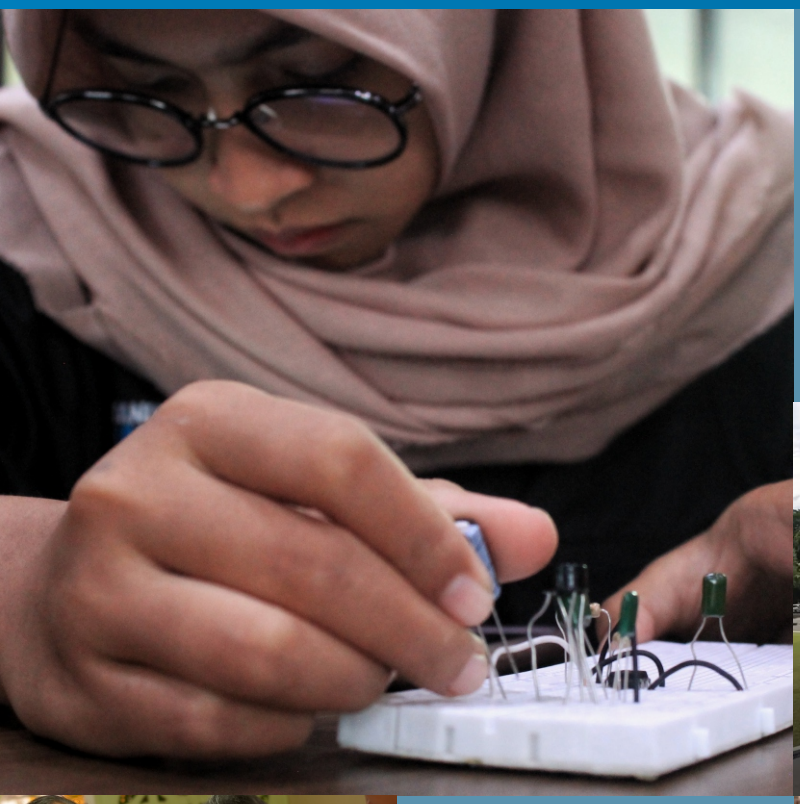
UNS
SEBELAS MARET
UNIVERSITY

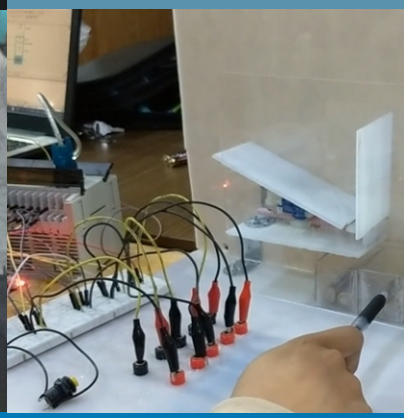
PROGRAM STUDI
TEKNIK ELEKTRO



Analyse it

Design it

Solve it



Daftar Isi

Ucapan Selamat datang dari Kepala Program Studi Program Sarjana Teknik Elektro

Atas nama seluruh staf pengajar, staf administrasi dan mahasiswa, saya mengucapkan selamat datang di Program Studi Teknik Elektro, Fakultas Teknik, Universitas Sebelas Maret, Surakarta, Indonesia.

Visi Program Studi Sarjana Teknik Elektro yaitu menjadi program studi yang unggul dalam bidang Teknik Elektro, meliputi aspek kegiatan pendidikan, penelitian dan pengabdian pada masyarakat, berlandaskan nilai-nilai luhur budaya nasional.

Program studi kami berdiri tahun 2014. Saat ini program studi mempunyai 12 staf pengajar 148 mahasiswa dan 2 orang tenaga kependidikan. Pada awalnya, kami mempunyai empat bidang keahlian antara lain 1) Sistem Energi Listrik, 2) Sistem Isyarat Elektronik, 3) Sistem Mekatronika dan 4) Sistem Komputer dan Informatika. Saat ini, di tahun 2019, bidang keahlian antara lain 1) Teknik Tenaga Listrik, 2) Kontrol dan Mekatronika, dan 3) Teknik Komputer dan Telekomunikasi.

Program kurikulum kami mengacu ke Sarjana Teknik di bidang Teknik Elektro yang dirancang untuk membekali mahasiswa dengan latar belakang yang kuat dalam bidang matematika dan ilmu dasar, teknik sistem tenaga, kontrol dan mekatronik, dan teknik komputer dan telekomunikasi.

Program studi kami berkomitmen untuk menghasilkan lulusan yang mampu mendesain, mengembangkan, mengimplementasikan dan menganalisis masalah di bidang teknik elektro.

Sekali lagi kami ucapkan selamat datang di Program Studi Teknik Elektro.

Kepala Program Studi Teknik Elektro

Feri Adriyanto, Ph.D.
Mobile Phone: +62-8953 4186 5428
Email: feri.adriyanto@staff.ac.id

VISI DAN MISI PROGRAM STUDI TEKNIK ELEKTRO

Visi:

Menjadi Program Studi yang unggul dalam bidang Teknik Elektro, meliputi aspek kegiatan pendidikan, penelitian dan pengabdian pada masyarakat, berlandaskan nilai-nilai luhur budaya nasional.

Misi:

1. Menyelenggarakan pendidikan dengan mengembangkan sistem belajar mengajar dengan paradigma baru : "Student Centred Learning" yang terbimbing.
2. Menyelenggarakan pengembangan pribadi yang mumpuni yaitu yang kreatif, inovatif dan kompeten didukung oleh sikap yang bersahabat, adil dan bersungguh -sungguh, melalui keluarga asuh.
3. Mengembangkan bidang ilmu teknik elektro terutama menyangkut bidang energi, isyarat, informasi, mekatronis dan elektro-otomotif
4. Melaksanakan penelitian untuk mengembangkan teknologi baru secara terencana dan berkesinambungan sejalan dengan proses belajar dan mengajar.
5. Melaksanakan penerapan teknologi baru dalam rangka pengabdian pada masyarakat.
6. Menghasilkan lulusan yang mempunyai daya saing yang tinggi dan berbudi luhur.

Tujuan:

1. Menghasilkan lulusan yang mumpuni dalam bidang teknik elektro yang mempunyai integritas dan motivasi secara kreatif, inovatif, bersahabat, adil dan kompeten sehingga mempunyai daya juang dan daya saing yang tinggi serta berbudi luhur sehingga mampu berkarya secara profesional secara mandiri maupun kerjasama tim yang didasari pengetahuan yang cukup untuk menjawab tantangan yang ada untuk meraih keunggulan dalam pengembangan sumber daya manusia.
2. Mentransfer pengetahuan (transfer of knowledge) pada mahasiswa secara efektif, kreatif, inovatif, profesional dengan melaksanakan proses belajar mengajar bertumpu pada kegiatan mandiri mahasiswa dan tim untuk meraih keunggulan dalam penguasaan bidang ilmu.
3. Menghasilkan inovasi bidang ilmu teknik elektro meliputi bidang teknologi energi, isyarat, informasi dan mekatronis secara proposional dengan melaksanakan penelitian yang terencana dan berkesinambungan untuk meraih keunggulan dalam pengembangan bidang ilmu, terutama dalam bidang elektro-otomotif.
4. Menghasilkan teknologi baru yang memberi solusi bagi permasalahan yang ada guna meningkatkan kesejahteraan masyarakat untuk meraih keunggulan dalam pengabdian pada masyarakat.

KENAPA MEMILIH STUDI DI PROGRAM STUDI TEKNIK ELEKTRO UNS?

Apa itu Teknik Elektro?

Teknik Elektro merupakan salah satu cabang ilmu teknik yang mempelajari masalah listrik dan aplikasinya dalam kehidupan masyarakat. Dalam bidang teknik elektro banyak melibatkan konsep, perancangan dan desain, pengembangan, dan implementasi dari produk perangkat listrik. Bidang teknik elektro memegang peranan penting dalam pengembangan dan kemajuan teknologi tinggi seperti dalam bidang komputer, elektronika, telekomunikasi, energi, instrumentasi dan kontrol.

Sekilas Program Studi Teknik Elektro Universitas Sebelas Maret

Program Studi Teknik Elektro merupakan salah satu program studi di Fakultas Teknik Universitas Sebelas Maret (UNS) Surakarta yang berdiri tanggal 29 April 2014 melalui Surat Keputusan Menteri Pendidikan dan Kebudayaan (No.17/E/O/2014). Pada Desember 2017, Prodi Teknik Elektro UNS telah melaksanakan akreditasi pertama dari BAN-PT (4546/SK/BAN-PT/Akred/S/XI/2017) dan mendapatkan hasil Terakreditasi B.

Staf pengajar di Program Studi Teknik Elektro berjumlah 13 tenaga pendidik yang terdiri dari 2 guru besar (satu orang adjunct professor yaitu Prof. Josaphat Tetuko Sri Sumantyo Ph.D dari Chiba University Japan), 4 doktor dan 7 magister dan 2 orang tenaga kependidikan. Jumlah staf pengajar ini masih ditambah tenaga pengajar dari program studi lain di UNS yang ditugaskan untuk mengajar mata kuliah di Teknik Elektro. Saat ini jumlah mahasiswa Teknik Elektro mencapai 148 orang. Pada tahun 2018 telah diluluskan alumni pertama dari Teknik Elektro.

Untuk menunjang kegiatan pendidikan, Program Studi Teknik Elektro memiliki 6 laboratorium antara lain Laboratorium Elektronika, Laboratorium Telekomunikasi dan Pengolahan Sinyal, Laboratorium Komputer dan Jaringan, Laboratorium Instrumentasi dan Kendali, Laboratorium Konversi Energi dan Sistem Tenaga Listrik dan Laboratorium Internet of Things. Fasilitas laboratorium ini juga ditambah dengan sharing laboratorium di fakultas lain di UNS, seperti Laboratorium Fisika di UPT Lab Terpadu UNS.

Kontak Teknik Elektro UNS:
Program Studi Teknik Elektro
Gedung III Lantai 2 Fakultas Teknik UNS
Jl. Ir. Sutami 36A Kentingan Surakarta Jawa Tengah
Telepon : +62-271 647069
Email : elektro@ft.uns.ac.id
Website : Https://elektro.ft.uns.ac.id/

PROFIL LULUSAN DAN CAPAIAN PEMBELAJARAN
LULUSAN PROGRAM STUDI TEKNIK ELEKTRO,

UNIVERSITAS SEBELAS MARET

Untuk mencetak lulusan yang berkualitas, Program Studi Teknik Elektro menetapkan profil lulusan yang nantinya diharapkan dapat menjadi profesional mandiri. Agar lulusan yang dihasilkan dapat memiliki daya saing di dunia kerja maka Program Studi Teknik Elektro menetapkan standar kompetensi lulusan yang dinyatakan dalam profil lulusan dan capaian pembelajaran lulusan (CPL). Profil lulusan sering disebut juga dengan program educational objective (PEO). Sedangkan capaian pembelajaran lulusan sering disebut juga program outcome (PO). Profil lulusan Program Studi Teknik Elektro UNS meliputi tiga aspek penting:

Kode	Rumusan PEO	Rumusan Singkat
PEO-1.	Memiliki kompetensi yang unggul di bidang teknik elektro.	Kompetensi
PEO-2.	Mengedepankan profesionalisme dan memiliki etos kerja yang unggul.	Profesionalisme
PEO-3.	Mampu berkomunikasi dengan baik dan memiliki sifat kepemimpinan.	Komunikasi dan kepemimpinan

Profil lulusan ini kemudian dijabarkan lebih rinci kedalam sepuluh capaian pembelajaran lulusan. Lulusan Program Studi Teknik Elektro Universitas Sebelas Maret dapat memilih jalur yang dia minati diataranya menjadi insinyur professional, akademisi, manajemen, peneliti dan teknopreneur. Rincian capaian pembelajaran lulusan antara lain:

PROFIL LULUSAN DAN CAPAIAN PEMBELAJARAN
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UNIVERSITAS SEBELAS MARET

Kode	Rumusan CPL	Rumusan Singkat
CPL01	Mampu menerapkan pengetahuan matematika, ilmu pengetahuan alam dan/atau material, teknologi informasi dan keteknikan untuk mendapatkan pemahaman menyeluruh tentang prinsip-prinsip teknik elektro.	Menguasai ilmu teknik
CPL02	Mampu mendesain komponen, system dan/atau proses untuk memenuhi kebutuhan yang diharapkan didalam batasan-batasan realistis dalam bidang teknik Elektro.	Mampu Mendesain
CPL03	Mampu mendesain dan melaksanakan eksperimen laboratorium dan/atau lapangan serta menganalisis dan mengartikan data untuk memperkuat penilaian teknik.	Experimen dan analisis data
CPL04	Mampu mengidentifikasi, merumuskan, menganalisis dan menyelesaikan permasalahan Teknik elektro.	Memecahkan masalah
CPL05	Mampu menerapkan metode, keterampilan dan piranti teknik elektro yang modern yang diperlukan untuk praktek keteknikan.	Menguasai metode dan alat
CPL06	Mampu berkomunikasi secara efektif baik lisan maupun tulisan.	Komunikasi
CPL07	Mampu merencanakan, menyelesaikan dan mengevaluasi tugas didalam batasan-batasan yang ada.	Manajemen proyek
CPL08	Mampu bekerja dalam tim lintas disiplin dan lintas budaya.	Mampu
CPL09	Mampu bertanggung jawab kepada masyarakat dan mematuhi etika profesi dalam menyelesaikan permasalahan Teknik elektro.	Memiliki etika dan profesionalisme
CPL10	Mampu memahami kebutuhan akan pembelajaran sepanjang hayat, termasuk akses terhadap pengetahuan terkait isu-isuke kinian yang relevan.	Belajar sepanjang hayat

Profil
Staf Pengajar

Program Studi Teknik Elektro saat ini mempunyai 12 staf pengajar tetap yang terdiri dari 1 orang mempunyai jabatan fungsional Guru Besar, 2 orang Lektor Kepala, 4 orang Lektor, 2 orang Asisten Ahli, dan 3 orang Tenaga Pengajar. Berdasarkan latar belakang pendidikan, dosen Program Studi Teknik Elektro berlatar belakang pendidikan S3 ada 5 orang staf (42%) dan sisanya 7 orang (58%) berlatar belakang pendidikan S2. Adapun rincian staf pengajar sebagai berikut:

Guru Besar

Prof. Josaphat "Josh" Tetuko Sri Sumantyo, Ph.D.

Bidang keahlian : Remote Sensing, Applied Radio Wave and Radar System
Email : jtetukoss@faculty.chiba-u.jp

Latar belakang pendidikan:
Pendidikan S1 : Kanazawa University, Kanazawa, Japan
Pendidikan S2 : Kanazawa University, Kanazawa, Japan
Pendidikan S3 : Chiba University, Chiba, Japan

Prof. Ir. Muhammad Nizam, S.T., M.T., Ph.D., IPM

Bidang keahlian : Power system
Email : muhammad.nizam@staff.uns.ac.id

Latar belakang pendidikan:
Pendidikan S1 : Universitas Gadjah Mada, Yogyakarta, Indonesia
Pendidikan S2 : Universitas Gadjah Mada, Yogyakarta, Indonesia
Pendidikan S3 : Universiti Kebangsaan Malaysia, Malaysia
Postdoctoral : Universiti Kebangsaan Malaysia, Malaysia
Profesi Ir : Program Profesi Insinyur, Universitas Sebelas Maret, Surakarta, Indonesia

Lektor Kepala

Dr. Ir. Augustinus Sujono, M.T.

Bidang keahlian : Konversi Energi, kontrol Otomasi dan pemrosesan isyarat.
Email : agus.sujono@ft.uns.ac.id

Latar belakang pendidikan:
Pendidikan S1 : Universitas Gadjah Mada, Yogyakarta, Indonesia
Pendidikan S2 : Universitas Gadjah Mada, Yogyakarta, Indonesia
Pendidikan S3 : Universitas Gadjah Mada, Yogyakarta, Indonesia

Ir. Subuh Pramono, S.T., M.T., IPM

Bidang keahlian : Teknik Telekomunikasi
Email : subuhpramono@staff.uns.ac.id

Latar belakang pendidikan:
Pendidikan S1 : Universitas Telkom, Bandung, Indonesia
Pendidikan S2 : Institut Teknologi Bandung, Bandung, Indonesia
Profesi Ir : Program Profesi Insinyur, Universitas Sebelas Maret, Surakarta, Indonesia

Dr. Eng. Faisal Rahutomo

Bidang keahlian : Rekayasa Perangkat Lunak, Rekayasa Data dan Pengetahuan
Email : faisal_r@staff.uns.ac.id

Latar belakang pendidikan:
Pendidikan S1 : Universitas Brawijaya, Malang, Indonesia
Pendidikan S2 : Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia
Pendidikan S3 : Kumamoto University, Kumamoto, Japan

Lektor

Feri Adriyanto, Ph.D.

Bidang keahlian : Mikroelektronik, MEMS, Sensor
Email : feri.adriyanto@staff.uns.ac.id

Latar belakang pendidikan:
Pendidikan S1 : IKIP Yogyakarta, Yogyakarta, Indonesia
Pendidikan S2 : Institut Teknologi Bandung, Bandung, Indonesia
Pendidikan S3 : National Cheng Kung University, Tainan, Taiwan
University of Oslo, Oslo, Norway
Postdoctoral : Universiti Tun Hussein On Malaysia, Malaysia

Dr. Miftahul Anwar, S.Si., M.Eng.

Bidang keahlian : Nanoteknologi
Email : miftahwar@staff.uns.ac.id

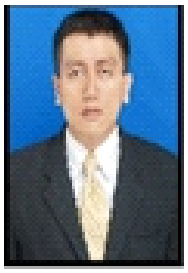
Latar belakang pendidikan:
Pendidikan S1 : Universitas Indonesia, Jakarta, Indonesia
Pendidikan S2 : Shizuoka University, Shizuoka, Japan
Pendidikan S3 : Shizuoka University, Shizuoka, Japan

Sutrisno, ST., M.Sc., Ph.D.

Bidang keahlian : Artificial Intelligence
Email : sutrisno@staff.uns.ac.id

Latar belakang pendidikan:
Pendidikan S1 :Institut Sepuluh Nopember, Surabaya, Indonesia
Pendidikan S2 :King Saud University, Arab Saudi
Pendidikan S3 :King Saud University, Arab Saudi

Meiyanto Eko Sulistyo, ST., M.Eng.



Bidang keahlian : Teknologi Informasi
Email : mekosulistyo@staff.uns.ac.id

Latar belakang pendidikan:
Pendidikan S1 :Universitas Gadjah Mada, Yogyakarta, Indonesia
Pendidikan S2 :Universitas Gadjah Mada, Yogyakarta, Indonesia

Asisten Ahli

Ir. Chico Hermanu Brillianto Apribowo, S.T., M.Eng.

Bidang keahlian : Energi terbarukan, Smart Grid, Kecerdasan buatan, Elektronika daya, Kendaraan listrik
Email : chico@staff.uns.ac.id

Latar belakang pendidikan:
Pendidikan S1 : Institut Sepuluh Nopember, Surabaya, Indonesia
Pendidikan S2 : Universitas Gadjah Mada, Yogyakarta, Indonesia
Profesi Ir : Program Profesi Insinyur, Universitas Sebelas

Ir. Muhammad Hamka Ibrahim, S.T., M.Eng., IPM

Bidang keahlian : Telekomunikasi dan instrumentasi
Email : hamka@staff.uns.ac.id

Latar belakang pendidikan:
Pendidikan S1 : Institut Teknologi Bandung, Bandung, Indonesia
Pendidikan S2 : Kumoh National Institute of Technology, South Korea
Profesi Ir : Program Profesi Insinyur, Universitas Sebelas Maret, Surakarta, Indonesia

Tenaga Pengajar

Hari Magfiroh, S.T., M Eng., M.Sc.

Bidang keahlian : Teknik kendali dan kereta listrik
Email : hari.magfiroh@staff.uns.ac.id

Latar belakang pendidikan:
Pendidikan S1 : Universitas Gadjah Mada, Yogyakarta, Indonesia
Pendidikan S2 : Universitas Gadjah Mada, Yogyakarta, Indonesia
National Taiwan University of Science and Technology, Taiwan

Agus Ramelan, S.Pd., M.T

Bidang keahlian : Sistem kendali, Optimal Control, Internet of Things, dan Smart Grid
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Latar belakang pendidikan:
Pendidikan S1 :Universitas Pendidikan Indonesia, Bandung, Indonesia
Pendidikan S2 :Institut Teknologi Bandung, Bandung, Indonesia

Tenaga Pengajar

Joko Slamet Saputro, S.Pd., M.T.

Bidang keahlian : Mekatronika, Kendali cerdas, PLC dan sistem otonom
Email : jssaputro89@staff.uns.ac.id

Latar belakang pendidikan:
Pendidikan S1 : Universitas Negeri Yogyakarta, Yogyakarta, Indonesia
Pendidikan S2 : Institut Teknologi Bandung, Bandung, Indonesia

Tenaga Pendukung

Laboran :
Jaka Sulistya Budi, S.T.

Email : jsulistyabudi@gmail.com

Latar belakang pendidikan:
Pendidikan S1 : Universitas Gadjah Mada, Yogyakarta, Indonesia
Pendidikan S2 : Universitas Gadjah Mada, Yogyakarta, Indonesia (Tugas Belajar)

Tenaga administrasi:
Widodo

Email: Bagaswidodo87@gmail.com

KURIKULUM DAN MATA KULIAH

Di dalam kurikulum Program Studi Teknik Elektro, mata kuliah yang ada dikelompokan menjadi lima kategori sesuai bahan kajiannya : 1) Matematika dan Sain Dasar, 2) Ilmu Umum, 3) Inti Elektro, 4) Peminatan dan 5) Pilihan. Dengan memperhatikan campaian pembelajaran yang ditentukan di awal dan juga mempertimbangkan pedoman dari FORTEI, ABET, IABEE dan lainnya maka kami tentukan persentase masing-masing kategori seperti sebagai berikut:

No	Kategori Mata Kuliah	SKS	%
1	Matematika dan Sain Dasar	36	25.00
2	Ilmu Umum	14	9.72
3	Inti Elektro	60	41.67
4	Peminatan	25	17.36
5	Pilihan	9	6.25
	Total	144	100

Adapun rincian mata kuliah matematika dan sains dasar (36 SKS):

1. Kalkulus I (3 SKS)
2. Kalkulus II (3 SKS)
3. Fisika Dasar I (3 SKS)
4. Fisika Dasar II (3 SKS)
5. Praktikum Fisika Dasar (3 SKS)
6. Matematika Teknik I (3 SKS)
7. Matematika Teknik II (3 SKS)
8. Probabilitas dan Statistika (3 SKS)
9. Kimia (2 SKS)
10. Metode Numerik (3 SKS)
11. Medan Elektromagnetis (3 SKS)
12. Aljabar Linier (3 SKS)
13. Matematika Diskret dan Logika (3 SKS)

Mata kuliah umum (14 SKS):

1. Filsafat Ilmu Pengetahuan (2 SKS)
2. Pancasila (2 SKS)
3. Kewirausahaan (2 SKS)
4. Agama (2 SKS)
5. Kewarganegaraan (2 SKS)
6. Manajemen Proyek (2 SKS)
7. Kuliah Kerja Nyata (2 SKS)

Mata kuliah inti elektro (60 SKS):

1. Orientasi Prodi (1 SKS)
2. Pemrograman Dasar dan Lab. (3 SKS)
3. Rangkaian Listrik I (2 SKS)
4. Organisasi dan Arsitektur Komputer (2 SKS)
5. Teknik Digital (2 SKS)
6. Proyek Kreatif -1 (2 SKS)
7. Prak. Elektro Dasar I (1 SKS)
8. Prak. Teknik Digital (1 SKS)
9. Elektronika Dasar (2 SKS)
10. Rangkaian Listrik II (2 SKS)
11. Telekomunikasi Dasar (2 SKS)
12. Teknik Instalasi (2 SKS)
13. Proyek Kreatif -2 (2 SKS)
14. Prak. Elektro Dasar II (1 SKS)
15. Prak.Teknik Instalasi (1 SKS)
16. Instrumentasi (2 SKS)
17. Elektronika Analog (2 SKS)
18. Mesin Listrik Dasar (2 SKS)
19. Teknik Tenaga Listrik (2 SKS)
20. Teknik Kendali dan Mekatronika (3 SKS)
21. Sistem Mikroprosessor (2 SKS)
22. Prak. Mesin Listrik Dasar (1 SKS)
23. Prak. Sistem Kendali (1 SKS)
24. Prak. Elektronika (1 SKS)
25. Proyek Kreatif -3 (2 SKS)
26. Jaringan Komunikasi Data (2 SKS)
27. Energi Baru & Terbarukan (2 SKS)
28. Prak. Telekomunikasi Dasar (1 SKS)
29. Sistem Ototronika (2 SKS)
30. Kecerdasan Buatan (2 SKS)
31. Kerja Praktek (2 SKS)
32. Seminar Proposal Skripsi (2 SKS)
33. Skripsi dan Pendadaran (4 SKS)

Berikut sebaran mata kuliah tiap semester:

Semester	SKS
Semester 1	20
Semester 2	19
Semester 3	20
Semester 4	20
Semester 5	20
Semester 6	21
Semester 7	18
Semester 8	6
Jumlah	144

Semester 1

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE0101-19	Kalkulus I	3		
EE0102-19	Fisika Dasar I	3		
EE0103-19	Matematika Diskret dan Logika	3		EE0101-19
EE0104-19	Aljabar Linear	3		EE0101-19
EE0105-19	Kimia	2		
EE0106-19	Filsafat Ilmu Pengetahuan	2		
EE0107-19	Pemrograman Dasar dan Lab.	3		
EE0108-19	Orientasi Prodi	1		
	Jumlah	20		

Semester 2

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE0201-19	Kalkulus II	3	EE0101-19	
EE0202-19	Fisika Dasar II	3	EE0102-19	
EE0203-19	Praktikum Fisika Dasar	1	EE0102-19	EE0202-19
EE0204-19	Probabilitas dan Statistika	3		
EE0205-19	Rangkaian Listrik I	2		EE0202-19
EE0206-19	Organisasi dan Arsitektur Komputer	2		
EE0207-19	Teknik Digital	2	EE0103-19	
EE0208-19	Proyek Kreatif -1	1	EE0108-19	
EE0209-19	Prak. Elektro Dasar I	1		EE0205-19
EE0210-20	Prak. Teknik Digital	1		EE0207-19
	Jumlah	19		

Semester 3

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE0301-19	Metode Numerik	3		
EE0302-19	Matematika Teknik	3	EE0201-19	
EE0303-19	Medan Elektromagnetis	3	EE0201-19 EE0202-19	
EE0304-19	Elektronika Dasar	2	EE0205-19	
EE0305-19	Rangkaian Listrik II	2	EE0205-19	
EE0306-19	Isyarat dan Sistem	2	EE0201-19 EE0205-19	
EE0307-19	Mesin Listrik Dasar	2	EE0205-19	EE0303-19
EE0308-19	Proyek Kreatif -2	1	EE0208-19	
EE0309-19	Prak. Elektro Dasar II	1	EE0209-19	EE0304-19 EE0306-19
	Jumlah	19		

Semester 4

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE0401-19	Matematika Teknik II	3	EE0201-19	
EE0402-19	Instrumentasi	2	EE0304-19	EE0403-19
EE0403-19	Elektronika Analog	2	EE0304-19 EE0305-19	
EE0404-19	Telekomunikasi Dasar	2	EE0204-19 EE0303-19 EE0306-19	
EE0405-19	Teknik Tenaga Listrik	2	EE0305-19 EE0307-19	
EE0406-19	Sistem Kendali	3	EE0305-19 EE0306-19	EE0402-19
EE0407-19	Sistem Mikroprosessor	2	EE0206-19	
EE0408-19	Proyek Kreatif -3	1	EE0308-19	
EE0409-19	Prak. Elektronika	1	EE0304-19	EE0403-19
EE0410-19	Prak. Teknik Tenaga Listrik	1	EE0305-19	
	Jumlah	19		

Semester 5

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE0501-19	Jaringan Komunikasi Data	2	EE0404-19	
EE0502-19	Mekatronika	2	EE0406-19	
EE0503-19	Prak. Telekomunikasi Dasar	1	EE0404-19	EE0501-19
EE0504-19	Prak. Sistem Kendali	1	EE0406-19	
EE0505-19	Proyek Kreatif-4	1	EE0408-19	
	MK-KBK	13		
	Jumlah	20		

Semester 6

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE0601-19	Kerja Praktek	2		
EE0602-19	Energi Baru & Terbarukan	2	EE0202-19	
EE0603-19	Pancasila	2		
EE0604-19	Capstone Engineering Design	2		
	MK-KBK	12		
	Jumlah	20		

Semester 7

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE0701-19	Seminar Proposal Skripsi	2	EE0706-19	
EE0702-19	Kecerdasan Buatan	2	EE0107-19	
EE0703-19	Agama dan Etika	2		
EE0704-19	Kewarganegaraan	2		
EE0705-19	Kewirausahaan	2		
EE0706-19	Manajemen Industri	2	EE0408-19	
	MK-Pilihan	6		
	Jumlah	18		

Semester 8

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE0801-19	Skripsi dan Pendadaran	4	EE0701-19	
EE0802-19	Kuliah Kerja Nyata	2		
	MK Pilihan	3		
	Jumlah	9		

Mata Kuliah Wajib

KBK

KBK Teknik Tenaga Listrik

Semester 5

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE1501-19	Pembangkitan Tenaga Listrik	3	EE0405-19	
EE1502-19	Transmisi dan Distribusi Tenaga Listrik	3	EE0405-19	
EE1503-19	Analisis Sistem Tenaga	3	EE0405-19	
EE1504-19	Mesin Listrik Lanjut	2	EE0307-19 EE0405-19	
EE1505-19	Perlengkapan Sistem Tenaga	2	EE0405-19	
	Jumlah	13		

Semester 6

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE1601-19	Teknik Proteksi	3	EE0307-19 EE0405-19	
EE1602-19	Elektronika Daya	3	EE0403-19 EE0405-19 EE0407-19	
EE1603-19	Teknik Instalasi	3	EE0405-19	
EE1604-19	Topik Pilihan Teknik Tenaga	3	EE0307-19 EE0405-19	
	Jumlah	12		

KBK Kontrol dan Mekatronika

Semester 5

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE2501-19	Sistem Otomasi dan PLC	3	EE0402-19 EE0406-19	EE0502-19
EE2502-19	Teknik Robot	2	EE0406-19 EE0407-19	EE0502-19
EE2503-19	Pnenumatic Hidrolik	3	EE0402-19	
EE2504-19	Sistem Berbasis Mikroprosesor	2	EE0407-19	
EE2505-19	Teknik Kendali Lanjut	3	EE0406-19	EE0502-19
	Jumlah	13		

Semester 6

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE2601-19	Kendaraan Cerdas	3	EE0406-19 EE0503-19	EE0503-19
EE2602-19	Kontrol Sistem Energi	3	EE0405-19	
EE2603-19	Sistem Terintegrasi	3	EE0402-19	
EE2604-19	Topik Pilihan Kontrol Mekatronika	3		
	Jumlah	12		

KBK Teknik Komputer dan Telekomunikasi

Semester 5

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE3501-19	Antena dan Propagasi	3	EE0303-19	
EE3502-19	Sistem Tertanam dan Periferal	3	EE0407-19	
EE3503-19	Pengolahan Isyarat Digital	3	EE0306-19	
EE3504-19	Algoritma dan Struktur Data	2	EE0103-19	
EE3505-19	Sistem Informasi	2	EE0103-19	
	Jumlah	13		

Semester 6

Kode MK	Nama Mata Kuliah	SKS	Prasyarat	Co syarat
EE3601-19	Telekomunikasi Lanjut	3	EE0303-19	
EE3602-19	Perancangan Sistem Digital	3	EE3502-19	
EE3603-19	Pemrograman Lanjut	3	EE0103-19 EE0107-19	
EE3604-19	Topik Pilihan Komputer dan Telekomunikasi	3		
	Jumlah	12		

Mata Kuliah Pilihan

Kode MK	Nama Mata Kuliah	SKS	Prasyarat
EE400119	Operasi Sistem Tenaga Listrik	3	
EE400219	Dinamika Dan Stabilitas STL	3	
EE400319	Perancangan Sistem Listrik Industri	3	
EE400419	Keandalan Sistem Tenaga Listrik	3	
EE400519	Smart Grid	3	
EE400619	Teknologi Transportasi dan Kendaraan Listrik	3	
EE400719	Kualitas Daya	3	
EE400819	Pengolahan Citra	3	
EE400919	Sistem berbasis IoT	3	
EE401019	Big Data dan Analitik	3	
EE401119	Sistem Komunikasi Bergerak	3	
EE401219	Sistem Komunikasi Satelit	3	
EE401319	Remote Sensing	3	
EE401419	MEMS	3	
EE401519	Manajemen Proyek	3	
EE401619	Safety/ K3	3	
EE401719	MechineLearning	3	
EE401819	Sistem Komunikasi Serat Optik(SKSO)	3	
EE401919	Mikro dan Nano Devices	3	
EE402019	Mikroelektronika	3	
EE402119	Instrumentasi Biomedika	3	
EE402219	Teknik Kontrol Adaptif	3	
EE402319	Teknik KendaliNeuro-Fuzzy	3	
EE402419	Teknik Kedali Digital	3	
EE402519	Sistem Pendukung Keputusan	3	
EE402619	Komputasi Cerdas dalam Sistem Tenaga Listrik	3	
EE402719	Perancangan Pembangkit Energi Baru dan Terbarukan	3	
EE402819	PengembanganAplikasi Mobile	3	
EE402920	Perencanaan dan Manajemen Energi	3	

Peta Keterkaitan Mata Kuliah

Laboratorium

Program Studi Teknik Elektro mempunyai 6 laboratorium antara lain;

1. Laboratorium Elektronika
2. Laboratorium Telekomunikasi dan Pengolahan Sinyal,
3. Laboratorium Komputer dan Jaringan
4. Laboratorium Instrumentasi dan Kendali
5. Laboratorium Konversi Energi dan Sistem Tenaga Listrik
6. Laboratorium *Internet of Things* (IoT)

Laboratorium Elektronika

Ketua Lab : Dr. Miftahul Anwar, S.Si, M.Eng

Anggota Lab :
1. Feri Adriyanto, Ph.D.
2. Meiyanto Eko S., S.T., M.Eng
3. Jaka Sulistya. Budi., S.T.

Layanan praktikum:
1. Praktikum Elektronika Dasar
2. Praktikum Teknik Digital
3. Praktikum Elektronika Analog

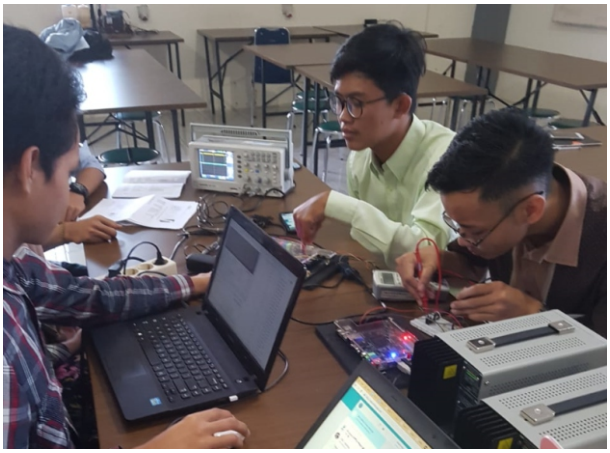
Layanan riset:
1. Riset Dasar Elektronika
2. Riset Kendaraan Listrik
3. Layanan. Peminjaman alat measurement penelitian

Alat yang tersedia:
1. Osiloskop
2. Multimeter digital
3. Frequency generator
4. Data Aquisition
5. Sensor-sensor

Laboratorium
Telekomunikasi dan Pengolahan Sinyal

VISI
Menjadikan Laboratorium sebagai tempat pendidikan, penelitian dan pengembangan bidang telekomunikasi untuk memajukan Universitas Sebelas Maret di kancah nasional dan internasional

MISI
1. Menyelenggarakan praktikum di bidang telekomunikasi bagi mahasiswa
2. Menyelenggarakan kegiatan penelitian di bidang telekomunikasi serta mempublika-sikan hasil penelitian
3. Membangun dan menjaga kerjasama yang strategis dengan lembaga, organisasi atau-pun laboratorium yang berkaitan dengan bidang telekomunikasi



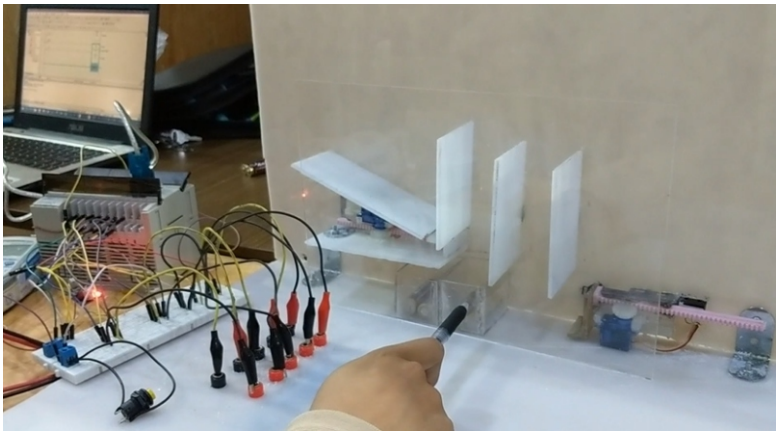
Ketua Lab : Ir. Muhammad Hamka Ibrahim, S.T., M.Eng, IPM

Anggota Lab :
1. Ir. Subuh Pramono, S.T., M.T, IPM.
2. Annisa Hanifa
3. Miftahuddin Irfani

Layanan Pendidikan/Praktikum:
1. Praktikum Teknik Telekomunikasi

Layanan P2M:
1. Pengukuran Antena
2. Pelatihan Desain Antena
3. Pelatihan LabVIEW
4. Pelatihan Multisim
5. Pelatihan IoT
6. Pelatihan Vision Inspection
7. Pengembangan Software Pengujian

Alat yang tersedia:
1. Spectrum Analyzer
2. Vector Network Analyzer
3. USB DAQ



Laboratorium Komputer dan Jaringan

Ketua Lab : Sutrisno, S.T, M.Sc, Ph.D

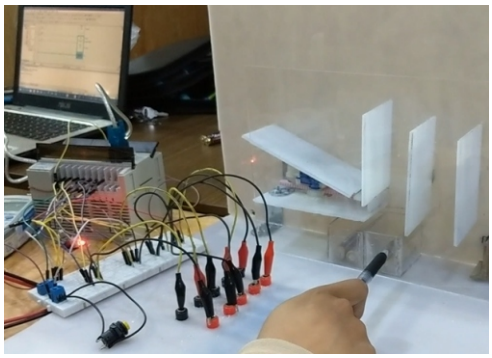
Anggota Lab :
1. Meiyanto Eko Sulistyo, S.T., M.Eng.
2. Ir. Subuh Pramono, S.T., M.T., IPM
3. Ir. Muhammad Hamka Ibrahim, S.T., M.Eng, IPM

Layanan Pendidikan/Praktikum:
1. Praktikum Pemrograman
2. Praktikum Metode Numerik (MATLAB)
3. Praktikum jaringan komputer

Layanan P2M:
1. Pelatihan dan Workshop Artificial Intelligence
2. Penelitian biomedical engineering
3. Penelitian machine learning dan pattern recognition

Alat yang tersedia:
1. Server HPE Proliant DL20 gen9
2. Router Cisco
3. Switch Cisco
4. 1 Set BTS Telkomsel (untuk demo)

Laboratorium Instrumentasi dan Kendali



Ketua Lab : Hari Magfiroh, S.T.,.M.Eng.

Anggota Lab :
1. Dr. Ir. Augustinus Sujono, M.T.
2. Feri Adriyanto, Ph.D.
3. Joko Slamet Saputro, S.Pd., M.T.

Layanan praktikum:
Praktikum Sistem Mikroprosesor
Praktikum Teknik Kendali
Layanan riset: Pelatihan Arduino dan Robotika

Alat yang tersedia:
1. PLC Omron
2. Mikroprosesor training kit
3. TurtleBot3
4. Robot Quadruped
5. Drone
6. Mobil robot

Laboratorium Konversi Energi dan Sistem Tenaga Listrik

Laboratorium Konversi Energi dan Sistem Tenaga Listrik merupakan salah satu laboratorium yang fokus dibidang energi terbarukan, mobil listrik, dan sistem tenaga listrik yang berada di Gedung VI Lantai 4 Fakultas Teknik. Adapun beberapa kegiatan laboratorium meliputi penelitian, pengajaran, praktikum, professional training, dan pengabdian masyrakat dibidang energi terbarukan, mobil listrik, dan sistem tenaga listrik.

Ketua Lab : Ir. Chico Hermanu Brillianto Apribowo, S.T., M.Eng.

Anggota Lab :

1. Prof. Ir. Muhammad Nizam, S.T., M.T, Ph.D, IPM.
2. Dr. Miftahul Anwar, S.Si., M.Eng.
3. Agus Ramelan, S.Pd., M.T.

Layanan praktikum:

1. Praktikum Teknik Tenaga Listrik
2. Praktikum Pembangkitan Tenaga Listrik
3. Praktikum Transmisi dan Distribusi Tenaga Listrik
4. Praktikum Elektronika Daya
5. Praktikum Teknik Instalasi

Layanan Lab dan Kerja sama:

1. Jasa konsultasi sistem tenaga listrik (Perencanaan Pembangkit Energi Terbarukan, Transmisi, Distribusi dan Pembebanan dll)
2. Jasa konsultasi desain instalasi mekanikal dan elektrikal
3. Audit Energi
4. Training ETAP, MATLAB, PV Sys dan HOMER
5. Penelitian berbasis LBE (Lab Base Education)
6. Pengabdian Masyarakat berbasi IPTEK

Alat yang tersedia:

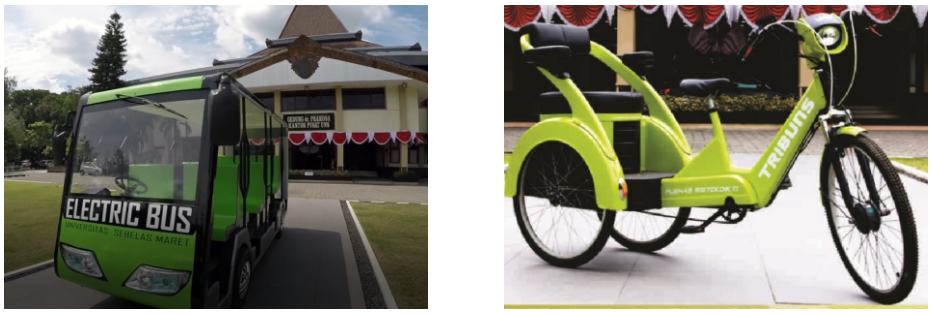
1. Power Analyzer
2. Software HOMER (Hybrid Optimization of Multiple Energy Resources) Pro microgrid berlisensi
3. Software MATLAB berlisensi
4. Motor-Generator Set
5. Modul Set Kontrol dan Kecepatan Motor
6. PV Module System
7. Baterai Management System (BMS)
8. Modul Direct On Line Motor (DOL)
9. Modul Forward Reverse Motor
10. Modul Star Delta Motor 3 Phase
11. Modul Variable Speed Drive

Pendanaan Riset

1. Porgram Mobil Listrik Nasional (Prof. Ir. Muhammad Nizam, S.T., M.T, Ph.D, IPM. Rp. 10.000.000.000 Pendanaan DIKTI dan LPDP Tahun 2012-2015.
2. Produksi dan Komersialisasi Sepeda, Becak dan Mobil Berbasis Listrik yang Ramah Lingkungan (Dr. Miftahul Anwar, S.Si., M.Eng.) Rp. 1.700.000.000 Pendanaan Uunggulan STRANAS Tahun 2015-2018.
3. SOLARSYS: Sistem pemantauan asset untuk pembangkit listrik tenaga surya (Ir. Chico Hermanu Brillianto Apribowo, S.T., M.Eng.) Rp. 350.000.0000 Pendanaan RISTEK Tahun 2017
4. Deseminasi teknologi desa mandiri energi (DME) melalui pemanfaatan limbah ternak menjadi energi (Biogas) dan pemanfaatan pompa air tenaga surya untuk suplai energi berkelanjutan di desa Karangjoho (Ir. Chico Hermanu Brillianto Apribowo, S.T., M.Eng.) Rp.170.000.000 Pendanaan RISTEK Tahun 2019

Hasil Penelitian

1. Bus dan Sepeda Listrik



Bus dan Sepeda Listrik UNS Salah satu hasil riset

Dr. Miftahul Anwar, ST., M.Eng. Dosen Teknik Elektro

2. E-Trike dan Sepeda Motor Listrik

E-trike dan Speda Motor Listrik Salah satu hasil riset

Prof. Ir. Muhammad Nizam, S.T., M.T, Ph.D, IPM.Dosen

3. Penerangan Jalan Umum (PJU) dan Pompa Air Tenaga Surya

Pengabdian kepada Masyarakat bersama dosen-mahasiswa

Ir. Chico Hermanu Brillianto Apribowo, S.T., M.Eng.

Pengabdian kepada Masyarakat bersama dosen-mahasiswa

Ir. Chico Hermanu Brillianto Apribowo, S.T., M.Eng.

Laboratorium Internet of Things (IoT)

Laboratorium *Internet of Things* (IoT) hadir sebagai upaya untuk mengimbangi tantangan revolusi industri 4.0. Laboratorium ini fokus dalam riset dan pengembangan di bidang internet of things yang meliputi *physical layer, communication layer, user interface*, dan *security*.
Narahubung : iotlab@ft.uns.ac.id

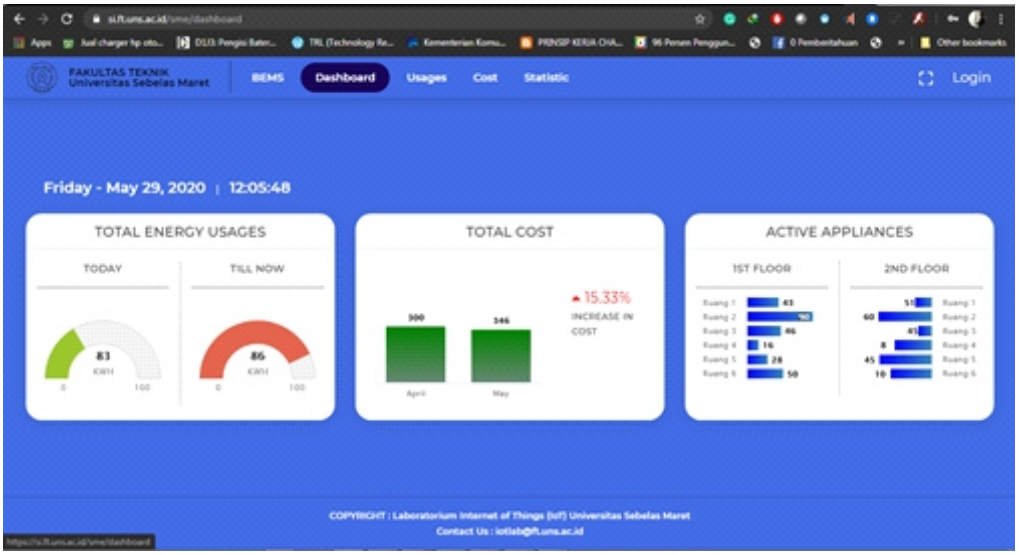
Ketua Lab : Agus Ramelan, S.Pd., MT.

Anggota Lab :
1. Muhammad Hamka Ibrahim, ST., M.Eng.
2. Chico Hermanu Brilianto A., S.T., M.Eng.
3. Joko Slamet Saputro, S.Pd., M.T.

Layanan praktikum :
1. Praktikum Sistem Berbasis IoT
2. Praktikum Proyek Kreatif 1 - 4

Layanan Lab dan Kerja sama :
1. Jasa konsultasi sistem berbasis IoT
2. Jasa desain dan pembuatan sistem berbasis IoT
3. Pelatihan dan Training di bidang IoT

Riset :
1. LoRa-BEMS (Building Energy Management System)
2. Driver Fatigue Detection System based on IoT
3. Fleet Management System

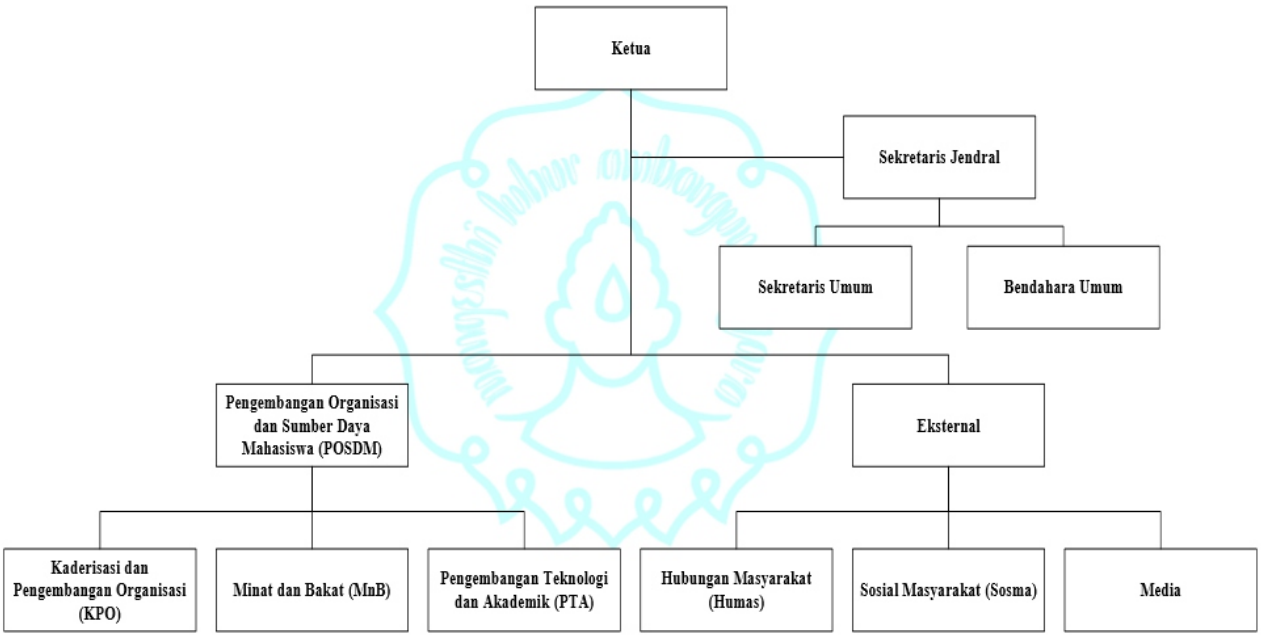


Dashboard Building Energy Management System
Copyright : Lab IoT FT UNS

Himpunan Mahasiswa Teknik Elektro (HMTE)

Himpunan mahasiswa Teknik Elektro (HMTE) adalah organisasi yang menaungi seluruh mahasiswa Program Studi Teknik Elektro Universitas Sebelas Maret. Fungsi HMTE adalah sebagai tempat untuk mengasah kemampunan akademis dan non akademis mahasiswa Teknik Elektro serta menjadi wadah untuk mendapatkan solusi atas permasalahan mahasiswa Teknik Elektro. HMTE bersifat sebagai organisasi kemahasiswaan yang mandiri dan berada di bawah naungan Program Studi Teknik Elektro Universitas Sebelas Maret.

Adapun struktur HMTE 2019 disajikan di bawah ini.



Beberapa kegiatan yang dilakukan HMTE

1. Pameran Proyek Kreatif

2. EL-SEMAR Robot Competition (Lomba Robot SD & SMP)

3. Kunjungan Industri

4. Pekan Olahraga dan Seni

4. Seminar Nasional

Alumni

Abid Alim Mustaqim-Teknik Elektro 2014

Nama perusahaan : PT. PLN (Persero)
Jabatan : Assistant Engineer (AE) Pemeliharaan Distribusi

"Alhamdulillah, saya bersyukur pernah belajar di Teknik Elektro UNS. Merasakan jadi angkatan pertama. Awalnya banyak yang meragukan tapi kemudian malah terasa cocok, pas, dan berjodoh.

Terima kasih buat ilmu, pengalaman dan keterampilan yg diberikan. Menjadikan saya bisa ini itu, ikut PKM sampai PIMNAS, bisa skripsian sampai di wisuda.

Yasmine Afifah-Teknik Elektro 2015

Nama Perusahaan : PT LEN Industri (Persero)
Jabatan : Staff TI divisi UB TIKN

"Ilmu elektro yang saya pelajari sewaktu kuliah di Teknik Elektro UNS menjadi dasar bagi saya untuk mengembangkan diri saya sejauh ini. Teknik Elektro UNS memberikan pemahaman bahwa ilmu subdisiplin di elekto saling berkaitan dan dapat menjadi bekal untuk jenjang karir. Semasa kuliah saya mengambil konsentrasi sistem energi listrik, tetapi saya juga memahami dasar ilmu dari teknik komputer, telekomunikasi, sistem dan kontrol. Hal tersebut yang membuat saya dipuji oleh perusahaan yang sedang saya ambil."

"Dosen dan mahasiswa di Teknik Elektro UNS sangat bersahabat. Hubungan antar dosen-mahasiswa terjalin layaknya keluarga. Pengembangan diri, seperti riset dan lomba didukung penuh. Prestasi sangat diapresiasi oleh prodi sehingga mahasiswa termotivasi untuk berinovasi. Saya sangat yakin Teknik Elektro UNS akan menjadi program studi yang tidak kalah bersaing dengan kampus besar lainnya".

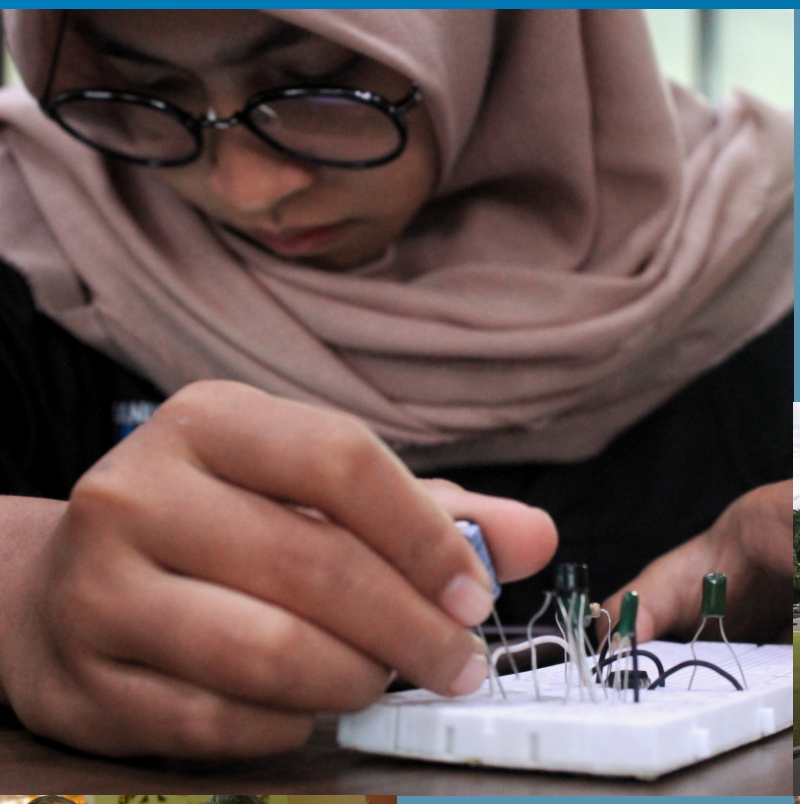
Ratih Rachmatika-Teknik Elektro 2015 *(Mahasiswa Berprestasi Utama 2018 UNS)*

Nama Perusahaan : SIAB Indonesia
Jabatan: Sept 2017 - Mei 2019 as Chief Technology Officer (CTO)
Juni 2019 - Sekarang as Founder and CEO

"Saya seorang mahasiswa teknik elektro yang awalnya tidak tahu banyak soal bisnis. Yg saya tau bisnis itu hanya jualan. Padahal lebih dari itu. Di startup saya banyak belajar mulai dr how to build idea, how to create product (product management), business process, marketing, branding, smpe pada perhitungan detail ttg cash flow dan analisis kelayakan bisnis harus saya kuasai sebagai CEO. Saya mengalami banyak rintangan up and down khususnya how to manage team and product. Karena mostly, tim saya pada saat itu masih mahasiswa shg dibutuhkan komitmen utk melakukan bisnis ini. Sehingga, kemudian saya mengikuti kegiatan inkubasi startup agar bisnis saya lebih terarah"

UNS
SEBELAS MARET
UNIVERSITY

STUDY PROGRAM OF
ELECRICAL ENGINEERING



Analyse it

Design it

Solve it

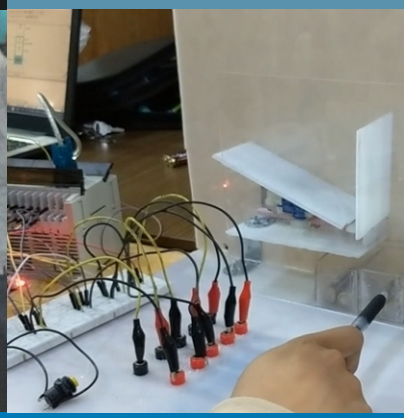


Table of Content

Welcome message from Head of Study Undergraduate Program of Electrical Engineering

On behalf of our faculty, staff and students, I would like to welcome you to undergraduate study program of Electrical Engineering, Faculty of Engineering, Sebelas Maret University, Surakarta, Indonesia.

Vision the Bachelor of Electrical Engineering Study Program is to become the excellent center of Study Program in the field of Electrical Engineering, covers aspects of education, research and community service activities, based on the noble values of national culture

Our study program was founded in 2014. Now it has grown to over 12 faculty members, 170 undergraduate students, and two supporting staff. Initially, we have four study specializations, which are 1) Power System Engineering, 2) Electronic Signaling System, 3) Mechatronics systems, and 4) Computer and informatics systems. Now, In 2019, our specializations, which are 1) Power System Engineering, 2) Control and Mechatronics, and 3) Computer and Telecommunication Engineering.

Our curricula lead to the degree of Bachelor of Engineering in the field of Electrical Engineering are designed to provide students with a solid background in mathematics and basic sciences, power system engineering, control and mechatronics, and computer and telecommunication engineering.

Our study program is committed to producing graduates, who can design and develop, implement, and analyze engineering issues in the field of electrical engineering.

Once again, we welcome you to the Electrical Engineering Study Program.

Head of Study Program of Electrical Engineering

Feri Adriyanto, Ph.D.
Mobile Phone: +62-8953 4186 5428
Email: feri.adriyanto@staff.ac.id

VISION AND MISSION OF ELECTRICAL ENGINEERING STUDY PROGRAM

Vision :

Becoming the excellent center of Study Program in the field of Electrical Engineering, covers aspects of education, research and community service activities, based on the noble values of national culture.

Mission :

1. Organizing education by developing a teaching and learning system with a new paradigm: guided "Student-Centered Learning".
2. Organizing qualified personal development, which is creative, innovative and competent, supported by a friendly, fair and sincere attitude, through foster families.
3. Developing the field of electrical engineering, especially concerning the fields of energy, signaling, information, mechatronics, and electro-automotive.
4. Carry out research to develop new technologies in a planned and sustainable manner in line with the learning and teaching process.
5. Implement the application of new technology in the context of community service.
6. Produce graduates who have high competitiveness and virtue.

Educational objectives :

1. Produce qualified graduates in the field of electrical engineering who have the integrity and motivation creatively, innovatively, friendly, fair and competent so that they have the fighting power and high competitiveness and virtue so they are able to work professionally independently or in teamwork based on sufficient knowledge to answer the challenges that exist to achieve excellence in the development of human resources.
2. Transferring knowledge to students effectively, creatively, innovatively, professionally by carrying out the teaching and learning process based on independent activities of students and teams to gain excellence in mastering the field of science.
3. Producing innovations in the field of electrical engineering covering the fields of energy, signaling, information and mechatronic technology proportionally by carrying out planned and sustainable research to gain excellence in the development of fields of science, especially in the field of electro-automotive.
4. Produce new technologies that provide solutions to existing problems in order to improve people's welfare to gain excellence in community service.

WHY STUDY WITH US?

What is Electrical Engineering?

Electrical Engineering is a branch of engineering that studies electrical problems and their applications in people's lives. In the field of electrical engineering, many involve the concept, design and design, development, and implementation of electrical device products. The field of electrical engineering plays an important role in the development and advancement of high technology such as in the fields of computers, electronics, telecommunications, energy, instrumentation, and control.

Overview of Electrical Engineering Study Program of Sebelas Maret University

The Electrical Engineering Study Program is one of the study programs at the Faculty of Engineering, Sebelas Maret University, which was established on April 29, 2014, through a Decree of the Minister of Education and Culture (No.17/E/O/ 2014). In December 2017, the Electrical Engineering Study Program has carried out the first accreditation from BAN-PT BAN-PT (4546/SK/BAN-PT/Akred/S/XI/2017) and obtained Accredited B.

The faculty members in the Electrical Engineering Study Program of Sebelas Maret University are 12 staff which are 1 professor, 4 doctors and 7 masters, and 2 supporting staffs. The faculty members is still added by teaching staff from other study programs at the Sebelas Maret University who are assigned to teach courses in Electrical Engineering Study Program. Currently the number of Electrical Engineering students reaches 148 people. In 2018 the first alumni were graduated from the school.

To support educational activities, Electrical Engineering Study Program has 6 laboratories including the Electronic Laboratory, the Telecommunications and Signal Processing Laboratory, the Computer and Network Laboratory, the Instrumentation and Control Laboratory, the Energy Conversion and Electric Power System Laboratory and the Internet of things Laboratory. The laboratory facilities are also added by sharing laboratories in other faculties at Sebelas Maret University, such as the Physics Laboratory at UPT Integrated Laboratory.

Address:
Electrical Engineering Study Program
Building III, 2nd Floor Faculty of Engineering Sebelas Maret University
Jl. Ir. Sutami 36A Kentingan Surakarta Jawa Tengah
Telepon : +62-271 647069
Email : elektro@ft.uns.ac.id
Website : Https://elektro.ft.uns.ac.id/

GRADUATE PROFILE AND LEARNING OUTCOMES OF ELECTRICAL ENGINEERING STUDY PROGRAM GRADUATES OF SEBELAS MARET UNIVERSITY

To produce quality graduates, the Electrical Engineering Study Program establishes profiles of graduates who are expected to become independent professionals. In order for graduates to be produced to have competitiveness in the world of work, the Electrical Engineering Study Program sets the graduate competency standards stated in the profile of graduates and graduate learning outcomes. The profile of graduates is often referred to as an educational program objective. While the achievements of graduate learning are often referred to as program outcomes . The profile of the graduates of the our Electrical Engineering Program covers three important aspects such as:

	Formulation of the PEO	Summary
PEO-1.	Possess technical competence in the fields of electrical engineering	Competence
PEO-2.	Be professional with ethical attitude and work efficiently	Professionalism and Work Ethic
PEO-3.	Possess effective communication skills with leadership qualities	Communication and Leadership

The profile of graduates is then explained in more detail into ten graduate learning achievements. A graduate of the Electrical Engineering Study Program, Sebelas Maret University can choose the path that interested in of professional engineer, academician, management, or researcher and technopreneur. Details of graduate learning achievements include able to:

GRADUATE PROFILE AND LEARNING OUTCOMES OF ELECTRICAL ENGINEERING STUDY PROGRAM GRADUATES OF SEBELAS MARET UNIVERSITY

	Formulation of the PO	Summary
PO01	Ability to apply principles of mathematics, science and/or material, ICT and engineering to acquire comprehensive understanding in the field of electrical engineering	Engineering concepts
PO02	Ability to design component, system and/or process to meet the specification within realistic constraint in the field of electrical engineering	Design
PO03	Ability to design and conduct experiment in lab and/or in field and interpret data to comprehend engineering analysis	Do experiments
PO04	Ability to identify, formulate, analyze and solve problem in the field of electrical engineering	Analyze and Solve Problems
PO05	Ability to apply method, skill and modern device in the field of electrical engineering	Do methods and Equipment
PO06	Ability to conduct effective communication in verbal and writing	Communicate Effectively
PO07	Ability to plan, accomplish and evaluate engineering task within specified constraint	Manage Tasks
PO08	Ability to work efficiently in teams	Work in team
PO09	Ability to commit to the society and act ethically in engineering task	Having Ethics and Professionalism
PO10	Ability to comprehend lifelong learning and recent issues in engineering	Longlife education

FACULTY MEMBERS
PROFILE

The Electrical Engineering Study Program currently has 12 permanent teaching staff consisting of 1 person as Professor, 2 staff as Associate Professor, 4 staff as Assistant Professor, 2 staff as Associate Lecturer, and 3 staff as an instructor.
Based on his educational background, there were 5 lecturers from the Electrical Engineering Study Program with a doctorate education background (42%) and the remaining 7 people (58%) with a master education background. The details of the teaching staff are as follows:

Professor

Prof. Josaphat "Josh" Tetuko Sri Sumantyo, Ph.D.

Areas of expertise	: Remote Sensing, Applied Radio Wave and Radar System
Email	: jtetukoss@faculty.chiba-u.jp
Educational Background:	
Undergraduate	: Kanazawa University, Kanazawa, Japan
Master degree	: Kanazawa University, Kanazawa, Japan
Doctorate degree	: Chiba University, Chiba, Japan

Prof. Ir. Muhammad Nizam, S.T., M.T., Ph.D., IPM

Areas of expertise	: Power system
Email	: muhammad.nizam@staff.uns.ac.id
Educational Background:	
Undergraduate	: Gadjah Mada University, Yogyakarta, Indonesia
Master degree	: Gadjah Mada University, Yogyakarta, Indonesia
Doctorate degree	: Universiti Kebangsaan Malaysia, Malaysia
Postdoctoral	: Universiti Kebangsaan Malaysia, Malaysia
Professional Engineer Program	: Professional Engineer Program, Sebelas Maret University, Surakarta, Indonesia

Associate Professor

Dr. Ir. Augustinus Sujono, M.T.

Area of expertise : Energy Conversion, Automation control and signal processing.
Email : agus.sujono@ft.uns.ac.id

Educational Background:
Undergraduate : Gadjah Mada University, Yogyakarta, Indonesia
Master degree : Gadjah Mada University, Yogyakarta, Indonesia
Doctorate degree : Gadjah Mada University, Yogyakarta, Indonesia

Ir. Subuh Pramono, S.T., M.T., IPM

Area of expertise : Telecommunications engineering
Email : subuhpramono@staff.uns.ac.id

Educational Background:
Undergraduate : Telkom University, Bandung, Indonesia
Master degree : Bandung Institute of Technology, Bandung, Indonesia

Professional Engineer Program : Professional Engineer Program, Sebelas Maret University, Surakarta, Indonesia

Dr. Eng. Faisal Rahutomo

Areas of expertise : Software Engineering, Engineering Data and Knowledge
Email : faisal_r@staff.uns.ac.id

Educational Background:
Undergraduate : Brawijaya University, Malang, Indonesia
Master degree : Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia
Doctorate degree : Chiba University, Chiba, Japan

Lektor

Feri Adriyanto, Ph.D.

Area of expertise : Microelectronics, MEMS, Sensor
Email : feri.adriyanto@staff.uns.ac.id

Educational background:
Undergraduate : IKIP Yogyakarta, Yogyakarta, Indonesia
Master degree : Bandung Institute of Technology, Bandung, Indonesia
Doctorate degree : National Cheng Kung University, Tainan, Taiwan
University of Oslo, Oslo, Norway
Postdoctoral : Universiti Tun Hussein On Malaysia, Malaysia

Dr. Miftahul Anwar, S.Si., M.Eng.

Area of expertise : Nanotechnology
Email : miftahwar@staff.uns.ac.id

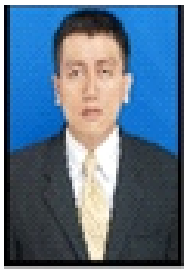
Educational background:
Undergraduate : Universitity of Indonesia, Jakarta, Indonesia
Master degree : Shizuoka University, Shizuoka, Japan
Doctorate degree : Shizuoka University, Shizuoka, Japan

Sutrisno, ST., M.Sc., Ph.D.

Area of expertise : Artificial Intelligence
Email : sutrisno@staff.uns.ac.id

Educational background:
Undergraduate : Sepuluh Nopember Institute of Technology,
Surabaya, Indonesia
Master degree : King Saud University, Arab Saudi
Doctorate degree : King Saud University, Arab Saudi

Meiyanto Eko Sulistyo, ST., M.Eng.



Area of expertise : Information Technology
Email : mekosulistyo@staff.uns.ac.id

Educational background:
Undergraduate :Gadjah Mada University, Yogyakarta, Indonesia
Master degree :Gadjah Mada University, Yogyakarta, Indonesia

Junior Lecturer

Ir. Chico Hermanu Brillianto Apribowo, S.T., M.Eng.

Area of expertise : Renewable Energy, Smart Grid, Artificial Intelligence, Power Electronics, and Electric Vehicles
Email : chico@staff.uns.ac.id

Educational background:
Undergraduate :Sepuluh Nopember Institute of Technology, Surabaya, Indonesia
Master degree :Gadjah Mada University, Yogyakarta, Indonesia
Professional Engineer Program :Professional Engineer Program, Sebelas Maret University, Surakarta, Indonesia

Ir. Muhammad Hamka Ibrahim, S.T., M.Eng., IPM

Area of expertise : Telecommunication and instrumentation
Email : hamka@staff.uns.ac.id

Educational background:
Undergraduate : Bandung Institute of Technology, Bandung, Indonesia
Master degree : Kumoh National Institute of Technology, South Korea
Professional Engineer Program : Professional Engineer Program, Sebelas Maret University, Surakarta, Indonesia

Tutor

Hari Magfiroh, S.T., M Eng., M.Sc.

Area of expertise : Control systems and electric train
Email : hari.magfiroh@staff.uns.ac.id

Educational background:
Undergraduate : Gadjah Mada University, Yogyakarta, Indonesia
Master degree : Gadjah Mada University, Yogyakarta, Indonesia
National Taiwan University of Science and Technology, Taiwan

Agus Ramelan, S.Pd., M.T

Area of expertise : Control systems, Optimal Control, Internet of Things, and Smart Grid
Email : agusramelan@staff.uns.ac.id

Educational background:
Undergraduate : Indonesia University of Education, Bandung, Indonesia
Master degree : Bandung Institute of Technology, Bandung, Indonesia

Tutor

Joko Slamet Saputro, S.Pd., M.T.

Area of expertise : Mechatronics, intelligent control, PLC and autonomous systems
Email : jssaputro89@staff.uns.ac.id

Educational background:
Undergraduate :Yogyakarta State University, Yogyakarta, Indonesia
Master degree :Bandung Institute of Technology, Bandung, Indonesia

Supporting staff

Laboratory staff:
Jaka Sulistya Budi, S.T.

Email : jsulistyabudi@gmail.com

Educational background:
Undergraduate : Gadjah Mada University, Yogyakarta, Indonesia
Master degree : Gadjah Mada University, Yogyakarta, Indonesia (study leave)

Administrative staff:
Widodo

OUR CURRICULUM
AND SUBJECTS

In this curriculum, the existing subjects are grouped into five categories according to the study material: 1) Mathematics and Basic Science, 2) General Education, 3) EE-Compulsory Course, 4) EE- Specialization Compulsory Course and 5) E-Elective Course. By paying attention to the learning mix specified at the outset and also considering guidelines from FORTEI, ABET, IABEE, and others, we determine the percentage of each category such as the following:

No	Subject Categories	Credits	%
1	Mathematics and Basic Science	36	25
2	General Education	14	10
3	EE-Compulsory Course	60	41
4	EE- Specialization Compulsory Course	25	17
5	EE-Elective Co urse	9	7
	Total	144	100

Mathematics and Basic Science (36 credits):

1. Calculus I (3 credits)
2. Calculus II (3 credits)
3. Basic Physics I (3 credits)
4. Basic Physics II (3 credits)
5. Basic Physics Laboratory (3 credits)
6. Engineering Mathematics I (3 credits)
7. Engineering Mathematics II (3 credits)
8. Probability and Statistics (3 credits)
9. Chemistry (2 credits)
10. Numerical Method (3 credits)
11. Electromagnetic Field (3 credits)
12. Linear Algebra (3 credits)
13. Descrete Mathematics and Logic (3 credits)

General Education (14 credits):

1. Philosophy of science (2 credits)
2. Pancasila Education (2 credits)
3. Entrepreneurship (2 credits)
4. Religion (2 credits)
5. Civic Education (2 credits)
6. Project Management (2 credits)
7. Community Service (2 credits)

Compulsory Course (60 credits):

1. Electrical Engineering Student Orientaion (1 credits)
2. Basic Programming and Laboratory (3 credits)
3. Electrical Circuit I (2 credits)
4. Computer Architecturer and Organization (2 credits)
5. Digital System (2 credits)
6. Creative Project I (1 credits)
7. Fundamental Electronic Laboratory I (1 credits)
8. Digital Sistem Laoboratory (1 credits)
9. Fundamental of Electronic (2 credits)
10. Electrical Circuit II (2 credits)
11. Fundamental of Telecommunication (2 credits)
12. Electrical Installation and Engineering (2 credits)
13. Creative Project II (1 credits)
14. Fundamental Electronic Laboratory II (1 credits)
15. Electrical Installation and Engineering Laboratory (1 credits)
16. Instrumentation (2 credits)
17. Analog Electronics (2 credits)
18. Electric Machinery Fundamental (2 credits)
19. Electrical Power Systems (2 credits)
20. Control System (3 credits)
21. Mechatronic (2 credits)
22. Microprocessors (2 credits)
23. Electric Machinery Fundamental Laboratory (1 credits)
24. Control System Laboratory (1 credits)
25. Electronics Laboratory (1 credits)
26. Telecommunication Laboratory (1 credits)
27. Creative Project III (1 credits)
28. Creative Project IV (1 credits)
29. Data Communication and Networks (2 credits)
30. Renewable Energy (2 credits)
31. Capstone Design (2 credits)
32. Telecommunication Data Communication and Networks (1 credits)
33. Artificial Intellegence (2 credits)
34. Management of Industry (2 credits)
35. Professional Practice (2 credits)
36. Final Project Proposal (2 credits)
37. Final Project (4 credits)

Credits composition in each semester

Semester	Credits
1st Semester	20
2nd Semester	19
3rd Semester	20
4th Semester	20
5th Semester	20
6th Semester	21
7th Semester	18
8th Semester	6
Total	144

1st Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE0101-19	Calculus I	3		
EE0102-19	Basic Physics I	3		
EE0103-19	Descrete Mathematics and Logic	3		
EE0104-19	Linear Algebra	3		
EE0105-19	Chemistry	2		
EE0106-19	Philosophy of science	2		
EE0107-19	Basic Programming and Laboratory	3		
EE0108-19	Electrical Engineering Student Orientaion	1		
	Total	20		

2nd Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE0201-19	Calculus II	3	EE0101-19	
EE0202-19	Basic Physics II	3	EE0102-19	
EE0203-19	Basic Physics Laboratory	1	EE0102-19	EE0202-19
EE0204-19	Probability and Statistics	3		
EE0205-19	Electrical Circuit I	2		EE0202-19
EE0206-19	Computer Architecturer and Organization	2		
EE0207-19	Digital System	2	EE0103-19	
EE0208-19	Creative Project I	1	EE0108-19	
EE0209-19	Fundamental Electronic Laboratory I	1		EE0205-19
EE0210-20	Digital System Laboratory	1		EE0207-19
	Total	19		

3rd Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE0301 -19	Numerical Method s	3		
EE0302 -19	Engineering Mathematics I	3	EE0201 -19	
EE0303 -19	Electromagnetic Field	3	EE0201 -19 EE0202 -19	
EE0304 -19	Fundamental of Electronic	2	EE0205 -19	
EE0305 -19	Electrical Circuit II	2	EE0205 -19	
EE0306 -19	Signal and System	2	EE0201 -19 EE0205 -19	
EE0307 -19	Fundamental of Electric al Drive s	2	EE0205 -19	EE0303 -19
EE0308 -19	Creative Project II	1	EE0208 -19	
EE0309 -19	Fundamental Electronic Laboratory I I	1	EE0209 -19	EE0304 -19 EE0306 -19
	Total	19		

8th Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE0801-19	Final Project	4	EE0701-19	
EE0802-19	Community Service	2		
	EE-Elective Course	3		
	Total	9		

EE- EE-Compulsory Course

Power Systems Compulsory Course

5th Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE1501-19	Electricity Generation	3	EE0405-19	
EE1502-19	Tranmition and Distribution	3	EE0405-19	
EE1503-19	Power System Analysis	3	EE0405-19	
EE1504-19	Advance Electrical Drives	2	EE0307-19 EE0405-19	
EE1505-19	Power System Equipment	2	EE0405-19	
	Total	13		

6th Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE1601-19	Protection System	3	EE0307-19 EE0405-19	
EE1602-19	Power Electronics	3	EE0403-19 EE0405-19 EE0407-19	
EE1603-19	Instalation Systems	3	EE0405-19	
EE1604-19	Power System Elective Topics	3	EE0307-19 EE0405-19	
	Total	12		

Control Systems and Mechatronics Compulsory Course

Semester 5

Code	Subjects	Credits	Prerequisite	Co-requisite
EE2501-19	Automation and PLC	3	EE0402-19 EE0406-19	EE0502-19
EE2502-19	Robotics System	2	EE0406-19 EE0407-19	EE0502-19
EE2503-19	Pneumatic and Hidraulic	3	EE0402-19	
EE2504-19	Microprocessor Based System	2	EE0407-19	
EE2505-19	Advance Control System	3	EE0406-19	EE0502-19
	Total	13		

4th Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE0401-19	Engineering Mathematics II	3	EE0201-19	
EE0402-19	Instrumentation	2	EE0304-19	EE0403-19
EE0403-19	Analog Electronics	2	EE0304-19 EE0305-19	
EE0404-19	Fundamental of Telecommunication	2	EE0204-19 EE0303-19 EE0306-19	
EE0405-19	Electrical Power Systems	2	EE0305-19 EE0307-19	
EE0406-19	Control System	3	EE0305-19 EE0306-19	EE0402-19
EE0407-19	Microprocessors	2	EE0206-19	
EE0408-19	Creative Project II	1	EE0308-19	
EE0409-19	Electronics Laboratory	1	EE0304-19	EE0403-19
EE0410-19	Electrical Power Systems Laboratory	1	EE0305-19	
	Total	19		

5th Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE0501-19	Telecommunication Data Communication and Networks	2	EE0404-19	
EE0502-19	Mechatronic	2	EE0406-19	
EE0503-19	Telecommunication Laboratory	1	EE0404-19	EE0501-19
EE0504-19	Control System Laboratory	1	EE0406-19	
EE0505-19	Creative Project IV	1	EE0408-19	
	EE- Specialization Compulsory Course	13		
	Total	20		

6th Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE0601-19	Professional Practice	2		
EE0602-19	Renewable Energy	2	EE0202-19	
EE0603-19	Pancasila Education	2		
EE0604-19	Capstone Design	2		
	EE- Specialization Compulsory Course	12		
	Total	20		

7th Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE0701-19	Final Project Proposal	2	EE0706-19	
EE0702-19	Artificial Intellegence	2	EE0107-19	
EE0703-19	Religion and Ethics	2		
EE0704-19	Civic Education	2		
EE0705-19	Entrepreneurship	2		
EE0706-19	Industrial Management	2	EE0408-19	
	EE-Elective Course	6		
	Total	18		

6th Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE2601-19	Smart Vehicle	3	EE0406-19 EE0503-19	EE0503-19
EE2602-19	Energy Control System	3	EE0405-19	
EE2603-19	Integration System	3	EE0402-19	
EE2604-19	Control System and Mechatronic Elective Topics	3		
	Total	12		

Telecommunications and Computer Systems Compulsory Course

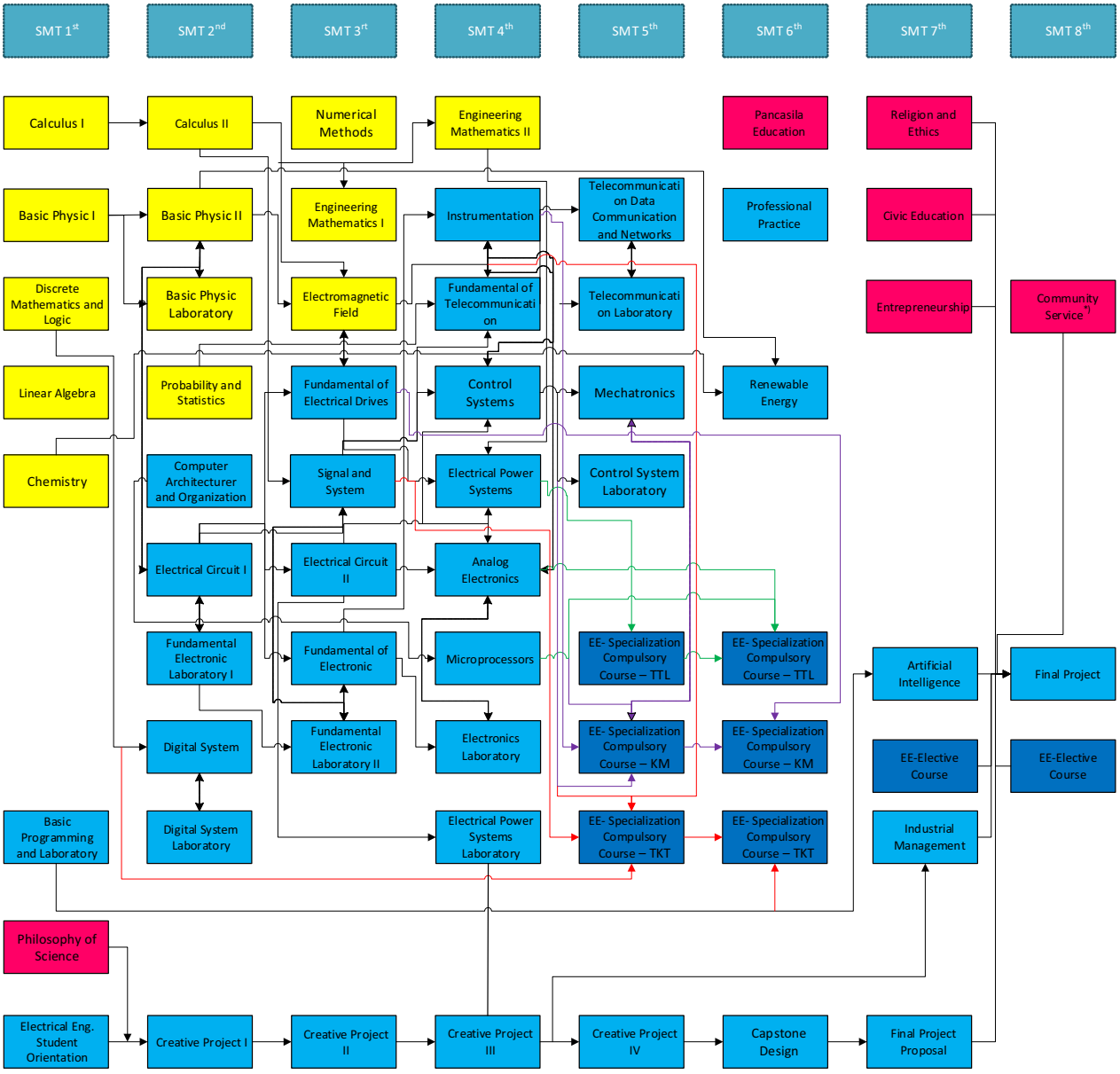
5th Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE3501-19	Propagation and Athena	3	EE0303-19	
EE3502-19	Pheriperal and Embbeded System	3	EE0407-19	
EE3503-19	Digital Signal Processing	3	EE0306-19	
EE3504-19	Algoritm and Data Structures	2	EE0103-19	
EE3505-19	Information System	2	EE0103-19	
	Total	13		

6th Semester

Code	Subjects	Credits	Prerequisite	Co-requisite
EE3601-19	Advance Telecommunication	3	EE0303-19	
EE3602-19	Digital System Design	3	EE3502-19	
EE3603-19	Advance Programming	3	EE0103-19 EE0107-19	
EE3604-19	Telecommunication and Computer System Elective Topics	3		
	Total	12		

Subject Relationship Maps are presented in the following table



EE-Elective Courses:

Code	Subjects	Credits	Prerequisite
EE4001-19	Power System Operation	3	EE0405-19
EE4002-19	Power System Dynamics and Stability	3	EE0405-19
EE4003-19	Design of Industrial Power Distribution Systems	3	EE0405-19
EE4004-19	Power System Reliability	3	EE0405-19
EE4005-19	Smart Grid	3	EE0405-19
EE4006-19	Transportation Technology and Electric Vehicles	3	EE0405-19
EE4007-19	Power Quality	3	EE0405-19
EE4008-19	Image Processing	3	EE0401-19
EE4009-19	Microprocessor Based System	3	EE0501-19
EE4010-19	Big Data and Analytics	3	EE0501-19
EE4011-19	Mobile Communication Systems	3	EE0404-19
EE4012-19	Satelite Communication System	3	EE0404-19
EE4013-19	Remote Sensing	3	EE0404-19
EE4014-19	MEMS	3	EE0403-19
EE4015-19	Project Management	3	EE0505-19
EE4016-19	Occupational Health and Safety Management	3	EE0505-19
EE4017-19	Machine Learning	3	EE0401-19
EE4018-19	Fiber-Optic Communication	3	EE0404-19
EE4019-19	Micro and Nano Devices	3	EE0403-19
EE4020-19	Microelectronics	3	EE0403-19
EE4021-19	Biomedical Instrumentation	3	EE0402-19
EE4022-19	Adaptive Control System	3	EE0406-19
EE4023-19	Neuro-Fuzzy Control System	3	EE0406-19
EE4024-19	Digital Control System	3	EE0406-19
EE4025-19	Decision Support System	3	EE0401-19
EE4026-19	Smart Computing in the Electric Power System	3	EE0405-19
EE4027-19	Design of Renewable Energy	3	EE0405-19
EE4028-19	Mobile Application Development	3	EE0501-19
EE4029-19	Energy Design and Management	3	EE0405-19
EE4030-19	Energy Storage System	3	EE0405-19

Laboratory

The Electrical Engineering Study Program has 6 laboratories including;

1. Electronics Laboratory
2. Telecommunications, and Signal Processing Laboratory
3. Computers and Networks Laboratory
4. Instrumentation, and Control Laboratory
5. Energy Conversion, and Power Systems Laboratory
6. Internet of Things Laboratory

Electronics Laboratory

Head of Laboratory : Dr. Miftahul Anwar, S.Si, M.Eng

Laboratory members:
1. Feri Adriyanto, Ph.D.
2. Meiyanto Eko S., S.T., M.Eng
3. Jaka Sulistya. Budi., S.T.

Practicum services:
1. Fundamental Electronic Laboratory I
2. Digital System Laboratory
3. Analog Electronics Analog Electronics

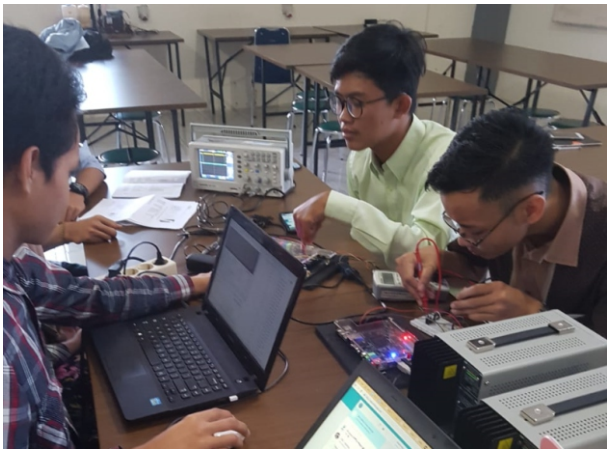
Research services:
1. Fundamental research on Electronics
2. Research on electric vehicles

Available equipment:
1. Oscilloscope
2. Digital multimeter
3. Frequency generator
4. Data aquisition
5. Sensor

Telecommunications and Signal Processing Laboratory

VISION
Empowering Laboratory as education, research, and development aspect in the field of Telecommunications to enhance Sebelas Maret University at national and international level.

MISION
1. Organizing practicums in the field of telecommunications for students.
2. Organizing research activities in the field of telecommunications and publishing research results.
3. Sustainable development cooperation with institutions, organizations or laboratories related to the telecommunications sector.



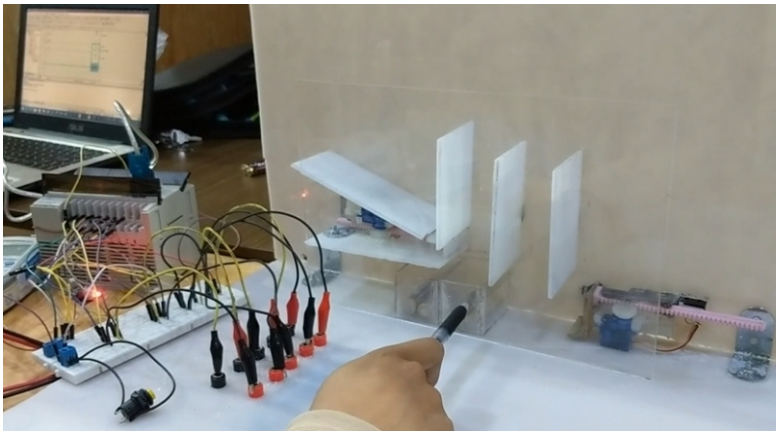
Head of Laboratory:
Ir. Muhammad Hamka Ibrahim, S.T., M.Eng, IPM

Laboratory members:
1. Ir. Subuh Pramono, S.T., M.T, IPM.
2. Annisa Hanifa
3. Miftahuddin Irfani

Education and research services:
Telecommunication Laboratory

Community services:
1.Antenna measurement
2.Training for antenna design
3. LabVIEW training
4. Multisim training
5. IoT training
6. Vision Inspection training
7. Development of testing software

Avalaible equipment:
1. Spectrum Analyzer
2. Vector Network Analyzer
3. USB DAQ



Computers and Networks Laboratory

Head of Laboratory:
Sutrisno, S.T, M.Sc, Ph.D

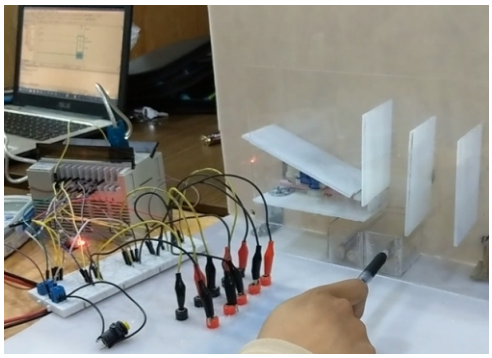
Laboratory members:
1. Meiyanto Eko Sulistyo, S.T., M.Eng.
2. Ir. Subuh Pramono, S.T., M.T., IPM
3. Ir. Muhammad Hamka Ibrahim, S.T., M.Eng, IPM

Education and research services:
1. Basic Programming and Laboratory
2. Numeric methods laboratory (MATLAB)
3. Networks and computer laboratory

Community services:
1. Training dan workshop on Artificial Intelligence
2. Research on biomedical engineering
3. Research on machine learning and pattern recognition

Avalaible equipment:
1. Server HPE Proliant DL20 gen9
2. Router Cisco
3. Switch Cisco
4. 1 Set BTS Telkomsel (demontrantion)

Instrumentation, and Control Laboratory



Head of laboratory:
Hari Magfiroh, S.T.,.M.Eng.

Laboratory members:
1. Dr. Ir. Augustinus Sujono, M.T.
2. Feri Adriyanto, Ph.D.
3. Joko Slamet Saputro, S.Pd., M.T.

Education services:
1. Mikroprosesor system laboratory
2. Control systems laboratory
3. Training on Arduino and Robotics

Avalaible equipment:
1. PLC Omron
2. Microprosesor training kit
3. TurtleBot3
4. Robot Quadruped
5. Drone
6. Robot car

Energy Conversion, and Power Systems Laboratory

The Energy Conversion and Electric Power System Laboratory is one of the laboratories that focuses on the fields of renewable energy, electric cars, and electric power systems located in Building VI, 4th Floor, Faculty of Engineering. Some laboratory activities include research, teaching, practicum, professional training, and community service in the field of renewable energy, electric cars, and electric power systems.

Head of Laboratory :
Ir. Chico Hermanu Brillianto Apribowo, S.T., M.Eng.

Laboratory members :
1. Prof. Ir. Muhammad Nizam, S.T., M.T, Ph.D, IPM.
2. Dr. Miftahul Anwar, S.Si., M.Eng.
3. Agus Ramelan, S.Pd., M.T.

Education services :
1. Power systems laboratory
2. Electric power generation laboratory
3. Transmission and Distribution of Electric Power laboratory
4. Power electronics laboratory
5. Instalations system laboratory

Research and collaboration:
1. Consultation services on power systems (planning for renewable energy generation, Transmission, Distribution and Loading etc)
2. Consultation services on Mechanical and electrical installation design
3. Energy audit
4. Trainning on ETAP, MATLAB, PV Sys and HOMER
5. Research on Laboratory Base Education)
6. Community services based science and technology

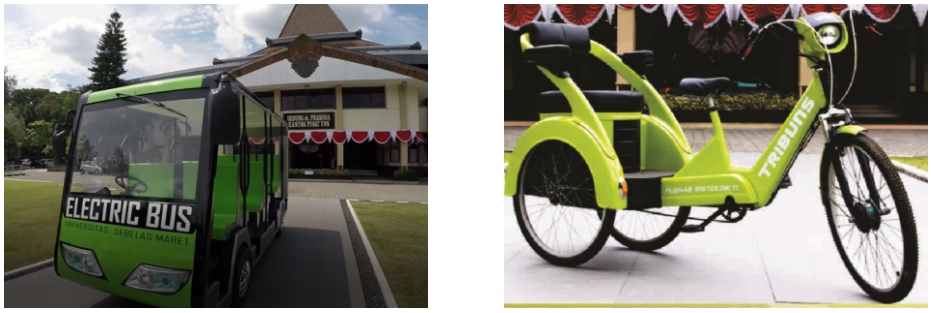
Avalaible equipment:
1. Power analyzer
2. Licensed HOMER (Hybrid Optimization of Multiple Energy Resources) Pro microgrid software
3. Licensed MATLAB software
4. Motor-Generator set
5. Modul set control and motor speed
6. PV Module System
7. Baterry Management System (BMS)
8. Direct On Line Motor (DOL) module
9. Forward reverse motor module
10. Star delta motor 3 phase Module
11. Variable speed drive module

Research Funding

1. National electric vehicle program (PI: Prof. Ir. Muhammad Nizam, S.T., M.T, Ph.D, IPM, with the grant of IDR 10,000,000,000 from Ministry of Research, Technology and Higher Education of the Republic of Indonesia and the Indonesia Endowment Fund for Education (LPDP) for year budjet of 2012 to 2015).
2. Production and commercialization of environmentally friendly bicycles, pedicabs and electric vehicles (PI: Dr. Miftahul Anwar, S.Si., M.Eng., with the grant of IDR 1,700,000,000 from national strategy funding for year budjet of 2015 to 2018).
3. SOLARSYS: asset monitoring system for solar power plants (PI: Ir. Chico Hermanu Brillianto Apribowo, S.T., M.Eng, with the grant of IDR 350,000,0000 from Ministry of Research, Technology and Higher Education of the Republic of Indonesia for year budjet of 2017).
4. Technology dissemination of energy independent village through the utilization of livestock waste into energy (Biogas) and utilization of solar water pumps for sustainable energy supply in Karangjoho village ((PI: Ir. Chico Hermanu Brillianto Apribowo, S.T., M.Eng, with the grant of IDR 170,000,000 from Ministry of Research, Technology and Higher Education of the Republic of Indonesia for year budjet of 2019.

Research result

1. Electric bus and bicycle



Electric bus and bicycle

(Dr. Miftahul Anwar's research)

2. E-trike and electric motorcycle

E-trike and electric motorcycle

(Prof. Muhammad Nizam's research)

3. Public street lighting and solar water pumps project
(PI: Chico Hermanu Brillianto Apribowo, S.T., M.Eng)

Community services program between lecturer and student

Community services program between lecturer and student

Internet of Things (IoT) Laboratory

The Internet of Things (IoT) Laboratory presents as an effort to complement the challenges of the industrial revolution 4.0. This laboratory focuses on research and development in the field of Internet of things, which includes the physical layer, communication layer, user interface, and security.
Contact us: iotlab@ft.uns.ac.id

Head of Laboratory:: Agus Ramelan, S.Pd., MT.

Laboratory members :

1. Muhammad Hamka Ibrahim, ST., M.Eng.
2. Chico Hermanu Brilianto A., S.T., M.Eng.
3. Joko Slamet Saputro, S.Pd., M.T.

Internal Services::

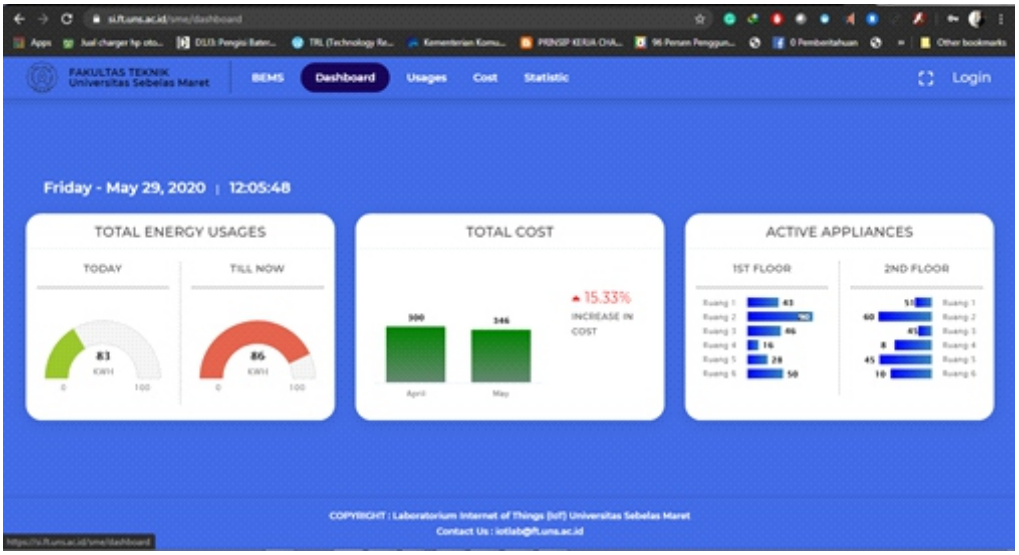
1. Laboratory of IoT Course
2. Laboratory of Creative Project Course

External Services and Collaboration:

1. Professional Consultant
2. Customize IoT Product
3. Training
4. Research and Development

Riset :

1. LoRa-BEMS (Building Energy Management System)
2. Driver Fatigue Detection System based on IoT
3. Fleet Management System

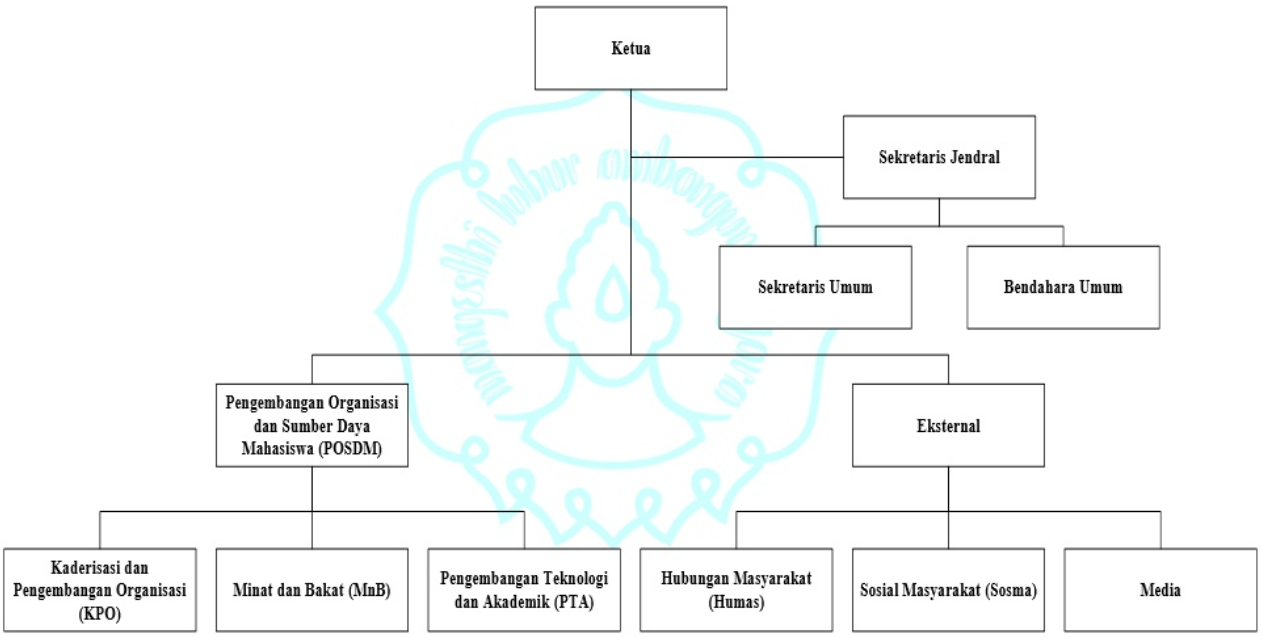


Dashboard Building Energy Management System
Copyright : Lab IoT FT UNS

Electrical Engineering Student Association (HMTE)

The Electrical Engineering Student Association is an organization that houses all students of the Study Program of Electrical Engineering, Sebelas Maret University. The function of the HMTE is as a place to hone academic and non-academic ability of Electrical Engineering students as well as a place to get solutions to the problems of Electrical Engineering students. HMTE is an independent student organization and is under the auspices of the Study Program of Electrical Engineering, Sebelas Maret University.

The structure of the 2019 HMTE is presented below.



The activities carried out by the HMTE such as:
1. Creative Project Exhibition



2. EL-SEMAR Robot Competition (elementary and yunior high school competition).



3. Industry visit

4. Sport and Art competition

4. National Seminar

Alumni

Abid Alim Mustaqim-Elecrical engineering 2014

Company name : PT. PLN (Persero)
Position : Assistant Engineer (AE)
Distribution Maintenance.

"Alhamdulillah, I am grateful to have studied in the Electrical Engineering, Sebelas Maret University. As the first batch. Initially there were many who doubted but then it felt right, right, and matched. Thank you for the knowledge, experience and skills given. Making it possible for me to do this, participating in PKM until PIMNAS. Write final project and then graduation.

Yasmine Afifah- Elecrical engineering 2015

Company Name : LEN Industri PT (Persero)
Position : UB Division IT staff, ICT

"The electrical engineering experience that I learned while studying at Electrical Engineering, Sebelas Maret University became the basis for me to develop myself so far. The Electrical Engineering of Sebelas Maret University provides an understanding that subdiscipline science in electronics is interrelated and can be a provision for career paths. During my college days I took a concentration in the electrical energy system, but I also understood the basic knowledge of computer engineering, telecommunications, systems and controls. From our company, I have received recognition for doing good work during my study.

Ratih Rachmatika-- Elecrical engineering 2015 (the outstanding student of Sebelas Maret University award 2018)

Company Name : SIAB Indonesia
Position: Sept 2017 - May 2019 : Chief Technology Officer
June 2019 - now : Founder and CEO.

"I am an electrical engineering student who initially did not know much about business. I know that business is only selling. Even more than that. At startup I learned a lot starting from how to build ideas, how to create products, business processes , marketing, branding, SMPE on the detailed calculation of cash flow and business feasibility analysis I must master as CEO, I experienced many obstacles up and down, especially how to manage the team and product, because mostly, my team at that time was still a student to do this business, so, then I joined a startup incubation activity so that my business was more focused "