

**DEPARTEMEN TEKNIK INDUSTRI
FAKULTAS TEKNIK
UNIVERSITAS INDONESIA**



**BUKU KURIKULUM
PROGRAM PASCA SARJANA - MAGISTER
2008**

**INDUSTRIAL ENGINEERING DEPARTMENT
FACULTY OF ENGINEERING
UNIVERSITY OF INDONESIA**

**CURRICULUM HANDBOOK
POSTGRADUATE MASTER PROGRAM
2008**

DEPARTEMEN TEKNIK INDUSTRI
PENDIDIKAN PROGRAM SARJANA

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INDUSTRIAL ENGINEERING DEPARTMENT
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1. Umum

Pendidikan Teknik Industri diarahkan untuk menjawab kebutuhan Industri Nasional akan sarjana rekayasa industri (*industrial engineers*) yang memiliki kemampuan pada bidang proses produksi, proses operasi yang efisien dan efektif untuk menuju yang terbaik (*excellence*). Sarjana teknik industri diharapkan mampu mentransformasikan industri nasional yang masih berdasarkan kepada keunggulan komparatif menjadi keunggulan kompetitif untuk meningkatkan kesejahteraan rakyat Indonesia. Industri Nasional yang dimaksud adalah mencakup industri jasa dan industri manufaktur.

2. Profil Departemen Teknik Industri

Program Studi Teknik Industri dibentuk pada pertengahan tahun 1970an sebagai suatu program studi tambahan di lingkungan Jurusan Teknik Mesin FTUI, mengingat pada masa itu terdapat kebutuhan di masyarakat akan seorang ahli teknik mesin “spesial” yang memiliki kemampuan seperti seorang ahli teknik industri dewasa ini. Pada pertengahan tahun 1998 berdasarkan Surat Keputusan Ditjen Dikti no. 207/DIKTI/ Kep/1998, 30 Juni 1998, Program Studi Teknik Industri dipindahkan pengelolaannya dibawah Jurusan Teknik Industri yang baru, sehingga memberikan otonomi yang lebih luas dalam mengintegrasikan keilmuan teknik industri ke dalam program studi ini.

Memasuki windu ke-2 sejak didirikan sebagai Departemen, Teknik Industri telah menunjukkan berbagai macam prestasi baik secara organisasi, aktivitas mahasiswa, maupun lulusannya. Hal yang paling

1. Introduction

Industrial Engineering Education is an answer to a growing need of Industrial Engineers who has the capability in managing production or operations process efficiently and effectively to achieve excellence. Industrial Engineers should be one of the backbones for transforming our national industry to be more competitive and contribute to our nation's welfare. The scope of the term industry is for both for service and manufacturing industry.

2. Industrial Engineering Department Profile

Industrial Engineering Program was actually formed in the mid 1970s as part of Mechanical Engineering Department, due to the market needs for a specialized mechanical engineers which defines the current definition of industrial engineers. By 1998, based on Decree by Higher Education Director No 207/DIKTI/Kep/1998 dated June 30 1998, the Industrial Engineering Department was born. With the new status as department, the program had more autonomy and opportunity to enhance the Industrial Engineering Discipline in Indonesia.

After 10 years as an independent Department, Industrial Engineering has been recognized by the national public and the industry as one of the forefronts industrial engineering education in

menggembirakan adalah semakin tingginya akseptabilitas dari industri dan masyarakat terhadap lulusan teknik Industri. Hingga saat ini, lulusan Teknik Industri FTUI telah tersebar di berbagai industri jasa dan industri manufaktur, pemerintah maupun swasta. Industri jasa yang dimaksud mencakup lembaga keuangan, jasa konsultasi, jasa teknologi informasi, pelayanan masyarakat dan lain sebagainya. Sedangkan di Industri manufaktur telah mencakup bidang manajemen produksi, sumber daya manusia, pemeliharaan, logistik, inventori dan lain sebagainya.

Untuk mewujudkan Visi Universitas Indonesia untuk diakui sebagai Universitas Riset yang Merupakan Pusat Unggulan Ilmu Pengetahuan, Teknologi dan Budaya, Departemen Teknik Industri telah menyusun Visi Pendukung visi universitas ini, yaitu

“Menjadi institusi pendidikan yang bereputasi baik dalam menghasilkan lulusan dan penelitian Teknik Industri yang bermutu serta bermanfaat bagi industri Indonesia”

Visi ini akan diwujudkan melalui misi,

“mewujudkan kecintaan pada bidang keilmuan Teknik Industri dengan menumbuhkan healthy academic atmosphere yang dapat memfasilitasi kegiatan akademik yang terbaik bagi dosen dan mahasiswa”

2.1 Struktur dan Staf Pengajar

Ketua Departemen:

Indonesia. This is shown by the high demand and acceptability of our graduates. Today, our graduate has been accepted in not just the manufacturing industry but also service industry as well such as governments, hospital, financial service, consulting, information technology and many others. In the manufacturing area, we have graduates in charge of production or operations management, human resource development, maintenance, inventory and logistics, and many more.

To achieve University Indonesia's vision to be recognized as research university with center of excellence for science, technology and culture, our department have supporting vision statement,

“establishing a education institution with good reputations in providing high quality Industrial Engineering graduates and researches which contributes to the development of Indonesia's Industry”

Through our mission,

“Institute our shareholders love of Industrial Engineering Field of Discipline by nurturing healthy academic atmosphere that facilitates the best academic activities for our students and staffs”

2.1 Organization Structure and Lectures

Head of Department:

Dr. Ir. T. Yuri Maemunyah, MSc
Wakil Ketua Departemen:
Ir. Fauzia Dianawati, MSi
Ka. Lab. Teknik dan Manajemen Industri:
Ir. Boy Nurtjahyo Moch., MSIE
Ka. Lab. Faktor Manusia:
Ir. Yadrifil, MSc
Ka. Lab. Rekayasa, Pemodelan dan Simulasi Sistem:
Ir. Akhmad Hidayatno, MBT
Ka. Lab. Sistem Informasi dan Pengambilan Keputusan:
Ir. M. Dachyar, MSc

Staf Pengajar (urutan alfabet)

Akhmad Hidayatno, MBT, (Ir, UI, MBT, Univ. of New South Wales, Australia). Pemodelan Sistem, Sistem Penjaminan & Pengendalian Kualitas, Berpikir Sistem, Simulasi Industri, Ketrampilan Interpersonal.
Amar Rachman, (Ir. UI, MEIM, KuLeuven, Belgia). Programa Linier, Penelitian Operasional, Elemen Mesin, Fasilitas Pabrik
Andy Noorsaman Sommeng, (Ir. UI, DEA. Univ. De Technologie de Compiegne, Dr. ECP - Paris) Optimasi Sistem Distribusi, Safety and Loss Prevention.
Arian Dhini, (ST. ITB, MT UI) Statistik dan Probabilitas. Statistik Industri. Perancangan Eksperimen.
Armand Omar Moeis (ST, UI, MSc, Belanda). Pemodelan Sistem, Manajemen Teknologi, Manajemen Energi.
Boy Nurtjahyo Moch (Ir, UI, MSIE, Wayne State University, USA). Dasar Komputer, Faktor Manusia, Manajemen Pemeliharaan.
Betrianis (Ir, UI, MSi, IPB). Statistik & Probabilitas, Akuntansi &

Dr. Ir. T. Yuri Maemunyah, MSc
Vice-Head of Department in Administration:
Ir. Fauzia Dianawati, MSi
Head of Industrial Engineering and Management Lab:
Ir. Boy Nurtjahyo Moch., MSIE
Head of Human Factors Lab
Ir. Yadrifil, MSc
Head of Systems Engineering, Modeling and Simulation Lab:
Ir. Akhmad Hidayatno, MBT
Head of Decision Support and Information System Lab:
Ir. M. Dachyar, MSc

Lectures (in alphabetical order)

Akhmad Hidayatno, MBT, (Ir, UI, MBT, Univ. of New South Wales, Australia). Systems Modeling, Quality Control & Assurance System, System Thinking, Industrial Simulation, Interpersonal Skills.
Amar Rachman, (Ir. UI, MEIM, KuLeuven, Belgia). Linear Programming, Operations Research, Machine Elements, Plant Facilities
Andy Noorsaman Sommeng, (Ir. UI, DEA. Univ. De Technologie de Compiegne, Dr. ECP - Paris) Safety and Loss Prevention.
Arian Dhini, (ST. ITB, MT UI) Statistic and Probability. Industrial Statistics. Design of Experiment.
Armand Omar Moeis (ST, UI, MSc, Belanda). Systems Modeling, Management of Technology, Energy Management.
Boy Nurtjahyo Moch (Ir, UI, MSIE, Wayne State University, USA). Basic Computer Logic & Programming, Human Factors, Maintenance System.
Betrianis (Ir, UI, MSi, IPB). Statistics & Probability, Cost &

Biaya.

Djoko S. Gabriel (Ir, ITB, MT, ITB). Tata Letak Pabrik, Analisa Kelayakan Industri.

Erlinda Muslim (Ir, ITB, MEE, UTM). Ekonomi Teknik, Pemasaran Industri, Manajemen Strategi Industri, Perancangan Produk, Total Quality Management, Perancangan Proses.

Esa Haruman (Ir. UI, MSc. Birmingham University, Ph.D. Birmingham **University**) Heat Treatment

Fauzia Dianawati (Ir, UI, MSi, UI). Ekonomi Teknik, Pengantar Ilmu Ekonomi & Bisnis, Perancangan Organisasi, Perancangan Produk dan Proses.

Isti Surjandari P. (Ir, UI, MT, ITB, MA, Ohio State University, Ph.D, Ohio State University). Statistik Industri, Analisa Multivariat, Perancangan Eksperimen (DOE), Pengantar Ilmu Ekonomi & Bisnis, Kapita Selekta Industri.

Komarudin (ST, UI) Sistem Distribusi & Logistik, Pemodelan Sistem.

M. Dachyar (Ir, UI, MSc, VU Brussel, Belgia) Sistem Informasi, Manajemen Proyek, Ekonomi Teknik, Teori Keputusan.

Rahmat Nurcahyo (Ir, UI, MEngSc. Univ of New South Wales, Australia) Psikologi Industri.

Ricky Andriansyah (ST UI , M.Sc. TU Eindhoven) Programa Linier, Penelitian Operasional.

Sri Bintang Pamungkas (Ir., ITB, MSc., USA, Ph.D, USA) Pengantar Ilmu Ekonomi & Bisnis, Proses Produksi, Teknik Proses dalam Industri.

Sunaryo (Ir, FTUI, 1981;PhD, Strathclyde Univ. - Scotland, 1992) Transport Management.

Sutanto Soehodho (Ir, Sipil, FT-UI, 1986 M.Eng. Tokyo University, Jepang, 1989, Dr. Tokyo University , Jepang, 1992, Prof. UI) Sistem Transportasi, Teknik lalu Lintas,"Artificial

Accounting

Djoko S. Gabriel (Ir, ITB, MT, ITB). Plant Layout, Industrial Feasibility Study

Erlinda Muslim (Ir, ITB, MEE, UTM). Engineering Economics, Industrial Marketing, Industrial Strategic Management, Product Design, Total Quality Management, Process Design.

Esa Haruman (Ir. UI, MSc. Birmingham University, Ph.D. Birmingham **University**) Heat Treatment

Fauzia Dianawati (Ir, UI, MSi, UI). Engineering Economics, Introduction to Economics & Business, Organizational Design, Product Design & Process Design.

Isti Surjandari P. (Ir, UI, MT, ITB, MA, Ohio State University, Ph.D, Ohio State University). Industrial Statistics, Multivariate Analysis, Design of Experiment, Introduction to Economics & Business, Special Topics in Industrial Engineering.

Komarudin (ST, UI) Logistics & Distribution System, Systems Modeling.

M. Dachyar (Ir, UI, MSc, VU Brussel, Belgia) S Information System, Project Management, Engineering Economics , Decision Theory

Rahmat Nurcahyo (Ir, UI, MEngSc. Univ of New South Wales, Australia) Industrial Psychology.

Ricky Andriansyah (ST, UI, M.Sc. TU Eindhoven) Linear Programming, Operations Research.

Sri Bintang Pamungkas (Ir., ITB, MSc., USA, Ph.D, USA) Introduction to Economics & Business, Production Processes, Process Techniques in Industry.

Sunaryo (Ir, FTUI, 1981;PhD, Strathclyde Univ. - Scotland, 1992) Transport Management

Sutanto Soehodho (Ir, Sipil, FT-UI, 1986 M.Eng. Tokyo University, Jepang, 1989, Dr. Tokyo University , Jepang, 1992, Prof. UI) Transportation System, Traffic Engineering,"Artificial

Intelligence”, Logistik Angkutan Umum, Kebijaksanaan Transportasi.

T. Yuri Maemunsyah (Ir, UI, MEngSc. Univ of New South Wales, Australia ; Dr. UI, 2001) Pengantar Teknik Industri, Total Quality Management.

Tresna P. Soemardi (Ir, ITB, 1980; SE, FEUI, 1987; MSi, UI, 1985; Dr. Ecole Centrale de Paris – France, 1990) Perancangan Produk & Proses, Mekanika Komposit, Pemilihan Bahan dan Proses,

Yadrifil (Ir, UI, MSc, USA) Manajemen Strategi Industri, Sistem Produksi, Perencanaan dan Pengendalian Produksi

Intelligence”, Transportation Policy.

T. Yuri Maemunsyah (Ir, UI, MEngSc. Univ of New South Wales, Australia ; Dr. UI, 2001) Introduction to Industrial Engineering, Total Quality Management.

Tresna P. Soemardi (Ir, ITB, 1980; SE, FEUI, 1987; MSi, UI, 1985; Dr. Ecole Centrale de Paris – France, 1990) Product and Process Design, Composite Mechanics, Material and Process Selection

Yadrifil (Ir, UI, MSc, USA) Industrial Strategic Management, Production System, Production Planning & Control

2.2 Alamat Kontak

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2.2 Contacts and Address

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3. Keilmuan Teknik Industri

Lulusan sarjana Teknik Industri UI yang diarahkan untuk memiliki kemampuan pemecahan masalah yang kuat dan sistemik dengan pendekatan multi-disiplin tentunya dalam kerangka keilmuan teknik industri. Keilmuan teknik industri sendiri merupakan keilmuan teknik yang unik karena telah mengandung pendekatan multi-disiplin dalam pendefinisian keilmuannya. Walaupun respons pengguna lulusan kami sangat menggembirakan, tentunya untuk menjaga kepercayaan masyarakat industri, perlu secara terus-menerus mengintegrasikan perkembangan terbaru keilmuan Teknik Industri sehingga secara rutin pula akan kami evaluasi dan sesuaikan.

Seperti terlihat dalam pendefinisian bidang keilmuan teknik industri dibawah ini:

Teknik industri berfokus kepada perancangan, peningkatan dan instalasi dari sistem terintegrasi yang terdiri atas manusia, material, peralatan dan energi untuk menspesifikasikan, memprediksi dan mengevaluasi hasil yang diperoleh dari sebuah sistem terintegrasi, oleh karena itu dibutuhkan pengetahuan dan keahlian dalam bidang matematika, fisika dan ilmu-ilmu sosial serta prinsip dan metodologi teknik/rekayasa.

Untuk menjelaskan pendefinisian ini maka definisi diatas akan dibagi menjadi 3 bagian utama:

3. Industrial Engineering Defined

We are focusing our graduates to not just the basic competency to become Industrial Engineers, but also have strong problem solving capability with multi disciplinary systems approach. These combinations of hard and soft skills are considered essential for the job market. Even though our graduates is well accepted by the industry, since they have these combinations, as a dynamic discipline, Industrial Engineering Department must continuously improving by adopting the latest trends and changes into our curriculum.

Industrial engineering discipline itself is a unique engineering discipline which already required the multidisciplinary approach in the definition of industrial engineering:

Industrial Engineering concerned with the design, improvement and installation of integrated systems of people, materials, 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, to specify, predict and evaluate the results to be obtained from such a system

In order to explain and elaborate this definition, we need to break down this definition into 3 main parts:

Bagian I: Teknik industri berfokus kepada perancangan, peningkatan dan instalasi dari sistem terintegrasi yang terdiri atas manusia, material, peralatan dan energi ...

Bagian ini mendeskripsikan 3 peran utama yang harus dilakukan seorang teknik industri yaitu merancang, meningkatkan dan menginstalasi sebuah sistem terintegrasi.

Kita mulai dari konsep “sistem terintegrasi”. Sistem dapat diartikan sebagai sebuah entitas/obyek yang terdiri atas berbagai komponen yang saling berinteraksi sedemikian rupa sehingga entitas tadi mampu berfungsi mencapai tujuannya. Dalam definisi ini dijelaskan bahwa sebuah sistem terintegrasi pasti memiliki minimal 4 komponen (sub-sistem) yaitu manusia, material, peralatan dan energi. Ini berarti semua sistem yang memproduksi atau meningkatkan nilai tambah baik berupa barang maupun jasa adalah obyek yang dikelola oleh teknik industri. Ini karena hampir semua sistem pasti memiliki ke-4 unsur tersebut.

Terintegrasi menunjukkan bahwa interaksi yang terjadi dari ke-4 unsur tersebut bermuara kepada sebuah perilaku sistem yang lebih dari hanya penggabungan sederhana ke-4 unsur tersebut. Seorang manusia adalah sebuah sistem terintegrasi yang menjadi manusia karena semua sub-sistemnya berinteraksi sedemikian rupa. tetapi jika dimasa yang akan datang kita bisa mendesain tubuh manusia dari komponennya kemudian menyatukannya apakah akan menjadi manusia?

Variasi yang terjadi dalam pendidikan teknik industri di dunia dan juga di Indonesia, biasanya bersumber dari pendefinisian sub-sistem dalam sebuah sistem (bisa lebih banyak dari 4 sub-sistem) serta perbedaan penekanan terhadap sub-sistem mana yang diperdalam

Part I: Industrial Engineering concerned with the design, improvement and installation of integrated systems of people, materials, equipment and energy ...

In this first part, we elaborate the 3 main roles of industrial engineers: design, improve and installation of integrated systems.

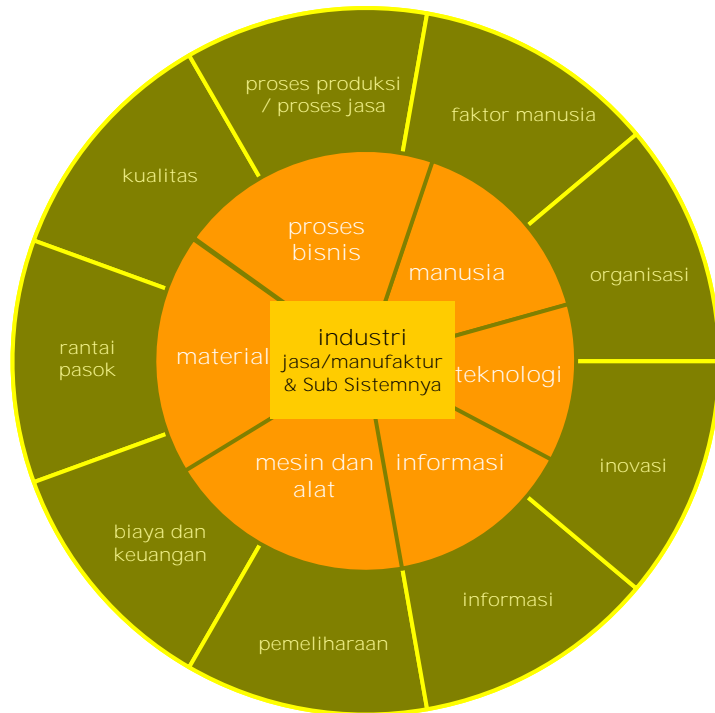
Let us start by exploring the term: integrated systems. Systems can simply be defined as an entity which consists of components that interacts with each others in certain way so the entity could function to achieve its goals. As we could read in the definition above, an integrated system, will in the minimum consist of 4 components: human, materials, equipment, and energy. By this, all type of industry: services, manufacturing, creative, education etc. could be managed by the industrial engineers, since almost all type of industries would have these 4 components.

The term “integrated” means that the interaction between the 4 components leads to an emerging observed behavior which is different than just the sum of its parts. A human is an integrated system due to the interaction of human components: brain, skeleton, heart, etc. However, if we have the technology to develop all of the human components and we put them together, will we have a human?

Industrial engineering educations in Indonesia and the world in general, are different from each other due to different interpretations and emphasizes of the components of an integrated industrial systems. The 4 components is just the minimum, each

pemahamannya. Tetapi semuanya pasti memiliki minimal 4 sub-sistem ini sebagai dasar.

Untuk Teknik Industri UI, kami membagi sebuah sistem industri terintegrasi sebagai berikut:

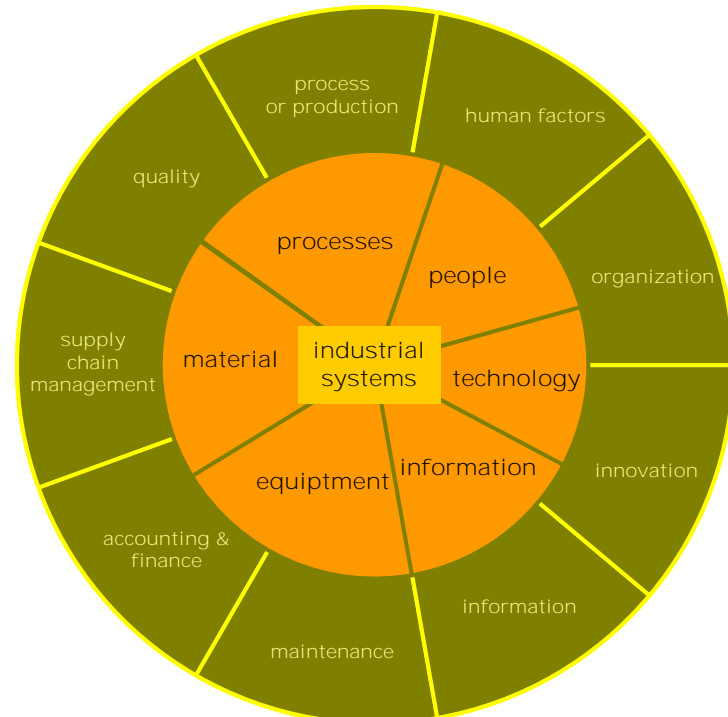


Setiap dan semua komponen/sub-sistem merupakan komponen yang harus dikuasai dalam melakukan 3 tugas utama seorang teknik industri:

Merancang menunjukkan kemampuan untuk secara kreatif mengkombinasikan pengetahuan yang telah dimiliki kedalam sebuah rancangan sistem. Sistem disini tidak hanya berupa sistem pabrik

institution can add more based on the needs of its region' stakeholders.

In University of Indonesia, we see that an integrated industrial systems consist of:



Industrial Engineers must learn and understand all of these components when they perform their 3 main roles:

Design: shows the capability to creatively combine all the knowledge that he/she has into the design of the system. Traditionally, Industrial Engineer designs a factory or operation

atau organisasi, tetapi dapat berupa pula merancang sistem solusi, yaitu rancangan solusi yang multidisiplin, multiapproach dan multidimensi.

Meningkatkan dapat diterjemahkan sebagai manajemen. Pakar manajemen mengatakan bahwa ada beda antara administrasi dan manajemen. Administrasi berorientasi untuk mengerjakan hal yang sama terus menerus secara tepat aturan, sedangkan manajemen bermakna ada peningkatan yang harus dilakukan. Berdasarkan definisi ini tentunya meningkatkan/manajemen menunjukkan kemampuan untuk melakukan pemecahan masalah, karena inti dari peningkatan adalah kemampuan memecahkan masalah. Ini mencakup kemampuan analisa, berfikir sistem dan lain sebagainya yang berguna dalam memecahkan masalah.

Menginstalasi menunjukkan kemampuan untuk melakukan pendefinisian langkah-langkah yang dibutuhkan untuk melakukan instalasi terhadap rancangan sistem. Menginstalasi memaksa seorang teknik industri untuk berfikir jauh ke depan dalam merancang dan meningkatkan sistem. Penterjemahan konsep ini contohnya adalah manajemen proyek, *design for maintenance*, *design for manufacture*, *design for six sigma* (DFSS) dsb. yaitu sebuah konsep perancangan yang sudah memasukkan unsur kemudahan pemeliharaan, pembuatan bahkan pengontrolan kualitasnya sehingga produk dapat lebih cepat diterima oleh pasar dalam kualitas optimal.

Bagian 2: .. untuk itu dibutuhkan pengetahuan dan keahlian dalam bidang matematika, fisika dan ilmu-ilmu sosial serta prinsip dan metodologi teknik/rekayasa ..

Bagian ini menunjukkan kebutuhan keilmuan dasar untuk

system; however the perspectives can be applied to design a system of solutions with multi-disciplinary, multi-approach and multi-dimensional characteristics.

Improve: can be defined as management since management means you have to improve something. If you just want to do the same things efficiently, it is called administration. Management will always face with problem solving, since problems can be defined as a gap between what we want and what we have now. This would require analytical skills, systems thinking and other tools and methods supporting their problem solving capability.

Install: requires the capability to define steps necessary to install a systems design. Installation forces industrial engineers to think ahead in the future and defines the performance accepted when the system is operational. It would include project management, design for maintenance, design for manufacture, design for six sigma (DFSS), etc.

Part 2: ... It draws upon specialized knowledge and skill in the mathematical, physical and social sciences together with the principles and methods of engineering ...

Industrial Engineers requires basic knowledge and skills to conduct

mendukung peran seorang teknik industri dan penegasan bahwa teknik industri walaupun erat dengan ilmu sosial masih merupakan bidang teknik. Itulah sebabnya dalam kurikulum teknik industri tahun pertama sarat dengan kuliah-kuliah dasar keteknikan seperti kalkulus, aljabar linear, fisika, kimia dan sebagainya, walaupun secara muatan tentunya disesuaikan dengan kebutuhan dari teknik industri.

Bagian 3: .. untuk menspesifikasikan, memprediksi dan mengevaluasi hasil yang diperoleh dari sebuah sistem terintegrasi.

Bagian 3 merupakan sebuah konsekuensi yang logis dari penterjemahan bagian I dari definisi teknik industri, yaitu 3 peran utama teknik industri tentunya akan menciptakan sebuah sistem baru atau sistem perbaikan dengan kinerja yang lebih baik. Ini berarti perbaikan atau perancangan harus berorientasi kepada fakta dan data.

Ada 3 permasalahan dalam kinerja, yaitu bagaimana menspesifikasikan kinerja, memprediksi kinerja yang telah dispesifikasikan dan bagaimana mengevaluasinya.

Menspesifikasikan: Kinerja harus dispesifikasikan di awal sebuah perancangan atau peningkatan sistem, karena setiap pihak bisa jadi memiliki perbedaan persepsi terhadap arti kinerja. Seorang ahli keuangan mengatakan kinerja baik dari sebuah sistem adalah penghematan biaya, seorang marketing mengatakan kinerja baik berarti memenuhi kebutuhan pelanggan, seorang manajer produksi mengatakan kinerja baik adalah kesesuaian dengan standard produk. Semua kinerja ini tidak ada yang salah, tetapi semua kinerja ini bisa saling bertentangan dan berakibat sistem tidak akan kemana-mana. Menspesifikasikan berarti pula seorang teknik industri harus

their jobs, it is also an acknowledgement that industrial engineering is part of engineering discipline even though it also need social sciences. The 1st year of education is mainly consist core engineering courses to develop these basic competencies, such as mathematics, physics and chemistry.

Part 3: ... to specify, predict and evaluate the results to be obtained from such a system

As the final stage when Industrial Engineers conduct their work is about results of the systems that they have designed, improved or installed. The systems results or performance should be better than the previous performance which will be calculated using facts and data.

When we talk about performance, there are 3 stages that we usually must performs: specify which performance criteria fit for the systems, predict how the performance on the systems based on our current knowledge or design and how to measure and evaluate them when the systems operational,

Specify, we should specify the results or performance of the systems in the beginning of the design or improvement stage, mainly because there could be different interpretations between multiple stakeholders. A finance expert could say that cost savings is the primary measurement, a marketer could say that delivering what the customer want, a production expert could say that conformance to standards. All of these performances are right, however we might have to develop a trade off since we cannot satisfy them all at the same time. Specify means that an industrial engineers must know how to define the right indicators, how to

menentukan indikator, cara mendapatkan indikator, form pencarian data, alat yang digunakan untuk mengukurnya, frekuensi pengukuran dsb.

Memprediksi: setelah dispesifikasikan, tentunya ketika merancang atau meningkatkan sistem kita sudah bisa mendapatkan semacam gambaran bagaimana sistem tadi berfungsi nantinya dan bagaimana kinerjanya. Artinya, kinerjalah yang menjadi patokan anda dalam memperbaiki dan merancang sistemnya.

Mengevaluasi: tentunya setelah sistem diperbaiki atau dirancang dan diinstalasi kita perlu melakukan evaluasi secara riil terhadap kinerja tadi. Jika telah dispesifikasikan dengan baik maka pada langkah ini dijalankan proses pengevaluasian kinerja. tentunya hasil dari evaluasi akan menjadi umpan balik dalam perbaikan berikutnya.

Mata ajaran yang diberikan pada tingkat SI ini diharapkan dapat mencakup bidang industri jasa dan industri manufaktur mengingat 2 faktor utama, yaitu:

- Letak Geografis Universitas Indonesia yang merupakan ibukota negara membuat kombinasi antara pusat jasa di tengah kota dan pusat manufaktur pada bagian lingkaran luar ibukota.
- Sarjana Teknik Industri UI sebagian besar terserap pada sektor jasa karena keunikan pola pikir sistemiknya yang mampu menerapkan keilmuannya tidak hanya di sektor manufaktur.

get them consistently, how frequent, examining the cost and benefits of a measurement.

Predict, after we have specified the results, we should be able to predict how our designed systems will perform. Basically, we use results/performance specifications as the main guidance for our design or improvement.

Evaluate, when the systems have been improved or installed, we then could move into evaluating the performance of the real systems. The results of the evaluation will act as a feedback for further improvement of the systems or when designing a new similar systems.

For our undergraduate graduates, we hope that they could work not just in the traditional manufacturing industry, but also in the services industry, primarily because:

- Universitas Indonesia geographical locations at the capital city of Indonesia has create a unique mixture of strong services centers in Jakarta City and strong manufacturing sector in the surrounding area (Tangerang and Bekasi).
- Majority of our graduates' works in the service industry, their unique problem solving quality could be applied also in the service industry.

Our master program or postgraduate program will be designed to accommodate specialization of Industrial Engineering Discipline, such as Quality Engineering, Simulation and Modeling, Operations and Industrial Policy, and Manufacturing System

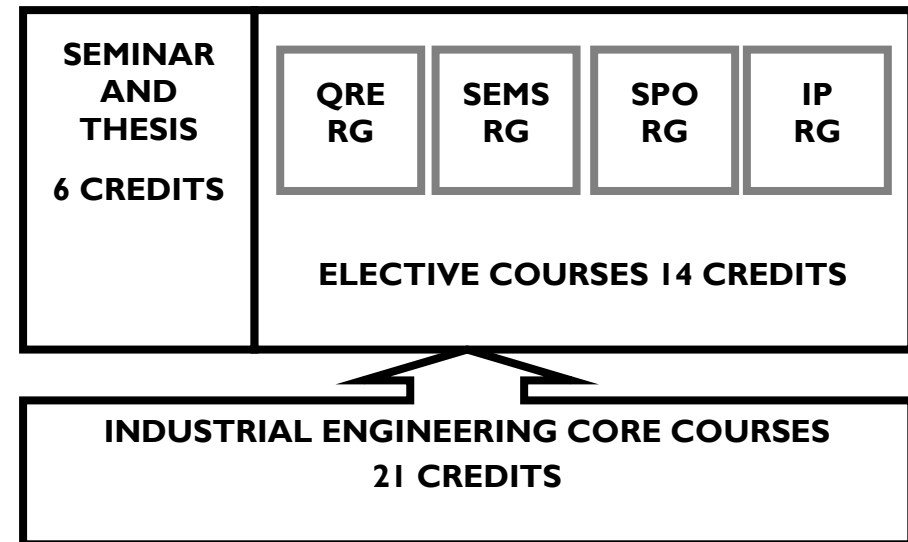
4. Konsep Kurikulum



Gambar 1.2. Ilustrasi Kerangka Dasar Kurikulum Program Magister Teknik Industri 2008

Pendidikan Program Magister diarahkan kepada peletakan dasar kemampuan dari keilmuan teknik industri sehingga para lulusan mampu untuk melakukan pemecahan masalah secara multi disiplin dengan menggunakan pendekatan sistem. Mahasiswa selanjutnya dikembangkan untuk membentuk kelompok kemampuan yang diminatinya dengan mengambil mata ajaran dari Kelompok Penelitian (Research Groups) yang ada. Kelas di Kampus Salemba memiliki jumlah peminatan yang sedikit karena memang lebih

4. Curriculum Concepts



Picture 1.2. Illustration of Main Structure of our 2008 Master Program Curriculum

The master program at the beginning will create a foundation of the Industrial Engineering Discipline, so that our graduates have the capability of multi disciplinary and system approach of problem solving. Subsequently, our master students will individually form their knowledge and skills based on the available research groups in our department.

diarahkan ke sektor jasa.

Selain pendidikan diarahkan kepada penguasaan keilmuan, Teknik Industri juga memiliki 6 Pengembangan *Soft-Skills* yang mengarah kepada pembentukan karakter Lulusan Teknik Industri UI, yaitu:

1. Membangun kemampuan berpikir secara logis (*logical framework*)
2. Membangun kemampuan statistik dan riset (*Statistical Thinking and Research Capabilities*)
3. Membangun kemampuan untuk memecahkan masalah (*Problem Solving*)
4. Membangun keahlian interpersonal (*Interpersonal Skills*)
5. Membangun kepemimpinan dan keahlian kerja kelompok (*Leadership and Teamwork*)
6. Membangun rasa penting akan pembelajaran seumur hidup (*Life Long Learning*)

Kemampuan ini dibangun dari mata ajaran yang diberikan, pendekatan studi kasus, simulasi, tugas paper kelompok maupun individu serta presentasi.

We also identified that our graduates must also have strong “soft-skills” as an integral part of their professional knowledge and skills (“hard-skills”). There 6 key soft-skills that they must possess by using innovative lecturing, simulations, case study analysis assignments, evaluations. There are:

1. Developing capability for logical framework and systems thinking
2. Developing statistical and research capabilities
3. Developing problem solving skills
4. Developing Interpersonal skills
5. Building leadership and teamwork skills
6. Induced their sensitivity for Life Long Learning

We will develop this through the use of specific courses, case studies, simulation gaming, individual or group assignment and presentation.

5. Komposisi

Mata Ajaran Keahlian Inti Teknik Industri (21 SKS)

- | | |
|--|-------|
| 1. Berfikir Sistem | 2 SKS |
| 2. Ekonomi Teknik | 2 SKS |
| 3. Statistik Industri | 2 SKS |
| 4. Teknik Kuantitatif | 3 SKS |
| 5. Manajemen Operasi | 2 SKS |
| 6. Organisasi Industri | 2 SKS |
| 7. <i>Total Quality Management</i> (TQM) | 2 SKS |
| 8. Manajemen Sistem Informasi | 2 SKS |
| 9. Perancangan Eksperimen | 2 SKS |
| 10. Strategi Industri | 2 SKS |

Seminar dan Tesis (6 SKS)

- | | |
|--------------------------------------|-------|
| 1. Metodologi Penelitian dan Seminar | 1 SKS |
| 2. Tesis | 5 SKS |

Mata ajaran Pilihan – Kelas Depok (minimal 14 SKS)

- | | |
|--|-------|
| 1. Manajemen Proyek | 2 SKS |
| 2. Manajemen Pemasaran | 2 SKS |
| 3. Manajemen Pengetahuan | 2 SKS |
| 4. Teknik Keputusan | 2 SKS |
| 5. Pemodelan dan Simulasi Sistem | 2 SKS |
| 6. Pengantar Teknik Sistem | 2 SKS |
| 7. Keputusan, Ketidakpastian, dan Risiko | 2 SKS |
| 8. Perancangan Permainan Simulasi | 2 SKS |
| 9. Kebijakan Teknologi | 2 SKS |
| 10. Perencanaan Sistem Logistik & Transportasi | 2 SKS |

5. Composition

Industrial Engineering Core Courses (21 Credits)

- | | |
|-------------------------------------|-----------|
| 1. Systems Thinking | 2 Credits |
| 2. Industrial Statistics | 2 Credits |
| 3. Engineering Economy | 2 Credits |
| 4. Quantitative Methods | 3 Credits |
| 5. Operations Management | 2 Credits |
| 6. Industrial Organizations | 2 Credits |
| 7. Total Quality Management (TQM) | 2 Credits |
| 8. Management of Information System | 2 Credits |
| 9. Design of Experiments (DOE) | 2 Credits |
| 10. Industrial Strategy | 2 Credits |

Seminar and Thesis (6 Credits)

- | | |
|-------------------------------------|-----------|
| 1. Research Methodology and Seminar | 1 Credits |
| 2. Thesis | 5 Credits |

Mata ajaran Pilihan –Depok Campus (14 Credits minimum)

- | | |
|--|-----------|
| 1. Project Management | 2 Credits |
| 2. Marketing Management | 2 Credits |
| 3. Knowledge Management | 2 Credits |
| 4. Decision Science | 2 Credits |
| 5. Systems Modeling and Simulation | 2 Credits |
| 6. Systems Engineering Principles | 2 Credits |
| 7. Decisions, Uncertainties and Risks | 2 Credits |
| 8. Simulation Gaming Design | 2 Credits |
| 9. Technology Policy | 2 Credits |
| 10. Logistics & Transportation System Planning | |

11. Optimasi Sistem Distribusi	2 SKS
12. Manajemen Pemeliharaan & Reliabilitas	2 SKS
13. Tata Letak Pabrik	2 SKS
14. Sistem Manufaktur	2 SKS
15. Analisa Perancangan Kerja	2 SKS
16. Perancangan Fasilitas	2 SKS
17. Sistem Manajemen Kualitas	2 SKS
18. Analisa Multivariat	2 SKS
19. Perancangan Produk & Proses	2 SKS
20. Pemodelan Ekonomi Industri	2 SKS
21. Keuangan dan Perbankan	2 SKS
22. Ekonomi & Kebijakan Industri 1	2 SKS
23. Ekonomi & Kebijakan Industri 2	2 SKS
24. Manajemen Industri Multinasional	2 SKS
25. Perencanaan Proyek Publik	2 SKS

2 Credits	
11. Distribution System Optimization	2 Credits
12. Maintenance Management & Reliability	2 Credits
13. Plant Layout	2 Credits
14. Manufacturing System	2 Credits
15. Work Design Analysis	2 Credits
16. Facility Design	2 Credits
17. Quality Management System	2 Credits
18. Multivariate Analysis	2 Credits
19. Product & Process Design	2 Credits
20. Industrial Economic Modeling	2 Credits
21. Finance and Banking	2 Credits
22. Industrial and Economic Policy 1	2 Credits
23. Industrial and Economic Policy 2	2 Credits
24. Multinational Industrial Management	2 Credits
25. Public Project Planning	2 Credits

Mata ajaran Pilihan – Kelas Salemba (minimal 14 SKS)

1. Pemodelan dan Simulasi Sistem	2 SKS
2. Manajemen Proyek	2 SKS
3. Manajemen Pemasaran	2 SKS
4. Manajemen Pemeliharaan & Reliabilitas	2 SKS
5. Sistem Manajemen Kualitas	2 SKS
6. Sistem Manufaktur	2 SKS
7. Perencanaan Sistem Logistik & Transportasi	2 SKS

Elective Courses – Salemba Campus (14 Credits minimum)

1. Systems Modeling and Simulation	2 Credits
2. Project Management	2 Credits
3. Marketing Management	2 Credits
4. Maintenance Management & Reliability	2 Credits
5. Quality Management System	2 Credits
6. Manufacturing System	2 Credits
7. Logistics & Transportation System Planning	2 Credits
8. Knowledge Management	2 Credits
9. Technology Policy	2 Credits

8. Manajemen Pengetahuan	2 SKS
9. Kebijakan Teknologi	2 SKS
10. Perancangan Produk & Proses	2 SKS
11. Pemodelan Ekonomi Industri	2 SKS
12. Keuangan dan Perbankan	2 SKS

10. Product & Process Design	2 Credits
11. Industrial Economic Modeling	2 Credits
12. Finance and Banking	2 Credits

7. Struktur Semester

Semester I

- | | |
|------------------------|-------|
| 1. Berfikir Sistem | 2 SKS |
| 2. Statistik Industri | 2 SKS |
| 3. Teknik Kuantitatif | 2 SKS |
| 4. Teknik Kuantitatif | 3 SKS |
| 5. Manajemen Operasi | 2 SKS |
| 6. Organisasi Industri | 2 SKS |

Semester 2

- | | |
|--|-------|
| 1. <i>Total Quality Management (TQM)</i> | 2 SKS |
| 2. Manajemen Sistem Informasi | 2 SKS |
| 3. Perancangan Eksperimen | 2 SKS |
| 4. Pilihan 1 | 2 SKS |
| 5. Pilihan 2 | 2 SKS |
| 6. Pilihan 3 | 2 SKS |

Semester 3

- | | |
|--------------------------------------|-------|
| 1. Metodologi Penelitian dan Seminar | 1 SKS |
| 2. Strategi Industri | 2 SKS |
| 3. Pilihan 4 | 2 SKS |
| 4. Pilihan 5 | 2 SKS |
| 5. Pilihan 6 | 2 SKS |
| 6. Pilihan 7 | 2 SKS |

Semester 4

- | | |
|---------|-------|
| • Tesis | 5 SKS |
|---------|-------|

7. Course Structure in Terms

Term I

- | | |
|-----------------------------|-----------|
| 1. Systems Thinking | 2 Credits |
| 2. Industrial Statistics | 2 Credits |
| 3. Quantitative Methods | 2 Credits |
| 4. Quantitative Methods | 3 Credits |
| 5. Operations Management | 2 Credits |
| 6. Industrial Organizations | 2 Credits |

Term 2

- | | |
|-------------------------------------|-----------|
| 1. Total Quality Management (TQM) | 2 Credits |
| 2. Management of Information System | 2 Credits |
| 3. Design of Experiments (DOE) | 2 Credits |
| 4. Elective Course 1 | 2 Credits |
| 5. Elective Course 2 | 2 Credits |
| 6. Elective Course 3 | 2 Credits |

Term 3

- | | |
|-------------------------------------|-----------|
| 1. Research Methodology and Seminar | 1 Credits |
| 2. Industrial Strategy | 2 Credits |
| 3. Elective Course 4 | 2 Credits |
| 4. Elective Course 5 | 2 Credits |
| 5. Elective Course 6 | 2 Credits |
| 6. Elective Course 7 | 2 Credits |

Term 4

- | | |
|----------|-----------|
| • Thesis | 5 Credits |
|----------|-----------|

8. Silabus

BERFIKIR SISTEM

2 SKS

Tujuan Pembelajaran: Memahami pola berfikir secara sistematis dapat mengungkapkan secara sistemik permasalahan yang di hadapi sehingga dapat mengembangkan solusi yang lebih baik.

Silabus: Sistem, Sistemik dan Sistematis. The 5th Discipline. Pengantar Berfikir De Bono. Konsep Dinamika Sistem. The Beer Game dan Refleksi Pembelajarannya. Mental Model. System archetypes. Soft System Methodology. SSM

Prasyarat:

Buku Ajar:

1. Business Dynamics: System thinking and Modeling for a Complex World. John D. Sterman, McGraw-Hill. USA, 2000
2. O'Connor, Joseph and Mc Dermott, Ian, The Art of System Thinking: Essential Skills for Creativity and Problem Solving , 1997. Thorsons. Harper Collins, London

STATISTIK INDUSTRI

3 SKS

Tujuan Pembelajaran: Mampu mengorganisir dan Mengolah Data Mentah Untuk Mengambil Keputusan

Silabus: Pengertian, Fungsi, Peranan, Klasifikasi Statistik. Statistik Deskriptif. Konsep Probabilitas. Distribusi Probabilitas. Statistik Inferensi. Distribusi Penarikan Sampel. Estimasi (Teori Pendugaan Statistik). Pengujian Hipotesis Satu Sampel. Pegujian Hipotesis Dua Sampel. Distribusi Chi. Square. Distribusi F (Anova). Regresi dan Korelasi Sederhana. Regresi Berganda. Metode Non-Parametrik.

Prasyarat: -

8. Syllabus

SYSTEM THINKING

2 Credits

Learning Objective(s): Understanding the concepts of thinking and systems thinking for developing better problem solutions.

Syllabus: Systems, Systemic dan systematically. The 5th Discipline. De Bono Approach of Thinking. System Dynamics Concepts. The Beer Game and reflections. Mental Model. System archetypes. Soft System Methodology. SSM

Pre-requisite(s):

Text Book(s):

1. Business Dynamics: System thinking and Modeling for a Complex World. John D. Sterman, McGraw-Hill. USA, 2000
2. O'Connor, Joseph and Mc Dermott, Ian, The Art of System Thinking: Essential Skills for Creativity and Problem Solving , 1997. Thorsons. Harper Collins, London

INDUSTRIAL STATISTIC

3 Credits

Learning Objective(s): Able to organize and process raw data to information for decision making

Syllabus: Definitions, Functions and Role of Statistics, Classification of Data. Probability Concept. Probability Distribution. Inferential Statistics. Sampling Technique & Distribution. Estimation. Hypothetical Testing. Chi-Square Distribution. F-Distribution & ANOVA. Regression and Simple Correlation. Multiple Regression. Non-Parametric Methods.

Pre-requisite(s): -

Buku Ajar:

1. Richard L. Levin & Davis S. Rubin, Statistics for Management, Prentice Hall, 2000

**EKONOMI TEKNIK
2 SKS**

Tujuan Pembelajaran: Mampu menggunakan dan menerapkan konsep dan analisa biaya dalam melakukan evaluasi suatu usulan teknik/manajemen.

Silabus: Pengantar Ekonomi Teknik. Ekuivalensi. Analisis Nilai Saat ini. Analisis Nilai Tahunan. Analisis Tingkat Pengembalian. Analisis Penggantian. Analisis Manfaat-Biaya. Periode Pengembalian. Depresiasi. Pajak Pendapatan.

Prasyarat:**Buku Ajar:**

1. Blank, Tarquin, Engineering Economy, McGraw-Hill, 2002.

**TEKNIK KUANTITATIF
3 SKS**

Tujuan Pembelajaran: Mendidik Mahasiswa Mengetahui dan Menerapkan Model Matematis di Dalam Penyelesaian Persoalan Teknik dan Manajemen yang dapat dimodelkan secara kuantitatif dan yang bersifat Deterministik dan Stokastik

Silabus: Model Program Linier & Penyelesaian Secara Grafis. Metode Simpleks. Dualitas dan Analisa Kepekaan. Model Transportasi. Model Penugasan. Program Integer. Program Matematik Multi Tujuan. Network. Program Dinamis. Analisis Markov. Pohon Keputusan. Teori Permainan. Program Non Linier. Antrian

Prasyarat: -**Buku Ajar:**

1. Hamdy A. Taha, Operations Research, 8th ed., Prentice-Hall, Inc. 2007
2. Hellier, Lieberman, Introduction to Operations Research, Mc Graw Hill, 2005

Text Book(s):

1. Richard L. Levin & Davis S. Rubin, Statistics for Management, Prentice Hall, 2000

**ENGINEERING ECONOMY
2 Credits**

Learning Objective(s): Course Participant would be able to use and implement cost concept and analysis when evaluating a proposed engineering solutions or projects.

Syllabus: Introduction. Equivalent. Net Present Value. Yearly Net Present Value. Return Analysis, Replacement Analysis. Cost Benefit Analysis. Payback Period. Depreciation. Tax.

Pre-requisite(s):**Text Book(s):**

1. Blank, Tarquin, Engineering Economy, McGraw-Hill, 2002.

**QUANTITATIVE METHODS
3 Credits**

Learning Objective(s): knowledge and implement mathematical model in developing solutions for engineering and management problems that could be converted to deterministic and stochastic quantitative model

Syllabus: Linear Programming Model & Graphical Solutions. Simplex Methods. Duality and Sensitivity Analysis. Transportation Models. Assignment Model. Integer Programming. Multi-Goal Mathematical Programming. Network. Dynamic Programming. Markov Analysis. Decision Tree. Game Theory. Non-Linear Programming. Queuing theory. Optimization

Pre-requisite(s): -**Text Book(s):**

1. Hamdy A. Taha, Operations Research, 8th ed., Prentice-Hall, Inc. 2007
2. Hellier, Lieberman, Introduction to Operations Research, Mc Graw Hill, 2005

MANAJEMEN OPERASI

2 SKS

Tujuan Pembelajaran: Memiliki kemampuan dalam menganalisa, mengembangkan dan meningkatkan kinerja suatu sistem operasional secara terukur, khususnya yang berdampak strategis (jangka panjang dan menengah) guna dapat menghasilkan produk/jasa yang bersaing serta kebutuhan pelanggan.

Silabus: Pengantar. Strategi Operasi. Pengembangan Produk dan Proses. Metode penentuan lokasi. Analisa tata letak (produk dan proses). Analisa kapasitas. Analisa, rancangan dan kinerja proses. Pendekatan proses dan kinerja pada rantai suplai. Perencanaan distribusi. Perencanaan, penjadwalan dan pengalokasian sumberdaya proyek. Perencanaan produksi dan material. Manajemen persediaan. Ketidakpastian dan risiko operasi. Analisa dan pembahasan kasus PPIC System. Analisa dan pembahasan kasus JIT/Lean Production System. Pengembangan studi kasus operasi guna meningkatkan pemahaman tentang sistem operasional secara terintegrasi.

Prasyarat:

Buku Ajar:

1. Operations Management, Chase and Aquilano; Pearson-Prentice Hall; 11th Edition, 2006
2. Operations Management, Krajewski, Ritzman, and Malhotra; Pearson International Edition; 8th edition; 2007

ORGANISASI INDUSTRI

2 SKS

Tujuan Pembelajaran: Mengetahui, memahami dan mampu menganalisis faktor-faktor yang mempengaruhi perancangan dan pengelolaan organisasi di dalam industri, serta mampu mengelola dan mengukur nilai asset sumber daya manusia dalam organisasi.

Silabus: Desain organisasi. Budaya Organisasi. Strategic Role of HRM & Effective Management of People. Ability Motivation & Opportunity. Job Analysis & Planning & Recruitment. Testing, Selection & Interview. Training & Development. Appraising & Managing Performance. Managing Careers & Fair Treatment. Establishing Strategic Pay Plans. Pay for Performance & Incentives. Benefits and Services. Labor Relations & Collective Bargaining. Employee Safety

OPERATIONS MANAGEMENT

2 Credits

Learning Objective(s): Course Participant would have the knowledge to analyze, design and improve the performance of an operational system, especially investigating their impact to the medium and long term strategic views, to produce competitive goods and services that are fit to the customer needs

Syllabus: Introduction. Operational Strategy, Product and process design. Location Selection Method. Product and Process Layout Analysis. Capacity Analysis. Process Performance, Design and Analysis. Process approach to the Supply Chain. Distribution Planning. Planning, Scheduling and Allocating Resources/. Production and Material Planning. Inventory Management. Uncertainties and Operational Risk. Case Analysis. JIT/Lean Production System Case Analysis. Operational Case Study Development.

Pre-requisite(s):

Text Book(s):

1. Operations Management, Chase and Aquilano; Pearson-Prentice Hall; 11th Edition, 2006
2. Operations Management, Krajewski, Ritzman, and Malhotra; Pearson International Edition; 8th edition; 2007

INDUSTRIAL ORGANIZATION

2 Credits

Learning Objective(s): knowing, understanding, and analyzing the related factors in designing and managing organizations in industry including human capital assets.

Syllabus: Organizational Design. Culture.. Strategic Role of HRM & Effective Management of People. Ability Motivation & Opportunity. Job Analysis & Planning & Recruitment. Testing, Selection & Interview. Training & Development. Appraising & Managing Performance. Managing Careers & Fair Treatment. Establishing Strategic Pay Plans. Pay for Performance & Incentives. Benefits and Services. Labor Relations & Collective Bargaining. Employee Safety & Health. Linking to Organizational Outcomes. Human Resource Capital Management.

& Health. Linking to Organizational Outcomes. Human Resource Capital Management. Human Resource System for TQM.

Prasyarat:

Buku Ajar:

1. Strategic Human Resource Management, Mike Millmore, Philip Lewis, Prentice Hall 2007
2. Human Resource Management, Gary Dessler, Prentice Hall, 10th edition, 2007
3. Human Resource Strategy, Dreher & Dougherty, Mc Graw Hill, 2001

PERANCANGAN EKSPERIMEN

2 SKS

Tujuan Pembelajaran : Mampu mengorganisir pengumpulan, pengolahan, & penganalisaan data dengan baik & benar secara statistic maupun engineering (rekayasa) dalam melakukan rancangan percobaan (DOE - Design of Experiment) yang bertujuan untuk pengambilan keputusan

Silabus: *Review of Basic Statistical Concepts. Single Factor Experiment (Fixed Effect Model). Single Factor Experiment (Random Effect Model). Randomized Complete Block Design. Latin Square Design. General Factorial Design. 2k Factorial Design. Blocking in Factorial Design. Factorial Experiments with Random Factors. Fractional Factorial Design. Nested Design. Response Surface Model.*

Prasyarat: Statistik Industri

Buku Ajar:

1. Design and Analysis of Experiments, Douglas C. Montgomery. John Wiley & Sons, 2000
2. Design and Analysis of Experiments, Angela Dean and Daniel Voss, Springer-Verlag, 2000
3. Experimental Design with Applications in Management, Engineering, and the Sciences, Paul D. Barger and Robert E. Maurer, Thomson Learning, 2002

MANAJEMEN SISTEM INFORMASI

Human Resource System for TQM.

Pre-requisite(s):

Text Book(s):

1. Strategic Human Resource Management, Mike Millmore, Philip Lewis, Prentice Hall 2007
2. Human Resource Management, Gary Dessler, Prentice Hall, 10th edition, 2007
3. Human Resource Strategy, Dreher & Dougherty, Mc Graw Hill, 2001

DESIGN OF EXPERIMENTS

2 Credits

Learning Objective(s): able to organize the collection, process, and analysis of data using statistic and engineering principle to support decision making process, with the emphasize on DOE - Design of Experiment

Syllabus: Review of Basic Statistical Concepts. Single Factor Experiment (Fixed Effect Model). Single Factor Experiment (Random Effect Model). Randomized Complete Block Design. Latin Square Design. General Factorial Design. 2k Factorial Design. Blocking in Factorial Design. Factorial Experiments with Random Factors. Fractional Factorial Design. Nested Design. Response Surface Model.

Pre-requisite(s): Industrial Statistics

Text Book(s):

1. Design and Analysis of Experiments, Douglas C. Montgomery. John Wiley & Sons, 2000
2. Design and Analysis of Experiments, Angela Dean and Daniel Voss, Springer-Verlag, 2000
3. Experimental Design with Applications in Management, Engineering, and the Sciences, Paul D. Barger and Robert E. Maurer, Thomson Learning, 2002

MANAGEMENT OF INFORMATION SYSTEM

2 SKS

Tujuan Pembelajaran: Memahami peran sistem informasi manajemen dan teknologi informasi pada industri saat ini untuk menghadapi era globalisasi

Silabus: Pengantar Sistem Informasi Manajemen. MIS/IT Sebagai Keunggulan kompetitif. IT and Electronic Commerce. Database dan Database Manajemen. System Analysis and Design. MIS dan hubungannya dengan RQM dan QS. CBIS. Accounting Information System. Decision Support System. Executive Information System. Marketing, Manufacturing Information System. Financial, Human Resource Information System.

Prasyarat:

Buku Ajar:

1. McLeod, Management Information System, 10th edition, Prentice Hall, 2003
2. Lucas, Information Systems Concepts for Management, McGraw-Hill, 1994 (referensi)

TOTAL QUALITY MANAGEMENT 2 SKS

Tujuan pembelajaran: Memberikan konsep dan aplikasi TQM secara ilmiah sehingga mampu menganalisa dan mengevaluasi system peningkatan kualitas pada industri.

Silabus: TQM Studies vs Principles. MBNQA. Statistical QC. Cost of Quality. Organizing for Quality. QFD. Capability Process. Six Sigma. Taguchi. Change Management.

Prasyarat: Statistik Industri

Buku Ajar:

1. TQM : A Cross Functional Perspective, edisi terakhir Rao, et al
2. Quality Management; Goetsch & Davis, 2000, Prentice Hall

2 Credits

Learning Objective(s): understanding the role of information system management and technology in the industry to face the globalization era.

Syllabus: Overview. MIS as a competitive advantage. IT and Electronic Commerce. Database management. System Analysis and Desing. . CBIS. Accounting Information System. Decision Support System. Executive Information System. Marketing, Manufacturing Information System. Financial, Human Resource Information System.

Pre-requisite(s):

Text Book(s):

1. McLeod, Management Information System, 10th edition, Prentice Hall, 2003
2. Lucas, Information Systems Concepts for Management, McGraw-Hill, 1994 (referensi)

TOTAL QUALITY MANAGEMENT 2 Credits

Learning Objective(s): Concepts and application of TQM as the basis for analysis and evaluation of quality improvement system.

Syllabus: TQM Studies vs Principles. MBNQA. Statistical QC. Cost of Quality. Organizing for Quality. QFD. Capability Process. Six Sigma. Taguchi. Change Management.

Pre-requisite(s): Industrial Statistics

Text Book(s):

1. TQM : A Cross Functional Perspective, edisi terakhir Rao, et al
2. Quality Management; Goetsch & Davis, 2000, Prentice Hall

MANAJEMEN STRATEGI INDUSTRI 2 SKS

Tujuan Pembelajaran : Memberikan pengetahuan dan teknik-teknik penyusunan strategi usaha dengan memperhatikan berbagai factor yang relevan. Memperluas wawasan pengetahuan tentang perkembangan, konsep yang terjadi dalam perumusan strategi bisnis. Memberikan keterampilan melakukan pendekatan teknik analisis strategi dalam mendukung usaha jangka panjang

Silabus : Konsep Manajemen. Teori Konsumen. Teori Usaha. Keseimbangan Harga. Persaingan Usaha dan Monopoli. Visi dan Misi Organisasi. External Assessment. Internal Assessment. Strategy Analysis & Choice (MATRIKS IFE, EFE, IE, CPM, TOWS & SPACE). BCG Matrix dan GE/ Mc Kinsey Matrix. Strategies In Action. Implementasi Strategi; Evaluasi Dan Pengendalian Strategi. Pemetaan Proses Bisnis. Balanced Score Cards. Total Performance Scorecard

Prasyarat :

Buku Ajar :

1. Fred R David, Strategic Management Concepts & Cases, Prentice Hall 2003
2. John A. Pearces, Richard B. Robinson Jr, Richard D , Strategic Management : Strategi Formulation and Implementation, 2001
3. Roberts Kaplan, David P. Norton, Strategy MAPS, Harvard Business School Publishing Corporation, 2004
4. Kaplan, Robert S. and Norton, David P., The Balanced Scorecard: Translating Strategy into Action, Harvard Business School Press, Boston. 1996
5. Hubert K. Rampersad, Total Performance Scorecard, Elsevier printed in India 2004

INDUSTRIAL STRATEGIC MANAGEMENT 2 Credits

Learning Objective(s): knowledge and technique to develop strategic plan by incorporating relevant factors. Expanding horizons about the new concepts in business strategy development. Skills to analyze strategy related to the long term goals of the business.

Syllabus: Concepts. Consumer Theory. Teori Usaha. Price Equilibrium. Monopoly and Competition. Vision and Mission. External Assessment. Internal Assessment. Strategy Analysis & Choice (MATRIKS IFE, EFE, IE, CPM, TOWS & SPACE). BCG Matrix dan GE/Mc Kinsey Matrix. Strategies In Action. Strategy Implementation. Strategy Evaluation and Control. Business Process Mapping. Balanced Score Cards. Total Performance Scorecard

Pre-requisite(s):

Text Book(s):

1. Fred R David, Strategic Management Concepts & Cases, Prentice Hall 2003
2. John A. Pearces, Richard B. Robinson Jr, Richard D , Strategic Management : Strategi Formulation and Implementation, 2001
3. Roberts Kaplan, David P. Norton, Strategy MAPS, Harvard Business School Publishing Corporation, 2004
4. Kaplan, Robert S. and Norton, David P., The Balanced Scorecard: Translating Strategy into Action, Harvard Business School Press, Boston. 1996
5. Hubert K. Rampersad, Total Performance Scorecard, Elsevier printed in India 2004

METODOLOGI PENELITIAN DAN SEMINAR

I SKS

Tujuan Pembelajaran : Peserta mampu untuk memahami langkah-langkah baku sebuah penelitian ilmiah yang berlaku dan menyiapkan diri untuk menyusun tesis sebagai prasyarat selesainya program pendidikan S2nya

Prasyarat: Perhatikan SOP Tesis

Buku Ajar: Manual Penyusunan Tesis Universitas Indonesia dan Departemen Teknik Industri, 2008.

TESIS

5 SKS

Tujuan Pembelajaran : Mampu mengutarakan masalah dan pendapatnya dalam suatu diskusi ilmiah secara sistematis, jelas, benar. Mampu menyusun ide/solusi/pendapatnya dalam suatu penulisan ilmiah sesuai dengan kaidah penulisan ilmiah yang mengintegrasikan ilmu yang telah dipelajari.

Prasyarat: Perhatikan SOP Tesis

Buku Ajar: Manual Penyusunan Tesis Universitas Indonesia dan Departemen Teknik Industri, 2008.

RESEARCH METHODOLOGY AND SEMINAR

I Credit

Learning Objective(s): Course participants will understand the basic steps necessary for a scientific research and publications and prepare themselves for the upcoming Thesis as part of the pre-requisites on receiving the master degree

Pre-requisite(s): Please Read Thesis SOP

Text Book(s): Manual Penyusunan Tesis Universitas Indonesia dan Departemen Teknik Industri, 2008.

THESIS

5 Credits

Learning Objective(s): Able to systematically present his/her problems and idea during scientific forum with concise and correct.

Pre-requisite(s): Please Read Thesis SOP

Text Book(s): Manual Penyusunan Tesis Universitas Indonesia dan Departemen Teknik Industri, 2008.

MANAJEMEN PROYEK

2 SKS

Tujuan Pembelajaran: Mampu merencana berbagai proyek dalam industri produk dan jasa. Proyek dengan hasil akhir adalah berbentuk fisik ataupun keputusan. Mampu merencanakan dengan tetap melihat optimum pemakaian resource waktu, orang, uang dan alat. Mengetahui berbagai kemungkinan penyimpangan dalam pelaksanaan dan mengendalikan proyek.

Silabus: Pengertian Manajemen Proyek. System Theory. Organisasi PMDA Proyek. Sumberdaya Proyek. Organisasi Staf dan Tim Proyek. Manajemen Waktu. Topik Spesial. PERT. Grafik pada Proyek. Cost Control.

Prasyarat: -

Buku Ajar:

1. Kerzner, Harold T., Project Management : A System Approach to Project Planning, scheduling, and Controlling, John Wiley & Sons, 7th edition, 2002

MANAJEMEN PEMASARAN

2 SKS

Tujuan Pembelajaran : Dapat memberikan kemampuan memasarkan barang/jasa melalui penetapan produk sesuai dengan kebutuhan pasar, harga wajar, promosi terarah serta pemilihan lokasi, dan perluasan jaringan distribusi.

Silabus : Pengertian Manajemen pemasaran . Global Marketing . Perilaku Konsumen . Marketing Mix (Product) . Marketing Mix (Price) . Marketing Mix (Place) . Marketing Mix (Promotion) . Sistem Pemasaran . Selling Skill . Blue Ocean Strategy . Strategic Brand Management . Market Research

Prasyarat : Statistik Industri

Buku Ajar :

1. Philip Kotler, Marketing Management, International edition, Prentice-Hall, 2000
2. Marketing Channels, A Relationship Management Approach ; International Edition ; McGraw. Hill/Irwin, 2002
3. Kevin Lane Keller, Strategic Brand Management, Prentice Hall, 2003

PROJECT MANAGEMENT

2 Credits

Learning Objective(s): Able to plan, execute and control projects in service and manufacturing industri.

Syllabus: Definitions. System Theory. PMDA Project Organization. Project Organization. Staffing and Project Teams. Time Management. PERT. S-Curve Graphics. Cost Control. Special Topics.

Pre-requisite(s): -

Text Book(s):

1. Kerzner, Harold T., Project Management : A System Approach to Project Planning, scheduling, and Controlling, John Wiley & Sons, 7th edition, 2002

MARKETING MANAGEMENT

2 Credits

Learning Objective(s): Students will be able to market products/services based on market demands, reasonable price, targeted promotions, also the right locations and distribution channels.

Silabus : Principles of Marketing . Global Marketing . Consumer Behaviors. Marketing Mix (Product) . Marketing Mix (Price) . Marketing Mix (Place) . Marketing Mix (Promotion) . Marketing System. Selling Skill . Blue Ocean Strategy . Strategic Brand Management . Market Research

Prasyarat : Industrial Statistic

Buku Ajar :

1. Philip Kotler, Marketing Management, International edition, Prentice-Hall, 2000
2. Marketing Channels, A Relationship Management Approach ; International Edition ; McGraw. Hill/Irwin, 2002
3. Kevin Lane Keller, Strategic Brand Management, Prentice Hall, 2003

MANAJEMEN PENGETAHUAN

2 SKS

Tujuan Pembelajaran: Mahasiswa mendapatkan pengetahuan bagaimana sebuah sistem manajemen pengetahuan di rancang, dikelola dan di akhiri sesuai dengan tujuan organisasi,

Silabus: Content Management System (CMS) Case with Joomla!. Konsep SECI. IMBOX (Information Management Body of Knowledge). CHASM and Tornado. Essentials of Knowledge Management. 10-Step Knowledge Management Road Map. Konsep Portal Manajemen Pengetahuan. Bagaimana menyusun dokumentasi pengetahuan.

Prasyarat: Manajemen Sistem Informasi

Buku Ajar:

1. Amrit Tiwana, The Knowledge Management Toolkit: Practical Techniques for Building A Knowledge Management System. Prentice Hall. New Jersey, 2000.
2. Building Websites with Joomla!-A step by step tutorial to getting your Joomla! CMS website up fast, Hagen Graf, Pakt Publishing, Birmingham UK, 2006
3. Knowledge Management Tools and Techniques: Practitioners and Experts Evaluate KM Solutions, Edited by: Madanmohan Rao. Elsevier Inc. Oxford. UK. 2005.

KNOWLEDGE MANAGEMENT

2 Credits

Learning Objective(s): knowledge about how knowledge is generated, managed and terminated in order to support the business objectives of the corporation

Syllabus: Content Management System (CMS) Case with Joomla!. SECI Concepts. IMBOK (Information Management Body of Knowledge). CHASM and Tornado. Essentials of Knowledge Management. 10-Step Knowledge Management Road Map. Knowledge Management Portal. How to capture knowledge into documentation.

Pre-requisite(s): Management of Information System

Text Book(s):

1. Amrit Tiwana, The Knowledge Management Toolkit: Practical Techniques for Building A Knowledge Management System. Prentice Hall. New Jersey, 2000.
2. Building Websites with Joomla!-A step by step tutorial to getting your Joomla! CMS website up fast, Hagen Graf, Pakt Publishing, Birmingham UK, 2006
3. Knowledge Management Tools and Techniques: Practitioners and Experts Evaluate KM Solutions, Edited by: Madanmohan Rao. Elsevier Inc. Oxford. UK. 2005.

TEKNIK KEPUTUSAN

2 SKS

Tujuan Pembelajaran: Memahami konsep analisa keputusan dalam pemecahan suatu masalah, serta menguasai metode-metode pengambilan keputusan yang dapat digunakan untuk merancang dan mengembangkan suatu sistem yang terintegrasi.

Silabus: Definisi dan pengertian mengenai analisa keputusan. Analisa keputusan dalam pemecahan masalah. Pohon keputusan. Konsep utilitas. Pengambilan keputusan dalam kondisi kepastian. Pengambilan keputusan dalam kondisi ketidakpastian. Peranan informasi dalam pengambilan keputusan. Pengambilan keputusan multi-atribut. Analytic Hierarchy Process (AHP). Analytic Network Process (ANP).

Prasyarat:

Buku Ajar:

1. Making Hard Decision: An Introduction to Decision Analysis, 2nd edition; Robert T. Clemen. Duxbury Press-1997.
2. Decision Making with the Analytical Network Process: Economic, Political, Social and Technological Applications with Benefits, Opportunities, Cost and Risks; Thomas L. Saty and Luis G. Vargas; 1st edition; Springer 2006.

DECISION SCIENCE

2 Credits

Learning Objective(s): Understanding concepts of decision analysis in problem solving and have the skills of decision making methods that can be used to design and develop an integrated system,

Syllabus: Definition of Decision Analysis. Decision Analysis for problem solving. Decision Tree. Utility Concepts. Decision under certainties. Decision making under uncertainties. Information role in decision making. Multi-attribute decision making. Analytic Hierarchy Process (AHP). Analytic Network Process (ANP).

Pre-requisite(s):

Text Book(s):

1. Making Hard Decision: An Introduction to Decision Analysis, 2nd edition; Robert T. Clemen. Duxbury Press-1997.
2. Decision Making with the Analytical Network Process: Economic, Political, Social and Technological Applications with Benefits,

PEMODELAN DAN SIMULASI SISTEM

2 SKS

Tujuan Pembelajaran: Peserta mendapatkan dasar metodologi dan pengetahuan teknis dalam menyusun model dengan bantuan computer, mencakup sebagian besar berupa model diskret.

Silabus: Metodologi Dasar Pemodelan dan Simulasi Sistem. Model Konseptual. Model Komputer Diskrit. Model Komputer Kontinu. Causal Loop Diagram. Stock and Flow Diagram.

Prasyarat: Statistik Industri

Buku Ajar:

1. Business Dynamics: System Thinking and modeling for a ComplexWorld. John D. Sterman, McGraw-Hill, USA, 2000
2. Charles Harrell, Biman K. Ghosh, and Royce O. Bowden, Jr., Simulation Using Promodel, McGraw-Hill Higher Education, New York. 2000

SYSTEMS MODELING AND SIMULATION

2 Credits

Learning Objective(s): Course participants will have basic methodology and technical expertise using computer to design, develop and simulate model, primarily in the discrete event modeling.

Syllabus: Modeling and Simulation Development Methodology. Conceptual Model. Discrete Event Modeling. Continuous Event Modeling. Causal Loop Diagram. Stock and Flow Diagram.

Pre-requisite(s): Industrial Statistics

Text Book(s):

1. Business Dynamics: System Thinking and modeling for a ComplexWorld. John D. Sterman, McGraw-Hill, USA, 2000
2. Charles Harrell, Biman K. Ghosh, and Royce O. Bowden, Jr., Simulation Using Promodel, McGraw-Hill Higher Education, New York. 2000

PENGANTAR TEKNIK SISTEM

2 SKS

Tujuan Pembelajaran: Mahasiswa mendapatkan dasar manajemen rekayasa system di Industri sehingga mampu untuk mengelola sebuah proses desain, instalasi, manajemen dan pengakhiran dari sebuah sistem kompleks.

Silabus: Konsep dan metodologi rekayasa system industri. Siklus Hidup Sistem: Konsep, Pengembangan, Produksi, Pemanfaatan dan Dukungan, serta Akhir Sistem. Proses-proses dalam Siklus Hidup Sistem: Proses Teknis, Proses Proyek, Proses Organisasi dan proses Akuisisi Barang atau jasa. *Total System Value and Life Cycle Costing*.

Prasyarat: Pemodelan Sistem

Buku Ajar:

1. System Engineering Handbook: A Guide for System Life Cycle Processes and Activities, version 3.1, Edited by: Cecelia Haskins, CSEP, Kevin Forsberg. CSEP and Michael Krueger, CSEP. August 2007.
2. System Engineering Principles and Practice. Kossiakoff, Alexander and William N Sweet John Wiley & Sons. Hoboken. New Jersey. 2003
3. ISO/IEC 15288 Standard for Systems Engineering. International Organization Standard _ ISO

SYSTEMS ENGINEERING PRINCIPLES

2 Credits

Learning Objective(s): Course Participants will get the fundamental of Systems Engineering Practice to be able to design, install, manage and disposal of a complex system.

Syllabus: Industrial Systems Engineering Concepts and Methodology. Systems Lifecycle: Concepts, Development, Production, Usage and Support, Disposal. Processes in System's Life Cycle: Technical Process, Project Management, Organization and Procurement. Total System Value and Life Cycle Costing.

Pre-requisite(s): Systems Modeling

Text Book(s):

1. System Engineering Handbook: A Guide for System Life Cycle Processes and Activities, version 3.1, Edited by: Cecelia Haskins, CSEP, Kevin Forsberg. CSEP and Michael Krueger, CSEP. August 2007.
2. System Engineering Principles and Practice. Kossiakoff, Alexander and William N Sweet John Wiley & Sons. Hoboken. New Jersey. 2003
3. ISO/IEC 15288 Standard for Systems Engineering. International Organization Standard _ ISO

KEPUTUSAN, KETIDAKPASTIAN DAN RESIKO

2 SKS

Tujuan Pembelajaran: Mahasiswa memahami tentang proses pengambilan keputusan yang selalu memiliki unsure ketidakpastian sehingga menimbulkan resiko yang harus diperhitungkan dan di kelola dengan baik.

Silabus: Pengantar Proses Pengambilan Keputusan. Pengantar Game Theory. Probabilitas dan Ketidakpastian. Metodologi Dasar manajemen Resiko: Identifikasi Resiko. Assesmen Resiko. Evaluasi dan Pengelolaan resiko. Metode Value @Risk. Implementasi Manajemen resiko di Kesehatan dan Keselamatan Kerja. Keamanan Informasi. Manajemen Proyek dan Keuangan.

Prasyarat: Statistik Industri

Buku Ajar:

- I. Davidson, J., Managing Risk in Organizations: A Guide For managers, 2003, Jossey Bass. San Fransisco CA.

DECISION, UNCERTAINTIES AND RISK

2 Credits

Learning Objective(s): Course participants will understand the decision making process which always have uncertainties that create risk that must be calculated and managed accordingly

Syllabus: Decision Making Process Overview. Game Theory Overview. Probability and Uncertainties. Risk Management Basic Methodology: Identification. Assessment, Evaluation and treatment. VaR: Value @Risk. Risk Management Implementations: IT Security, Project Management, Finance and Occupational Health.

Pre-requisite(s): Industrial Statistics

Text Book(s):

- I. Davidson, J., Managing Risk in Organizations: A Guide For managers, 2003, Jossey Bass. San Fransisco CA.

PERANCANGAN PERMAINAN SIMULASI

2 SKS

Tujuan Pembelajaran: Mahasiswa memahami dasar-dasar perancangan sebuah permainan simulasi untuk pembelajaran dan mampu untuk melakukan perancangan

Silabus: Teori-teori pembelajaran: bagaimana orang dewasa belajar. Simulasi, permainan dan belajar. Konsep simulasi untuk Pembelajaran (Simulasi Gaming). Pengembangan kebutuhan pelajar (learner requirements). Matriks penterjemahan ke dalam pokok-pokok pembelajaran dalam permainan. Pemilihan platform dan aplikasi untuk pengembangan. Konsep interaktivitas dan interaksi antara manusia dan mesin. Konsep Fasilitasi pembelajaran. Struktur Permainan Simulasi: Briefing, bermain dan belajar, De-Briefing. Cara menyusun manual permainan simulasi.

Prasyarat: Pemodelan dan Simulasi Sistem

Buku Ajar:

1. Fun & Games for Work Place Learning. Leight, Elysabeth dan Jeff Kinder. McGraw-Hill Australia Pty Ltd, Australia. 2001
2. Riis, Jens o, Simulation Games and learning in Production Management. Chapment. Chapman & Hall, United Kingdom. 1995
3. Salen, K., & Zimmerman, E. Rules of Play: Game Design Fundamentals. Cambrigde: MIT Press. 2004

SIMULATION GAMING DESIGN

2 Credits

Learning Objective(s): Mahasiswa memahami dasar-dasar perancangan sebuah permainan simulasi untuk pembelajaran dan mampu untuk melakukan perancangan

Syllabus: Learning Theories: how adult learns. Simulation, Games and Learning. Simulation Concepts for Learning: Simulation Gaming. Learner requirements development. Translating requirement to learning points. Platform and applications alternatives. Interactivity and interaction between man and machine. Facilitation Concepts. Simulation Gaming Structure: Briefing, Playing dan belajar, De-Briefing. Manual Development.

Pre-requisite(s): Systems Modeling and Simulation

Text Book(s):

1. Fun & Games for Work Place Learning. Leight, Elysabeth dan Jeff Kinder. McGraw-Hill Australia Pty Ltd, Australia. 2001
2. Riis, Jens o, Simulation Games and learning in Production Management. Chapment. Chapman & Hall, United Kingdom. 1995
3. Salen, K., & Zimmerman, E. Rules of Play: Game Design Fundamentals. Cambrigde: MIT Press. 2004

KEBIJAKAN TEKNOLOGI

2 SKS

Tujuan Pembelajaran: Peserta memahami hubungan antara teknologi dengan masalah sosial dan ekonomi. Memahami dan mampu memberikan jawaban terhadap kompleksitas proyek-proyek teknologi. Mampu menganalisa dan membuat serangkaian solusi bagi masalah sosio-teknologi dan tekno-ekonomi

Silabus: Pendefinisian masalah sosio-teknologi, analisa aktor, analisis kausal, diagram sistem, penyusunan skenario, penyusunan strategi dan taktik, politik keputusan, proyek teknologi skala besar, pembuatan model kebijakan teknologi.

Prasyarat: Berfikir Sistem

Buku Ajar:

1. Dealing with Complexity, Flood & Carson, Plenum Press, London, 1993
2. The Strategic Management of Large Engineering Projects, Miller & Lessar, MIT Press, Boston, 2000
3. Networks and Decision Making, de Bruijn & ten Heuvelhof, Lemma, Utrecht, 2000
4. Games in a World of Infrastructures, Mayer & Veeneman (eds), Eburon, Delft, 2002

PERENCANAAN SISTEM LOGISTIK & TRANSPORTASI

2 SKS

Tujuan Pembelajaran: Memahami prinsip-prinsip dan karakteristik dari kegiatan distribusi serta mampu membuat perencanaan kegiatan tersebut

Silabus: Pengantar Business Logistics. Strategi dan Perencanaan. Enterprise Resource Planning. Purchasing. Metode Transportasi. Shortest Path. Travelling Salesman Problem. Vehicle Routing Problem. Vehicle Routing Problem (ROUTER), Manajemen Pergudangan. Reverse Logistics. Teori Lokasi. Proses Perencanaan Jaringan. Perkembangan Business Logistics.

Prasyarat: Pengendalian Produksi

Buku Ajar:

1. Ballou, Business Logistics Management, Prentice Hall, 1999
2. Bowersox, Closs, and Cooper, Supply Chain Logistics Management,

TECHNOLOGY POLICY

2 Credits

Learning Objective(s): Course participants will have an understanding about the relationship between technology and social economical problems. They should come up with solutions to deal with the complexity of technology projects. They would also design a comprehensive approach to solve problems in socio-technology and techno-economy.

Syllabus: Socio-technology problem definition. Actor Analysis. Cause Analysis, system diagram, scenario building, strategy and tactics forming, decision politics, large-scale technology projects, technology policy model development

Pre-requisite(s): Systems Thinking

Text Book(s):

1. Dealing with Complexity, Flood & Carson, Plenum Press, London, 1993
2. The Strategic Management of Large Engineering Projects, Miller & Lessar, MIT Press, Boston, 2000
3. Networks and Decision Making, de Bruijn & ten Heuvelhof, Lemma, Utrecht, 2000
4. Games in a World of Infrastructures, Mayer & Veeneman (eds), Eburon, Delft, 2002

TRANSPORTATION & LOGISTICS SYSTEM PLANNING

2 Credits

Learning Objective(s): Understanding the principles and characteristics from distribution activities and able to plan these activities.

Syllabus: Business Logistics Introduction. Strategy and Planning . Enterprise Resource Planning. Purchasing. Transportation Methods. Shortest Path. Travelling Salesman Problem. Vehicle Routing Problem. Vehicle Routing Problem (ROUTER), Warehousing. Reverse Logistics. Location Theory. Network Planning. Business Logistics Overview.

Pre-requisite(s):

Text Book(s):

1. Ballou, Business Logistics Management, Prentice Hall, 1999
2. Bowersox, Closs, and Cooper, Supply Chain Logistics Management,

McGraw-Hill, 2002

3. Toth and Vigo, Vehicle Routing Problem, 2001

OPTIMASI SISTEM DISTRIBUSI

2 SKS

Tujuan Pembelajaran: Memahami berbagai langkah optimasi pada saluran distribusi logistik.

Silabus: Manajemen Rantai Suplai, Reverse Logistics, Distribution Logistics dan E-Commerce, Lokasi gudang dan Perencanaan jaringan, Rute kendaraan dan transportation, Pergudangan, pengendalian persediaan

Prasyarat:

Buku Ajar:

1. Andreas Klose, Quantitative Approaches to Distribution Logistics and Supply Chain Management, 2002

MANAJEMEN PEMELIHARAAN & RELIABILITAS

2 SKS

Tujuan Pembelajaran: Memahami aspek-aspek penting dalam manajemen pemeliharaan dan mengetahui berbagai jenis manajemen pemeliharaan yang digunakan perusahaan

Silabus: Pengantar Manajemen Pemeliharaan. Organizing for Maintenance Operations. Paperwork Control. Maintenance Job Planning and Scheduling. Maintenance Work Measurement and Standards. Preventive Maintenance Measuring and Appraising Maintenance Performance. Total Productive Maintenance. Manajemen Pemeliharaan in Action.

Prasyarat: -

Buku Ajar:

1. Lawrence Mann, Jr., Maintenance Management, Lexington Books, 1978
2. Seiichi Nakajima, Introduction to Total Productive Maintenance, 1988
3. Antony Corder, di alih bahasa oleh Ir. Kusnul Hadi, Teknik Manajemen Pemeliharaan, Erlangga, 1996.

McGraw-Hill, 2002

3. Toth and Vigo, Vehicle Routing Problem, 2001

DISTRIBUTION SYSTEM OPTIMIZATION

2 Credits

Learning Objective(s): Understanding methods of optimization in logistic distribution system

Syllabus: Supply Chain Management, Reverse Logistics, Distribution Logistics and E-Commerce. Warehouse location and network planning, vehicle routing and transportation, warehousing and inventory control

Pre-requisite(s):

Text Book(s):

1. Andreas Klose, Quantitative Approaches to Distribution Logistics and Supply Chain Management, 2002

MAINTENANCE MANAGEMENT & RELIABILITY

2 Credits

Learning Objective(s): understanding the important aspects in the maintenance system management and the type of approach that is currently used in the industry.

Syllabus: Organizing for Maintenance Operations. Paperwork Control. Maintenance Job Planning and Scheduling. Maintenance Work Measurement and Standards. Preventive Maintenance Measuring and Appraising Maintenance Performance. Total Productive Maintenance. Cases of Maintenance Management.

Pre-requisite(s): -

Text Book(s):

1. Lawrence Mann, Jr., Maintenance Management, Lexington Books, 1978
2. Seiichi Nakajima, Introduction to Total Productive Maintenance, 1988
3. Antony Corder, di alih bahasa oleh Ir. Kusnul Hadi, Teknik Manajemen Pemeliharaan, Erlangga, 1996.

TATA LETAK PABRIK

2 SKS

Tujuan Pembelajaran: Mampu merancang Tata Letak Pabrik dengan berorientasi kepada batasan dan tujuan yang optimum

Silabus: Fungsi Perancangan, Garis Besar Prosedur Perancangan. Perancangan Proses. Perancangan Aliran Material. Teknik Analisis. Perencanaan Hubungan Antar Aktivitas. Pelayanan Produksi dan Pabrik. Perhitungan Luas Ruangan. Alokasi Area. Peralatan Pengangkut Material. Penyusunan Tata letak Pabrik. Pemilihan Lokasi Pabrik.

Prasyarat: -

Buku Ajar:

1. Richard L. F., Facility Layout and Location, Prentice Hall, 1992
2. Plant Layout and Material Handling, John Wiley & Sons, 1977.

SISTEM MANUFAKTUR

2 SKS

Tujuan Pembelajaran: Memahami berbagai sistem dalam industri manufaktur sehingga diharapkan mampu mengevaluasi kelayakan pemilihan suatu sistem yang tepat di industri.

Silabus: Pengenalan. Jenis produksi dan work floor system. Bottlenecks dan antrian. Teknologi proses. Model persediaan manufaktur. Lot sizes dan lead time. Sistem dorong (push) dan sistem tarik (pull). Cellular dan flexible layout. Konsep JIT dan lean system. SDM perencanaan operasi dan penjualan. Perencanaan induk. Perencanaan material. Perencanaan sumberdaya. Integrasi sistem dan implementasi.

Prasyarat:

Buku Ajar:

1. The Fundamentals of Production Planning and Control; Stephen N. Chapman; Pearson – Prentice Hall, 2006
2. Manufacturing Planning and Control for Supply Chain Management; Vollmann, Berry, Whybark and Jacobs; McGraw-Hill, 2005.

PLANT LAYOUT

2 Credits

Learning Objective(s): able to design the layout of a plant based on constraint and optimum goals.

Syllabus: Design function, Design Procedure. Process Planning. Material flow planning. Analysis Technique. Relationship planning between activities. Plant and Production support services. Space Calculations. Area Allocation. Material Handling Equipment. Plant Layout Development. Plant Location Considerations.

Pre-requisite(s): -

Text Book(s):

1. Richard L. F., Facility Layout and Location, Prentice Hall, 1992
2. Plant Layout and Material Handling, John Wiley & Sons, 1977.

MANUFACTURING SYSTEM

2 Credits

Learning Objective(s): Understanding various systems type in the manufacturing industry, so course participant will be able to evaluate and choose the most appropriate system.

Syllabus: Production Strategy and workflow system. Bottlenecks and Queue. Process Technology. Manufacturing Inventory Model. Lot Sizes and Lead Time. Push and Pull Systems. Sales and Operations Planning Resources. Master Planning. Material Planning. Resource Planning. System Integration and Implementation.

Pre-requisite(s):

Text Book(s):

1. The Fundamentals of Production Planning and Control; Stephen N. Chapman; Pearson – Prentice Hall, 2006
2. Manufacturing Planning and Control for Supply Chain Management; Vollmann, Berry, Whybark and Jacobs; McGraw-Hill, 2005.

ANALISA PERANCANGAN KERJA

2 SKS

Tujuan Pembelajaran: Memberikan pengetahuan dan keahlian kepada mahasiswa untuk dapat menghitung, menganalisa, merancang dan menaikan efektivitas dan efisiensi kerja manusia melalui perbaikan metode dan penetapan standard kerja

Silabus: Penjelasan Struktur kuliah, *Introduction of Human Factors, History Of Human Factors and Future Trends. Problem Solving Tools. Operation Analysis. Man Machine Chart and Flow Process Chart. Anthropometry. Time Study. Performance Rating & Allowances. Work Sampling. Standard Data. Predetermined Time Study. Wage Design. Training and Learning Curves.*

Prasyarat: Statistik iNDUSTRI

Buku Ajar:

1. Method, Standard and Work Design, 11th edition, Benjamin Niebel & Andris Freivalds, McGraw-Hill International, 2003
2. The Ergonomics Kit for general industry, dan Macleod, Taylor & Francis, 2006
3. Motion and Time Study: Design and Measurement of Work, Barnes, Ralph M., John Wiley and Sons, 1980

SISTEM MANAJEMEN KUALITAS

2 SKS

Tujuan Pembelajaran: Memberikan pengetahuan dan keahlian kepada mahasiswa untuk dapat melakukan peningkatan dan penjaminan kualitas produk dan proses secara berkesinambungan melalui pendekatan statistic.

Silabus: Pengertian mengenai konsep kualitas. Pendekatan statistic dalam peningkatan kualitas. Kapabilitas proses. Metode untuk peningkatan kualitas yang berkesinambungan. Six Sigma. Perancangan eksperimen. Penjaminan kualitas.

Prasyarat: Statistik Industri, Perancangan Eksperimen, Total Quality

WORK DESIGN ANALYSIS

2 Credits

Learning Objective(s): understanding and skill to measure, analyze, design and increase the effectiveness and efficiency of human work through methods improvement and work standards.

Syllabus: Introduction of Human Factors, History Of Human Factors and Future Trends. Problem Solving Tools. Operation Analysis. Man Machine Chart and Flow Process Chart. Anthropometry. Time Study. Performance Rating & Allowances. Work Sampling. Standard Data. Predetermined Time Study. Wage Design. Training and Learning Curves.

Pre-requisite(s): Industrial Statistics

Text Book(s):

1. Method, Standard and Work Design, 11th edition, Benjamin Niebel & Andris Freivalds, McGraw-Hill International, 2003
2. The Ergonomics Kit for general industry, dan Macleod, Taylor & Francis, 2006
3. Motion and Time Study: Design and Measurement of Work, Barnes, Ralph M., John Wiley and Sons, 1980

QUALITY MANAGEMENT SYSTEM

2 Credits

Learning Objective(s): Course Participant will have the knowledge and skills to continuously improve and assure product and process quality using statistical approach

Syllabus: Quality Concepts. Statistical Approach in Quality Improvement. Process Capability. Continuous Quality Improvement Methods. Design of Experiment. Quality Assurance.

Pre-requisite(s): Industrial Statistic, Design of Experiment, Total Quality

Management.

Buku Ajar:

1. Introduction to Statistical Quality Control; Douglas C. Montgomery; Sixth Edition; John Wiley & Sons, 2008.
2. The Management and Control of Quality; J.R. Evans and W.R. Lindsay; Sixth Edition; South-Western College Pub, 2004

**ANALISA MULTIVARIAT
2 SKS**

Tujuan Pembelajaran: Mampu Mengorganisir pengumpulan, pengolahan, & penganalisaan data yang bersifat multivariate secara baik & benar untuk pengambilan keputusan

Silabus: *Review of Basic Statistical Concepts, Multiple Regression. Manova. Principal Component Analysis. Factor Analysis. Cluster Analysis. Discriminant Analysis. Logit Analysis. Canonical Correlation. Multidimensional Scaling. Structural Equation Modeling.*

Prasyarat: Statistik Industri, Manajemen Pemasaran

Buku Ajar:

1. Hair, J.F., B. Black, B. Babin, and R.E. Anderson Multivariate Data Analysis, Sixth Edition, Prentice Hall, 2005.
2. Richard Johnson and Winchern, Applied Multivariate Statistical Analysis, Fourth Edition, Prentice Hall, 1998.
3. W.R. Dillon and M. Goldstein, Multivariate Analysis: Methods and Applications, John Wiley & Sons, 1984.

Text Book(s):

1. Introduction to Statistical Quality Control; Douglas C. Montgomery; Sixth Edition; John Wiley & Sons, 2008.
2. The Management and Control of Quality; J.R. Evans and W.R. Lindsay; Sixth Edition; South-Western College Pub, 2004

**MULTIVARIATE ANALYSIS
2 Credits**

Learning Objective(s): Able to organize the collection, processing, and analyzing data that has multivariate characteristic for supporting decision making.

Syllabus: Review of Basic Statistical Concepts, Multiple Regression. Manova. Principal Component Analysis. Factor Analysis. Cluster Analysis. Discriminant Analysis. Logit Analysis. Canonical Correlation. Multidimensional Scaling. Structural Equation Modeling.

Pre-requisite(s): Industrial Statistics, Marketing Management

Text Book(s):

1. Hair, J.F., B. Black, B. Babin, and R.E. Anderson Multivariate Data Analysis, Sixth Edition, Prentice Hall, 2005.
2. Richard Johnson and Winchern, Applied Multivariate Statistical Analysis, Fourth Edition, Prentice Hall, 1998.
3. W.R. Dillon and M. Goldstein, Multivariate Analysis: Methods and Applications, John Wiley & Sons, 1984.

PERANCANGAN PRODUK & PROSES

2 SKS

Tujuan Pembelajaran : Mendidik mahasiswa memahami falsafah desain, keandalan dalam desain., dan mampu melakukan analisis desain produk dengan memperhatikan interaksi material dan proses produksinya serta peninjauan secara ekonomis.

Silabus : Perencanaan Produk, Identifikasi Kebutuhan Konsumen, Menentukan Spesifikasi Produk, Menyusun Konsep, Memilih dan Menguji Konsep, Arsitektur Produk, Design for Manufacturing, Design for Assembly, Membuat Prototype, Keekonomian Produk, Mengelola Proyek Perancangan Produk, Presentasi Proyek Perancangan Produk

Prasyarat : Pemasaran Industri, Faktor Manusia dalam Rekayasa Desain

Buku Ajar :

1. Karl. T. Ulrich & Steven D. Epingger. Product Design Development. 3rd Edition. Mc Graw-Hill. 2004
2. Dieter. "Design Engineering", 3rd edition, Mc.Graw-Hill 2000
3. James G. Bralla. Design For Excellence. McGraw-Hill - 1996
4. Milton D. Rosenav, Jr. et. al. The PDMA Handbook of New Product Development, John Willey & Sons. 1996
5. Hamid Noor & Russel Radford. Production & Operation Management. McGraw-Hill. 1995

PRODUCT & PROCESS DESIGN

2 Credits

Learning Objective(s): understanding the design philosophy. Reliability in design, analysis of design by investigating the relationship and interaction of material and production process and economic considerations.

Silabus : Product Planning. Customer Needs Identification. Product Specification Development. Concept Development. Product Architecture. Design for Manufacturing, Design for Assembly, Prototype Building. Product Economy. Product Development Project Administration. Major Assignment Presentation.

Pre-requisite(s): Industrial Marketing, Human Factors in Engineering Design

Text Book(s):

1. Karl. T. Ulrich & Steven D. Epingger. Product Design Development. 3rd Edition. McGrawHill. 2004
2. Dieter. "Design Engineering", 3rd edition, McGraw-Hill 2000
3. James G. Bralla. Design For Excellence. McGraw-Hill - 1996
4. Milton D. Rosenav, Jr. et. al. The PDMA Handbook of New Product Development, John Willey & Sons. 1996
5. Hamid Noor & Russel Radford. Production & Operation Management. McGraw-Hill. 1995

PEMODELAN EKONOMI INDUSTRI 2 SKS

Tujuan Pembelajaran: Memberikan pengetahuan tentang variabel-variabel ekonomi, yang endogen dan eksogen, serta merangkai variabel-variabel tersebut dalam sebuah sistem model persamaan industri baik sektoral maupun nasional/general, dan menyelesaikannya secara numeric (computerized) lewat teknik simulasi.

Silabus: Pemodelan Ekonomi Industri. Variabel-variabel Ekonomi Industri. Sistem Persamaan. Model-model Umum. Model-model Ekonomi Industri. Ekonometri dan Regresi. Sistem pengendalian. Teknik Numerik. Simulasi dan Validasi.

Prasyarat:

Buku Ajar:

1. Agricultural Sector Planning; Rossmiller, George E. (ed); Lansing; Michigan state University.
2. Econometric Models, Techniques & Application; Intriligator, Michael, D; Englewood Cliffs; Prentice hall.
3. Medium-Term Dynamic Simulation of The Indonesian Economic; Sri Bintang Pamungkas; Iowa State University.

INDUSTRIAL ECONOMIC MODELING 2 Credits

Learning Objective(s): Develop understanding on the economic variables, endogen and eksogen, and the ability to interrelated these variables into a industrial system equation model, based on sector or on the national level. These model must be solve using computer through simulation techniques

Syllabus: Industrial economic modeling. Industrial Economic Variables. Equation Systems. Generic models. Industrial Economic Models. Econometric and Regression. Control Systems. Numerical Technique. Simulation and Validation

Pre-requisite(s):

Text Book(s):

1. Agricultural Sector Planning; Rossmiller, George E. (ed); Lansing; Michigan state University.
2. Econometric Models, Techniques & Application; Intriligator, Michael, D; Englewood Cliffs; Prentice hall.
3. Medium-Term Dynamic Simulation of The Indonesian Economic; Sri Bintang Pamungkas; Iowa State University.

KEUANGAN DAN PERBANKAN

2 SKS

Tujuan Pembelajaran: Dapat memahami prinsip keuangan dan perbankan, bagaimana mengelola keuangan perusahaan, menganalisa & mengevaluasi kondisi perusahaan berdasarkan laporan keuangan tsb.

Silabus: Manajemen Aset ; Instrumen dan Pasar Keuangan ; Struktur Modal, Dividend dan Biaya Modal ; Permintaan Dalam Keuangan ; Kekuatan-kekuatan Keseimbangan Pasar Keuangan ; Bank dan Perbankan Komersial ; Penggabungan ; Kebangkrutan ; Keuangan Bisnis Internasional ; Analisa Ratio Keuangan ; Obligasi dan Saham ; Pasar Saham dan Modal ; Risiko Portofolio ; Analisis Kebijakan Proyek Usaha ; Persoalan Revised Balance Sheet ; Model-Model Pengembangan Usaha ; Kebijakan Dividend

Prasyarat:

Buku Ajar:

1. Fundamentals of Financial Management, James C. Van Horne & John M. Wachowicz, Prentice Hall, India, 2003
2. Financial Management, Eugene F. Brigham, The Dryden Press, 2001
3. Money and Banking, Dudley G. Lockett, McGraw-Hill, 2000

FINANCE AND BANKING

2 Credits

Learning Objective(s): Develop understanding on finance and banking concepts to be able to manage company financial reports, analyze and evaluates company conditions based on these reports.

Syllabus: Asset Management, Financial Market and Instruments, Capital Structure, Dividend and Cost of Capital; Demand; Forces in Financial Market equilibrium; Bank and Commercial Banking; Merger and Acquisitions; International Financial Business; Financial Ratio Analysis; Bonds and Stocks; Bond and Capital Market; Portfolio Risk; Business Evaluation Analysis; Revised Balanced Sheet Problem; Business Development Model; Dividen Poicy

Pre-requisite(s):

Text Book(s):

1. Fundamentals of Financial Management, James C. Van Horne & John M. Wachowicz, Prentice Hall, India, 2003
2. Financial Management, Eugene F. Brigham, The Dryden Press, 2001
2. Money and Banking, Dudley G. Lockett, McGraw-Hill, 2000

EKONOMI & KEBIJAKAN INDUSTRI I

2 SKS

Tujuan Pembelajaran: Memberikan pengetahuan tentang sisi penyediaan ekonomi, yaitu usaha bisnis yang berlaku sebagai penjual (penyedia barang dan jasa), sehingga dapat memahami peranan sesungguhnya suatu usaha industri berikut pasar produk-produknya.

Silabus: Teori Konsumen. Teori Perusahaan. Keseimbangan Harga. Persaingan Usaha. Monopoli, Duo-poli dan Oligopoli. Struktur Pasar dan Perusahaan. Penggabungan Usaha. Teknologi dan Inovasi. Perdagangan Internasional. Perusahaan Multinasional. Privatisasi. Kebijakan-kebijakan Publik.

Prasyarat: Pengantar Ilmu Ekonomi & Bisnis

Buku Ajar:

1. Microeconomics Theory, A Mathematical Approach; Henderson, James M and Richard E. Quandt; Mc Graw Hill Book Co; New York
2. Industrial Economics, Analysis and Public Policy; Martin, Stephen; Englewood Cliffs; Prentice Hall.

EKONOMI & KEBIJAKAN INDUSTRI 2

2 SKS

Tujuan pembelajaran: Memberikan pengetahuan tentang variabel-variabel dalam pasar Industri, yang meliputi pasar barang dan jasa, pasar uang dan pasar tenaga kerja; serta berbagai kebijakan fiskal, moneter dan neraca pembayaran yang dapat mempengaruhi dan mengendalikan beberapa variabel tertentu, seperti pendapatan, suku bunga dan harga.

Silabus: Model Ekonomi Industri. Pasar-pasar dalam Industri . Variabel-variabel dalam Industri. Pasar Barang dan Jasa. Pasar Uang. Pasar Tenaga Kerja. Konsumsi, Investasi dan Impor-Ekspor. Pendapatan Nasional dan Sektor-sektor Industri. Kebijakan Fiskal. Kebijakan Moneter. Kebijakan Neraca Pembayaran. Kebijakan Publik Teori Pertumbuhan. Model-model dalam Ekonomi dan Industri.

INDUSTRIAL AND ECONOMICS POLICY I

2 Credits

Learning Objective(s): knowledge about the supply side of the economy: business who makes and sells product or services , to give understanding about the role of an industry

Syllabus: Consumer theory. Corporate Theory. Price Teori Konsumen. Price Theory. Competition. Monopoli, Duopoly dan Oligopoli. Market Structure and Corporation. Merger. Innovation and Technology. Perdagangan Internasional. Perusahaan Multinasional. Privatisasi. Kebijakan-kebijakan Publik.

Pre-requisite(s): Introduction to Economics and Business

Text Book(s):

1. Microeconomics Theory, A Mathematical Approach; Henderson, James M and Richard E. Quandt; Mc Graw Hill Book Co; New York
2. Industrial Economics, Analysis and Public Policy; Martin, Stephen; Englewood Cliffs; Prentice Hall.

INDUSTRIAL AND ECONOMICS POLICY 2

2 Credits

Learning Objective(s): Knowledge about industrial market variables which includes goods and service market, money market and workforce market, including fiscal and monetary that could affect other variables such as income, interest and price.

Syllabus: Industrial Economy Model. Markets in the industry. Variables in the Industri. Goods and Services Markets. Workforce Markets. Consumptions, Investment and Import-export. GDP and Industrial Sectors. Fiscal Policy. Monetary Policy. Public Policy. Balance of Payment. Growth Theory. Economic and Industrial Models.

Prasyarat: Ekonomi dan Kebijakan Industri I

Buku Ajar:

1. Pamungkas, Sri-Bintang. 2002. Modul Sistem dan Kebijakan Industri. Jakarta: FT-UI. (2) Branson, William H. 1979. Macroeconomic Theory and Policy. New York: Harper & Row publisher.
2. McKenzie, Richard B. and Gordon Tullock. 1978. Modern Political Economy. New York: McGraw-Hill Book Co.

MANAJEMEN INDUSTRI MULTINASIONAL 2 SKS

Tujuan Pembelajaran: Memberikan pengetahuan tentang investasi industri umumnya dan multinational, yang meliputi perdagangan dan keuangan internasional.

Silabus: Teori dalam Perdagangan Internasional. Kebijakan-kebijakan dalam Perdagangan. Sistem Moneter dan Pembayaran Internasional. Pasar dan Manajemen Nilai Tukar. Investasi Internasional. Membiayai Usaha Multinasional. Analisis Investasi Asing.

Prasyarat: -

Buku Ajar:

1. Root, Franklin R. 1978. International Trade Investment. Cincinnati: South-Western Publishing Co.
2. Grubel, Herbert G. 1981. International Economics, Homewood: Richard D. Irwin Co. (3) Shapiro, Alan C. 2003. Multinational Financial Management. Hoboken: John Wiley & Sons Inc.

Pre-requisite(s): Industrial and Economics and Policy I

Text Book(s):

1. Pamungkas, Sri-Bintang. 2002. Modul Sistem dan Kebijakan Industri. Jakarta: FT-UI. (2) Branson, William H. 1979. Macroeconomic Theory and Policy. New York: Harper & Row publisher.
2. McKenzie, Richard B. and Gordon Tullock. 1978. Modern Political Economy. New York: McGraw-Hill Book Co.

MULTINATIONAL INDUSTRIAL MANAGEMENT 2 Credits

Learning Objective(s): knowledge about industrial investment in national and international perspectives

Syllabus: International Trade Theory, Trade Policies, Monetary and Payment System, Market and Exchange Mechanism. International Investment. Multinational Finance. Foreign Investment Analysis.

Pre-requisite(s): -

Text Book(s):

1. Root, Franklin R. 1978. International Trade Investment. Cincinnati: South-Western Publishing Co.
2. Grubel, Herbert G. 1981. International Economics, Homewood: Richard D. Irwin Co. (3) Shapiro, Alan C. 2003. Multinational Financial Management. Hoboken: John Wiley & Sons Inc.

PERENCANAAN PROYEK PUBLIK

2 SKS

Tujuan Pembelajaran: Memperkenalkan pengetahuan tentang berbagai proyek pembangunan serta analisis benefit-cost dalam rangka evaluasi proyek, untuk proyek-proyek pembangunan masyarakat, dimana lebih ditekankan analisa ekonomi daripada analisa finansial.

Silabus: Ekonomi Pembangunan. Perencanaan untuk Pembangunan. Ketersediaan Data dan Dana. Pelaksanaan dan Penilaian atas Rencana. Organisasi Perencanaan dan Pembangunan. Lembaga-lembaga dan Fungsi Perencanaan. Proyek-proyek Pembangunan. Usulan Proyek-proyek Pembangunan. Kasus-kasus Proyek Pembangunan

Prasyarat:

Buku Ajar:

1. Redistribution With Growth; Chenery, Holis, et.al; Oxford U Press; New York.
2. Development Planning; Waterston, Albert; Oxford U Press; Baltimore.
3. Economic Analysis Of Agricultural Project; Gittinger, J. Price; Jakarta; U of Indonesia Press- John Hopkins U Press.

PUBLIC PROJECT PLANNING

2 Credits

Learning Objective(s): To introduce the knowledge about public development projects and the cost-benefit analysis to evaluate public projects which values more economic analysis than financial analysis.

Syllabus: Economics of Development. Development Project Planning. Data and Funding Requirements. Plan Implementation and its Evaluation. Planning and Development Organizations. Organizational Bodies and Planning Functions. Development Projects. Cases.

Pre-requisite(s):

Text Book(s):

1. Redistribution With Growth; Chenery, Holis, et.al; Oxford U Press; New York.
2. Development Planning; Waterston, Albert; Oxford U Press; Baltimore.
3. Economic Analysis Of Agricultural Project; Gittinger, J. Price; Jakarta; U of Indonesia Press- John Hopkins U Press.