

<b>COURSE</b>	Name	: Robotics
	Code	: EE184928
	Credits	: 3
	Semester	: Elective

### Description of Course

This course discusses the concept of robotics application in the field of industrial automation, and the application of methods in analysis and design of control systems to robotics are presented as well.

### Learning Outcomes

#### Knowledge

(P01) Mastering the concepts and principles of science and engineering mathematics, and implementing them in the form of procedures for analysis and design in power systems, control systems, multimedia telecommunications, or electronics as a preparation for further education or professional career.

#### Specific Skill

(KK01) Able to formulate engineering problems in power systems, control systems, multimedia telecommunications, or electronics.

#### General Skill

(KU12) Able to implement information and communication technology (ICT) in the context of implementation of his/her work.

#### 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 concept of kinematics and dynamics of a robot manipulator.

#### Specific Skill

Able to analyze kinematics and dynamics of a given robot manipulators.

#### General Skill

Able to implement the control analysis and design of a robot manipulator by using software.

### Main Subjects

1. Coordinate Transformation
2. Kinematics Robot
3. Differential Motion
4. Robot Dynamics
5. Robotic Control

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**Reference(s)**

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- [1] Mark W Spong, M Vidyasagar : "Robot Dynamics and Control", John Wiley & Sons, 1989  
[2] H Asada, JJE Slotine : "Robot Analysis and Control", John Wiley & Sons, 1986
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**Prerequisite(s)**

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