熊本高等専門学校	開講年度	平成28年度 (2016年度)	授業科目	通信工学

科目基礎情報

科目番号	0013	科目区分	専門 / 選択
授業形態	授業	単位の種別と単位数	学修単位: 2
開設学科	制御情報システム工学科	対象学年	4
開設期	通年	週時間数	1
教科書/教材	Head First Networking(Al Anderson, Ryan Benedetti,OREILLY)Internetworking with TCP/IP Volume One: Pearson New International Edition6th Edition		
担当教員	嶋田 泰幸		

到達目標

Students will be able to understand/explain
1. concepts of computer networking.
2. TCP/IP layer mode
3. how DHCP/DNS works
4. network security threats

ルーブリック

	理想的な到達レベルの目安	標準的な到達レベルの目安	未到達レベルの目安
Local Area Network	Understand concept of Local Area network and build a LAN in labs.	Understand concept of Local Area network.	Cannot understand concepts of computer networking.
DHCP	Understand concept of DHCP and how DHCP server works, transactions on networking, and set up a DHCP server.	Understand concept of DHCP and how DHCP server works.	Cannot understand concept of DHCP and how DHCP server works.
Web	Understand how web server works, transactions on networking, and set up a web server.	Understand how web server works.	Cannot understand how web server works.

学科の到達目標項目との関係

本科（準学士課程）での学習・教育到達目標 2-1 本科（準学士課程）での学習・教育到達目標 3-2 本科（準学士課程）での学習・教育到達目標 3-3

教育方法等

概要	The subject covers fundamental concepts of networking techniques and TCP/IP which is a computer network protocol for computer networking. Especially, this subject focuses on a basic concept of computer network structure. The subject aims to introduce fundamental concepts of computer network structure and TCP/IP protocol. It will also equip students with the necessary skills to control network flow.
授業の進め方・方法	Students have to attend not only classes but also labs. In the lab, students are requested to do several tasks whichhel students to understand topic that lecture talk in class.
注意点	In the second semester, a staff of affiliated/partner institution will be invited to Kumamoto College and will conduct labs in English. The lab s will be conducted intensively from the beginning of October to mid of October.

授業計画

		週	授業内容	週ごとの到達目標
前期	1stQ	1週	Introduction to computer networking(1)	Students will be able to describe the concept of computer networking.
		2週	Network protocol and the concept of TCP/IP(1)	Students will be able to know the importance of network protocol and TCP/IP.
		3週	Network protocol and the concept of TCP/IP(2)	Same as above.
		4週	Layer structure(1)	Students will be able to describe network layer structure.
		5週	Layer structure(2)	Same as above.
		6週	IP and network address	Students will be able to describe the importance of IP protocol to control network flow.
		7週	Mid-term test	The aim of this mid-term test is to assessing students' understandings.
		8週	IP and network address(2)	Students will be able to describe the importance of IP protocol to control network flow.
	2ndQ	9週	TCP and UDP(1)	Students will be able to describe role of TCP and UDP.
		10週	TCP and UDP(2)	Same as above.
		11週	Routing(1)	Students will be able to describe how to control network flow.
		12週	Routing(2)	Same as above.
		13週	DNS(1)	Students will be able to explain the functions of Domain Name Server/Service.
		14週	DNS(2)	Same as above.
		15週	Secure system	Students will be able to know a secure computer networking system.
		16週		
後期	3rdQ	1週	Lab(1)	Students will be able to build a LAN.
		2週	Lab (2)	Same as above.

		3週	Lab (3)	Students will be able to check if the LAN is active or not using special commands on a computer.
		4週	Lab (4)	Same as above.
		5週	Lab (5)	Students will be able to set IP address individually.
		6週	Lab (6)	Same as above.
		7週	Lab (7)	Students will be able to check if firewall works or not.
		8週	Lab (8)	Same as above.
	4thQ	9週	Lab (9)	Students will be able to set up a DHCP server.
		10週	Lab (10)	Same as above.
		11週	Lab (11)	Students will be abl to set up a Web server.
		12週	Lab (12)	Same as above.
		13週	Lab(13)	Students will be able to build a wireless network.
		14週	Lab (14)	Same as above.
		15週	Complerensive Lab	The aim of this lab is to assessing students' understandings.
		16週		

モデルコアカリキュラムの学習内容と到達目標

分類	分野	学習内容	学習内容の到達目標	到達レベル	授業週

評価割合

	試験	発表	相互評価	態度	ポートフォリオ	その他	合計
総合評価割合	40	0	0	0	0	60	100
基礎的能力	0	0	0	0	0	0	0
専門的能力	40	0	0	0	0	60	100
分野横断的能力	0	0	0	0	0	0	0