

Tsuyama College		Year	2020		Course Title	Network Security	
Course Information							
Course Code		0087		Course Category		Specialized / Elective	
Class Format		Lecture		Credits		Academic Credit: 2	
Department		Department of Integrated Science and Technology Communication and Informations System Program		Student Grade		4th	
Term		Second Semester		Classes per Week		2	
Textbook and/or Teaching Materials		Introduction to Security (Informatics&IDEA)					
Instructor		TERAMOTO Takayuki					
Course Objectives							
Learning purposes : This course provides an overview of network security, including its technical mechanisms. In addition, specific attack methods and defenses are also studied with examples.							
Course Objectives : 1. Explain the elements of network security and their importance 2. Be able to explain the basics of network security and the importance of network security. 3. Be able to explain in detail the mechanisms for detecting and analyzing attacks. 4. Explain the future of network security.							
Rubric							
	Excellent		Good		Acceptable		Not acceptable
Achievement 1	Be able to specifically explain the elements of information security and their importance.		Explain the elements of information security and the concepts of its importance.		To be able to give examples of the elements of information security and their importance.		Does not meet the requirements of the left.
Achievement 2	Explain in detail the basic knowledge necessary to ensure information security.		To be able to give an outline of the basic knowledge necessary to ensure information security.		To be able to give examples of basic knowledge necessary to maintain information security.		Does not meet the requirements of the left.
Achievement 3	Explain in detail the mechanism for detecting and analyzing information security attacks.		Explain the concept of mechanisms for detecting and analyzing information security attacks.		An example of a mechanism for detecting and analyzing information security attacks can be given.		Does not meet the requirements of the left.
Achievement 4	Be able to explain the future of information security in detail.		Provide an overview of the future of information security.		An example can be given of the future of information security.		Does not meet the requirements of the left.
Assigned Department Objectives							
Teaching Method							
Outline	General or Specialized : Specialized Field of learning : Information Systems, Programming and Networking Required, Elective, etc. :Elective must complete subjects Foundational academic disciplines : : Information science, computer engineering, and related fields / Information security-related Relationship with Educational Objectives : (3) Acquire deep foundation knowledge of the major subject area Relationship with JABEE programs : The main goals of learning / education in this class are "(A) ..., A-2: ...". Course outline : In the first semester, students learn about general information security. In the second semester, students learn about specific methods of attack, defense methods, and related laws.						
Style	Course method : The class will be taught mainly on the board, using a textbook. Related technologies are also explained in addition to the textbook, if necessary. Exercises will be given to deepen students' understanding Grade evaluation method : The results of the two regular exams will be weighted (60%, Latter Middle: Latter End = 1:1). Students are not allowed to bring their own notes for each examination. Students who have scored less than 60 points in each examination may have their scores changed if their understanding is confirmed through make-up exams and retests. However, the score after the change will not exceed 60 points. Evaluation is based on exercises and reports (40%). Translated with www.DeepL.com/Translator (free version)						
Notice	Precautions on the enrollment : Students must take this class (no more than one-fifth of the required number of class hours missed) and earn the credit in order to complete the 4th year course. Course advice : Check the meanings and definitions of the terms in the textbook and understand them correctly. Solve the examples and the exercises at the end of each chapter to make sure that you understand the contents of the textbook. Foundational subjects : Fundamentals of Integrated Science and Technology(1st year), Information Literacy(1st year), Basic Information Networks(2nd year) Related subjects : e-Business(5th year), Information Security(4th year) Attendance advice : In addition to the basic knowledge, students are expected to learn about communication devices and wireless devices used in modern society. Tardiness will be dealt with in one-quarter (=0.5) of the class time.						
Course Plan							
			Theme		Goals		
2nd Semester	3rd Quarter	1st	Guidance		Understand the overview of the lecture.		
		2nd	Cybercrime on the Rise The Growing Underground Market		Understanding cybercrime and the underground marketplace.		
		3rd	Malware Computer Virus		Understanding the existence of malware and computer viruses.		

		4th	Downloader Dropper	Understanding the existence of downloader-droppers.
		5th	Rootkit Worm	Understanding the Rootkit Worm.
		6th	Trojan horse Botnet	Understanding the existence of a Trojan horse/botnet.
		7th	Spyware Ransomware	Understanding the existence of spyware and ransomware.
		8th	midterm examination	midterm examination
	4th Quarter	9th	Return of late midterm exams and answer explanations	Understand the questions and answers for the second semester midterm exam.
		10th	Fake Security Software Fishing	Understanding Fake Security Software Phishing Techniques.
		11th	Illegal document Password Stealer	Understanding the methods of the rogue document password stealer.
		12th	Marbatizing Drive-by download	Understanding the Marbatizing Drive-By Download Methodology.
		13th	Watering hole attack Man in the Middle (MitM) Man in the Browser (MitB)	Understand the Waterhole Attack, Man in the Middle (MitM) and Man in the Browser (MitB) methods.
		14th	DDoS attack	Understand Distributed Denial-of-Service (DDoS) attack techniques.
		15th	final exams	final exams
		16th	Return of the late final exam and explanation of the answers	Understand the questions and answers to the late final exam.

Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	60	0	0	0	40	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	60	0	0	0	40	0	100
Cross Area Proficiency	0	0	0	0	0	0	0