course description

Fly to Italy

این فایل به منظور کمک به متقاضیان تحصیل در کشور ایتالیا توسط گروه فلای تو ایتالی به صورت رایگان تهیه شده است لطفا از خرید این فایل خودداری فرمایید.

اسفاده از این فایل در صفحات مجازی و وبسایت ها **با ذکر نام تهییه کننده** بلا مانع است.

معرفی فلای تو ایتالی

سلام ...!
تیم فلای تو ایتالی متشکل از چند دانشجو که فعالیت خودمون را از ماه بهمن سال **1401** آغاز کردیم و هدف تیم ما این است که به شما کمک کنیم تا بتوانید به صورت مستقل و بدون نیاز به مشاوران مهاجرتی برای دانشگاه های ایتالیا اپلای کنید و پذیرش بگیرید . با توجه به اینکه بسیاری از موسسه های مهاجرتی هزینه های بالایی را برای اخذ پذیرش از دانشگاه های ایتالیا از دانشجو دریافت میکنند ، ما تصمیم گرفتیم با تلاش و تجربه خود به دانشجو ها کمک کنیم که بدون هزینه اضافه کار های مهاجرتی خودشون را انجام بدهند .
در این راستا در طی سال های گذشته ویدئو های مختلفی را برای نحوه اپلای کردن دانشگاه های ایتالیا ضبط و منتشر کردیم تا به دانشجویان کمکی کرده باشیم تا بتوانند در این مسیر با کمترین هزینه از دانشگاه های ایتالیا پذیرش بگیرند .

پس اگر سوال یا نیاز به راهنمایی در زمینه مهاجرت تحصیلی به کشور ایتالیا داشتید ، با ما همراه باشید و سوالات خودتون را از ما بپرسید . ما در کنار شما خواهیم بود و شما را همراهی خواهیم کرد .

مدیریت **fly to italy**

طریق استفاده از فایل

برای استفاده از این فایل ، صفحات بعد را کپی گرفته و به دانشگاه مبدا ببرید و تاییدات لازم را بگیرید

Summary of Course Descriptions

Bachelor of Science in Electrical Engineer, Communication

Course Title	Credits	Hour		Description
		Theoretical	Practical	
Principle and Basic				
General Mathematics (I)	4	48		Study of single variable calculus, numerical sequences, limits, continuity differentiation, extreme function values, the definite integrals, applications of the definite integrals, Inverse functions, logarithmic and exponential functions, inverse trigonometric and hyperbolic functions, techniques of integration, indeterminate forms, improper integrals, Taylor's formulae, infinite series.
Physics Lab (I)	1		36	Implementing theoretical principles of mechanical physics and thermal physics.
Physics (I)	3	48		Basic and advanced principles of mechanical physics and thermal physics.
EE Principles & Lab	4	48		This course presents the fundamentals of circuit analysis. It begins with basic concepts such as voltage, current, sources and Ohm's law; then it proceeds to develop general and powerful procedures (nodal and mesh analyses) used in analyzing electric circuits. These methods are first applied to resistive circuits and later to circuits with more complex elements such as capacitors and inductors. Circuits with DC sources as well as those with sinusoidal sources are analyzed. The subjects of steady-state power and three-phase balanced systems are also covered
Principles of computer and programming	3	48		The Purpose of the course is to study the fundamental concepts and techniques necessary to write high quality programs , including basic concepts of object - oriented programming, modular design ,exception handling, and class libraries. Some advanced topics such as reflection, distributed programming, multi - threading , and GUI libraries are also covered. All of the mentioned concepts and techniques are studied using the C++ language. this course is not a C++ training course. the emphasis is on the concepts and techniques rather than the language itself
General Mathematics (II)	4	48		Advanced principles of mathematics and instructions for solving equations: Parametric equations and polar coordinates, vectors in 2 - and 3 -dimensional Euclidean spaces, vector calculus, matrix arithmetic and determinants, linear transformations, basic linear algebra, differential equations, multivariable functions, partial derivatives, multiple integrals. Theorems of Green, Gauss (Divergence), and Stokes, cylindrical and spherical coordinates.
Differential Equations	3	48		Methods of solving especial classes of ordinary differential equation including linear, Bernoulli, separable and exact first order equation, reduction of order, variation of parameter, undetermined coefficients, power series methods, and Laplace transform methods in second order linear equation and autonomous system of linear differential equations. Systems of first order differential equations, exponential matrix.
Physics Lab (2)	1		36	Implementing theoretical principles of electricity and electro magnetic
Physics (2)	3	48		The principles of electricity, electrical devices and electrical distribution methods and also basic of electro magnetics.
Analog Circuits and Lab	4	36	12	In this course students interpret the symbols, basic operation and correct circuit configurations for logic gates, resistors, N and P type semiconductors, diodes and transistors. Topics covered in this course include testing of components,

				soldering and de-soldering procedures, troubleshooting and common applications for digital and semiconductor components.
Engineering Math	3	48		his course is about the mathematics that is most widely used in the mechanical engineering core subjects: An introduction to linear algebra and ordinary differential equations (ODEs), including general numerical approaches to solving systems of equations.
Numeric Computation	3	48		This course will emphasize the development of numerical algorithms to provide solutions to common problems formulated in science and engineering. The primary objective of the course is to develop the basic understanding of the construction of numerical algorithms, and perhaps more importantly, the applicability and limits of their appropriate use. The emphasis of the course will be the thorough study of numerical algorithms to understand (i) the guaranteed accuracy that various methods provide, (2) the efficiency and scalability for large scale systems. and (3) issues of stability
Electrical Circuits Theory	3	48		This course presents the fundamentals of circuit analysis. It begins with basic concepts such as voltage, current, sources and Ohm's law; then it proceeds to develop general and powerful procedures (nodal and mesh analyses) used in analyzing electric circuits. These methods are first applied to resistive circuits and later to circuits with more complex elements such as capacitors and inductors. Circuits with DC sources as well as those with sinusoidal sources are analyzed. The subjects of steady-state power and three-phase balanced systems are also covered
Engineering Probability and Statistics	3	48		Probability and statistical methods play an important role in many aspects of engineering including forecasts of extreme operating conditions, optimisation of industrial processes, quality assurance and design of reliable systems. This course provides an introduction to the theory and practice of probability and statistics in the context of engineering, with an emphasis on modelling. It will provide students with experience in using the high level statistical package R for the analysis of examples from real applications. Topics covered are: review of descriptive statistics and basic probability, Bayes' theorem; random variables, commonly used discrete and continuous distributions including Bernoulli, binomial, geometric, hypergeometric, Poisson, uniform, exponential, normal, log-normal, the Poisson process, linear combinations of random variables, central limit theorem; inference for normal means, hypothesis tests, type 1 and type 2 error rates, confidence intervals, single sample, two independent samples, paired samples, inference for proportions; SPC, the Xbar chart, control limits, runs rules, process capability, general control charts, cusum charts; regression and correlation, simple linear regression, least squares estimation, inference for regression coefficients, prediction and estimation, regression diagnostics; multiple linear regression, least squares estimation, inference, prediction and estimation, diagnostics
Electromagnetism	3	48		an introductory subject on electromagnetics, emphasizing fundamental concepts and applications of Maxwell equations. Topics covered include: polarization, dipole antennas, wireless communications, forces and energy, phase matching, dielectric waveguides and optical fibers, transmission line theory and circuit concepts, antennas, and equivalent principle. Examples deal with electrodynamics, propagation, guidance, and radiation of electromagnetic waves.
Electrical Energy Conversion 1 & Lab	4	36	12	This course provides a general introduction to power engineering. It focuses mainly on the principles, modelling and analysis of DC and AC electrical machines and transformers. The principles of electric drives and power systems are also discussed.
Specialty English Language	2			Making students familiar with the basic terminology used in the English-speaking professional Electrical texts, preparing students to understand the professional publications in Electrical in the English language and self formulation of Electrical texts in this language

Logic Circuits and Digital Systems and Lab	4	38	12	Elements of digital design with an emphasis on computer design; Boolean algebra, logic simplification, state machine design.
Electronic Principles and Lab	4	38	12	This course is a continuation of Electronic Circuits for advanced instrumentation I. It covers several topics from analog and digital integrated circuits. Topics include transistors and their applications, models of the bipolar transistor, transistor current sources, noise in integrated circuits, digital logic circuits (TTL, ECL, etc.), latches, and flip-flops.
Elec Eng Graphics	2	36		This course covers the fundamentals of engineering graphics including the drawing of orthographic, isometric, and auxiliary projections. Other topics include scaling, sectioning, dimensioning, and drawing documentation. This course uses the latest release of computer-aided design (CAD) software commonly used in industry to introduce students to CAD interface, structure, and commands.
Linear Control Systems and Lab	4	36	12	his subject will introduce you to the principles and practice of feedback control systems, and outlines their role in modern society. You will learn about dynamic system modelling and controller synthesis as two key elements in the development of a modern control system, and the subject will emphasise the usage of transform theory to facilitate both of these elements. This subject will also introduce techniques for the practical implementation of the synthesised controller. Topics that are covered in this subject include: introduction to feedback, system modelling using Laplace transform and state space representations, non-linear system models, SISO control, prototype controllers based on proportional + integral + derivative elements, root locus techniques, Nyquist and Bode techniques, compensation strategies, feed-forward and cascaded loops, and practical realisation issues.
Power Systems Analysis 1	3	48		The course paves the foundation for exploring the ways and means to perform power system analysis in normal operation and under symmetrical and unsymmetrical faults. Models of generators, transformers and transmission lines essential for such analyses are assembled. Additionally, principles for the formulation, solution, and application of optimal power flow are established. Computer-aided analysis of the performance of large-scale power systems is one of the central learning objectives.
Computer Structure and Microprocessor and Lab	4	36	12	Structure and timing of typical microprocessors. Sample microprocessor families. Memories, UARTS, timer/counters, serial devices and related devices. MUX and related control structures for building systems. Interrupt programming. Hardware/software design tradeoffs
Project Control	3	48		This course develops a foundation of concepts and solutions that supports the planning, scheduling, controlling, resource allocation, and performance measurement activities required for successful completion of a project.
Introduction to Operational Research	3	48		Operations Research is a science of modeling and optimization. It allows you to model real-world problems by using mathematics, statistics, and computers. It provides you tools and theories to solve these real-world problems by finding the optimal solutions to the models subject to constraints of time, labor, resource, material, and business rules. With Operations Research, people make intelligent decisions to develop and manage their processes and businesses.
DSP Laboratory	1		36	This course builds on the theory of digital signal processing. Opportunities are provided to work on specific applications of digital signal processing involving filtering, de-convolution, spectral estimation, and a variety of other techniques. Students may also suggest their own laboratory topics. Laboratory work involves developing signal processing systems on a personal computer and using them with both real and simulated data. Questions related to hardware realizations are also considered.
Basic Management	3	48		This course provides information on the key proficiencies you require to effectively direct others. Specifically, the steps for setting direction and establishing clear objectives and goals with your direct reports are explored. The

				importance of organizing, including organizing resources, is discussed. Finally, communicating for clarity and direction, including listening skills, barriers to effective communication, and tips for overcoming communication barriers are covered.
Specialized and Optional				
Communication Systems	3	48		Analysis and design of analog and digital communication systems based on Fourier analysis. Topics include linear systems and filtering, power and energy spectral density, basic analog modulation techniques, quantization of analog signals, line coding, pulse shaping, and transmitter and receiver design concepts. Applications include AM and FM radio, television, digital communications, and frequency-deivision and time-division multiplexing.
Signals & Systems	3	48		covers the fundamentals of signal and system analysis, focusing on representations of discrete-time and continuous-time signals (singularity functions, complex exponentials and geometrics, Fourier representations, Laplace and Z transforms, sampling) and representations of linear, time-invariant systems (difference and differential equations, block diagrams, system functions, poles and zeros, convolution, impulse and step responses, frequency responses). Applications are drawn broadly from engineering and physics, including feedback and control, communications, and signal processing.
Digital Signal Processing	3	48		This course provides an introduction to digital signal processing for both undergraduate and for graduate students. In this course, a detailed examination of basic digital signal processing operations including sampling/reconstruction of continuous time signals, Fourier and Z-transforms will be given. The Fourier and Z-transforms will be used to analyze the stability of systems, and to find the system transfer function. The discrete Fourier transform (DFT) and fast Fourier transform (FFT) will be studied. Finally, we will examine time and frequency domain techniques for designing and applying infinite impulse response (IIR) and finite impulse response (FIR) digital filters. Two-dimensional signals and introductory image processing operations will also be discussed.
Electromagnetic Fields and Waves	3	48		Electromagnetic fields and waves fundamentals and their engineering applications: static electric and magnetic fields; energy storage; Maxwell's equations for time-varying fields; wave solutions in free space, dielectrics and conducting media, transmission line systems; time- and frequency-domain analysis of transmission line circuits and Smith chart applications.
Digital Communication	3	48		This course gives students deep knowledge in modern digital communication systems at the theoretical & practical level. Introduces the most advanced standards & outlines the future of digital wireless communication systems & networks. The course will focus on modern digital wireless communication systems including the cellular concept, mobile radio environment, signals generation, modulation & processing & will therefore supply students with essential skills to work in the communication industry & in mobile communication networks in particular.
Analog Electronics	3	48		This course develops a basic understanding of the fundamentals and principles of analog circuits and electronic devices in electrical and electronic engineering. It covers the key electrical variables and the application of fundamental circuit laws and theorems to DC/AC resistive circuits; the analysis of RLC circuits including resonance; the principles, construction, analysis and modelling of basic semi-conductor devices; and experimental work involving diodes, transistor amplifiers and op-amps. It includes a communication and professional skills development component.
Communication Circuits Lab	1	36		Analysis and design of analog and digital communication systems based on Fourier analysis. Topics include linear systems and filtering, power and energy spectral density, basic analog modulation techniques, quantization of analog signals, line coding, pulse shaping, and transmitter and receiver design concepts.

				Applications include AM and FM radio, television, digital communications, and frequency-deivision and time-division multiplexing.
Stochastic process	3	48		This course is an introduction to Markov chains, random walks, martingales, and Galton-Watsom tree. The course requires basic knowledge in probability theory and linear algebra including conditional expectation and matrix.
Digital Communication Lab	1		36	This course gives students deep knowledge in modern digital communication systems at the theoretical & practical level. Introduces the most advanced standards & outlines the future of digital wireless communication systems & networks. The course will focus on modern digital wireless communication systems including the cellular concept, mobile radio environment, signals generation, modulation & processing & will therefore supply students with essential skills to work in the communication industry & in mobile communication networks in particular.
RF Communication circuits	3	48		This course is an introduction to RF communication systems and address issues involved in designing of RF communication systems. Emphasis of the course is on applications for modern microwave communication systems. Knowledge of the electromagnetic properties of materials, RF diodes, transistors, the Smith chart, high frequency scattering parameters, transmission line analysis and system level computations will help student develop an enhanced understanding of circuit design and analysis principles. CAD tools will be employed to enhance the understanding between theory and practical application.
Microwaves and Antennas	3	48		Antennas and propagation effects play a crucial, even though often overlooked, role in RF systems. In practice, the design of a working system such as mobile phone networks, WiFi, RFID, Satellite communication and GPS requires a good understanding of these components. This course teaches the fundamentals of antenna and propagation and shows the application in practical examples. The course covers the theory of radiation, fundamental antenna parameters and concepts, wire antennas such as dipoles and loop antennas, antenna arrays, aperture antennas (e.g. horns), microstrip antennas, numerical analysis, communication & radar systems and propagation effects.
Wireless Communication	3	48		Overview of wireless network architectures including cellular networks, local area networks, multi-hop wireless networks such as ad hoc networks, mesh networks, and sensor networks; capacity of wireless networks; medium access control, routing protocols, and transport protocols for wireless networks; mechanisms to improve performance and security in wireless networks; energy-efficient protocols for sensor networks
GENERAL				
General English Language	3	48		A review on the English grammar, English vocabulary and reading skills.
General Persian Language	3	48		A review on the prominent process and poems of the Persian literature through the history of Iran. A review on the Persian grammar for writing
Life style	2	24		A review on the doctrine and content of holy Quran about life style
Holy Quran Reading	2		18	practice of holy Koran Reading
Thought of Imam Khomeini	2	48		A review on the Islamic thoughts, beliefs and values.
Islamic Thought (I)	2	48		A review on the lives of the prophets and Islam's Imams.

Islamic Anthropology	2	48		History of Iran, before and after the procedure of Islamic revolution. Brief review on the events during the revolution procedure.
Life Ethics	2	48		Instructions on how to have a better life and future, and how to interact positively in the society
History of Islam	2	48		History of early Islamic civilization and how Islamic culture was shaped through the time.
Physical Education I	1		36	Physical education and training, including stretch exercises, running, etc.
Physical Education II	1		36	Being trained professionally in the chosen favorite sport - Volleyball.
Pre - University				
Chemistry	2	48		chemistry is concerned with the physical and chemical properties of substances and the interaction of energy and matter. The study of Chemistry involves an investigation into chemical reactions and processes. The discipline seeks to explain and predict events at the atomic and molecular level. Through the principles of Chemistry, students will understand everyday life, nature and technology, and the significance of the well-being of man and the environment.
English language	2	48		The pre-university courses are designed to help you develop the academic skills you need to progress to a university undergraduate or postgraduate program.
Mathematics	2	48		Pre-university Calculus will prepare you for the Introductory Calculus courses by revising four important mathematical subjects that are assumed to be mastered by beginning Bachelor students: functions, equations, differentiation and integration.