



PROSPECTUS

Department of Industrial Engineering
Bachelor of Engineering (B. Eng) Degree
in Industrial Engineering

Ir. Feri Afrinaldi, Ph.D, Department Chairperson,
Reinny Patrisina, Ph.D, Program Chairperson

Contact information:

Industrial Engineering Building 2nd Floor, UNAND Campus, Limau Manis, Kecamatan Pauh, Kota Padang, Sumatera Barat, Indonesia, 25163.

Phone : +62751 72497, Fax: +62751 72566,

Website: <http://industri.ft.unand.ac.id/new/>

ABOUT THE PROGRAM



Vision:

Becoming an internationally recognized Industrial Engineering Undergraduate Program.

Mission:

- (1) To organize undergraduate education in Industrial Engineering to produce graduates who are qualified, professional and able to compete in the global market,
- (2) To organize internationally quality applied research in Industrial Engineering field,
- (3) To support the improvement of Indonesia's competitiveness through the creation of works in the field of industrial engineering that are beneficial to society.

Accreditation :

The Bachelor of Engineering (B. Eng) program possesses the highest ranking of accreditation ("Unggul") from the Board of National Accreditation for Higher Education (BAN-PT), Indonesia. The program is also recognized internationally as it gains an international accreditation from Accreditation Board for Engineering and Technology (ABET), USA.

Program Overview:

Industrial Engineering is the branch of engineering which is concerned with the design, improvement and installation of integrated systems of people, materials, information, equipment and energy. It draws upon specialized knowledge and skill in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design, to specify, predict, and evaluate the results to be obtained from such systems. The Industrial Engineering curriculum at Universitas Andalas is designed to encourage graduates to develop knowledge, skill and attitude, gained during their education, in their careers in the industries and also implement them through entrepreneurship and intrapreneurship experiences.



CURRICULUM



Program Educational Objectives (PEO):

The Program Educational Objectives of the Department of Industrial Engineering as adopted by the IE Faculty, IE Industrial Advisory Board and the IE Student Leadership are as follows:

1. Graduates are expected to attain professionalism and leadership role within industrial organization or other related organization,
2. Graduates are expected to attain role as the source for efficient and value-added solutions to increase the benefit of the organization,
3. Graduates are expected to attain cost, quality, and delivery considerations in making decisions to achieve global competitive advantages.



Student Outcomes (SO):

Student outcomes are statements of the expectations for the knowledge and skills that student should possess when they graduate with Bachelor of Engineering in Industrial Engineering from Universitas Andalas. Graduates of the program must demonstrate the followings:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics,
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences,
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts,
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives,
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions,
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
8. An ability to apply basic entrepreneurship skills.

Courses:



No	Kode MK	Nama Mata Kuliah	sks
1	TIN61101	Kalkulus I (<i>Calculus I</i>)	4
2	TIN62107	Kalkulus II (<i>Calculus II</i>)	4
3	TIN62118	Kalkulus Peubah Banyak (<i>Multivariate Calculus</i>)	3
4	TIN61111	Matriks dan Ruang Vektor (<i>Matrices and Vektors</i>)	3
5	TIN61102	Fisika Dasar I / P (<i>Basic Physics I</i>)	4
6	TIN62108	Fisika Dasar II / P (<i>Basic Physics II</i>)	4
7	TIN61103	Kimia Dasar / P (<i>Basic Chemistry</i>)	3
8	TEK60101	Bahasa Inggris (<i>English</i>)	2
11	MWU60101	Agama (<i>Religion</i>)	2
10	MWU60102	Pancasila	2
11	MWU60103	Kewarganegaraan (<i>Citizenship</i>)	2
12	MWU60104	Bahasa Indonesia (Bahasa Indonesia)	2
13	TIN61104	Pengantar Teknik Industri (<i>Introduction to Industrial Engineering</i>)	2
14	TEK60102	Etika Profesi (<i>Professional Ethics</i>)	2
15	TIN61105	Menggambar Teknik (<i>Engineering Drawing</i>)	2
16	TIN61106	Pengetahuan Lingkungan (<i>Environmental Knowledge</i>)	2
17	TIN62109	Programa Komputer (<i>Computer Programming</i>)	3
18	TIN62110	Mekanika Teknik (<i>Engineering Mechanics</i>)	2
19	TIN61112	Material Teknik (<i>Engineering Materials</i>)	2
20	TIN61113	Proses Manufaktur (<i>Manufacturing Processes</i>)	3
21	TIN61114	Statistika Industri I (<i>Industrial Statistics I</i>)	3
22	TIN61115	Perancangan dan Pengukuran Sistem Kerja (<i>Work System Design and Measurement</i>)	4
23	TIN62120	Penelitian Operasional I (<i>Operations Research I</i>)	3
24	TIN62121	Statistika Industri II (<i>Industrial Statistics II</i>)	3
25	TIN62122	Analisis dan Estimasi Biaya (<i>Cost Analysis and Estimation</i>)	2
26	TIN62123	Perencanaan dan Pengendalian Produksi (<i>Production Planning and Control</i>)	3
27	TIN61125	Penelitian Operasional II (<i>Operations Research II</i>)	3
28	TIN61127	Analisis dan Perancangan Sistem Informasi (<i>Information System Analysis and Design</i>)	3
29	TIN61130	Pemodelan Sistem (<i>System Modelling</i>)	2
30	TIN62119	Rekayasa dan Perancangan Data (<i>Data Engineering and Design</i>)	3
31	TIN61116	Organisasi dan Manajemen Perusahaan Industri (<i>Industrial Enterprise Organization and Management</i>)	3
32	TIN61126	Keselamatan, Kesehatan dan Lingkungan Kerja (<i>Safety, Health and Work Environment</i>)	2
33	TIN61128	Perancangan Teknik Industri (<i>Industrial Engineering Design</i>)	2
34	TIN61117	Pengetahuan Energi (<i>Introduction to Energy</i>)	2
35	TEK60103	Ekonomi Teknik (<i>Engineering Economics</i>)	2
36	TIN61129	Pengendalian dan Penjaminan Mutu (<i>Quality Control and Assurance</i>)	3
37	TIN62136	Elektronika dan Otomasi Industri (<i>Industrial Electronics and Automation</i>)	2
38	TIN60138	Proyek Perancangan (<i>Senior Design Project</i>)	2
39	TIN62131	Perancangan Tata Letak Fasilitas (<i>Facilities Layout Design</i>)	3
40	TIN62124	Sistem Rantai Pasok (<i>Supply Chain System</i>)	3
41	TIN62132	Analisis dan Perancangan Perusahaan (<i>Enterprise Analysis and Design</i>)	2
42	TIN62133	Simulasi Sistem (<i>System Simulation</i>)	3
43	AND60102	Kewirausahaan (<i>Entrepreneurship</i>)	3
44	TIN62135	Perancangan dan Pengembangan Produk (<i>Product Design and Development</i>)	3
45	AND60101	Kuliah Kerja Nyata (<i>Community Service and Development</i>)	4
46	TIN60137	Kerja Praktek (<i>Internship Program</i>)	2
47	TIN60134	Metodologi Penelitian (<i>Research Methodology</i>)	2
48	TIN60139	Seminar (<i>Seminar</i>)	2
49	TIN60140	Tugas Akhir (<i>Final Project</i>)	4
		MK Pilihan 15 sks (5 MK 3 sks)	15
		Total sks	146

FACULTY

- Dr. Ahmad Syafruddin Indrapriyatna, Associate Professor, Dr: Indonesia
- Dr. Alexie Herryandie, Assistant Professor, Dr: Indonesia
- Dr. Alfadhlani, Assistant Professor, Dr: Indonesia
- Prof. Alizar Hasan, Ph.D, Professor, Ph.D: Malaysia
- Dr.-Eng. Ardhian Agung Yulianto, Assistant Professor, Dr.-Eng: Japan
- Asmuliardi Muluk, MT, Associate Professor, Master: Indonesia
- Ir. Bakri Bakar, Emeritus Faculty
- Dr.-Eng. Desto Jumeno, Assistant Professor, Dr.-Eng: Japan
- Dr.-Eng. Ir. Dicky Fatrias, Assistant Professor, Dr.-Eng: Japan
- Difana Meilani, MISD, Associate Professor, Master: Netherlands
- Dr. Dina Rahmayanti, Assistant Professor, Dr: Indonesia
- Ir. Elita Amrina, Ph.D, Associate Professor, Ph.D: Malaysia
- Eri Wirdianto, M.Sc, Associate Professor, M.Sc: UK
- Ir. Feri Afrinaldi, Ph.D, Associate Professor, Ph.D: USA
- Henmaidi, Ph.D, Associate Professor, Ph.D: Australia
- Hilma Raimona Zadry, Ph.D, Associate Professor, Ph.D: Malaysia
- Ikhwan Arief, M.Sc, Assistant Professor, M.Sc: UK
- Ir. Insannul Kamil, Ph.D, Associate Professor, Ph.D: Malaysia
- Ir. Jonrinaldi, Ph.D, Assistant Professor, Ph.D: UK
- Dr.-Eng Lusi Susanti, Associate Professor, Dr.-Eng: Japan
- Prof. Nilda Tri Putri, Ph.D, Professor, Ph.D: Malaysia
- Prima Fithri, MT, Associate Professor, Master: Indonesia
- Reinny Patrisina, Ph.D, Assistant Professor, Ph.D: Thailand
- Prof. Dr. Ir. Rika Ampuh Hadiguna, Professor, Dr: Indonesia
- Ir. Taufik, MT, Associate Professor, Master: Indonesia
- Wisnel, M.Sc, Associate Professor, M.Sc: UK
- Yumi Meuthia, MT, Assistant Professor, Master: Indonesia
- Ir. Armijal, M.Eng, Assistant Professor, M.Eng: Australia



FACILITIES

- Industrial System Design and Optimization Lab
- Work Systems Design and Ergonomics Lab
- Production Systems Lab
- Information Systems & Decision Lab
- Plant Facility Layout Lab
- Business and Management Lab
- Computer/ Multimedia Room
- Lab scale assembly line
- Innovation research center
- Reading room
- Conference room
- Seminar rooms
- Classrooms
- Discussion rooms
- Student activity rooms



RESEARCH GROUPS

- Human Factors Engineering
- Manufacturing Systems
- Engineering Management Systems
- Logistic and Supply Chain Systems

