

STUDENT PROGRAMME HANDBOOK

BACKGROUND OF THE FACULTY

Universiti Teknologi MARA (UiTM) is an institution of higher learning (IHL) in Malaysia that offers professional programmes which integrate science, industry and technology. During its early establishment in 1968, Faculty of Electrical Engineering was one of the departments in the School of Engineering. The department started off with offering an Advanced Diploma Programme and then followed by a Diploma Programme in Electrical Engineering in 1976.

In August 1996, the Department of Electrical Engineering was upgraded to the Faculty of Electrical Engineering (FKE) and the Advanced Diploma programme was renamed as the Bachelor of Engineering with Honours (Electrical). When the university obtained its university status in October 1996 (formerly known as Institut Teknologi MARA), the faculty started to offer the post graduate programmes namely Master of Science in Electrical Engineering and Doctor of Philosophy in Electrical Engineering.

VISION AND MISSION OF UiTM

- Vision** : To establish UiTM as a Globally Renowned University of Science, Technology, Humanities and Entrepreneurship.
- Mission** : To lead the development of agile, professional bumiputeras through state-of-the-art curricula and impactful research.

VISION AND MISSION OF FKEPP

- Vision** : To be a renowned faculty based on academic excellence. This in line with the vision of the nation in becoming a dynamic, progressive and global player in the field of electrical engineering through the world-class programmes offered in order to produce electrical engineers who are competitive, global and ethical.
- Mission** : To uphold and to enhance the intellectual level of the nation in electrical engineering profession that assimilate spiritual and noble values through the transfer of knowledge, research work and community service based on moral values and professional ethics of an engineer.

FUNCTIONS OF THE FACULTY

The main functions of the faculty in upholding the government policy towards establishing Universiti Teknologi MARA as a premier university are as follows:

- a) Teaching and Learning – to produce professional workforce in the area of electrical engineering.
- b) Research and Consultancy – to foster a strong relationship with the industry in order to enhance the knowledge and expertise in the current technology through research and consultancy.
- c) Publication – to transfer and contribute to the pool of knowledge through the publications.
- d) Community Services – to serve the community, aligned with the social obligation of the university towards the nation.

DEPARTMENTS IN THE FACULTY

There are five departments in the faculty:

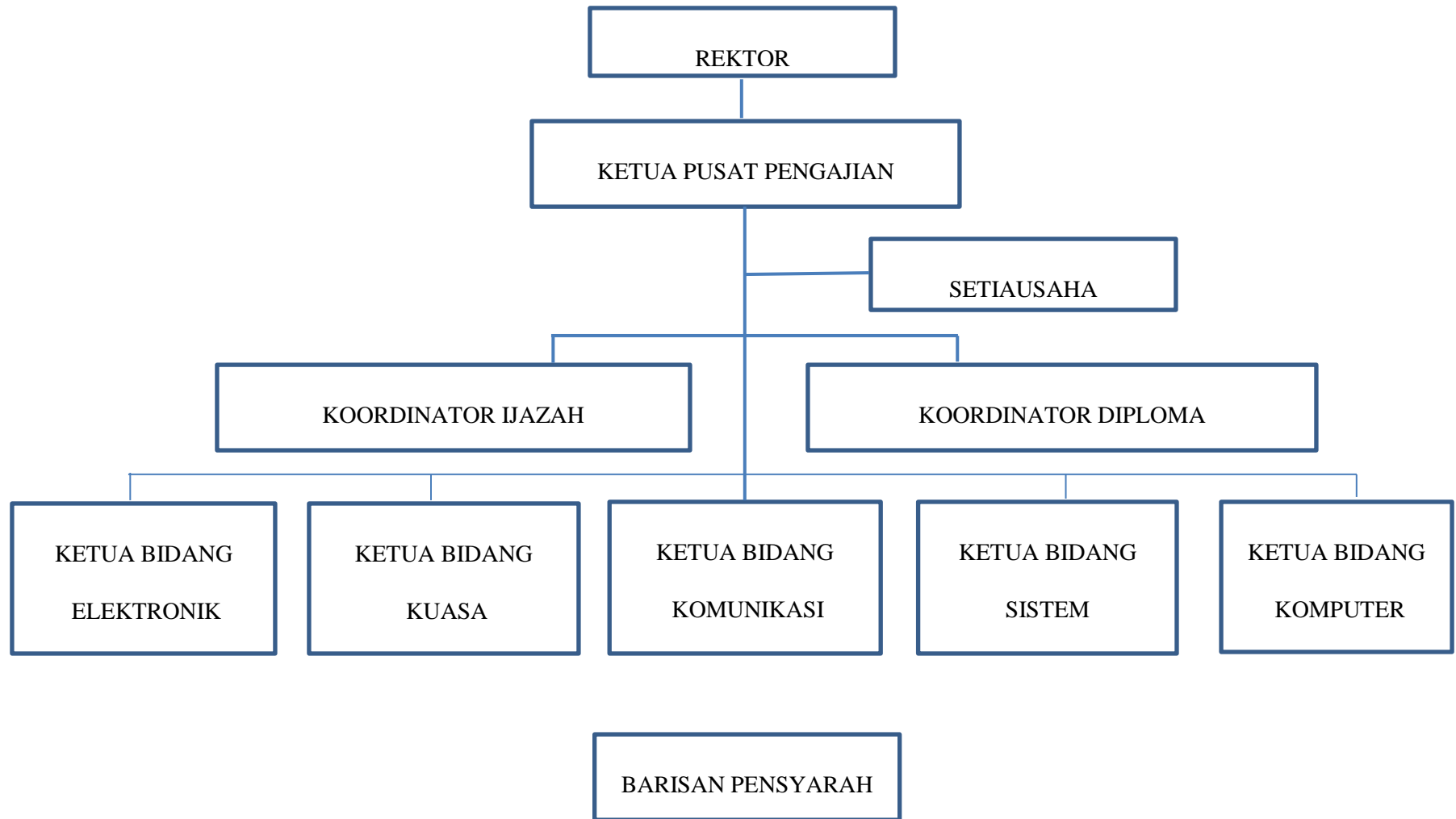
- a) Electronics Engineering
- b) Power Engineering
- c) System Engineering
- d) Communication Engineering
- e) Computer Engineering

PROGRAMMES OFFERED

Currently the faculty is offering the following programmes:

- a) Bachelor of Engineering (Hons.) Electrical and Electronic Engineering – EE200
- b) Diploma in Electrical Engineering (Electronic) – EE111
- c) Diploma in Electrical Engineering (Power) – EE112

**ORGANIZATION STRUCTURE
FACULTY OF ELECTRICAL ENGINEERING**



FACULTY OF ELECTRICAL ENGINEERING
DIPLOMA IN ELECTRICAL ENGINEERING (POWER) – EE112

| PROGRAM AIM |
|--|
| <p>The Diploma in Electrical Engineering (Power) programme aims to nurture competitive, multi-skilled and dynamic Assistant Power Engineers who uphold UiTM vision by developing the potential of individuals from a holistic manner in electrical field to support National Policy on Science, Technology and Innovation.</p> |

| PEO (3 to 5 years after graduation) | PO ETAC (upon graduation) |
|--|---|
| <p>PEO1</p> <p>Assistant Power Engineers who apply knowledge and display practical skills in Power Engineering sectors.</p> | <p>PO1 Knowledge</p> <p>Apply knowledge of applied mathematics, applied science, engineering fundamentals and an engineering specialization to wide practical procedures and practices.</p> |
| | <p>PO4 Investigation</p> <p>Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements.</p> |
| | <p>PO5 Modern Tool Usage</p> <p>Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations.</p> |
| <p>PEO2</p> <p>Assistant Power Engineers who demonstrate values, attitudes, professionalism and apply scientific methodologies with solving skills in-line with industry requirement.</p> | <p>PO2 Problem Analysis</p> <p>Identify and analyze well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity.</p> |
| | <p>PO3 Design/Development of Solutions</p> <p>Design solutions for well-defined technical problems and assist with the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.</p> |

| | |
|--|---|
| | <p>PO8 Ethics</p> <p>Understand and commit to professional ethics and responsibilities and norms of technician practice.</p> |
| <p>PEO3</p> <p>Assistant Power Engineers who demonstrate social skills, responsible, manage information and lifelong learning skills for successful career advancement.</p> | <p>PO6 The Engineer and Society</p> <p>Demonstrate knowledge of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technician practice and solutions to well-defined engineering problems.</p> |
| | <p>PO7 Environment and Sustainability</p> <p>Understand and evaluate the sustainability and impact of engineering technician work in the solution of well-defined engineering problems in societal and environmental contexts.</p> |
| | <p>PO12 Life Long Learning</p> <p>Recognize the need for and have the ability to engage in independent updating in the context of specialized technical knowledge.</p> |
| <p>PEO4</p> <p>Assistant Power Engineers who adopt the roles as a leader and a team member, communicate effectively, management and entrepreneur skills in an organization.</p> | <p>PO9 Individual and Team Work</p> <p>Function effectively as an individual, and as a member in diverse technical teams.</p> |
| | <p>PO10 Communications</p> <p>Communicate effectively on well-defined engineering activities with the engineering community and with society at large, by being able to comprehend the work of others, document their own work, and give and receive clear instructions.</p> |
| | <p>PO11 Project Management and Finance</p> <p>Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member or leader in a technical team and to manage projects in multidisciplinary environments.</p> |

| Programme Learning Outcomes (PLO) | |
|-----------------------------------|---|
| PO1 | Apply knowledge of applied mathematics, applied science, engineering fundamentals and an engineering specialisation to wide practical procedures and practices. (Cognitive) |

| | |
|------|--|
| PO2 | Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity. (Cognitive) |
| PO3 | Design solutions for well-defined technical problems and assist with the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations. (Cognitive) |
| PO4 | Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements. (Psychomotor) |
| PO5 | Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations. (Psychomotor) |
| PO6 | Demonstrate knowledge of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technician practice and solutions to well-defined engineering problems. (Affective) |
| PO7 | Understand and evaluate the sustainability and impact of engineering technician work in the solution of well-defined engineering problems in societal and environmental contexts. (Affective) |
| PO8 | Understand and commit to professional ethics and responsibilities and norms of technician practice. (Affective) |
| PO9 | Function effectively as an individual, and as a member in diverse technical teams. (Affective) |
| PO10 | Communicate effectively on well-defined engineering activities with the engineering community and with society at large, by being able to comprehend the work of others, document their own work, and give and receive clear instructions. (Affective) |
| PO11 | Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member or leader in a technical team and to manage projects in multidisciplinary environments. (Affective) |
| PO12 | Recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge. (Affective) |

Diploma in Electrical Engineering (Power) Programme Structure of EE112

| SEM | NO | COURSE | CODE | PRE/CO-REQUISITE | CREDIT UNIT | LEC | TUT | PRAC | CONTACT HOUR |
|--------------|----|-----------------------------------|--------|------------------|--------------|-----------|-----------|----------|--------------|
| SEM 1 | 1 | PRINSIP-PRINSIP ASAS ISLAM | CTU101 | NONE | 2 | 2 | 0 | 0 | 2 |
| | 2 | KESATRIA NEGARA I | HBU111 | NONE | 1 | 0 | 0 | 2 | 2 |
| | 3 | INTEGRATED LANGUAGE SKILLS I | ELC121 | NONE | 3 | 4 | 0 | 0 | 4 |
| | 4 | CALCULUS 1 | MAT183 | NONE | 3 | 3 | 1 | 0 | 4 |
| | 5 | FUNDAMENTAL OF PHYSICS | PHY145 | NONE | 3 | 2 | 1 | 2 | 5 |
| | 6 | COMPUTER PROGRAMMING | ECE128 | NONE | 3 | 1 | 0 | 3 | 4 |
| | 7 | ELECTRO-TECHNOLOGY | EEE111 | NONE | 2 | 0 | 0 | 4 | 4 |
| | | | | | TOTAL | 17 | 12 | 2 | 11 |
| SEM 2 | 1 | PENGHAYATAN ETIKA DAN PERADABAN I | CTU152 | NONE | 2 | 2 | 0 | 0 | 2 |
| | 2 | KESATRIA NEGARA II | HBU121 | NONE | 1 | 0 | 0 | 2 | 2 |
| | 3 | INTEGRATED LANGUAGE SKILLS II | ELC151 | ELC121 | 3 | 4 | 0 | 0 | 4 |
| | 4 | CALCULUS 2 FOR ENGINEERS | MAT235 | MAT183 | 3 | 3 | 1 | 0 | 4 |
| | 5 | ELECTRIC CIRCUIT 1 | EEE121 | NONE | 3 | 3 | 0 | 1 | 4 |
| | 6 | ELECTRICAL MEASUREMENT | ESE122 | NONE | 3 | 3 | 0 | 1 | 4 |
| | 7 | SAFETY, HEALTH AND ETHICS | EEE150 | NONE | 2 | 1 | 0 | 1 | 2 |
| | | | | | TOTAL | 17 | 16 | 1 | 5 |
| SEM 3 | 1 | SAINS DAN TEKNOLOGI ISLAM | CTU211 | NONE | 2 | 2 | 0 | 0 | 2 |
| | 2 | KESATRIA NEGARA III | HBU131 | NONE | 1 | 0 | 0 | 2 | 2 |
| | 3 | INTEGRATED LANGUAGE SKILLS III | ELC231 | ELC151 | 3 | 4 | 0 | 0 | 4 |
| | 4 | ELECTRICAL ENGINEERING LABORATORY | EEE250 | EEE111 | 2 | 0 | 0 | 4 | 4 |
| | 5 | ANALOGUE ELECTRONICS | EPO231 | EEE121 | 3 | 3 | 0 | 1 | 4 |
| | 6 | ELECTRIC CIRCUIT 2 | EEE231 | EEE121 | 3 | 3 | 0 | 1 | 4 |
| | 7 | BASIC COMMUNICATION ENGINEERING | ECM241 | NONE | 3 | 3 | 0 | 1 | 4 |
| | | | | | TOTAL | 17 | 15 | 0 | 9 |

| | | | | | | | | | |
|--------------------|---|----------------------------------|--------|--------|-----------|-----------|-----------|-----------|------------|
| SEM 4 | 1 | FUNDAMENTALS OF ENTREPRENEURSHIP | ENT300 | NONE | 3 | 3 | 0 | 0 | 3 |
| | 2 | LINEAR SYSTEM | ESE241 | MAT235 | 3 | 3 | 1 | 0 | 4 |
| | 3 | ELECTRICAL MACHINES | EPO243 | EEE121 | 3 | 2 | 1 | 1 | 4 |
| | 4 | DIGITAL SYSTEMS 1 | ECE351 | NONE | 3 | 3 | 0 | 1 | 4 |
| | 5 | FINAL YEAR PROJECT 1 | EEE358 | NONE | 1 | 0 | 0 | 2 | 2 |
| | 6 | POWER SYSTEM | EPO246 | EEE121 | 3 | 2 | 1 | 1 | 4 |
| | | TOTAL | | | | 16 | 13 | 3 | 5 |
| SEM 5 | 1 | CONTROL SYSTEM | ESE359 | ESE241 | 3 | 3 | 0 | 1 | 4 |
| | 2 | MICROPROCESSOR SYSTEMS | ECE354 | NONE | 3 | 1 | 0 | 3 | 4 |
| | 3 | FINAL YEAR PROJECT 2 | EEE368 | EEE358 | 3 | 0 | 0 | 6 | 6 |
| | 4 | POWER ELECTRONICS | EPO359 | EPO231 | 3 | 2 | 0 | 2 | 4 |
| | 5 | ELECTIVE (CHOOSE 1) | | | 3 | 2 | 0 | 2 | 4 |
| | | TOTAL | | | | 15 | 8 | 0 | 14 |
| SEM 6 | 1 | INDUSTRIAL TRAINING | EEE351 | NONE | 8 | 0 | 0 | 0 | 0 |
| | | TOTAL | | | | 8 | 0 | 0 | 0 |
| GRAND TOTAL | | | | | 90 | 64 | 6 | 44 | 114 |

List of Elective Courses Offered

| ELECTIVE | | CODE | PRE/CO-REQUISITE | CREDIT UNIT | LEC | TUT | PRAC | CONTACT HOUR | |
|--------------|---|--|------------------|-------------|-----|-----|------|--------------|---|
| SEM 5 | 5 | MACHINES AND DRIVES | EPO366 | EPO243 | 3 | 2 | 0 | 2 | 4 |
| | 5 | PROGRAMMABLE LOGIC CONTROLLER | EPO364 | NONE | 3 | 2 | 0 | 2 | 4 |
| | 5 | ENERGY EFFICIENCY AND RENEWABLE ENERGY | EPO358 | NONE | 3 | 2 | 0 | 2 | 4 |
| | | | | | | | | | |

* Embedded Lab (please refer SLT for the contact hours of practical)

COURSE DESCRIPTION

SEMESTER 1

1. ECE128 Computer Programming

This course provides an introduction to C programming and its application in solving simple engineering problems.

2. EEE111 Electro-Technology

The course deals with basic understanding of instruments and measurements, electronic parts which include passive and active devices, generation of electricity and distribution system, consumer circuits, conductors and cables, wiring systems, wiring accessories, earthing and testing. The syllabus also includes the technique of making a Printed Circuit Board (PCB) which includes understanding of schematic diagram, component layout and PCB artwork, soldering, testing and troubleshooting a circuit.

SEMESTER 2

1. EEE121 Electric Circuit 1

The course covers the basic circuit theory. It deals with electrical quantities relationship in electrical circuits, basic circuit concepts, methods of circuit analysis and circuit theorems for resistive and magnetic circuits in direct current (DC). Capacitor and inductor voltage-current relationship, power and energy, series parallel connections and analysis in direct current (DC) and alternating current (AC) are also introduced.

2. ESE122 Electrical Measurement

This subject covers standards and units, errors and accuracies in measurements. The principles of operation, calibration and application of DC and AC meters, and recording instrument are also covered. The types, operation and application of bridges, and classification and operations of transducers and sensors will also be discussed.

3. EEE150 Safety, Health and Ethics

The course covers the topics on occupational safety and health legislation in general and focuses specifically on electric safety. Engineering Maintenance, Inventory Control and Resource Management. Laws and Engineering Ethics Current Engineering Issues.

SEMESTER 3

1. EEE250 Electrical Engineering Laboratory

The laboratory course provides students with practical hands on experience which relate to theoretical concepts presented in class. This course consists of Electronics Modules, System Modules, Electrical Power Modules and Communication Modules.

2. EPO231 Analogue Electronics

The course covers seven parts mainly, DC transient analysis, sinusoidal steady state analysis, application of circuit laws, methods and theorems of circuit analysis (AC analysis), AC power analysis, magnetically coupled circuits, two port networks and resonant circuits. It introduces their basics and applications.

3. EEE231 Electric Circuit 2

The course covers seven parts mainly, DC transient analysis, sinusoidal steady state analysis, application of circuit laws, methods and theorems of circuit analysis (AC analysis), AC power analysis, magnetically coupled circuits, two port networks and resonant circuits. It introduces their basics and applications.

4. ECM241 Basic Communication Engineering

The course introduces the basic concept of communication systems. It describes the basic implementation of communication system.

SEMESTER 4

1. ESE241 Linear System

This subject deals with basic concepts of linear system. The emphasis will be on continuous-time signals and systems, Fourier series, differential equations and Laplace transform. The application of differential equations and Laplace transform on electrical circuit are also covered.

2. EPO243 Electrical Machines

This course covers a principle of three phase system, a single-phase transformer, induction motor, synchronous machines, DC machines and special machines. It also covers analysis on the machines.

3. ECE351 Digital Systems 1

This course is to introduce students to number systems, basic gates, combinational logic circuit, MSI devices, sequential circuits, Digital to Analog Conversion (DAC), Analog to Digital Conversion (ADC) and Memory devices. It includes techniques necessary for the design of simple digital circuits and the analysis of sequential circuits.

4. EEE358 Final Year Project 1

The course involves project identification, targeted application areas, initial design and verification of the proposed project using suitable engineering tools or techniques. Upon completion of this course, students are expected to design and verify the project performance and its feasibility.

5. EPO246 Power System

Introduction to power system components, per unit system, faults, transmission lines, protection system and basic distribution system.

SEMESTER 5

1. ESE359 Control System

This subject will discuss about the concepts in control system which covers open and closed loop systems, mathematical modelling of its transfer function and system stability in time domain and frequency domain analysis up to second order systems.

2. ECE354 Microprocessor Systems

The course covers the topics on general purpose microprocessor, its architecture and system organization. Then single chip microcomputer is taught and all aspects of the chip will be covered, from internal architecture, programming up to interfacing.

3. EEE368 Final Year Project 2

The course involves literature review, planning, design, circuit analysis, troubleshooting and Printed Circuit Board (PCB) fabrication and/or software application development of an electrical and electronic system. Upon completion of this course, students are expected to implement the design in continuation of project 1 and thus, develop and troubleshoot the hardware and its prototype.

4. EPO359 Power Electronics

This course introduces the basic of power electronics in the scope of the construction, classifications, characteristic and the principle operation of power conversion systems including rectifiers, inverters, choppers and AC voltage controller circuits using lectures and laboratory approach. This course also provides students with an understanding on power electronic applications circuit.

5. ELECTIVE (CHOOSE 1)

A. EPO366 Machine and Drives

This course emphasizes the application aspects of electrical machines. Aspects included are elements of speed control, starting and braking of DC and AC machines, matching and sizing of motor/drive with load and an introduction to electronic drives.

B. EPO364 Electrical Power Circuit Simulation

This course covers familiarization with simulation tools, design entry, simulation, evaluation and analysis of electrical power circuits.

C. EPO358 Energy Efficiency and Renewable Energy

This course covers introduction of energy efficiency and renewable energy, energy audit, energy efficient equipment and alternative sources of energy/renewable energy.

SEMESTER 6

1. EEE351 Industrial Training

This course requires students to undergo their industrial training with learn from the observation, corporate with the organization and work colleagues, form good interaction between all parties including work colleagues, management and visiting lecturers involved, be prepared to contribute in any way deemed necessary, abide and adhered to any terms and regulations set upon by the organization. This course is intended to enable student to experience at least 16 weeks working environment in industries. Student will submit a formal report and logbook that will be based on work done during the practical training.

ACADEMIC REGULATION

Please refer to the booklet of *Peraturan Akademik Diploma dan Sarjana Muda UiTM: Pindaan 2015 (Bilangan 1)* published by Bahagian Hal Ehwal Akademik UiTM

- 1) Course registration
 - I. Registration must be done online through Student Information Gateway (*i-Student Portal*) by following the procedures prescribed by the University.
 - II. Total credit hours for student of Diploma and Degree must be **between 17-23 credit units** except for the semester of industrial training / final year students who will be graduating.
 - III. Undergraduate students in their final semester with status of Pass are allowed to take maximum of 25 credit units with the approval of Faculty Dean/Campus Rector for graduation.
 - IV. Diploma student with 'P' status is not allowed to register for more than twelve (12) credit units in specific semester
 - V. Undergraduate student with 'P' status is not allowed to register for more than fifth teen (15) credit units in specific semester.
- a. Add/Drop Course
 - i. Add Course

Students who have already registered for a course can apply to add course through online by following the procedures prescribed by the University.
 - ii. Drop Course

Student who has already registered for a course can apply to drop the respective course through online by following the procedures prescribed by the University.
- b. Course Validation
 - i. Students are required to validate the registered courses through online and print a copy of the registration within fourteen (14) days after the deadline of add/drop course. If students do not make the validation, the registration is automatically considered as valid and final.
- c. Attendance
 - i. Students are required to attend lectures and other learning activities such as workshops/tutorials/laboratories/studios/fields/practical training/practicum and clinics as stated in curriculum.
 - ii. Students who do not achieve 80% attendances of total contact hours for each course without any written permission from faculty/academic centre/ state UiTM /branch UiTM are not allowed to sit for the final examination of the course.
 - iii. For the course with no final examination, the course works will not be assessed.
 - iv. The students in (ii) and (iii) will be given Grade F or Fail with ZZ status and **must pay the process fee of RM100.00.**
- d. Examination
 - i. Students have to check *Penyata Kelayakan Menduduki Peperiksaan (Temporary)* displayed in the UiTM web site (*i-Student Portal*). Any amendments must have the consent from the Program Head/Academic Advisor within fourteen (14) days after the deadline of add/drop course.

- ii. Students must validate *Penyata Kelayakan Menduduki Peperiksaan (Temporary)* through i-Student Portal. If students do not make the validation, the script is automatically considered as valid and final.
- iii. The official print of *Penyata Kelayakan Menduduki Peperiksaan* must be printed by the students through UiTM Website (i-Student Portal) after the process of registration and validation the *Penyata Kelayakan Menduduki Peperiksaan (Temporary)* are done. Any amendments are NOT allowed.
- iv. Student who fails to bring the *Penyata Kelayakan Menduduki Peperiksaan* for the courses which have final examination assessment will not be allowed to sit for the respective examination.
- v. Application for exemption from sitting the final exam for certain course should be addressed to the Dean/Rector with the related documents before the date of final examination of the respective course.
- vi. Application for exemption from sitting the ongoing examination should be addressed to the Dean/Rector within twenty four (24) hours after the respective examination ends, accompanied with Medical certificate from *Pusat Kesihatan UiTM/ Klinik Kerajaan/ Pusat Kesihatan Kerajaan/ Hospital Kerajaan/ Pegawai Perubatan dari panel perubatan majikan*.
- vii. Application can be made in written or using form of *HEA/RP/TMP-01 [Kebenaran Tidak Menduduki Peperiksaan Akhir]*.
- viii. If the application is approved, student will be given **XX** status for the respective course
 - v. If the application is disapproved, the student will be given **YY** status in which the course work marks of the respective course will not be considered. **Students must pay the process fee of RM100.00.**

GRADING/ASSESSMENT POLICY

Please refer to the booklet of *Peraturan Akademik Diploma dan Sarjana Muda UiTM: Pindaan 2015 (Bilangan 1)* published by Bahagian Hal Ehwal Akademik UiTM

- 1) Examination Results and course evaluation is given in term of grade and grade value Please refer to Table 1.

Table 5.1: UiTM Grading System.

| MARK INTERVAL | GRADE | GRADE VALUE | STATUS |
|---------------|-------|-------------|------------|
| 90-100 | A+ | 4.00 | Excellence |
| 80-89 | A | 4.00 | Excellence |
| 75-79 | A- | 3.67 | Excellence |
| 70-74 | B+ | 3.33 | Credit |
| 65-69 | B | 3.00 | Credit |
| 60-64 | B- | 2.67 | Credit |
| 55-59 | C+ | 2.33 | Pass |
| 50-54 | C | 2.00 | Pass |
| 47-49 | C- | 1.67 | Fail |
| 44-46 | D+ | 1.33 | Fail |
| 40-43 | D | 1.00 | Fail |
| 30-39 | E | 0.67 | Fail |
| 0-29 | F | 0.00 | Fail |

2) The status for each course is given as follows:

| | |
|------|--|
| LU : | Pass |
| F1 : | Fail a course on first attempt |
| F2 : | Fail a course on second attempt |
| F3 : | Fail a course on third attempt |
| PD : | Credit Transfer |
| PC : | Credit Exemption |
| TL : | Incomplete |
| UD : | Audit |
| FD : | Disciplinary Action |
| XX : | Absent from final examination with permission |
| YY : | Absent from final examination without permission |
| ZZ : | Barred from taking final examination for courses with final examination; or not given the assessment marks for courses without the final examination |

Note: The grade value for YY and ZZ is 0.00 and process fees of RM100.00 will be given

3) Incomplete Status (TL)

- A TL status is for courses such as project exercise/practical training which is not completed within a specific term.
- A TL status cannot be more than one (1) consecutive semester. If the student does not complete the assigned exercise/practical training within the specific time frame given, he/she is entitled to an F Grade or Fail.
- Any student with a TL status is required to register as student by paying study fees and registering for the course.

4) Examination Results Status

- Based on the CGPA achievement, students will be given the examination results status as follows:

| | |
|-----|--|
| ANC | : Completed with Vice Chancellor's Award |
| TS | : Completed with Dean's List Award |
| TM | : Completed |
| LNT | : Pass Upgrade |
| AD | : Dean's List Award |
| LU | : Pass |
| P | : Probation (Unsatisfactory) |
| D | : Fail and Terminated |

- Status of Completed with Vice Chancellor's Award (ANC), Completed with Dean's List Award (TS) and Dean's List Award (AD) are awarded to excellent students
- Status of passed (LU) and Completed (TM) are awarded to students with satisfactory performance.
- Status of probation (P) is awarded to students with unsatisfactory performance and it is divided into two categories:
 - P1: First Probation – acquired CGPA of 1.80 to 1.99 in a semester.

- ii. P2: Second Probation – acquired CGPA of less than 2.00 after obtaining a P1 probation in the previous final semester.

e) Unsatisfactory performance for the Fail and Termination status (D):

| | |
|-----|--|
| D1: | CGPA less than 1.80 |
| D2: | CGPA less than 1.80 after the P1 status |
| D3: | CGPA less than 2.00 after the P2 status |
| D4: | Fail in a certain course for the third time |
| D5: | CGPA of less than 2.00 at the end of maximum period of study period and have courses which are still not completed. |
| D6: | Passed the entire courses required by the programme and fulfilled all of the programme’s requirements but acquired CGPA of less than 2.00. |
| D7: | Did not sit for the examination of all registered courses without approval of the University. |

5) Examination Result Slip

- i. The examination slip that has been endorsed by the Senate will be released through online student information portal (*i-Student Portal*) and printed by student for own record. The self-printed Examination Result Slip is certified as official print where no signature required.
- ii. The University reserves the right to retain the Examination Result Slip if students fail to observe the rules and regulations of the University.

6) Breach of conduct regarding Examination and Evaluation

- i. Students who are found guilty under Article 3 (j), 3 (k) and Article 5, Academic Institution Articles (Student Conduct) 1976, will be penalised based on decision of the University Disciplinary Board.
- ii. Students who are found guilty of an offence by the University Disciplinary Board will be given an F Grade or fail, or an FD status by the Senate.
- iii. Students who have been proven to commit plagiarism in their academic project/assignment will be given an F Grade or fail with an FD status by the Senate.

7) Re-administration of Examination

The University reserves the right to re-administer an examination as it deems fit the following situations:

- i. A leak in the final examination question.
- ii. A candidate is not able to sit for the final examination because of natural disaster.
- iii. The Vice Chancellor’s direction.

INDUSTRIAL TRAINING

(Should refer to Industrial Training Handbook for more complete information)

As part of the Diploma in Electrical Engineering course requirement, all sixth semester students have to complete four months of compulsory practical attachment in either government or private sector organizations. The Engineering Technology Accreditation Council (ETAC) has stated that diploma students have to undergo at least sixteen weeks of industrial training as part of their course.

It provides an opportunity for the students to experience real working environment first hand whilst at the same time benefits them in terms of their personal and professional development. Furthermore feedbacks gathered from the participating organizations help the students as well as the faculty in improving the character and professional skills of the graduate.

The training will start immediately upon completion of the final examination in semester 5. In semester 5 the students should have passed their compulsory elective modules so that they are more prepared and have acquired necessary information/knowledge to do the training.

- 1) Objectives
 - a) Acquaint with the structure of an organization and its management system.
 - b) Acquaint with the various equipment used in working environment.
 - c) Understanding of the organization work ethical in terms of interpersonal interaction, discipline, rules/regulations and methods of performing assigned tasks.
 - d) Promote symbiotic environment that will encourage interaction.
 - e) Improve self-confidence through acquired hard skill and soft skill.

- 2) Student Role
 - a) Learn from the observation, experience gained and supervision.
 - b) Corporate with the organization and work colleagues.
 - c) Form good interaction between all parties including work colleagues, management and visiting lecturers involved.
 - d) Be prepared to contribute in any way deemed necessary.
 - e) Abide by and adhered to any terms and regulations set upon by the organization.

- 3) Contribution by the Participating Organization
 - a) Prepare a suitable training programme for the students in accordance with the objectives outlined above.
 - b) Provide a suitable training staff to supervise and assist in giving a proper guidance as well as assessing the progress of the trainees.
 - c) Encourage the trainees to be involved in tasks that require responsibility.
 - d) Guide the trainees as to the health and safety issues.

- 4) Placement Duration
 - a) Minimum requirement set forth by the Engineering Technology Accreditation Council (ETAC) is sixteen (16) weeks.
 - b) Once within the duration of the study preferably during the sixth semester.

FINAL YEAR PROJECT

The Final Year Project is a major component of the diploma course in Electrical Engineering. The main objective is to develop problem solving, analysis, synthesis and evaluation skills in the field of Electrical Engineering. While working on the project, the students would also be able to develop personal and social skills such as time management, self-confidence and interaction. The evaluation of the Final Year Project indirectly provides the students with training in technical and communication skills.

The Final Year Diploma Project is implemented in two semesters, that is, semester 4 (1 credit hour) and semester 5 (3 credit hour) of the study period. Students should prepare their work schedule and adhere to it so that the project would be completed within the two semesters.

FACILITIES

The faculty is equipped with sufficient resources, facilities with experienced laboratory assistances catering for the current needs in the curriculum of Electrical Engineering.

| No | Lab No | Electronics Laboratories | Assistant Engineer |
|----|--------|--|--------------------------------|
| 1 | 0.51 | Printed Circuit Board (PCB) Workshop | En. Nadhar Omar |
| 2 | 1.28 | Surface Mount Technology (SMT) Workshop | En. Muhammad Zakwan Sa'ad |
| 3 | 1.44 | Soldering, Drilling and Testing (SDT) Workshop | En. Nor Nasir Md Amin |
| 4 | 1.47 | Basic Electronics Laboratory | En. Mohd Hafidz Mohd Noor |
| 5 | 1.49 | Intermediate Electronics Laboratory | En. Mohd Nadzir Mamat |
| 6 | 1.50 | Advanced Electronics Laboratory | En. Mohd Nadzir Mamat |
| 7 | 1.56 | Digital Electronics Laboratory | En. Mohd Hafidz Mohd Noor |
| 8 | 2.12 | Applied Electronics Laboratory | En. Syarafi Abdul Rajab |
| 9 | 2.13 | Electronics System Design Laboratory | En. Syarafi Abdul Rajab |
| 10 | 2.10 | IC Design Laboratory | En. Muhammad Zakwan Sa'ad |
| No | Lab No | Power Laboratories | Assistant Engineer |
| 11 | 0.41 | Electrical Machines Laboratory 1 | En. Mohd Razman Desa |
| 12 | 0.44 | Electrical Machines Laboratory 2 | En. Mohd Razman Desa |
| 13 | 0.45 | Power Electronics Laboratory | En. Mohd Hafeez Abu Hassan |
| 14 | 0.46 | Electrical Energy Utilization Laboratory | Pn. Zaliza Karia |
| 15 | 0.47 | Power System Laboratory | Pn. Zaliza Karia |
| 16 | 0.48 | High Voltage Engineering Laboratory | En. Mohamad Sarih Daud |
| 17 | 0.52 | Power Quality Analysis Laboratory | En. Mohamad Sarih Daud |
| 18 | 0.53 | Electrical Installation Laboratory | En. Mohamad Sarih Daud |
| No | Lab No | System Laboratories | Assistant Engineer |
| 19 | 0.40 | Pneumatic and Hydraulic Laboratory | En. Mohamad Shamsurinaim Ahmad |
| 20 | 0.43 | Robotics Workshop | En. Mohamad Shamsurinaim Ahmad |
| 21 | 1.41 | Microcontroller Laboratory | En. Mohammad Taufiq Marzukhi |
| 22 | 1.46 | Industrial Automation Laboratory | En. Mohammad Taufiq Marzukhi |
| 23 | 2.49 | Automatic Controls Laboratory | En. Mohammad Taufiq Marzukhi |
| 24 | 2.59 | Instrumentation and Measurement Laboratory | En. Mohd Adnan Omar |
| 25 | 3.43 | Robotics and Automation Laboratory | En. Mohd Adnan Omar |
| 26 | 3.44 | Biomedical Laboratory | En. Mohd Adnan Omar |
| No | Lab No | Communication Laboratories | Assistant Engineer |
| 27 | 2.05 | Microwave Laboratory | En. Mohamad Soufee Ismail |
| 28 | 2.06 | Mobile Radio Laboratory | En. Mohd Sobri Said |
| 29 | 2.09 | Optical Fiber Laboratory | En. Mohd Sobri Said |
| 30 | 2.60 | Digital Communication Laboratory | En. Mohamad Soufee Ismail |
| 31 | 2.62 | Telecommunication Laboratory | Pn Nursyazwani Mohamad Affandi |
| 32 | 9.23 | RF Shield Laboratory | Pn Nursyazwani Mohamad Affandi |
| No | Lab No | Computer Laboratories | Assistant Engineer |
| 33 | 1.45 | Embedded System Design Laboratory | En. Nor Hazllim Hussin |

| | | | |
|-----------|---------------|---|---------------------------|
| 34 | 1.55 | Microprocessor Laboratory | En. Nor Hazllim Hussin |
| 35 | 2.14 | Software Engineering Laboratory | Pn. Marieah Omar |
| 36 | 2.15 | Computing and Simulation Laboratory | En. Nor Hazllim Hussin |
| 37 | 3.40 | CISCO Academy | Pn. Marieah Omar |
| No | Lab No | Research Laboratories | Assistant Engineer |
| 38 | 3.42a | Electrical Engineering Postgraduate Research Laboratory | NIL |
| 39 | 3.42b | Advance Control System and Computing Research Group | NIL |
| 40 | FKE Bertam | Advance Rehabilitation Engineering and Medical Imaging Research Group | NIL |
| 41 | FKE Bertam | Rehabilitation Engineering Clinic | NIL |
| 42 | FKE Bertam | Biomedical and Medical Imaging Laboratory | NIL |

APPENDIX A: LIST OF LECTURERS

Department of Electronics Engineering

| NO. | LECTURER NAME | POSITION | EXT. | ROOM NO. |
|-----|--|--------------------------|----------------------|----------|
| 1 | IR. TS. DR. SAMSUL BIN SETUMIN | SENIOR LECTURER DM52 | 2787 | 2.17(BA) |
| 2 | PROF. MADYA IR. DR. IRNI HAMIZA HAMZAH | ASSOCIATE PROFESSOR DM54 | 2564 | 3.20(BA) |
| 3 | IR. DR. ALHAN FARHANAH ABD RAHIM | SENIOR LECTURER DM52 | 2565 | 3.2 (BA) |
| 4 | IR. DR. -ING EMILIA NOORSAL | SENIOR LECTURER DM52 | 2549 | 4.49(BA) |
| 5 | IR. TS. HJ. MUSA MOHAMED ZAHIDI | SENIOR LECTURER DM52 | STUDY LEAVE | |
| 6 | DR. HJH. ROSFARIZA RADZALI | SENIOR LECTURER DM52 | 2569 | 3.1(BA) |
| 7 | DR. MOHAMMAD NIZAM IBRAHIM | SENIOR LECTURER DM52 | 2534 | 4.34(BA) |
| 8 | DR. MOHD HANAPIAH ABDULLAH | SENIOR LECTURER DM52 | 2634 | 3.24(BA) |
| 9 | DR. LYLY NYL ISMAIL | SENIOR LECTURER DM52 | 3419 | 4.74 |
| 10 | DR. YUSNITA MOHD ALI | SENIOR LECTURER DM52 | 2631 | 2.16(BA) |
| 11 | DR. NOR SHAHANIM MOHAMAD HADIS | SENIOR LECTURER DM52 | 2788 | 7.30 |
| 12 | PN. NAZIRAH MOHAMAT KASIM | SENIOR LECTURER DM52 | 2627 | 2.23(BA) |
| 13 | PN. LINDA MOHD KASIM | SENIOR LECTURER DM52 | 3364 | 4.38 |
| 14 | PN. ASMALIA ZANAL | SENIOR LECTURER DM52 | 3356 | 4.28 |
| 15 | PN. MOHD HUSSAINI ABBAS | SENIOR LECTURER DM52 | 3401 | 4.92 |
| 16 | PN. NORSABRINA SIHAB | SENIOR LECTURER DM52 | 3355 | 4.27 |
| 17 | PN. AIDA ZULIA ZULHANIP | SENIOR LECTURER DM52 | 3358 | 4.30 |
| 18 | PN. NOR FADZILAH MOKHTAR | SENIOR LECTURER DM52 | 3363 | 4.37 |
| 19 | EN. MOHAIYEDIN IDRIS | SENIOR LECTURER DM52 | 3427 | 5.14 |
| 20 | PN. HJH. SHAHILAH NORDIN | SENIOR LECTURER DM52 | 3384 | 4.67 |
| 21 | TS. ANITH NURAINI ABD RASHID | LECTURER DM45 | STUDY LEAVE | |
| 22 | PN. SHARIFAH SALIHA SYED BAHROM | LECTURER DM45 | 3405 | 4.98 |
| 23 | PN. SITI ZUBAIDAH MD SAAD | LECTURER DM45 | INDUSTRIAL PRACTICAL | |
| 24 | PN. NUR SA'ADAH MUHAMAD SAUKI | LECTURER DM45 | 3340 | 4.12 |

Department of Power Engineering

| NO. | LECTURER NAME | POSITION | EXT. | ROOM NO. |
|-----|----------------------------------|----------------------|-------------|-----------|
| 1 | PN. SITI SOLEHAH MD RAMLI | SENIOR LECTURER DM52 | 3368 | 4.42 |
| 2 | TS. DR. MOHD NAJIB MOHD HUSSAIN | SENIOR LECTURER DM52 | 2576 | 3.9 (BA) |
| 3 | TS. DR. KAMARULAZHAR DAUD | SENIOR LECTURER DM52 | 2640 | 2.11 (BA) |
| 4 | DR. ANUAR MOHAMAD @ AHMAD | SENIOR LECTURER DM52 | 2831 | 7.28 |
| 5 | DR. ROSHEILA DARUS | SENIOR LECTURER DM52 | 3369 | 4.43 |
| 6 | DR. SAODAH OMAR | SENIOR LECTURER DM52 | 2823 | 7.13 |
| 7 | DR. AHMAD ASRI ABD SAMAT | SENIOR LECTURER DM52 | 3309/2824 | |
| 8 | IR. AIMI IDZWAN TAJUDIN | SENIOR LECTURER DM52 | 3427/3309 | 5.14/0.44 |
| 9 | IR. TS. ABDUL MALEK SAIDINA OMAR | SENIOR LECTURER DM52 | 3411 | 4.104 |
| 10 | TS. MOHD AFFANDI SHAFIE | SENIOR LECTURER DM52 | 2827 | 7.15 |
| 11 | TS. MOHAMAD ADHA MOHAMAD IDIN | SENIOR LECTURER DM52 | 3401 | 4.92 |
| 12 | PN. NURUL HUDA ISHAK | SENIOR LECTURER DM52 | 2708 | 5.31 |
| 13 | PN. NOR ADNI MAT LEH | SENIOR LECTURER DM52 | 2632 | 2.9(BA) |
| 14 | CIK NOOR AZILA ISMAIL | SENIOR LECTURER DM52 | 3365 | 4.39 |
| 15 | CIK NURLIDA ISMAIL | SENIOR LECTURER DM52 | 3359 | 4.83 |
| 16 | PN. NUR ATHARAH KAMARZAMAN | SENIOR LECTURER DM52 | STUDY LEAVE | |
| 17 | EN. SAIFUL FIRDAUS ABD SHUKOR | LECTURER DM46 | 2512 | 4.12 (BA) |
| 18 | PN. NUR FADHILAH JAMALUDIN | LECTURER DM45 | 3362 | 4.36 |
| 19 | PN. SITI SALWA MAT ISA | LECTURER DM45 | 3384 | 4.67 |
| 20 | PN. SITI SARAH MAT ISA | LECTURER DM45 | 3339 | 4.11 |
| 21 | CIK NUR DARINA AHMAD | LECTURER DM45 | 3388 | 4.70 |
| 22 | PN. WAN SALHA SAIDON | LECTURER DM41 | 3358 | 4.30 |

Department of System Engineering

| NO. | LECTURER NAME | POSITION | EXT. | ROOM NO. |
|-----|--|--------------------------|------|-----------|
| 1 | PN. ROHAIZA BAHARUDIN | SENIOR LECTURER DM52 | 3348 | 4.88 |
| 2 | PROF. MADYA IR. DR. ZAKARIA HUSSAIN | ASSOCIATE PROFESSOR DM54 | 3336 | 4.08 |
| 3 | PROF. MADYA IR.TS. DR. SITI NORAINI SULAIMAN | ASSOCIATE PROFESSOR DM54 | 2628 | |
| 4 | IR. TS. DR. NORHAZIMI HAMZAH | SENIOR LECTURER DM52 | 3359 | 4.83 |
| 5 | IR. DR. NOR SALWA DAMANHURI | SENIOR LECTURER DM52 | 2551 | 4.51 (BA) |
| 6 | IR. DR. IZA SAZANITA ISA | SENIOR LECTURER DM52 | 3370 | 4.44 |
| 7 | IR. TS. KHAIRUL AZMAN AHMAD | SENIOR LECTURER DM52 | 3338 | 4.10 |
| 8 | TS. DR. MOHD SUHAIMI SULAIMAN | SENIOR LECTURER DM52 | 3391 | 4.75 |
| 9 | DR. NOR AZLAN OTHMAN | SENIOR LECTURER DM52 | 2830 | 7.27 |
| 10 | DR. ROZAN BOUDVILLE | SENIOR LECTURER DM52 | 3352 | 4.05 |
| 11 | DR. MUHAMMAD KHUSAIRI OSMAN | SENIOR LECTURER DM52 | 3337 | 4.09 |
| 12 | DR. MOHAMAD FAIZAL ABD RAHMAN | SENIOR LECTURER DM52 | 3335 | 4.07 |
| 13 | DR. BELINDA CHONG CHIEW MENG | SENIOR LECTURER DM52 | 2542 | 4.42 (BA) |
| 14 | DR. ZURAIDA MUHAMMAD | SENIOR LECTURER DM51 | 2487 | 2.14(BA) |
| 15 | DR. AFAF ROZAN MOHD RADZOL | SENIOR LECTURER DM52 | 2789 | 7.31 |
| 16 | DR. SAIFUL ZAIMY YAHAYA | SENIOR LECTURER DM52 | 2537 | 4.37 (BA) |
| 17 | TS. ADI IZHAR CHE ANI | SENIOR LECTURER DM52 | 3342 | 4.87 |
| 18 | EN. ZURAIIDI SAAD | SENIOR LECTURER DM52 | 2531 | 4.31 (BA) |
| 19 | EN. RIZAL MAT JUSOH | SENIOR LECTURER DM52 | 3391 | 4.75 |
| 20 | EN. MOHD FIRDAUS ABDULLAH | SENIOR LECTURER DM52 | 2825 | 7.17 |
| 21 | CIK ANIS DIYANA ROSLI | SENIOR LECTURER DM52 | 3363 | 4.37 |
| 22 | PN. SARAH ADDYANI SHAMSUDDIN | LECTURER DM45 | 3360 | 4.34 |
| 23 | PN.SITI SAFFURA SHARIPUDIN | ASSISTANT LECTURER DM29 | 3409 | 4.102 |

Department of Communication Engineering

| NO. | LECTURER NAME | POSITION | EXT. | ROOM NO. |
|-----|--|--------------------------|------|------------|
| 1 | DR. SAMIHAN ABDULLAH | SENIOR LECTURER DM52 | 2542 | 7.29 |
| 2 | PROF. MADYA IR. DR. HJ. AHMAD RASHIDY RAZALI | ASSOCIATE PROFESSOR DM54 | 2810 | TRHEA Room |
| 3 | IR. DR. HJH. ASLINA ABU BAKAR | SENIOR LECTURER DM52 | 2568 | 3.3 (BA) |
| 4 | DR. HJ. ALI OTHMAN | SENIOR LECTURER DM52 | 2579 | 3.22 (BA) |
| 5 | TS. DR. HJ. HASNAIN ABDULLAH @ IDRIS | SENIOR LECTURER DM52 | 3422 | 5.09 |
| 6 | PN. HJH. NORHAYATI MOHAMAD NOOR | SENIOR LECTURER DM52 | 3374 | 4.51 |
| 7 | PN. IDA RAHAYU MOHAMED NOORDIN | SENIOR LECTURER DM52 | 3348 | 4.88 |
| 8 | PN. JULIANA MD.SHARIF | SENIOR LECTURER DM52 | 3356 | 4.28 |
| 9 | PN. DAYANG SUHAIDA AWANG DAMIT | SENIOR LECTURER DM52 | 3339 | 4.11 |
| 10 | PN. NORMASNI AD FAUZI | SENIOR LECTURER DM52 | 3369 | 4.43 |
| 11 | PN. AIZA MAHYUNI MOZI | SENIOR LECTURER DM52 | 2629 | 2.6 (BA) |
| 12 | PN. AZWATI AZMIN | SENIOR LECTURER DM52 | 2705 | 5.33 |
| 13 | PN. ZAFIRAH FAIZA | SENIOR LECTURER DM52 | 2708 | 5.31 |
| 14 | EN. ROSLAN SEMAN | LECTURER DM45 | 2533 | 4.33(BA) |
| 15 | EN. AMIRUDIN IBRAHIM | LECTURER DM45 | 3342 | 4.87 |
| 16 | PN. NAJWA MOHD FAUDZI | LECTURER DM45 | 2553 | 4.53 (BA) |
| 17 | EN.MOHD KHAIRILL NIZAM MOHD FAZIL | ASSISTANT LECTURER DM29 | 2921 | 1.53 |

Department of Computer Engineering

| NO. | LECTURER NAME | POSITION | EXT. | ROOM NO. |
|-----|---|--------------------------|-------------|----------------|
| 1 | DR. INTAN RAHAYU IBRAHIM | SENIOR LECTURER DM52 | 2509 | 4.9 (BA) |
| 2 | PROF. MADYA IR. TS. DR. ZAINAL HISHAM CHE SOH | ASSOCIATE PROFESSOR DM54 | 2619/2532 | 1.19/4.32 (BA) |
| 3 | DR HJ FADZIL DATO' SHEIKH AHMAD | SENIOR LECTURER DM52 | 2567 | 3.4 (BA) |
| 4 | DR. AHMAD PUAD ISMAIL | SENIOR LECTURER DM52 | 2636 | 2.7 (BA) |
| 5 | DR. SHABINAR ABD HAMID | SENIOR LECTURER DM52 | 2487 | 2.14(BA) |
| 6 | IR. MUHAMMAD FARRIS KHYASUDEEN | SENIOR LECTURER DM52 | STUDY LEAVE | |
| 7 | PN. SITI AZURA RAMLAN | SENIOR LECTURER DM52 | 2629 | 2.6(BA) |
| 8 | TN. HJ. MOHD DAUD ALANG HASSAN | SENIOR LECTURER DM52 | 2654 | 3.10 (BA) |
| 9 | PN. NUR ATHIQAH HARON | SENIOR LECTURER DM52 | 2517 | 4.17 (BA) |
| 10 | PN. AINI HAFIZAH MOHD SAOD | SENIOR LECTURER DM52 | 2517 | |
| 11 | PN. AZIZAH AHMAD | SENIOR LECTURER DM52 | 3360 | 4.34 |
| 12 | PN. FARIDAH ABDUL RAZAK | SENIOR LECTURER DM52 | 3340 | 4.12 |
| 13 | EN. MOHD IKMAL FITRI MARZUKI | LECTURER DM45 | 2787 | 2.17 (BA) |
| 14 | EN. SAIFUL FADZLI SALIAN | LECTURER DM45 | 2828 | |
| 15 | TN. HJ. ABDUL RAHIM AHMAD | LECTURER DM41 | 3411 | 4.104 |
| 16 | PN. MAHIZAN AB.MANAN | ASSISTANT LECTURER DM29 | 3409 | 4.102 |