

Tsuyama College		Year	2021	Course Title	Medical and Welfare Engineering
Course Information					
Course Code	0166		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	5th	
Term	Year-round		Classes per Week	1	
Textbook and/or Teaching Materials	PPT(From lecturer)				
Instructor	CHO Feifei				
Course Objectives					
Learning purposes: To learn the basics of various technologies and human-centered engineering in the fields of medical and welfare engineering, which will lead to practical medical and welfare engineering technology.					
Course Objectives					
1. To learn about human understanding and practical behavior in medical, welfare, and other fields.					
2. To be able to explain medicine and welfare from the perspective of manufacturing or engineering.					
3. To be able to explain the principles and overview of typical medical and welfare engineering equipment.					
Rubric					
	Excellent		Good	Acceptable	Not acceptable
Achievement 1	Learn about human understanding and practical behavior in medical, welfare, and other fields very well.		Learn about human understanding and practical behavior in medical, welfare, and other fields.	Learn about human understanding and practical behavior in medical, welfare, and other fields not so good.	Doesn't know human understanding and practical behavior in medical, welfare, and other fields.
Achievement 2	Be able to explain medicine and welfare from the perspective of manufacturing or engineering very well.		Be able to explain medicine and welfare from the perspective of manufacturing or engineering.	Cannot explain medicine and welfare from the perspective of manufacturing or engineering.	Cannot explain medicine and welfare from the perspective of manufacturing or engineering very well.
Achievement 3	Able to explain the principles and overview of typical medical and welfare engineering equipment very well.		Able to explain the principles and overview of typical medical and welfare engineering equipment.	Can not explain the principles and overview of typical medical and welfare engineering equipment.	Cannot explain the principles and overview of typical medical and welfare engineering equipment very well.
Assigned Department Objectives					
Teaching Method					
Outline	General or Specialized : Specialized Field of learning : Integrated Subjects and others Foundational academic disciplines: Engineering/Mechanical Engineering/Intelligent Mechanics and Mechanical Systems Relationship with Educational Objectives :This class is equivalent to "(4) Develop multi-disciplinary ability (5) Attain a global perspective and understanding of social development (6) Develop problem solving ability (7) Develop communication and presentation abilities". Relationship with JABEE programs :The main goals of learning / education in this class is "(A) , A-1". Course outline: This course introduces students to the ideas, methods of thinking and knowledge, and applications that are fundamental to the study of ergonomics. Ergonomics "studies the relationship between humans and their living environment from the morphological, physiological, psychological, and behavioral aspects of human beings.				
Style	Course method: Students must prepare, review, and work on assignments after school and complete the reports. Don't be late. If you are more than 25 minutes late, once of classes will be canceled. If you are more than 75 minutes late, twice of classes will be canceled.				
Notice	Precautions on the enrollment : Students must take this class (no more than one-third of the required number of class hours missed) . This is a "class that requires study outside of class hours". Classes are offered for 15 hours per credit, but 30 credit hours are required in addition to this. Follow the instructions of your instructor for these studies. Course advice: Preparatory study to be done in advance. Foundational subjects: Ethics (1st year), Engineering Ethics (5th) Related subjects: Medical and Welfare Engineering (5), Welfare Equipment Design (5)				
Characteristics of Class / Division in Learning					
☐ Active Learning		☐ Aided by ICT		☒ Applicable to Remote Class	☐ Instructor Professionally Experienced
Course Plan					
			Theme	Goals	
1st Semester	1st Quarter	1st	Guidance: What is Medical and Welfare Engineering?	The course will not be offered this year.	
		2nd	System and Background		
		3rd	Systems for the Elderly and Persons with Disabilities		
		4th	Self-support and nursing care support		
		5th	Business relevance		
		6th	Social Direction.		
		7th	Sensors, Transducers		

	2nd Quarter	8th	1st semester mid-term exam	
		9th	Return and commentary of exam answers	
		10th	Surgical and therapeutic devices	
		11th	Independence and assistive devices	
		12th	Therapeutic and prosthetic devices	
		13th	Training Equipment	
		14th	Future Development	
		15th	(1st semester final exam)	
		16th	Return and commentary of exam answers	
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	50	10	10	0	10	20	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	50	10	10	0	10	20	100
Cross Area Proficiency	0	0	0	0	0	0	0