Toyama College	Year	2022	Course Title	Robot Engineering

Course Information

Course Code	0036	Course Category	Specialized / Elective
Class Format	Lecture	Credits	Academic Credit: 2
Department	ECOdesign Engineering Course	Student Grade	Adv. 1st
Term	First Semester	Classes per Week	2
Textbook and/or Teaching Materials			
Instructor	Sato Keisuke,Ikeda Hidetoshi		

Course Objectives

The aim of this lecture is to master the expert knowledge which is usable when you work at a company. We will invite engineers as speakers, who are working at famous companies in Japan. The students not only study the theory but also are able to study how to use the machinery.

Rubric

	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)
Evaluation 1	It is able to enough understand the motions of air pressure machinery or direct motion actuator.	It is able to understand the motions of air pressure machinery or direct motion actuator.	It is not able understand the motions of air pressure machinery or direct motion actuator.
Evaluation 2	It is able to enough understand the elements for robot (DC motor, stepper motor, bearing) .	It is able to understand the elements for robot (DC motor, stepper motor, bearing) .	It is not able to understand the elements for robot (DC motor, stepper motor, bearing) .
Evaluation 3			

Assigned Department Objectives

学習・教育到達度目標 A-6
JABEE 1(2)(d)(1) JABEE 1(2)(e)

Teaching Method

Outline	The aim of this lecture is to master the expert knowledge which is usable when you work at a company. The lecture about elemental technology which is use for constructing a robot system is going to be given by making use of the experience of developing a humanoid robot in a company.
Style	We will invite engineers as speakers, who are working at famous companies in Japan. The students not only study the theory but also are able to study how to use the machinery. The grades of students in this lecture are evaluated using the reports. The students have to submit the reports by due date.
Notice	

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	Orientation	Orientation
		2nd	Sensor technologies in factory	It is able to understand the sensor technologies in the factory
		3rd	Air pressure machinery	It is able to understand technologies of air pressure machinery.
		4th	Air pressure machinery	It is able to understand technologies of the air pressure machinery.
		5th	Orthogonal robot	It is able to understand the technologies of orthogonal robot
		6th	Orthogonal robot	It is able to understand the technologies of orthogonal robot
		7th	Articulated robot	It is able to understand the technologies of articulated robot.
		8th	Articulated robot	It is able to understand the technologies of articulated robot.
	2nd Quarter	9th	Bearing	It is able to understand the technologies of bearing.
		10th	Direct Motion Actuator	It is able to understand the technologies of Direct Motion Actuator
		11th	DC motor	It is able to understand the technologies of DC motor
		12th	Stepper motor	It is able to understand the technologies of Stepper motor
		13th	3D printer	It is able to understand the technologies of 3D printer
		14th	Working machinery and Mother machine	It is able to understand the technologies of working machinery and mother machine
		15th	Working machinery and Mother machine	It is able to understand the technologies of working machinery and mother machine
		16th	Survey	Survey

Evaluation Method and Weight (%)							
	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	0	0	0	0	0	100	100
Basic Ability	0	0	0	0	0	0	0
Technical Ability	0	0	0	0	0	100	100
Interdisciplinary Ability	0	0	0	0	0	0	0