

Akashi College		Year	2024		Course Title	Microcomputer	
Course Information							
Course Code	6232			Course Category	Specialized / Compulsory		
Class Format	Lecture			Credits	Academic Credit: 2		
Department	Electrical and Computer Engineering			Student Grade	2nd		
Term	First Semester			Classes per Week	2		
Textbook and/or Teaching Materials	Keitaro HORI, Illustrated PIC Microcomputer Practice 2nd Edition, Morikita Publishing Co., Ltd.						
Instructor	NOMURA Hayato						
Course Objectives							
(1) Understand the configuration and operating principles of computers. (2) Understand the basics of the assembler language and can perform basic programming. (3) Can create a control program using assembler language.							
Rubric							
	Ideal Level		Standard Level		Unacceptable Level		
Achievement 1	Fully understand the configuration and operating principles of computers.		Understand the configuration and operating principles of computers.		Do not understand the configuration and operating principles of computers.		
Achievement 2	Fully understand the basics of assembler language and can fully perform basic programming.		Understand the basics of assembler language and can perform basic programming.		Do not understand the basics of assembler language and cannot perform basic programming.		
Achievement 3	Can create an efficient control program using assembler language.		Can create a control program using assembler language.		Cannot create a control program using assembler language.		
Assigned Department Objectives							
Teaching Method							
Outline	Students will understand the basics of computer architecture and learn assembler programming techniques using microcomputers.						
Style	The class will be taught by explaining basic matters in accordance with the textbook. Programming using assembler language will involve exercises using actual devices in addition to lectures.						
Notice	This course's content will amount to 90 hours of study in total. These hours include the learning time guaranteed in classes and the standard self-study time required for pre-study / review, and completing assignment reports. Students who miss 1/3 or more of classes will not be eligible for a passing grade.						
Characteristics of Class / Division in Learning							
<input checked="" type="checkbox"/> Active Learning		<input checked="" type="checkbox"/> Aided by ICT		<input type="checkbox"/> Applicable to Remote Class		<input checked="" type="checkbox"/> Instructor Professionally Experienced	
Course Plan							
			Theme		Goals		
1st Semester	1st Quarter	1st	Microcomputer basics		Can explain microcomputer basics.		
		2nd	How to do radix conversions		Can explain how to do a radix conversion.		
		3rd	The basics of logical operations		Can explain the basics of logical operations.		
		4th	Hardware configuration of a PIC microcomputer		Can explain the hardware configuration of a PIC microcomputer.		
		5th	Assembler language basics, flowchart basics		Can explain the assembler language basics and flowchart basics.		
		6th	Assembler programming exercise 1 (how to create a program)		Can explain how to create a program using the assembler language.		
		7th	How to create a timer program		Can explain how to create a timer program.		
		8th	Midterm exam				
	2nd Quarter	9th	Behaviors of subroutines		Can explain the behaviors of subroutines.		
		10th	Assembler programming exercise 2 (I/O control)		Can create I/O control programs.		
		11th	Assembler programming exercise 3 (timer program basics)		Can create a timer program.		
		12th	Pulse motor basics		Can explain the pulse motor basics.		
		13th	Assembler programming exercise 4 (application of timer programs)		Can create an applied timer program.		
		14th	Assembler programming exercise 5 (pulse motors)		Can create a pulse motor.		
		15th	Assembler programming exercise 6 (advanced program)		Can create an advanced program.		
		16th	No final exam				
Evaluation Method and Weight (%)							
	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Exercises	Total
Subtotal	50	0	0	0	0	50	100

Basic Proficiency	10	0	0	0	0	10	20
Specialized Proficiency	40	0	0	0	0	40	80
Cross Area Proficiency	0	0	0	0	0	0	0