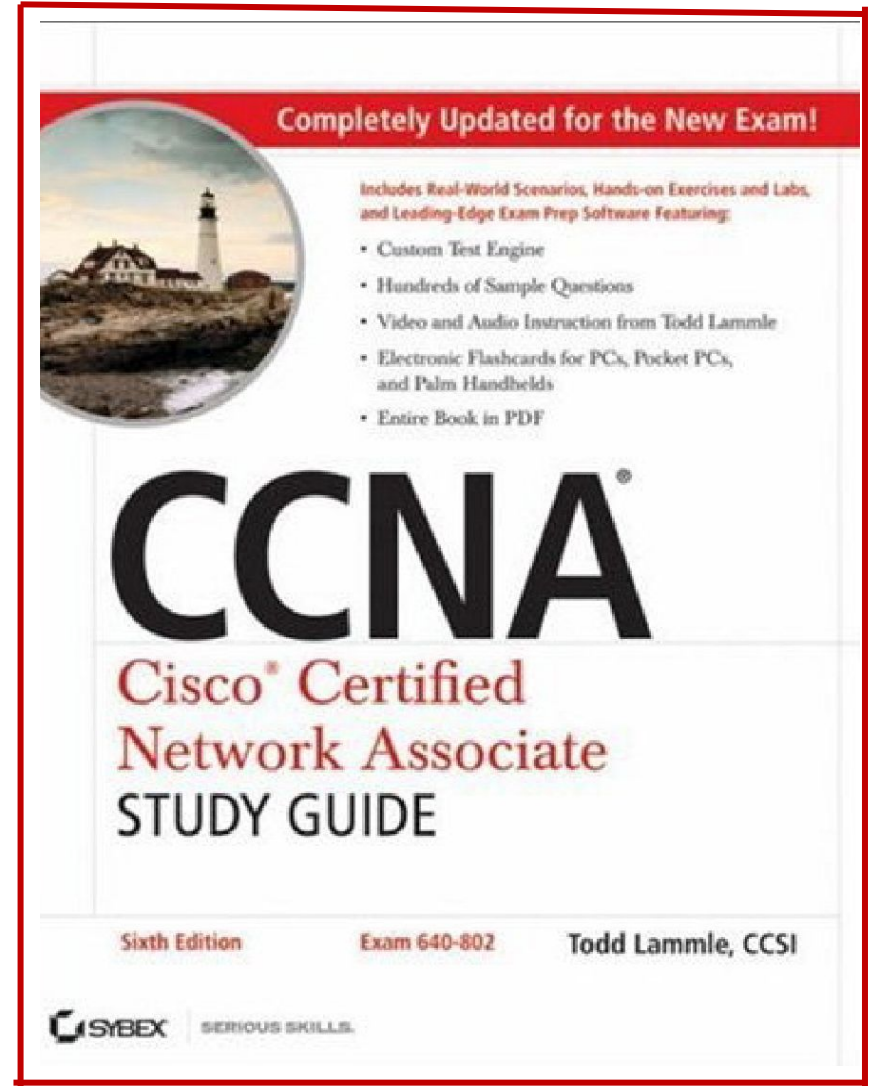
Peterson, Brakmo, and Davie

References

Ref 3



Ref 4



Summary

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