

Akashi College		Year	2023	Course Title	Practice on Mechanical Engineering II A
Course Information					
Course Code	5231		Course Category	Specialized / Compulsory	
Class Format	Practical training		Credits	School Credit: 1	
Department	Mechanical Engineering		Student Grade	2nd	
Term	First Semester		Classes per Week	2	
Textbook and/or Teaching Materials					
Instructor	KATOH Takahiro,OHMORI Shigetoshi,SHI Fenghui				
Course Objectives					
(1) Can carry out exercises based on procedures and instructions. (2) Can use the equipment and devices correctly. (3) Can report in writing, orally, etc. (4) Can carry out exercises by working together as a group. (5) Can acquire basic knowledge and skills in mechanical engineering. (a) Understand the types and constructions of engines, and can use hand tools correctly to disassemble and assemble an engine. (a) Understand how NC machine tools work and can create an NC program. (c) Understand the control methods of various motors, and can assemble motor driver circuits, and operate robots.					
Rubric					
		Ideal Level	Standard Level	Unacceptable Level	
Achievement 1		Can fully carry out exercises based on the instructions and procedures provided.	Can carry out exercises based on the instructions and instructions provided.	Cannot carry out exercises based on the instructions and instructions provided.	
Achievement 2		Can use equipment and devices sufficiently and correctly.	Can use equipment and devices correctly.	Cannot use equipment and devices correctly.	
Achievement 3		Can report sufficiently in writing, orally, etc.	Can report in writing, orally, etc.	Cannot report in writing, orally, etc.	
		Can carry out exercises by working together as a group while encouraging other members.	Can carry out exercises by working together as a group.	Cannot carry out exercises by working together as a group.	
		Understand the types and constructions of engines, and can use hand tools correctly to disassemble and assemble an engine.	Understand the types and constructions of engines, and can use hand tools correctly to disassemble and assemble an engine.	Do not understand the types and constructions of engines, and cannot use hand tools correctly to disassemble and assemble an engine.	
		Understand how NC machine tools work and can create an NC program.	Understand how NC machine tools work and can create an NC program.	Do not understand how NC machine tools work and cannot create an NC program.	
		Understand the control methods of various motors, and can assemble motor driver circuits, and operate robots correctly.	Understand how to control various motors, and can assemble motor driver circuits, and operate robots.	Do not understand how to control various motors, and cannot assemble motor driver circuits, and operate the robot.	
Assigned Department Objectives					
Teaching Method					
Outline	Deepen basic exercises and provide applied exercises. Understand basic technology through the organic relationship between processing theory and practice, develop work processes for rational work, and develop creative abilities.				
Style	We will carry out basic exercises after safety education, For basic exercises, students will split into six groups and carry out different assignments in turn. In addition, we will go on a factory tour to deepen knowledge of production methods.				
Notice	In exercises, students may be concerned with the shape of the product, its appearance, and the progress of other groups. Always keep the purpose in mind, try to work correctly, and try to grasp the essential things. Students who miss 1/3 or more of classes will not be eligible for evaluation.				
Characteristics of Class / Division in Learning					
<input type="checkbox"/> Active Learning		<input type="checkbox"/> Aided by ICT		<input checked="" type="checkbox"/> Applicable to Remote Class	<input type="checkbox"/> Instructor Professionally Experienced
Course Plan					
			Theme	Goals	
1st Semester r	1st Quarter	1st	Safety education (Katoh and Omori)	Can work safely on various machines	
		2nd	Engine exercise I-1 (Omori)	Understand the basic use of hand tools and the structure and type of engine.	
		3rd	Engine exercise I-2 (Omori)	Understand the basic use of hand tools and the structure and type of engine.	
		4th	Engine exercise II-1 (Omori)	Can explain the difference between a two-cycle engine and a four-cycle engine.	
		5th	Engine exercise II-2 (Omori)	Can explain the difference between a two-cycle engine and a four-cycle engine.	
		6th	NC exercise I-1 (Katoh)	Understand how to program and can create an NC program.	
		7th	NC exercise I-2 (Katoh)	Understand how to program and can create an NC program.	

		8th	Factory tour	Can Deepen your knowledge and insight of production systems and production management.
	2nd Quarter	9th	NC exercise II-1 (KatoH)	Understand how to operate the MC and can create an NC program.
		10th	NC exercise II-2 (KatoH)	Understand how to operate the MC and can create an NC program.
		11th	Motor control exercise I-1 (ohnishi)	Understand how to control various motors, and can assemble the motor driver circuit.
		12th	Motor control exercise I-2 (ohnishi)	Understand how to control various motors, and can assemble the motor driver circuit.
		13th	Motor control exercise II-1 (ohnishi)	Can control the speed of movement of the robot using the motor driver circuit.
		14th	Motor control exercise II-2 (ohnishi)	Can control the speed of movement of the robot using the motor driver circuit.
		15th	Factory tour (KatoH and Omori)	Can Deepen your knowledge and insight of production systems and production management.
		16th	No final exam	

Evaluation Method and Weight (%)

	Examination	Report	The work	Behavior	Total
Subtotal	0	60	20	20	100
Basic Proficiency	0	0	0	0	0
Specialized Proficiency	0	60	20	20	100
Cross Area Proficiency	0	0	0	0	0