

Akashi College		Year	2023	Course Title	Manufacturing Engineering Practice I B
Course Information					
Course Code	5132		Course Category	Specialized / Compulsory	
Class Format	Practical training		Credits	School Credit: 1	
Department	Mechanical Engineering		Student Grade	1st	
Term	Second Semester		Classes per Week	2	
Textbook and/or Teaching Materials	Hand outs				
Instructor	KATOH Takahiro,OHMORI Shigetoshi				
Course Objectives					
(1)To conduct practical training based on instructions and procedure manual (2)Can use correctly the equipment and machinery (3)Can make written and spoken reports. (4) To conduct practical training in cooperation with the group.. (5)To can acquire basic knowledge and skills related to mechanical engineering. (a)Understand the basics and precautions of lathe work and to perform basic turning work. (b)Understand the basics and precautions of milling work and perform basic cutting work. (c)To disassemble and assemble machines using tools correctly. To understand the correct use of tools and the mechanism of vehicles through disassembly and assembly an automobile.					
Rubric					
	Ideal Level		Standard Level		Unacceptable Level
Achievement 1	The student can fully practice based on the procedure manuals and instructions prepared in advance.		The student can practice based on the procedure manuals and instructions prepared in advance.		The student can not practice based on the procedure manuals and instructions prepared in advance.
Achievement 2	The student can correctly well use the equipment and machinery.		The student can correctly use the equipment and machinery.		The student can correctly not use the equipment and machinery.
Achievement 3	The student can elaborate understandable written and oral reports.		The student can elaborate written and oral reports.		The student can elaborate not written and oral reports.
Achievement 4	The student can conduct practical training while cooperating in the group and encouraging others.		The student can conduct practical training while cooperating in the group.		The student can not conduct practical training while cooperating in the group.
Achievement 5 (a)	The student can use welding accurately.		The student can understand the basics and precautions of welding and can use arc welding.		The student can not understand the basics and precautions of welding or can not use arc welding.
Achievement 5 (b)	The student can understand the basics and precautions of milling work, and can sufficiently perform simple cutting work.		The student can understand the basics and precautions of milling work, and can perform simple cutting work.		The student can not understand the basics and precautions of milling work, and can not perform simple cutting work.
Achievement 5 (c)	The student can fully understand the structure of a machine from disassembly and assembly this machine.		The student can understand the structure of a machine from disassembly and assembly this machine.		The student can not understand the structure of a machine from disassembly and assembly this machine.
Assigned Department Objectives					
Teaching Method					
Outline	To become familiar with basic practical and individual work 1. Understand and acquire basic technics through simple work operations. 2. Learn the correct work procedures and develop attitudes and habits to operate the machines safely.3. Develop a habit of dealing with things quantitatively.				
Style	The students are organized into six groups and will carry out practical exercises in rotation. Also, a factory visit will deepen the students' knowledge of production methods.				
Notice	To wear protective equipment correctly, always act responsibly, work safely and listen carefully to the instructor's explanation of the equipment structure, function, and operation, yo handle the machines and tools correctly. Students who miss 1/3 or more of classes will not be eligible for evaluation.				
Characteristics of Class / Division in Learning					
☐ Active Learning		☐ Aided by ICT		☒ Applicable to Remote Class	☐ Instructor Professionally Experienced
Course Plan					
			Theme	Goals	
2nd Semester	3rd Quarter	1st	Welding Basic Training I (Kato / Omori)	To understand welding principles, welding work safety and how to wear protective gear properly.	
		2nd	Welding Basic Training II (Kato / Omori)	To understand welder structure and its tools, to generate arcs.	
		3rd	Welding Basic Training III (Kato / Omori)	To do straight and weaving beads	
		4th	Welding Basic Training IV (Kato / Omori)	To do temporary attachment work and fillet welding.	
		5th	Milling basic training I (Kato / Omori)	Understand the structure and how to perform milling training safely.	

		6th	Milling basic training II (Kato / Omori)	To manufacture a square pillar using a face milling cutter.
		7th	Milling basic training III (Kato / Omori)	To manufacture a square pillar using a face milling cutter.
		8th	Factory tour	Can deepen your knowledge and insight of production systems and production management.
	4th Quarter	9th	Milling basic training IV (Kato / Omori)	Understand the conditions for manufacturing a square pillar using a face milling cutter
		10th	Vehicle disassembly and assembly training I (Omori)	Understand the basic principles to hand tools.
		11th	Vehicle disassembly and assembly training II (Omori)	Understand the basic principles to hand tools.
		12th	Vehicle disassembly and assembly training III (Omori)	To disassemble and understand the structure of a four-wheel buggy.
		13th	Vehicle disassembly and assembly training IV (Omori)	To assemble the disassembled four-wheel buggy.
		14th	Assignment	Accurately summarize the knowledge and skills acquired in the practical training.
		15th	Factory visit field trip (Kato / Omori)	To can understand the work process of a production site by visiting a production factory.
		16th	No end term exams	

Evaluation Method and Weight (%)

	Examination	Assignments	Product	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