《计算机网络》

课程论文要求与建议选题

1. 建议的论文主题见表 1。

   表 1 为建议的论文主题，不是论文题目。论文题目可以根据主题自行拟定。

2. 格式和字数：

   格式见《计算机网络课程论文模板》，字数至少 4000 字。

   请使用 MS Word 2010 或以上版本编写论文。不接受其他格式。

3. 语言

   中文、英文均可。

4. 选题

   每个行政班的每位同学从上述选题中各选择一个主题，**每人撰写一篇课程论文。**

   同一个行政班同学的论文选题不能重复（具体由班级内部协调）。

   若不同行政班同学选择的是同一主题，论文内容不得雷同，否则按作弊处理。

   可以自拟选题，但必须与授课教师沟通，由授课教师确认。

5. 参考文献

   至少 5 篇，且必须在正文中标明引用。

6. 提交

   在截止日期前、按要求提交到乐学课程网站。

7. 论文查重

   论文会进行查重，查重结果影响最终成绩评定。

表 1　Suggested Course Paper Topics

No.	Topic
	Chapter 2　The Physical Layer
1	Passive Optical Network – PON(EPON/GPON)
2	Orthogonal Frequency Division Multiplexing - OFDM and its application to 4G/5G
	Chapter 3　The Date Link Layer
3	PPP Password Authentication Protocol (PAP)
4	PPP Challenge Handshake Authentication Protocol (CHAP)
5	Point to Point Protocol PPP over Ethernet (PPPoE)
	Chapter 4　The MAC Sublayer
6	Spanning Tree Protocol(STP), Rapid RTP (RSTP) and/or Multiple Spanning Tree (MST)
7	IEEE802.1ad : Provider Bridges (PB) (Q-in-Q)
8	IEEE802.1ah : Provider Backbone Bridge (PBB) (MAC-in-MAC)
9	Wireless Security Protocols (WEP, WPA and WPA2/802.11i)
10	Wireless Network Architectures and Protocols
11	VxLAN Technology
	Chapter 5　The Network Layer
12	Multicast OSPF (MOSPF)
13	Distance Vector Multicast Routing Protocol (DVMRP)
14	Ad hoc On-demand Distance Vector (AODV)
15	Optimized Link State Routing Protocol (OLSR)
16	Principle of ARP Spoofing and Protecting Method
17	Software-Defined Network (SDN)
18	OpenFlow-Based SDN Technologies
19	NAT Traversal Mechanisms for Peer-To-Peer Application
20	IPv6 Addressing Architecture
21	Methods for IPv4-IPv6 Transition
22	IPTV
23	Virtue Private Network (VPN)

No.	Topic
24	Multi-Protocol Label Switching (MPLS)
25	4G, 5G, and Future Mobile Communication Technologies
26	IP Security
	Chapter 6 The Transport Layer
27	TCP SYN Flooding Attacks and Common Defenses
28	New Reno TCP Congestion Control
29	Vegas TCP Congestion Control
30	Friendly TCP Congestion Control
31	Real-time Transport Protocol/Real-time Transport Control Protocol (RTP/RTCP)
32	Multipath TCP
33	Delay(Disruption) Tolerant Network (DTN)
34	Transport Layer Security
	Chapter 7 The Application Layer
35	DNS Spoofing and its Defense Scheme
36	Methods for Identifying and Filtering Junk Mail or Spam
37	Distributed Hash Table (DHT)-based P2P System
38	Dynamic Adaptive Streaming over HTTP (DASH)
39	Real Time Streaming Protocol (RTSP)
40	Real Time Messaging Protocol (RTMP)
41	Named Date Networking (NDN)
42	Information-Centric Networking (ICN/CCN)
43	Application-layer multicast
44	Block-Chain Technology
45	Live video streaming technology
46	Live video streaming software and platforms
47	Data Center Network Architectures
48	Internet of Things (IoT)
49	Sensor Networks

No.	Topic
50	Bluetooth Networking Topologies
	Huawei Kunpeng Cloud Topic（华为鲲鹏与云计算。强烈建议）
51	OpenEuler OS- Network
52	OpenEuler OS- Cluster
53	Network Architecture of OpenStack
54	Huawei Kunpeng Cloud
55	Huawei Hyper-Converged Infrastructure (HCI)