

SATUAN ACARA PERKULIAHAN – SAP

1. Identifikasi Mata Kuliah.

Nama Mata Kuliah : Praktek Mekatronika

Kode SKS : SEL 206/ 2

Deskripsi Kompetensi :

**Menganalisa rangkaian elektropneumatik,
merancang sistem elektropneumatik berbasis
PLC, menganalisa stasiun dalam suatu sistem
mekatronik, merancang model sistem mekatronik.**

2. Rencana Perkuliahan

Pertemuan	Kelompok			
	K1	K2	K3	K4
1	Identifikasi Komponen pada station mekatronika			
	Distributing Station	Testing Station	Processing Station	Pick and Place Station
	Testing Station	Distributing Station	Pick and Place Station	Processing Station
2	Identifikasi Komponen pada station mekatronika			
	Processing Station	Pick and Place Station	Distributing Station	Testing Station
	Pick and Place Station	Processing Station	Testing Station	Distributing Station
3	Pemrograman Sistem Manual			
	Distributing Station	Testing Station	Processing Station	Pick and Place Station
4	Pemrograman Sistem Otomatis			
	Distributing Station	Testing Station	Processing Station	Pick and Place Station
5	Pemrograman PLC dengan Multitasking untuk Operasi Manual dan Otomatis			
	Distributing Station	Testing Station	Processing Station	Pick and Place Station
6	Pemrograman PLC dengan Multitasking untuk Operasi Emergency dan Reset			
	Distributing Station	Testing Station	Processing Station	Pick and Place Station
7	Pemrograman PLC dengan Multitasking untuk Operasi Manual dan Otomatis			
	Testing Station	Distributing Station	Pick and Place Station	Processing Station

Pertemuan	Kelompok			
	K1	K2	K3	K4
8	Pemrograman PLC dengan Multitasking untuk Operasi Emergency dan Reset			
	Testing Station	Distributing Station	Pick and Place Station	Processing Station
9	Tes Individual Praktek:			
	Distributing Station dan Testing Station		Processing Station dan Pick and Place Station	
10	Tes Individual Praktek:			
	Distributing Station dan Testing Station		Processing Station dan Pick and Place Station	
11	Pengendalian station mekatronika berbasis Mikrokontroller			
	Processing Station	Pick and Place Station	Distributing Station	Testing Station
12	Pengendalian station mekatronika berbasis Mikrokontroller			
	Pick and Place Station	Processing Station	Testing Station	Distributing Station
13	Tes Individual Praktek :			
	Processing Station dan Pick and Place Station		Distributing Station dan Testing Station	
14	Tes Individual Praktek :			
	Processing Station dan Pick and Place Station		Distributing Station dan Testing Station	

Daftar Pustaka

1. Hall, Douglas V., Mikroprosesor and Interfacing ; programming and Hardware. MC Graw_Hill Inc., Singapura, 1986
2. Keneth J., Ayala, The 8051 Microcontroller, Architecture, Programming and Aplication, West Publishing Company, 1991
3. Partoharsodjo, Hartono, Bahasa Assembly, penerbit PT Elex Media Komputindo, Jakarta, 1991
4. Uffenbeck, John, Microcomputer and Microprosesor, Second edition, Prentice Hall International Inc, 1985
5. -----, Electro Pneumatic And Hidrolic, FESTO Didactic, Jakarta
6. -----, Fundamentals of Mechatronics, FESTO Didactic, Jakarta
7. Eko Agfianto Putra. (2002). Belajar Praktis Teknik Antarmuka dan Pemrograman Mikrokontroller. Jakarta : Elex Media Komputindo.
8. Eko Agfianto Putra. (2002). Belajar Mikrokontroller AT89C51/52/55 (teori dan Aplikasi). Yogyakarta: Gava Media.
9. Mazidi and Mazidi. (1991) The 8051 Microcontroller and Embadded System. New Jersey: Prentice Hall.

RENCANA PERKULIAHAN

MK : PRAKTEK MEKATRONIKA

Target Akhir Semester:

Mahasiswa mampu membuat desain station mekatronika

Mahasiswa mampu mengidentifikasi komponen-komponen mekatronika

Mahasiswa dapat merakit komponen station mekatronika

Mahasiswa dapat membuat program untuk station mekatronika

Mahasiswa mampu melakukan trouble shooting station mekatronika

Minggu ke Materi

- 1 Pengenalan Mekatronika
- 2 Identifikasi desain station mekatronika sesuai kelompok
- 3 Mendesain komponen pneumatik station mekatronika
- 4 Mendesain diagram kelistrikan station mekatronika
- 5 Merancang program station mekatronika berbasis PLC
- 6 Pembuatan kabel downloader
- 7 Pengecekan PLC
- 8 Identifikasi Komponen station mekatronika sesuai kelompok
- 9 Service station mekatronika
- 10 Perakitan komponen Pneumatik station mekatronika
- 11 Perakitan kelistrikan station mekatronika
- 12 Pembuatan program PLC
- 13 Pembuatan program PLC dengan Multitasking
- 14 Pengujian station mekatronika
- 15 Tes Individual