COURSE	Name	:	Robot Dynamics and Control
	Code	:	EE185321
	Credit(s)	:	2
	Semester	:	III

Description of Course

The course of Dynamics and Robot Settings discusses the kinematics and the dynamics model of robots and their control. Details of the material studied include coordinate transformation, robot kinematics, differential motion, robot dynamics, robot controls and visual feedback.

Learning Outcomes

Knowledge

(P01) Mastering the concepts and principles of science in a comprehensive manner, and to develop procedures and strategies needed for the analysis and design of systems related to the field of power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics as a preparation for further education or professional career.

Specific Skill

(KK01) Being able to formulate engineering problems with new ideas for the development of technology in power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics.

General Skill

(KU07) Being able to improve the capacity of learning independently.

Attitude

(S09) Demonstrating attitude of responsibility on work in his/her field of expertise independently.

(S12) Working together to be able to make the most of his/her potential.

Course Learning Outcomes

Knowledge

Mastering the concepts and principles of dynamics and control of robots in the analysis and design of robot control using the dynamics model and robot kinematics.

Specific Skill

Able to formulate robot controls by considering the latest technology in robot design and control.

General Skill

Able to increase the capacity of learning independently through the design of robot control by considering the latest technology for particular applications.

Attitude

Shows the attitude of being responsible for the assignments given in lectures independently and able to work together in teams to get good design results.

Main Subjects

1. Coordinate transformation
2. Robot kinematics
3. Differential motion
4. Robot dynamics
5. Robotics Control
6. Visual feedback

Reference(s)

[1] Mark W Spong, M Vibyasagar : Robot Dynamics and Control, John Wiley & Sons, 1989.
[2] H Asada, JJE Slotine : Robot Analysis and Control, John Wiley & Sons, 1986.
[3] Fu.K.S. Gon Zalez RoC., Lee CoS.G., Robotics, Control Sensing Vision and Intelligence, McGraw Hill, into Ed., 1987

Prerequisite(s)

Linear Systems Theory