Tsuyama College		Year	2020		Course Title	Communications Protocol

Course Information

Course Code	0140		Course Category	Specialized / Elective
Class Format	Lecture		Credits	Academic Credit: 2
Department	Department of Integrated Science and Technology Electrical and Electronic Systems Program		Student Grade	5th
Term	Year-round		Classes per Week	1
Textbook and/or Teaching Materials	Textbook: 井上直也他「マスタリングTCP/IP―入門編―（第6版）」(Ohmsha), Reference book: W.リチャード スティーブンス「詳解TCP/IP〈Vol.1〉プロトコル」(Pearson education)			
Instructor	SORI Hitoshi,OKADA Tadashi			

Course Objectives

Learning purposes:
Learn about the typical communications protocols used in the real world by reading rigorous technical documents from the textbook and understanding the systemic behaviors of the protocols.

Course objectives:
1. To be able to imagine the systemic behavior belonging to the typical communications protocols.
2. To gain experience understanding rigorous technical writings.

Rubric

	Excellent	Good	Acceptable	Not acceptable
Achievement 1	The student can imagine the systemic behavior of all protocols taught.	The student can imagine the systemic behavior of a sufficient number of protocols.	The student can imagine the systemic behavior of a minimum number of the protocols.	The student cannot imagine the systemic behavior of a minimum number of the protocols.
Achievement 2	The student understands most textbook content.	The student understands a sufficient amount of the content in the textbook.	The student understands a minimum amount of the content in the textbook.	The student does not understand even a minimum amount of the textbook content.

Assigned Department Objectives

Teaching Method

Outline	General or Specialized: Specialized Field of learning: Information systems, Programming, and Networks Required, Elective, etc.: Elective must complete subjects on network programming course. Foundational academic disciplines: Informatics / Information science, Information engineering, and related fields Relationship with Educational Objectives: This class is equivalent to "(3) acquire deep foundation knowledge of the major subject area". Relationship with JABEE programs: the main goal of learning /education in this class is "(A)." Course outline: Learn about the typical communications protocols in the real world by reading rigorous technical writing in the textbook and understanding these systemic behaviors of the protocols.
Style	Course method: In this class, students' comprehension is evaluated by the quality of their presentations and ability to answer questions. Grade evaluation method: Exam(60%) + presentation (20%) + reports(20%) Exams is conducted 4times and it is equally evaluated. Exam precautions are the following: * No student materials allowed, * Re-exams will be conducted if necessary.
Notice	Precautions on the enrollment: This class is "Required outside of teaching hours course study." Therefore, this course consists of 15 unit-hours of teaching and fifteen unit-hours of homework per one-unit. The student should deal with the homework based on guidance of the teacher. Course advice: In recent years, students seem to have less literacy regarding technical documents. However, this ability is essential to keeping a job in the ever-changing business world after graduation. The documents on communications protocols are a fit subject to exercise this ability. Foundational subjects: Basic Information Networks (2nd year), Advanced Information Networks (4th), Communication Engineering (4th) Related subjects: Information System Analysis (5th year) Attendance advice: If you are late up half of one period, you are treated as late for the class. If you are more than half of one period late, you will be treated as absent. Liaison faculty: Hitoshi SORI, Communication and Information System Program

Course Plan

				Theme	Goals
1st Semester	1st Quarter	1st		Guidance	The student can explain the educational objectives
		2nd		Foundational knowledge of the network, 1st week [Background of the computer network emergence / 7 levels for the development of computer and network]	The student can explain the background of computer network emergence and the protocol.

		3rd	Foundational knowledge of the network, 2nd week [Layering of protocols, Communication method, Elements of the network / Who protocol define?]	The student can explain the layering of protocols, communication method, and the elements of the network.
		4th	Foundational knowledge of TCP/IP, 1st week [the background and history of TCP/IP / TCP/IP standardization / Foundational knowledge of Internet]	The student can explain the background and standardization of TCP/IP.
		5th	Foundational knowledge of TCP/IP, 2nd week [hierarchical model of TCP/IP protocols / TCP/IP hierarchical model / An communication example of TCP/IP model]	The student can explain the hierarchical model and communication example of TCP/IP.
		6th	Data link layer, 1st week [The role and technologies on the data link layer / About wireless communication / About Ethernet]	The student can explain the role and technologies of the data link layer, and wireless communication.
		7th	Data link layer, 2nd week [About PPP / About other data link protocols]	The student can explain the PPP and other protocols on the data link layer.
		8th	(1st-semester mid-term exam)	
	2nd Quarter	9th	Return and commentary of exam answers.	Confirm the comprehension from the beginning to the mid-term exam.
		10th	IP protocol, 1st week [About the protocol on Internet layer / IP address and routing control / Foundational knowledge of IP]	The student can explain the foundation of IP, IP address, and routing control.
		11th	IP protocol, 2nd week [About the partitioning/reconfiguring of IP / About the header of IPv4 and IPv6]	The student can explain the partitioning/reconfiguring of IP and IPv4/IPv6.
		12th	Technologies related to IP, 1st week [Abount DNS / About ARP]	The student can explain DNS and ARP protocol related to IP.
		13th	Technologies related to IP, 2nd week [About ICMP / About DHCP]	The student can explain ICMP and DHCP protocol related to IP.
		14th	TCP and UDP [The role of the transport layer / TCP and UDP]	The student can explain the role and difference of TCP and UDP.
		15th	(1st-semester final exam)	
		16th	Return and commentary of exam answers	Confirm the comprehension of this class.
2nd Semester	3rd Quarter	1st		
		2nd		
		3rd		
		4th		
		5th		
		6th		
		7th		
		8th		
	4th Quarter	9th		
		10th		
		11th		
		12th		
		13th		
		14th		
		15th		
		16th		

Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	60	20	0	0	20	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	60	20	0	0	20	0	100
Cross Area Proficiency	0	0	0	0	0	0	0