



PROGRAMME SYNOPSIS

Year 1 Semester 1

Course: ETE3214 Introduction to Electronics

Synopsis:

The module encompasses analogue electronics and fundamental theory of semiconductors, diodes, transistors and operational amplifiers with their applications.

Course: ETE3114 Principles of Electricity

Synopsis:

Topics to be covered include fundamental concepts of electricity, network theorems, poly-phase circuits, electrostatics, electromagnetism, simple RC and RL circuits and introduction to alternating voltage and current.

Course: EEC3643 Mathematics I

Synopsis:

This is a pre-calculus algebra subject designed to prepare engineering students to advance calculus and engineering mathematics. The module encompasses arithmetic and algebra, polynomials evaluation and factorisation, linear and simultaneous linear equations, partial fractions, number system, complex numbers, matrices and trigonometry.

Course: ETE3123 Electrical Workshop and Technology

Synopsis:

The module covers basic skills to work with electronic components and measurement skills using multimeter and oscilloscope.

Course: UCS3112 Communication in the Workplace

Synopsis:

This course comprises of basic knowledge and skills in workplace communication, providing a fundamental exposure and guide to the various forms of communication in the workplace covering both verbal communications and written communication. These include practice in conveying ideas and opinions, writing proposals and business letters, preparing reports, oral communication and presentation.

Course: MPU3412 Co-curriculum

Synopsis:

Students will take part in organizing university's and outside events to gain opportunity of training and learning of specific techniques and skills related to the themes of the events apart from participating in soft skills improvement programs while joining other outdoor sports activities. These will allow students to practice effective communication skills, both verbally or written, polish managerial skills while becoming leaders and managing

events in the university, and cultivate awareness of lifelong learning while exposing to well-diversify of knowledge, skills and techniques.

Year 1 Semester 2

Course: ETE3224 Circuit Theory

Synopsis:

Topics to be covered include fundamental concepts of electricity, network theorems, poly-phase circuits, electrostatics, electromagnetism, simple RC and RL circuits and introduction to alternating voltage and current.

Course: EEC3234 Field Theory

Synopsis:

The module encompasses the fundamental theory of electromagnetism which will finally culminate in the introduction of Maxwell's Equations.

Course: UCS3122 Professional English: Essential Communication Skills

Synopsis:

This course provides a comprehensive reference guide on technical communication principles, skills and practice in workplace. It explains the principles of effective communication, both written and oral, and provides solid advice and practical guidelines on how to strengthen communication skills and produce good technical and business writing. It introduces the theory, specimen documents, suggested layouts and explanations that develop skills and understanding.

Course: EEC3613 Engineering Mechanics

Synopsis:

The module encompasses fundamental theory of dynamics and statics with their applications to solve mechanical problems.

Course: EEC3653 Mathematics II

Synopsis:

This subject will build on the knowledge gained in Mathematics I. It is designed to provide the students with the knowledge of mathematical sequences and series, vector, lines and planes, basic differentiation and integration that are applicable to civil engineering practices. Topics include Vector, Series, Geometry, Numerical Methods, Statistics, Differentiation and Integration.

Course: EEC3632 Engineering Programming

Synopsis:

The students will be given an introductory subject to basic computer software and computer Programming to solve simple engineering problems. Topics include: Introduction to Microsoft Words and Preparation of Report, formal letter etc, Introduction to Computer Programming – Excel Spreadsheet and Problem Solving, Microsoft Project and Project Scheduling.

Year 2 Semester 1

Course: ETE3313 Signals & Systems

Synopsis:

The module encompasses fundamental theory and analytical methods of signals and systems, and the use of various transform methods for engineering solutions.

Course: ETE3133 Measurement and Instrumentation

Synopsis:

This module encompasses fundamental theory and application of sensors/devices and their instrumentation for measurements problems in engineering and science. This also emphasizes on the practical aspects of preparing and presenting experimental results in report.

Course: ETE3244 Analog Electronics

Synopsis:

The module encompasses fundamental theory and technique of electronic communications and the principle of various communication systems and their applications.

Course: ETE3414 Digital Electronics

Synopsis:

The module encompasses fundamental theory of digital electronics systems, number systems, combinational circuit, flip flops and counter design.

Course: ETE3253 Microelectronics Technology

Synopsis:

This module encompasses fundamental digital integrated circuits fabrication process steps and the integration of circuit design; implementation methodologies, testing, design methodologies and tools.

Course: EEC3663 Mathematics III

Synopsis:

This course will build on the knowledge gained in Mathematics II. Topics include Series, Differentiation, Integration, Statistics, First Order Differential Equations and Laplace Transform.

Year 2 Semester 2

Course: ETE3253 Microelectronics Technology

Synopsis:

This module encompasses fundamental digital integrated circuits fabrication process steps and the integration of circuit design; implementation methodologies, testing, design methodologies and tools.

Course: ETE3154 Control Systems

Synopsis:

This module covers the role of control system and its applications as widely used in industries. It gives the main types of control analysis and design to relate to the real world engineering problems using Engineering Software package. This includes the introduction to Mathematical Model, System Response and System Stability,

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Performance Specification of first and second order systems, Frequency plots and Root Locus analysis, Modern control technique and application. It also provides the basis for further study in more specialist areas of modern control systems.

Course: ETE3174 Electrical Machines and Drives

Synopsis:

The module encompasses fundamental theory electromagnetism and the principle of various types of electric machines, drives and their applications.

Course: ETE3423 Microprocessor Systems

Synopsis:

The module encompasses fundamental concept of microcomputer and microprocessor system, interconnection within the system and IOs.

Course: EEC3622 Engineering Graphics

Synopsis:

This course provides training to students to produce technical detailing drawings using AutoCAD. The applications, tools, commands and functions in the CAD software are introduced. Demonstrations are given to show the approaches that different CAD tasks are carried out, and exercises are provided to allow students to practice the usage of the software.

Course: UCS 3212 Creativity and Innovation

Synopsis:

This subject explores the creativity and innovation of thinking skills with an exposure of principles of thinking, methods of generating ideas, creativity in problem solving techniques, creativity in writing as well as giving the experience of producing creative and innovative product through project given.

Year 2 Semester 3

Course: MPU3113 Hubungan Etnik

Synopsis:

This course focuses on concepts of culture and ethnic relations, specially emphasises on the latest development in Malaysia. It includes the concepts of ethnic relations, insights of ethnic relations in Malaysia in the aspects of economics, politics, constitutions and religions in Malaysia. It also discuss about the challenges for the enhancement of the ethnic relation and the roles of the government and the society.

Course: MPU 3123 Tamadun Islam & Tamadun Asia (TITAS)

Synopsis:

This course focuses on concepts of culture and ethnic relations, specially emphasises on the latest development in Malaysia. It includes the concepts of ethnic relations, insights of ethnic relations in Malaysia in the aspects of economics, politics, constitutions and religions in Malaysia. It also discuss about the challenges for the enhancement of the ethnic relation and the roles of the government and the society.

Course: MPU3312 Entrepreneurship Skills

Synopsis:

The module emphasizes on the application of entrepreneurship concepts such as theory, history, development and process. In this course, students are trained to generate ideas, identify business resources, analyse entrepreneurship environment, and provide realistic business planning.

Year 3 Semester 1

Course: ETE3144 Power Systems

Synopsis:

This module contains the elements that can develop student's understanding in the operation of complex electrical power systems. The topics are generation, transmission of the electrical energy, method of fault analysis and method of the load flow analysis in the power systems.

Course: ETE3444 C/C++ Programming and Computation

Synopsis:

The module encompasses concepts of problem solving and computation with enhancement of advanced programming skills in C/C++.

Course: EEC3672 Engineering Statistics

Synopsis:

The module encompasses fundamental of statistics, elements of probability theory, random variable, probability distribution, sampling theory, point and interval estimations, hypothesis testing, regression and correlation.

Course: UCS3312 Green Technology

Synopsis:

This subject explores the green technology with basic knowledge and fundamental green principles in recycling, green home living, green daily life, green buildings, alternative energy, green transportation, green business and green economics.

Course: MPU3212 Malaysian Economy

Synopsis:

This course provides the student with an overview of the Malaysian economy, the role of the government and its economic interaction with other countries. Various topics will be discussed, including: the government economic policies and activities (primary, secondary and tertiary), Collin Clark's hypothesis of economic development, key growth engines of Malaysian economy towards high income economy (Iskandar, NCER, ECER, SCORE, and SDC), and Economic Transformation Programme (ETP).

Course: EEC3712 Basic Accounting and Finance

Synopsis:

This course introduces students to the basic concept in accounting and financial management within a firm. Emphasis will be on the general theories and practices in accounting as well as analysis and interpretation of the financial statements.

Year 3 Semester 2

Course: ETE3915 Final Year Project I

Synopsis:

In the beginning of the course, students are required to attend a research workshop where they will be taught on how to execute a research, conduct literature review, decide appropriate methodology, collect, interpret and analyse data. Later, students will be guided by the respective supervisors on how to plan for research which will be conducted later in the course entitled Final Year Project II. Students will carry out weekly discussion with their supervisor on the research topic, objective, scope, research programme, and the extent of the development of the research proposal. A report and a presentation of the research proposal are required at the end of the course.

Course: ETE3323 Communication Systems

Synopsis:

The module encompasses fundamental theory and technique of electronic communications and the principle of various communication systems and their applications.

Course: ETE3163 Electrical Wiring and Installation

Synopsis:

The module encompasses theory of electrical wiring and installation, safety at work, various types of earthing systems and domestic electrical design.

Course: ETE3612 Maintenance Technology

Synopsis: Overview of theory and practice of maintenance, responsibilities of reliability, risk Management, cooperative partnerships, effective maintenance organizations, operating policies of effective maintenance, six sigma safety and the horizons of maintenance management.

Course: UCS3421 Bahasa Kebangsaan

Synopsis:

Kursus ini membolehkan pelajar mempertingkatkan kecekapan berbahasa sesuai dengan intelek pelajar untuk berkomunikasi secara lisan dan tulisan dalam konteks rasmi, kreatif dan bukan kreatif. Mata pelajaran ini disediakan untuk mempertingkatkan kecekapan berbahasa sesuai dengan intelek pelajar untuk berkomunikasi dengan lisan dan tulisan dalam konteks rasmi, kreatif dan bukan kreatif.

Year 4 Semester 1

Course: ETE3938 Industrial Training

Synopsis:

6 months on job training at (any of the following) material suppliers, consulting or construction firms, development firms, government department and statutory bodies related to mechanical engineering practices. Nature of works encompasses site supervisions, measurements, contract administrative works etc. Work experience is recorded in work diary, training report and presentation upon completion.

Course: ETE3934 Industrial Training Report

Synopsis:

14 weeks on job training at (any of the following) manufacturing firms, consulting firms, development firms, government department and statutory bodies related to electrical and electronic engineering practices. Nature of works encompasses site supervisions, measurements, contract administrative works etc. Work experience is recorded in work diary, training report and presentation upon completion.

Year 4 Semester 2

Course: ETE3925 Final Year Project II

Synopsis:

Students are required to attend a research workshop where they will be taught on how to execute a research, conduct literature review, decide appropriate methodology, collect, interpret and analyse data. Later, students will be guided by the respective supervisors on how to plan for research which will be conducted later in the course entitled Final Year Project II. A report and a presentation of the research proposal are required at the end of the course.

Course: ETE33433 Embedded Systems and Microcontrollers

Synopsis:

The module encompasses fundamental theory and design stages of the embedded systems and applications.

Course: ETE3722 Industrial Safety & Health

Synopsis:

The module covers basic practical safety such as electrical, fire, environment safety as well as occupational safety and health.

Course: EEC3552 Project Management

Synopsis: Overview of management theories, Inception Stage, Feasibility Stage, Strategy Stage, Pre-Construction Stage, Construction Stage, Engineering Services Commissioning Stage, Completion, Handover and Occupation Stage, Post-Completion and Review, Project Close Out Stage.

Elective Subjects

Course: ETE3823 Power Electronics

Synopsis: The module encompasses fundamental theory of power electronics devices and switching technique. Also the principle of power converters and study of their applications and protections.

Course: ETE3843 High Voltage Engineering

Synopsis: The module encompasses comprehensive exposition of the various principles and techniques involved in high voltage engineering comprising insulating materials and their applications, breakdown phenomena in insulating materials, lightning phenomenon, generation, measurement and testing of high voltage and currents.

Course: ETE3813 Renewable Energy

Synopsis: The module encompasses the theory of renewable electrical energy generation, introduction to renewable energy technologies and potentials.

Course: ETE3833 Automation and Robotics

Synopsis: The module encompasses fundamental theory of Automation, Robotics, Sensors devices and PLC program.

Course: ETE3883 Process Control and Instrumentation

Synopsis: This module further enhance students' knowledge in the field of Control system where it is tackling on the dynamic (system that vary in time) processes and control systems for dynamic performance including tuning of PID controller for dynamic performance - concepts, terminology, methods, and performance