

## CURRICULUM VITAE

### PERSONAL PARTICULARS

---

Name : Dr Zuraini Dahari  
Designation : Senior Lecturer  
Nationality : Malaysia  
Researcher ID : B-8101-2018  
Author ID : 6504707123  
ORCID : 0000-0002-0660-3334  
Department : School of Electrical & Electronic Engineering  
Engineering Campus  
Universiti Sains Malaysia  
14300 Nibong Tebal  
Pulau Pinang  
Tel. No. (office) : +604-599 6048  
Mobile phone : 016-5323274  
Fax No. (Office) : +604-5996909  
Email : eezuraini@usm.my; [zuraini\\_75@yahoo.com](mailto:zuraini_75@yahoo.com)



### RESEARCH INTERESTS

---

- Energy harvesting –Rain drop energy harvesting, human energy harvesting
- Finite Element Analysis of Magnetic Materials
- Sensors Application
- Mechatronics Applications
- Electromagnetic Microrelays
- Engineering Education

### ACADEMIC & PROFESSIONAL QUALIFICATIONS

---

2018 IEEE Senior Member  
2009 Graduate Engineer  
Board of Engineers Malaysia (BEM)  
2008 Ph.D in Electrical Engineering  
Royal Melbourne Institute of Technology (RMIT) University,  
Melbourne, Australia  
Dissertation Title: Performance Enhancement in Electromagnetic Microrelay  
2003 Master of Science (Electrical & Electronic Engineering)  
Universiti Sains Malaysia  
Dissertation Title: Performance Evaluation of Neural network Based Electronic taste  
Sensing System  
1999 B.Eng (Hons) (2<sup>nd</sup> Class Upper)  
Electrical & Electronic Engineering  
Universiti Sains Malaysia

## RESEARCH GRANTS

---

### Completed Grants

#### Project Leader

1. Analysis Of Resonant Frequency Of Raindrop Energy Harvesting, RM10,000.00, 25/01/2018-24/01/2019. Bridging Grant.
2. Investigation On Energy Harvesting From Raindrop Energy, RM117,000.00, 01/08/2011-31/01/2014, FRGS Grant, KPT.
2. Design And Development Of Power Converter For Raindrop Energy Harvesting Applications, RM167,300.00, 31/12/2014-31/12/2017. RUI Grant.
3. Design and Analysis of Electromagnetic Microgenerator , RM38,216.00, 01/09/2009-29/02/2012. Short Term Grant.
4. Incentive Grant. RM5,000.00, 08/07/2008-09/07/2009.
5. Postgraduate Students Incentive Grants For Supervisor, 2010 –RM 5,000

#### Co-Researcher

1. Othman Bin Sidek, Mohd Zulkifly Bin Abdullah, Muhammad Razi Bin Abdul Rahman, Zainal Alimuddin Bin Zainal Alauddin, Zaini Binti Abdul Halim, Zuraini Binti Dahari, The Nature Of Heat Convection In Micro - Electro Mechanical - System ( MEMS) Sensor , RM51,000.00, 01/11/2008-31/10/2011. FRGS Grant, KPT.
2. Long Term Research Grant Scheme (LRGS) , Monitoring Hajj Crowd: Adaptive Crowd Control with Cognitive with Embedded System (ACCESS) KPT 1/7/2012 1/7/2016 1,200,000.00.
3. Othman Bin Sidek, Faezatul Azma Binti Yusof , Inzarulfaisham Bin Abd Rahim, Ishak Bin Haji Abdul Azid, Muhamad Azman Bin Miskam, Muhammad Razi Bin Abdul Rahman, Zainal Alimuddin Bin Zainal Alauddin, Zaini Binti Abdul Halim, Zuraini Binti Dahari, Micro Energy Solution From The Nature , RM250,400.00, 11/07/2008-10/01/2011. RU Grant.
4. Asrulnizam Bin Abd Manaf, Mohd Rizal Bin Arshad, Othman Bin Sidek, Zuraini Binti Dahari, Design and Simulation of MEMS Acoustic Sensor for Underwater Application, RM37,300.00, 15/10/2010-14/10/2012. Short term Grant.
5. Mohd Azmier Bin Ahmad, Jalal Abdullah Aziz, Mohd Zulkifly Bin Abdullah, Othman Bin Sidek, Zainal Alimuddin Bin Zainal Alauddin, Zuraini Binti Dahari, Development Of A Catalytic-Homogenous Micro-Cyclone Combuster Intergrated With A Thermoelectric Power Generator For Micro-Power Generation , RM152,406.00, 01/10/2010-30/09/2013. RU Grant.
6. Widad Binti Ismail, Norlaili Binti Mohd Noh, Zuraini Binti Dahari, Active And Passive Development In Mobile System Using RFID Technology , RM132,235.00, 01/09/2010-31/08/2013. RU Grant.
7. Muhamad Azman Bin Miskam, Inzarulfaisham Bin Abd Rahim, Muhammad Razi Bin Abdul Rahman, Othman Bin Sidek, Ruhaifi Bin Abdullah Zawawi, Shukri Bin Korakkottil Kunhi Mohd, Yushamdan Bin Yusof, Zuraini Binti Dahari, Design, Fabrication and Characterization of Low g Capacitive MEMS Accelerometers for Consumer Electronics and Mobile Applications , RM34,000.00, 01/04/2010-30/09/2012.

## PUBLICATIONS

---

### Journal Indexed (ISI)

1. CH Wong, Z Dahari, AA Manaf, MA Miskam, 2015, Harvesting Raindrop Energy With Piezoelectrics: A Review, Springer US, Journal Electronic Materials 44 (1), 13-21. ISI Journal. Impact factor:1.566.

2. CH Wong, Z Dahari, MH Jumali, K Mohamed, JJ Mohamed, 2017, Simulation and Fabrication of Wagon-Wheel-Shaped Piezoelectric Transducer for Raindrop Energy Harvesting Application, Springer US, Journal of Electronic Materials 46 (3), 1587-1597. ISI Journal. Impact factor:1.566.
3. CH Wong, Z Dahari, 2017, Development Of Vibration-Based Piezoelectric Raindrop Energy Harvesting System, Springer US, Journal of Electronic Materials, 46 (3), 1869-1882. ISI Journal. Impact factor:1.566.
4. ASA Rahman, MMS Yap, AYM Shakaff, MN Ahmad, Z Dahari, Z Ismail, 2004, A microcontroller-based taste sensing system for the verification of *Eurycoma longifolia* Elsevier, Sensors and Actuators B: Chemical 101 (1-2), 191-198.

#### **Indexed Proceedings (Web of Science & SCOPUS)**

5. IM Izrin, Zuraini Dahari, Asrulnizam Abd Manaf, Performance Characterization of Different Configurations of Piezoelectric Raindrop Energy Harvester, 10th International Conference on Robotics, Vision, Signal Processing and Power Applications 2019 Springer, Singapore 253-259.
6. Chin-Hoong Teoh, Zuraini Dahari, IM Izrin. A Study of the Output Voltage of the Asynchronous Raindrop for Piezoelectric Array Energy Harvester 10th International Conference on Robotics, Vision, Signal Processing and Power Applications 2019 Springer, Singapore 327-332
7. Izrin, I.M., Dahari, Z. 2017. Power converter for raindrop energy harvesting application: Full-wave rectifier. IEEE Student Conference on Research and Development: Inspiring Technology for Humanity, SCOReD 2017 – Proceedings. 2018-January, pp. 327-331.(Scopus Indexed)
8. Izrin, I.M., Dahari, Z., 2017. Power converter for raindrop energy harvesting application: Half-wave rectifier, AIP Conference Proceedings 1892, 140001. (ISI Indexed)
9. Chee, C.W., Wong, C.-H., Dahari, Z., 2017. An investigation of array of piezoelectric transducer for raindrop energy harvesting application. IEEE Region 10 Annual International Conference, Proceedings/TENCON, pp. 3771-3774. (ISI Indexed).
10. Hassan, A., Wong, C.-H., Dahari, Z., 2017. An analytical study of output voltage profile generated from raindrop energy. IEEE Region 10 Annual International Conference, Proceedings/TENCON 7848767, pp. 3775-3777. (ISI Indexed)
11. Fahmy Hafriz bin Mohamed Sultan, Zuraini binti Dahari, Yien Yien Koh, Neil Da Cunha, Jia Tian Ng. Development of At-speed Interconnect Test to Capture Marginal Open Defect on FPGA, 2016. 9th International Conference on Robotic, Vision, Signal Processing and Power Applications pp 27-35. Part of the Lecture Notes in Electrical Engineering book series (LNEE, volume 398). (ISI Indexed)
12. Wong, H.-P., Dahari, Z., 2015. Human body parts heat energy harvesting using thermoelectric module IEEE Conference on Energy Conversion, CENCON 2015, 7409541, pp. 211-214. (ISI Indexed)
13. Chin-Hong Wong, Joanne Neoh, Zuraini Dahari, Asrulnizam Abd Manaf, 2014, The 8th International Conference on Robotic, Vision, Signal Processing & Power Applications, pg. 393-399, Springer, Singapore, Part of the Lecture Notes in Electrical Engineering book series (LNEE, volume 291). (ISI Indexed).
14. Wong, C.-H., Dahari, Z., Abd Manaf, A., Miskam, M.A., Mohamed, J.J. 2013. Simulation of piezoelectric raindrop energy harvester. IEEE 2013 Tencon - Spring, TENCONSpring 2013 - Conference Proceedings, 6584488, pp. 465-469. (ISI Indexed)
15. Dahari, Z., Wong, C.-C., Sidek, O., Miskam, M.A, 2012. A study on performance enhancement of electromagnetic generator via Finite Element Analysis, ISIEA 2012 - 2012 IEEE Symposium on Industrial Electronics and Applications, 6496611, pp. 118-123. (ISI Indexed).
16. Dahari, Z., Ngah, U.K., Mohamad, N. 2012. Continuous quality improvement (CQI) implementation in electrical & electronic engineering final year projects ICEED 2012 - 2012 4th International Congress on Engineering Education - Improving Engineering Education: Towards Sustainable Development, 6779273. (ISI Indexed).

17. Dahari, Z., Wong, C.-C., Sidek, O., Miskam, M.A., 2011. Analysis of cantilever characteristics in designing electromagnetic generator, Proceedings - 2011 IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2011, 6190589, pp. 562-566. (Scopus Indexed)
18. Dahari, Z., Chye, W.C., Sidek, O., Miskam, M.A., 2011. A comparative study of electromagnetic generator via finite element element analysis, Proceedings of the 2011 International Conference on Electrical Engineering and Informatics, ICEEI 2011, 6021747. (Scopus Indexed)
19. Chye, W.C., Dahari, Z., Sidek, O., Miskam, M.A. 2010. Electromagnetic micro power generator- A comprehensive survey. ISIEA 2010 - 2010 IEEE Symposium on Industrial Electronics and Applications, 5679438, pp. 376-382. (Scopus Indexed)
20. Dahari, Z., Wei, T.K., Sidek, O., Miskam, M.A. 2009. Design and simulation of electrostatic actuated microrelay. 2009 International Conference on Computer and Electrical Engineering, ICCEE 2009, 1,5380501, pp. 271-274. (Scopus Indexed)
21. Miskam, M.A., Sidek, O., Dahari, Z., Ishak, M.Z.B. 2009. A preliminary study on the design and simulation of a microelectromechanical system micro-combustor for portable power production application. European Journal of Scientific Research, 37(4), pp. 616-627. (Scopus Indexed)
22. Seng, A.B., Dahari, Z., Sidek, O., Miskam, M.A. 2009 Design and analysis of thermal microactuator,. European Journal of Scientific Research.35(2), pp. 281-292. (Scopus Indexed)
23. CH Wong, Z Dahari, AA Manaf, MA Miskam. 2015. Piezoelectric Beam Length Optimization for Raindrop Energy Harvesting Application, 2014, Trans Tech Publications, Ltd, Applied Mechanics & Materials 705, 247-251. (Scopus Indexed).

#### **Non-Indexed Refereed Journals**

24. JA Teh, Z Dahari, 2018, Investigation of Human Kinetic Energy Harvesting from Human Foot Strike, Journal of Engineering Science, Vol. 14, Universiti Sains Malaysia, pp. 1-14.
25. Z Dahari, T Vinay, 2011, Comparison of Analytical and Finite Element Analysis of Magnetic Behaviours of Electromagnetic Relay, (Journal of Japan Society of Applied Electromagnetics and Mechanics (APSAEM10), Vol.19, pp. 75-78.
26. Zuraini Dahari, Thurai Vinay And Dinesh Sood, 2005, MEMS Electromagnetic Micro Relays Overview And Design Considerations, IIUM Engineering Journal, Vol. 6, No. 2, pp. 47-60.

#### **Proceeding/ Conference Presentation**

1. Izrin, I. M., Dahari, Z. & Manaf, A. A. , 2018. Performance characterization of different configuration of piezoelectric raindrop energy harvester. Proceedings from The 10th International Conference on Robotic, Vision, Signal Processing & Power Applications.
2. Chin-Hoong, T., Dahari, Z. & Izrin, I. M. 2018. Study of The Output Voltage of Asynchronous Raindrop for Piezoelectric Array Energy Harvester. Proceedings from The 10th International Conference on Robotic, Vision, Signal Processing & Power Applications.
3. Izrin, I. M. & Dahari, Z. 2018. Analysis on Single and X-Shaped Double PVDF Piezoelectric for Raindrop Energy. Proceedings from 2nd International Conference on Intelligent Systems Engineering (ICISE).
4. Zuraini Dahari, Nor Muzlifah Mahyuddin, Nur Syazreen Ahmad, 2015, Improvement of Assessment of Engineering's Final Year Project via Rubric Based Evaluation, FEIIC-International Conference on Engineering Education and Research 2015, Madinah, Kingdom of Saudi Arabia, 19-21 December 2015.
5. Chin-Hong Wong and Zuraini Dahari, 2015. An Experimental Investigation of Piezoelectric Bridge structure for Raindrop Energy Harvesting Application. School Of Electrical & Electronic Engineering 5th Postgraduate Colloquium (EEPC2015).

6. Chin-Hong Wong, Zuraini Dahari, Asrulnizam Abd Manaf and Muhamad Azman Miskam. "Piezoelectric Beam Length Optimization for Raindrop Energy Harvesting Application", in 2014 International Conference on Renewable Energy Technologies (ICRET 2014), 7-9 November 2014, Hong Kong.
7. C. H. Wong, W. S. Joanne Neoh, Z. Dahari, and A. Abd Manaf, "An Investigation of Raindrop Size in Raindrop Energy Harvesting Application via Photography and Image Processing Approach", in 8th International Conference on Robotics, Vision, Signal Processing & Power Applications (ROVISP), 10th - 12th NOVEMBER 2013, Penang, Malaysia.
8. C. H. Wong, Z. Dahari, A. Abd Manaf, O. Sidek, M. A. Miskam, and Julie Juliewatty Mohamed, "Raindrop Energy Harvesting - Experiment Setup and Preliminary Result", in School of Electrical & Electronic Engineering 4th Postgraduate Colloquium (EEPC 2013), 18th – 20th August 2013, Perak, Malaysia.
9. Zuraini Dahari and Cheong Wai Hong, "Implementation of Final Year Project Management System at School of Electrical & Electronic Engineering", USM, 05/12/2013 - 05/12/2013, IGNITE 2013 (International conference of Global Network for Innovative Technology 2013), Penang. (Poster presentation).
10. Zuraini Dahari, Nor Muzlifah Mahyuddin, Nur Syazreen Ahmad, 2013. "Whatsapp Application For Group Management During Umrah/Hajj". 5th National Seminar On Hajj Best Practices On Crowd And Health During Hajj. 27th & 28th August 2013, Equatorial Hotel, Penang.
11. H. Wong, Z. Dahari, A. Abd Manaf, O. Sidek and M. A. Miskam, "A Preliminary Study on the Potential of Rain-drop Energy in Energy Harvesting Approach", in International Conference on Environmental Research and Technology (ICERT 2012), 30th May - 1st June 2012, at Penang, Malaysia.
12. Zuraini Dahari, Asrulnizam Abd Manaf, Norlaili Mohd Noh, Noramalina Abdullah, Othman Sidek, Zaini Abd Halim, Muhammad Azman Miskam, "Investigation on Energy Harvesting From Raindrop Energy", 13/09/2011 - 13/09/2011, Workshop: Micro & Nano Electronic Circuit Devices, Material and Mechanics: Joint Workshop USM-TUT (Toyohashi University of Technology), (Poster Presentation).
13. Wong Chin Chye and Zuraini Dahari, "Magnetic Analysis of Electromagnetic Microgenerator via Finite Element Analysis", 2011 International Magnetism Conference (INTERMAG 2011), 28-20 April 2011, Taipei, Taiwan.
14. Zuraini Dahari, Thurai Vinay, "Comparison of Analytical and Finite Element Analysis of Magnetic Behaviours of Electromagnetic Relay", in Proceeding of Asia-Pacific Symposium on Applied Electromagnetics and Mechanics 2010 (APSAEM 2010) 28-30 July, 2010, Kuala Lumpur, Malaysia.
15. Chye, W.C., Dahari, Z., Sidek, O., Miskam, M.A., 2011. "Overview on Electromagnetic Micro Generator". School of Electrical & Electronics 3rd Postgraduate Colloquium, 2nd-4th December 2010, Bentong, Pahang, Malaysia.
16. Z. Dahari, T. Vinay and D. K. Sood, "Modelling and Analysis of Bistable Electromagnetic Microrelay", 2006. CD Proceeding of APCOT (Asia-Pacific Conference of Transducers and Micro-NanoTechnology), Singapore, 2006.
17. N. Awaja, Z. Dahari, T. Vinay and D. K. Sood, 2006. "Design and Analysis of a Microcoil to be Used in an Electromagnetic Microgenerator", in CD Proceeding of APCOT (Asia-Pacific Conference of Transducers and Micro-NanoTechnology), Singapore, 2006.
18. Zuraini Dahari, Thurai Vinay and Dinesh Sood, 2005. "MEMS Electromagnetic Micro relays Overview and Design Considerations", Proceedings of the 2nd International Conference on Mechatronics, ICOM'05, 10-12 May 2005, Kuala Lumpur, Malaysia.
20. Z. Dahari, T. Vinay and D. K. Sood, "Finite Element Analysis Of A Planar Flexure Hinge Topology Of Bistable MEMS Devices", in Proceedings of ROVISP 2005: International Conference On Robotics, Vision, Information And Signal Processing, Penang, Malaysia, 20-22 July 2005, pp. 120-124.
21. Zuraini Dahari, "Modelling and Analysis of A Bistable Electromagnetic Microrelay", School of Electrical & Computer Systems (SECE), RMIT Postgraduate Conference, 2005. (Oral presentation).

22. Zuraini Dahari, Analytical And Experimental Studies Of A Novel, Easily Micromachinable, Flat Beam Structure For Microrelay Applications, School of Electrical & Computer Systems (SECE), RMIT Postgraduate Conference, 2004. (Oral presentation).
23. Zuraini Dahari, Performance Enhancement Of Addressable Microrelay Matrices, School of Electrical & Computer Systems (SECE), RMIT Postgraduate Conference, 2003. (Oral presentation).
24. Zuraini Dahari, et al., 2003. A Neural Network Based Taste Sensing System For Herbal Analysis, in Proceedings of Robotics, Vision and Parallel Processing for Industrial Automation (ROVISP), Malaysia, 22nd-24th January, 2003.
25. Z Dahari, A. Y. M Shakaff, M. N. Ah,ad and T. J. Shya, Taste Sensing System For Herbal Analysis, 7th World Congress on BioSensors, Kyoto, Japan, 15-17th May 2002. (Poster presentation).

#### **Other Publications**

1. Dr Mohd Ansor Mohd Yusoff, Dr Asrulnizam Abd Manaf, Dr Zuraini Dahari, Dr Mohammad Ghulam Rahman, Dr Syed Sahal Nazli Alhady Syed Hassan, 2010/2011, Laboratory Manual, EEE 125: Basic Circuits Lab, Semester II: Academic Year 2010/2011.
2. Zuraini Dahari, Final Year Project Report Guideline, 2011.
3. Zuraini Binti Dahari, 2011, Final Year Project Rubric Assessment.
4. Dr Nor Ashidi Mat Isa, Dr Khoo Bee Ee, Dr Zuraini Dahari, 2011, EEM 241 Lab Manual: Mechatronic Laboratory 1, (Revised).
5. Dr Haidi Ibrahim, Dr Syed Sahal Nazli Alhady Syed Hassan, Prof Madya Dr Widad Ismail, Dr Zuraini Dahari, 2012, EEE351, Advanced Laboratory Lab Manual (Revised).
6. Zuraini Dahari, 2015, Final Year Project Rubric Assessment (Revised ).
7. Zuraini Dahari, Final Year Project Report Guideline, (Revised), 2015.
8. Dr. Aftanasar Md Shahr, Dr. Zuraini Dahari, Pn Noramalina Abdullah, Prof Madya Dr. Umi Kalthum Ngah, Dr. Bakhtiar Affendi Rosdi, Modul 4: Penggunaan IT Dalam Pembelajaran Program Sistem Intervensi Akademik Pelajar (SIAP), 2011.
9. Dr. Rosmiwati Mohd Mokhtar, Dr. Bakhtiar Affendi Rosdi, Dr. Shahrel Azmin Suandi, Dr. Zuraini Dahari, Latex: An Approach To Scientific Writing: Introduction, 2010

#### **SUPERVISION**

---

##### **Ph. D**

1. Wong Chin Hong, 2017, Doctor of Philosophy, Research - Full Time , An Improved Design of Piezoelectric Raindrop Energy Harvester, Main Supervisor.

##### **Master by Research**

1. Wong Chin Chye, 2012, Master, Research - Full Time , Design and Analysis of the Performance of an Electromagnetic Generator, Main Supervisor.
2. Chan Keam Seng, 2016, Master, Research - Part Time , A New Approach to Fuzzy Clustering with Enhanced Capability in Classifying the In-between Pixels, Co-supervisor.
3. Muhammad Izrin Izhah, 2018, Master, Research-Full Time, Design and Analysis of Piezoelectric Configuration For Raindrop Energy Harvester. Main Supervisor. (2 supervisors involved: 1 main supervisor & 1 co-supervisor)

##### **Master's Dissertation (Mixed Mode)**

1. Azahar Bin Taib, 2010, A Study of Magnetic Behaviour of Electromagnetic micro relay Via Finite Element Analysis. Main supervisor.

2. Lim Kok Chean, 2013, Hybrid Dynamic Phase Alignment Scheme to Improve Sampling Resolution For 1.25 GHz Source Synchronous Interface. Main supervisor.
3. Mera Uzaini Syaihan Bin Rajam, 2013, Development of Interactive Database for the Management of Grades For Engineering Final Year Project. Main supervisor.
4. Intan Fazliana Binti Fauzi, 2014, Modelling and Simulation of Rain-drop Characteristics in Energy Harvesting Application. Main supervisor.
5. Fahmy Hafriz Bin Mohamed Sultan, 2015, Development Of At-Speed Interconnect Test To Capture Marginal Open Defect On FPGA. Main supervisor.
6. Wong Hui Ping, 2014, Converting Heat to Electricity as a Green Technology. Main supervisor.
7. Azlina Binti Hassan, 2017, Analysis of Output Voltage Profile of Raindrop Impact Using Piezoelectric Bridge Structure For Energy Harvesting. Main supervisor.
8. Ang Choon Keat, 2018, Investigation of Input Voltage Stability circuit for Electromagnetic Relay Performance Evaluation. Main supervisor.
9. Teow Boon Pei, 2018, Performance Enhancement of Internet of Things (IOT) Based Flood Alert System. Main supervisor.

### **Final Year Project Supervision**

1. Ang Beng Seng, Modeling and Simulation of Thermal Microactuator, 2008.
2. Teh Kean Wei, Simulation Based Design for Electrostatically Actuated Microrelay, 2008.
3. Mohd Razemy bin Mohd Raffay, Modeling and Simulation of Microaccelerometer, 2008.
4. Mohammad Zulfikar bin Ishak, Design and Simulation of Power MEMS Microcombustor, 2008.
5. Abdul Halim Noor, Development of an electromagnetic, vibration powered generator, 2009.
6. Muhammad Afiff b. Mohd Parid, Design And Analysis of Electromagnetic Microgenerator, 2009.
7. Vinod Khan b. Rasul, Design and Analysis of Electromagnetic Microrelay, 2009.
8. Lim Wen Ying, Application of Artificial Neural Network (ANN) for predicting the magnetic behaviour of electromagnetic micro delay, 2010.
9. Vinod Khan Bin Rasul Arumugam, Design and Analysis of Electromagnetic Microrelay, 2010.
10. Fazidatul Hajar Binti Moh Noor, Possibility of Energy Harvesting from Raindrop Energy, 2011.
11. Mohamad Bukori B Che Noh, A Preliminary Study of Electromagnetic Generator For Energy Harvesting From Human Motion, 2011.
12. Abd Muttalib B. V.h. Usman, A Study on Electromagnetic Relay Via Finite Element Analysis, 2011.
13. Noorarneena Bt Zul Aziz, Investigation of Magnetic Characteristic of Electromagnetic Relay, 2012.
14. Mohd Arif Ilmam Awaludin, Development of energy Harvesting Device Based on Human Motion, 2012.
15. Mohd Amin Nazrin Bin Mohammad, Development of energy harvesting prototype testing kit, 2012.
16. Cheong Wai Hong, Development of database and analysis tool for implementation of Engineering Final Year Project, 2013.
17. Joanne Neoh Wan Shi, Investigation of raindrop characteristics via photography and image processing approach, 2013.
18. Mastura Sk Abd Aziz, , Analytical and Experimental Study of an Electromagnetic Generator, 2013.
19. Mohd Azri Rani, Power conversion circuitry for energy harvesting application, 2014.
20. Ooi Shin Wei, Development of An Interface Circuit for Raindrop Energy Harvesting, 2014.
21. Moo Chee Gen, Investigation of human heat energy harvesting from different human body parts, 2016.
22. Chee Chung Wei, Analysis of an array of piezoelectric transducer for raindrop energy harvesting application, 2016.
23. Siti Noor Zahidah Bt Abdul Latib, Analysis Of AC-DC Converter Interface For Raindrop Energy Harvesting Application, 2016.

24. Mohamad Irham Bin Mukhtar, Automated System For Flood Detector, 2017.
25. Teoh Chin Hoong, Investigation on Array Interface for Raindrop Energy Harvesting, 2017.
26. Teh Joo Ann, Human Kinetic Energy Harvesting, Main Supervisor, 2017.
27. Syeikh Muhammad Haziq Bin Sah Azmi, Paddle Power Energy Harvesting, 2018.
28. Ng Wei Jian, IOT Based Air Pollution Detector, 2017.

## EXAMINER

---

### Master by Research

1. Hafizah bt Talib, 2010, A Novel Voting Technique for Improving Classification Accuracy of ML Ensemble.
2. Shabinar bt Abdul Hamid, 2011, Design And Implementation Of Motion Sensitive Uhf Rfid System.
3. Umadevi A/P C Handaran, 2012, A Study on the Development of Electronic Nose to Determine the Presence of Sulfate Reducing Bacteria.
4. Khadijah bt Hasbullah, 2015, Implementation of Wireless Sensor Network (WSN) For Monitoring System in Freshwater Fish Culture Application.
5. Hamzah Naser Mahmood , 2017, New Technique of Magnetic Improved Explosive Device (IED) Detection.
6. Tan Chee Sheng, 2018, Time Difference of Arrival Estimation Using Improved Fast Fourier Transform For Underwater Positioning.

### Master's Mixed Mode

1. Azizah bt Ahmad, 2008, Development of An Automated T-Way Test Data Generator for Software Configuration Testing.
2. Fathin Liyana binti Zainuddin, 2008, Study of Mean-Shift in RBF Network.
3. Norzeti binti Zainal, 2008, A Comparative Study of Central Pattern Generator (CPG) Oscillator.
4. Fairul Afzal bin Ahmad Fuad, 2009, Multi-Factor Analysis of Cooperative Communication in Wireless System.
5. Aini Hafizah Binti Mohd Saod, 2011, Feasibility Study On Automatic Speech Recognition (ASR) System For Diagnosis Of Apraxia Among Children.
6. Maryam 'Afaf binti Abdul Karim, 2012, Enhancing Automated Unit Test Executor with Dynamic Resumption Facility.
7. Che Zawiyah Binti Che Hasan, 2012, Classification of ECG Signals Using Neural Network Based On RR Intervals.
8. Trukesh Nadarajan, 2012, Effective Keypad Backlight Design Approaches For Portable Radio Devices.
9. Tan Zi Jui, 2013, Study of the Effect of the Capacitor's Equivalent Series resistance in Local Oscillator Synthesizer
10. Suhaili bt Mohamed Noor, 2014, Study on Hardware Implementation for Fruit Ripeness Detection System
11. Tan Choon Wooi, 2014, Waveform Viewer Application by Using C++.
12. Nur' Atiqah Ahmad Fathi, 2015, Optimization And Characterization Of Electrolyte for Fluidic Based Pressure Sensor.
13. Ganesalingam a/l Ramachandran, 2017, Defect Detection Equalization of Hard Disk Drive Media Test Process using Variable Bias Implementation in Touch Down Sensor Response.
14. Angie Lee Shin Shin, 2017, Design and Simulation of High linearity and Stability operational Amplifier Circuit for Amperometric Sensor.
15. Akaliliyasmin Binti Mat Yaakob, 2018, Resonant Wireless Power Transfer With Optimized Circuit Parameters Using Optimization Tools.



16. Nurul Farah Hidayah Eko Sukohidayat, 2018, Automated Data Filtering For Static And Dynamic Leakage Current Analysis Of Thermal Design Power Performance.
17. Lee Xin Yee, 2018, Online Luggage Check-In System.
18. Soon Bin Yun, 2018, Real-Time remote On Board Diagnostic And Early Reckless Driving Behaviour Detection.

## REVIEWER

---

### Book

1. 2013, Integrated Electronics: Design and System, Unit Penerbitan Universiti Malaysia Perlis

### Journals

1. Design and Development of Guided Four Beam Cantilever Type MEMS based Piezoelectric Energy Harvester. Journal: Microsystem Technologies, 2015.
2. Force Characterization Of A Linear Motion Electromagnetic Actuator Using Finite Element Analysis Method (FEM), 2016, Jurnal Teknologi UTM
3. Optimization Of The Force Characteristic Of Rotary Motion Type Of Electromagnetic Actuator Based On Finite Element Analysis," 2016, Jurnal Teknologi UTM.
4. Dynamic characterization of fabricated guided two beam and four beam cantilever type MEMS based piezoelectric energy harvester having pyramidal shape seismic mass, 2017, Journal of Microsystem Technologies
5. A Multi-Mode Single-Input Multi-Output Converter for Efficient Low Voltage Energy Harvesting System of the Gas Sensor, 2017, Journal of Microsystem Technologies.
6. A New Multi-Mode Single-Inductor-Multi-Input-Multi-Output (SIMIMO) Converter in an Efficient Low-Voltage Energy Harvesting System for a Gas Sensor, Revision 1, 2018, Journal of Microsystem Technologies.
7. A Novel Axial Field Flux-Switching Permanent Magnet Power Generator, 2011, Transactions on Magnetics – Conferences

### Reviewer for Conferences

1. Reviewer for IEEE-ISIEA 2009 : IEEE Symposium on Industrial Electronics and Applications.
2. Development of a Piezoelectric Chemical Sensor Using Metalloporphyrins Compounds as a Coating Material, 2011, IEEE Colloquium On Humanities, Science And Engineering, (Chuser 2011).
3. PC Based Kenwood TS\_570d Tranceiver Controller, 2011, INECCE2011 (International Conference on Electrical Control and Computer Engineering 2011).
4. Distributed Technique Applied For Classification of Human Protein Class, 2011, INECCE2011 (International Conference on Electrical Control and Computer Engineering 2011).
5. Analysis of Frequency Up-Conversion Based Vibration Energy Harvester, 2011, Conference: 2011 IEEE Regional Symposium on Micro and Nano Electronics (IEEE-RSM2011).
6. Penilai Abstrak dan Artikel 2nd Symposium of USM Fellowship 2011, November 2011.
7. Study on Sulfate Reducing Bacteria Detection Using Adaptive Neuro-Fuzzy Inference System (ICCASS 2012), 2012, ICCAS 2012: IEEE International Conference on Circuits & Systems Conference Date: 3-5 October 2012 , Kuala Lumpur, Malaysia.
8. Density Aware Interconnect Parasitic Estimation for Mixed Signal Design (ICCAS 2012), 2012, ICCAS012: IEEE International Conference on Circuits & Systems Conference Date: 3-5 October 2012.

9. Deadlock Detection and Avoidance Using Signal Interpreted Petri Net (ICCASS 2012), 2012, ICCAS 2012: IEEE International Conference on Circuits & Systems Conference Date: 3-5 October 2012.
10. An 8 Bits Direct Digital Frequency Synthesizer with 1Giga Samples per Second Speed (ICCASS 2012), 2012, ICCAS 2012:IEEE International Conference on Circuits & Systems Conference Date: 3-5 October 2012.
11. The Octupole Microelectrode for dielectrophoretic trapping of single cells-Design and Simulation (IEEE-ICSE2012), 2012, 2012 IEEE International Conference on Semiconductor Electronics.
12. Numerical Simulation of PIN Diode Using Implicit Finite Different Time Domain Method (IEEE-ICSE2012), 2012, 2012 IEEE International Conference on Semiconductor Electronics.
13. Magnetic Force on a Magnetic Bead (IEEE-ICSE2012), 2012, 2012 IEEE International Conference on Semiconductor Electronics.
14. Static Output Feedback Stabilization of Nonlinear Fractional-Order Glucose-Insulin System (IECBES 2012), IEEE-EMBS International Conference on Biomedical Engineering and Sciences.
15. The Design and Analysis of a Proliferated-membrane of Pressure Sensor for Low Pressure Applications (IECBES 2012), 2012, 2012 IEEE-EMBS International Conference on Biomedical Engineering and Sciences.
16. ICD Effects in Psychiatric Disorders, (IECBES 2012), IEEE-EMBS International Conference on Biomedical Engineering and Sciences.
17. Respiratory Airway Resistance Monitoring in Mechanically Ventilated Patients, (IECBES 2012), IEEE-EMBS International Conference on Biomedical Engineering and Sciences.
18. Eyes location based on mouth information, 2013, The 8th International Conference on Robotics, Vision, Signal Processing & Power Applications (ROVISP 2013) Penang, Malaysia 10-12 NOVEMBER 2013.
19. Review of research in the area of Agriculture Mobile Robots, 2013, The 8th International Conference on Robotics, Vision, Signal Processing & Power Applications (ROVISP 2013) Penang, Malaysia 10-12 November 2013.
20. Adaptive Discrete Sliding Mode Control for a Non-minimum Phase Electrohydraulic Actuator System, 2013, The 8th International Conference on Robotics, Vision, Signal Processing & Power Applications (ROVISP 2013) Penang, Malaysia 10-12 November 2013.
21. Gap And Bead Detection For Industrial Laser Weld Systems, 2013, The 8th International Conference on Robotics, Vision, Signal Processing & Power Applications (ROVISP 2013) Penang, Malaysia 10-12 November 2013.
22. Development of Change Detection Algorithm Based on Background Subtraction to Detect Presence of Animal in Digital Image, 2013, EEPC (Sch Of Electrical & Electronic Postgraduate Colloquium)
23. Boundary Detection Using Locally Adaptive Regression Kernel, 2013, EEPC: School of Eelectrical & Electronic Postgraduate Colloquium
24. Evolving Context-base Fuzzy System and Uncertainty Control of the Consistence Rule, 2013, EEPC
25. Implementation of Majority Logic Circuit for Reliable Processing in VLSI Designs, 2013, 1st International Conference on Advances in Computing, Communications and Informatics
26. Performance Comparison of Universal Sensor Interface Circuit for Multi Sensor Systems, 2013, 2014 IEEE TENSYPMP - IEEE Region 10 Symposium
27. Maximum Likelihood Watermark Detection In Absolute Domain Using Weibull Model, 2013, 2014 IEEE TENSYPMP - IEEE Region 10 Symposium
28. Design of a Novel Double-Rotor Flux Assisted Machine for Electric Vehicle Applications for, 2014, IEEE SCORed 2014
29. Study of Robot Manipulator using Real-time Nonlinear Control (Control Study of Siding Mode Control on Robot Manipulator), 2014, IGNITE- International Conference of Global network for Innovative Technology 2014
30. Microfluidic Based Inductor (uFBI) for High Tuning Range Application, 2014, IGNITE 2014
31. Real Time Face Pose Estimation Using Geometrical Features, 2014, IEEE Conference on Biomedical Engineering and Sciences

32. A Two Switch Topology with Interleaved Buck-Boost Converter for Low Stress PFC Applications, 2014, IEEE Conference on Energy Conversion CENCON 2014
33. A Simulation Study of Hybrid Wind-Ultracapacitor Energy Conversion System, 2014, IEEE Conference on Energy Conversion - CENCON 2014
34. 2015 IEEE Regional Symposium on Micro and Nanoelectronics (IEEE-RSM2015), 2015,
35. CENCON 2015: 2015 IEEE Conference on Energy Conversion: Measurement of Low Frequency Signal of Power Grid Using Arduino, 2015,
36. CENCON 2015: 2015 IEEE Conference on Energy Conversion: New Hybrid Multilevel Inverter Topology with Reduced Switch Count Using Carrier Based Pulse Width Modulation Technique, 2015,
37. 2015 IEEE 7th International Conference on Engineering Education: A Novel Engineering Education Approach VTI for Outstanding Engineer, 2015,
38. 2016 IEEE International Conference on Teaching and Learning in Education (ICTLE): Matlab Based Graphical User Interface Development for Three Phase Circuits Analysis Studies, 2015,
39. 2016 IEEE International Conference on Teaching and Learning in Education (ICTLE): CSMA/CA Educational Module for Engineering Students Using Universal Software Radio Peripheral (USR), 2015.
40. Automated Detection of Embolic Signal for Stroke Prevention. 9th International Conference on Robotic Vision, Signal Processing & Power Applications, (RoViSP 2016).
41. Dengue Incidence Prediction using Model Variables with Registered Case Feedback. 9th International Conference on Robotic Vision, Signal Processing & Power Applications, (RoViSP 2016).
42. Integrated Supervision and Evaluation System for Final Year Project, 2017, IEEE Scored.
43. Effect of Using Simulator as Teaching Aid on Microprocessor Course Performance, 2017, IEEE Proceedings, IEEE Scored.
44. Optimization of High Efficiency Permanent Magnet Synchronous Machine Using Multi-Objective Differential Evolution, 10th International Conference on Robotic Vision, Signal Processing & Power Applications, 2018, (ROVISP 2018)
45. Internet of Things: Security Challenges and Its Future Direction, 10th International Conference on Robotic Vision, Signal Processing & Power Applications, 2018, (ROVISP 2018)
46. Study of Electronic Energy Meter Performance Under Harmonics Current Condition, 10th International Conference on Robotic Vision, Signal Processing & Power Applications, 2018, (ROVISP 2018).
47. RBF-Fuzzy Control of a SMES Unit: An Effective Tool for Enhancing Transient Stability Limit, 10th IEEE PES Asia-Pacific Power and Energy Engineering Conference 2018 (APPEEC).
48. A Novel Quad 12-Pulse Four-Pole System Using an Existing 12-Pulse Bi-pole System for Back-to-Back HVDC System, 10th IEEE PES Asia-Pacific Power and Energy Engineering Conference 2018 (APPEEC).
49. Effective Evacuation Route For Earthquake Disaster Literacy in Bengkulu City, EECSI 2018, 5th International Conference on Electrical Engineering, Computer Science and Informatics.

## PROFESIONAL MEMBERSHIP

---

1. Senior Member of Institute of Electrical and Electronics Engineers (IEEE).
2. IEEE Young Professionals, 2014-present.
3. IEEE Women Engineering, 2005- present
4. IEEE Power & Energy Society Membership, 2014 present.
5. IEEE Magnetics Society, 2011-present.
6. Lembaga Jurutera Malaysia
7. The Institution of Engineers Malaysia (IEM)

## CONSULTANCIES

---

1. Hybrid Dynamic Phase Alignment Scheme to Improve Sampling Resolution For 1.25 GHz Source Synchronous Interface, InfoTech, RM5600, Sept 2012- June 2013.
2. Converting Heat to Electricity as a Green Technology, Usains Holdings, RM 5600, Sept 2013- June 2014.
3. Development Of At-Speed Interconnect Test To Capture Marginal Open Defect On FPGA, InfoTech, RM5600, Sept 2014-June 2015
4. Development of Input Voltage Stability circuit for Electromagnetic Relay Performance Evaluation, Usains Holding, RM 3800.
5. Collaboration with Auto-ID Laboratory (AIDL), USM for PRGS Project: The Development of Implementation of Portable RFID System with Embedded Wireless Sensor Network (WSN) for Plot Testing in Intelligent Tracking and Monitoring Applications.
6. Project Supervisor for Young Makers Program at Sains@USM, August-November 2017.
7. Mentor to Projek 'Transfit Mat', Tunas Saintis MRSM Peringkat Kebangsaan, 2017. The project won the best project in Physics Category.
8. Industrial Final Year Project , Area Optimization of Pump Clock Layout Design, Cypress Semiconductor, Aug 2018-June 2019.

## SERVICIES TO COMMUNITY

---

1. Judge in Engineering Invention & Innovation Exhibition, UniMAP, 22nd March 2009.
2. Panel Evaluator, Industrial Training Students, School of Electrical & Electronic Engineering, USM, 9-10 Oct 2013.
3. Panel Evaluator, Industrial Training Students, School of Electrical & Electronic Engineering, USM, 15-16 Oct 2014.
4. External Judge for 35th Science & Engineering Design Exhibition (SEDEX 35), Universiti Teknologi PETRONAS, 5th August 2015.
5. Panel Evaluator, Industrial Training Students, School of Electrical & Electronic Engineering, USM, 19-21 Oct 2016.
6. Evaluator for Capstone Project, School of Electrical & Electronic Engineering, USM, 13th Dec 2017.
7. Evaluator for Capstone Design Exhibition, School of Electrical & Electronic Engineering, USM, 22nd Nov 2018.
8. Forum Panelist, Program Sirih Pulang Ke Gagang, MRSM Taiping.
9. Invited Speaker, Penggunaan IT dalam Pembelajaran, Program Sistem Intervensi Akademik Pelajar, Unit Penasihat dan Pembangunan Pelajar Bahagian Hal Ehwal dan Pembangunan Pelajar USM, USM Main Campus, 4th Dec 2011.
10. Invited Speaker, Penggunaan IT dalam Pembelajaran, Program Sistem Intervensi Akademik Pelajar, Unit Penasihat dan Pembangunan Pelajar, Bahagian Hal Ehwal dan Pembangunan Pelajar USM, USM Engineering Campus, 19 Nov 2011.
11. Invited Speaker 2010, LATEX: An Approach to Scientific Writing, SEEE, School of Electrical & Electronic Engineering, USM.
12. Invited Speaker, 2014, Bengkel Penyelidikan dan Penulisan Disertasi, School of Electrical & Electronic Engineering, USM.
13. Invited Speaker, 2014, FYP Report & Viva Vice Guidelines, School of Electrical & Electronic Engineering, USM.
14. Invited Speaker, 2014, Thesis Writing-Final Year Report Guidelines, School of Electrical & Electronic Engineering, USM.
15. Invited Speaker, 2015, Final Year Project Seminar Series: Viva Voce.

16. Chairman of Scored Conference , 16- 17 Dec 2014
17. Judge in Malaysian International Young Inventors Olympiad (MIYIO) 2016, 22nd March 2016.
18. Committee of Malaysian Advocates For Cerebral Palsy (MyCP) World Cerebral Palsy Day Celebration, 01/01/2014-01/10/2014.
19. Project Leader/Coordinator, Innovate Competition, 01/07/2016-15/03/2017.
20. National Summit 2010 IEM G&S Yes (Young Engineer Section).
21. Project Leader/Coordinator, Bengkel Berita Harian (BH) Didik UPSR, USM Engineering Campus, Phase 1 and Phase 2, 2017.
22. Judge in National Robotic Challenge, Perak State Level, SMK Ab Bakar al Baqir, Bagan Serai, 2nd August, 2018.
23. Judge in 2018 Young Innovators Challenge, Selangor State Level, UiTM, 18th August 2018.
24. Auditor of Muafakat, MRSM Pasir Salak, 01/06/2015- 01/06/2017.
25. Committee of Muafakat, 2017-2019, MRSM Transkrian, Pulau Pinang.
26. Facilitator for Sirih Pulang ke Gagang, MRSM Taiping, 6-7th August 2016.

### **SERVICES TO USM**

---

1. Committee Member of Jawatankuasa Keselamatan dan Kesihatan Pekerjaan Kampus Kejuruteraan (JKKPKKj), 2 years, 11/11/2011-11/11/2013.
2. Committee Member of Sistem Intervensi Akademik Pelajar (SIAP), 2012.
3. Committee for Young Strategic Thinkers For USM Future (Innovation Ecosystem), 2015.
4. School Representative for E-Learning,( ELEARN@USM), 2 years (01/01/2014-31/12/2015).
5. Ahli Jawatankuasa Kecil Pembangunan Dan Modal Insan, Koperasi KKSSK Pulau Pinang Berhad, 22/9/2014-31/12/2016 & 2017.
6. Ahli Jawatankuasa Kecil Pembangunan Dan Modal Insan, Koperasi KKSSK Pulau Pinang Berhad, 2017.
7. Committee of Potential A Final Year Project, 2007/2008.
8. Committee of Explorace EE Program, 2008/2009.
9. Committee of Orientation Week, 2008/2009.
10. Committee of Accreditation/OBE, 2008.
11. Coordinator of SHE 101, 2008/2009.
12. Committee of Program Siswa Lestari 2009/2010
13. Welfare Committee, SEEE Staff Society, 2008/2009.
14. Assistant Coordinator WUS 101, Teras Keusahawan, 2009/2010.
15. Committee of Final Year Project Distribution, 2009/2010.
16. Vice Chair of SEEE Staff Society, 2009-2010.
17. Technical Committee of Final Year Project, 21/06/2010-21/06/2011.
18. Final Year Project Coordinator, 2009/2010, 2010/2011. 2011/2012, 2012/2013, 2014-2015.
19. Committee Member of Alumni of School of Electrical & Electronic Engineering, 1st Dec 2013- 31 Dec 2015.
20. Committee Member of Best Final Year Project Thesis, 2012/2013.
21. Committee Member of Best Final Year Project Thesis, 2013/2014.
22. Committee of Program Training Workshop On Implementation OF SCL In SEEE (TWISS), 2013
23. Coordinator of Outcome Based Education (OBE) –Mechatronic Program, 1 Jan 2016- 24th Feb 2018.
24. Dean Representative for M.Sc Viva-Voce, Goh Chin Ho, 14 June 2012.
25. Dean Representative for M.Sc Viva-Voce, Ong Chun Kiat, 28 March 2013.
26. Dean Representative for M.Sc Viva-Voce, Tan Ai Heong, 11th June 2014.
27. Dean Representative for Ph.D Viva-Voce, Haslina Jaafar, 26 Jun 2014
28. Dean Representative for M.Sc Viva-Voce, Mohammad Zulfikar Ishak, 11 May 2015.
29. Dean Representative for Ph.D Viva-Voce, Wasana Boonsong, 28 March 2016.

30. Committee Member of Self Assessment Report (SAR) for Engineering Accreditation Council (EAC) Malaysia, 1st Sept 2016- March 2018.
31. Committee Member of Alumni of School of Electrical & Electronic Engineering, 1st Oct 2016- 31 Dec 2018.
32. Dean Representative for M.Sc Viva-Voce, Muhamad Hilmi Raja A Aziz, 8 Oktober 2012
33. Dean Representative for Ph.D Viva-Voce, Sti Noraini Sulaiman, 9 Januari 2012.

## TEACHING

---

*Subject code, Semester Code, Year, Subject, Students Number, Semester*

Academic Session 2018/2019: Semester 1

- EEM101/3, 181, 2018, Principles And Mechanics Of Materials , 46, 2
- EEE228/3, 181, 2018, Signal And System , 166, 3

Academic Session 2017/2018: Semester 3

- EEE228/3, 175, 2018, Signal And System , 14, 2
- EEU104/3, 175, 2018, Electrical Technology , 32, 3

Academic Session 2017/2018: Semester 2

- EEU104/3, 172, 2018, Electrical Technology , 285, 3
- EEM344/2, 172, 2018, Mechatronics Laboratory Ii , 36, 5

Academic Session 2017/2018: Semester 1

- EEM101/3, 171, 2017, Principles And Mechanics Of Materials , 40, 2
- EEE228/3, 171, 2017, Signal And System , 120, 2

Academic Session 2017/2018: Semester 3

- EEE228/3, 165, 2017, Signal And System , 20, 2

Academic Session 2016/2017: Semester 2

- EEU104/3, 162, 2017, Electrical Technology , 242, 3

Academic Session 2017/2018: Semester 1

- EEM101/3, 161, 2016, Principles And Mechanics Of Materials , 32, 2
- EEE228/3, 161, 2016, Signal And System , 147, 2

Academic Session 2015/2016: Semester 3

- EEE228/3, 155, 2016, Signal And System , 1, 2
- EEU104/3, 155, 2016, Electrical Technology , 8, 3

Academic Session 2015/2016: Semester 2

- EEU104/3, 152, 2016, Electrical Technology , 301, 3
- EEM344/2, 152, 2016, Mechatronics Laboratory Ii , 43, 5

Academic Session 2015/2016: Semester 1

- EEM101/3, 151, 2015, Principles And Mechanics Of Materials , 42, 2
- EEE228/3, 151, 2015, Signal And System , 114, 2

Academic Session 2014/2015: Semester 2

- EEE499/6, 146, 2014, Undergraduate Project , 70, 3
- EEK499/6, 146, 2014, Undergraduate Project , 38, 3
- EEM499/6, 146, 2014, Undergraduate Project , 0, 2
- EEU104/3, 142, 2015, Electrical Technology , 230, 3

Academic Session 2014/2015: Semester 3

- EEU104/3, 145, 2015, Electrical Technology , 29, 3

Academic Session 2014/2015: Semester 1

- EEM101/3, 141, 2014, Principles And Mechanics Of Materials , 24, 2
- EEE228/3, 141, 2014, Signal And System , 142, 2

Academic Session 2013/2014: Semester 2

- EEK499/6, 136, 2013, Undergraduate Project , 23, 1
- EEE499/6, 136, 2013, Undergraduate Project , 49, 1
- EEM499/6, 136, 2013, Undergraduate Project , 20, 1
- EEU104/3, 132, 2014, Electrical Technology , 322, 4

Academic Session 2013/2014: Semester 3

- EEU104/3, 135, 2014, Electrical Technology , 11, 4

Academic Session 2013/2014: Semester 1

- EEM101/3, 131, 2013, Principles And Mechanics Of Materials , 44, 2
- EEE228/3, 131, 2013, Signal And System , 167, 2

Academic Session 2012/2013: Semester 2

- EEE499/6, 126, 2012, Undergraduate Project , 65, 2
- EEM499/6, 126, 2012, Undergraduate Project , 25, 2
- EEK499/6, 126, 2012, Undergraduate Project , 27, 2
- EEU104/3, 122, 2013, Electrical Technology , 361, 3

Academic Session 2012/2013: Semester 3

- EEE228/3, 125, 2013, Signal And System , 4, 2

Academic Session 2012/2013: Semester 1

- EEE228/3, 121, 2012, Signal And System , 119, 2
- EEM101/3, 121, 2012, Principles And Mechanics Of Materials , 50, 2

Academic Session 2011/2012: Semester 2

- EEK499/6, 116, 2011, Undergraduate Project , 28, 2
- EEE499/6, 116, 2011, Undergraduate Project , 78, 2
- EEM499/6, 116, 2011, Undergraduate Project , 26, 2
- EEU104/3, 113, 2011, Electrical Technology , 410, 2
- EEE351/3, 112, 2012, Advanced Laboratory , 67, 4

Academic Session 2012/2013: Semester 3

- EEE228/3, 115, 2012, Signal And System , 4, 2

Academic Session 2011/2012: Semester 1

- EEE449/4, 111, 2011, Computer Networks , 45, 2

- EEE228/3, 111, 2011, Signal And System , 102, 2
- EEM241/3, 111, 2011, Mechatronic Laboratory I , 25, 2

Academic Session 2011/2012: Semester 3

- EEU104/3, 105, 2011, Electrical Technology , 8, 2

Academic Session 2010/2011: Semester 2

- EEU104/3, 103, 2010, Electrical Technology , 328, 2
- EEM499/6, 103, 2010, Undergraduate Project , 27, 2
- EEE499/6, 103, 2010, Undergraduate Project , 78, 2
- EEK499/6, 103, 2010, Undergraduate Project , 28, 2
- EEE125/3, 102, 2011, Basic Circuit Laboratory , 96, 5

Academic Session 2010/2011: Semester 1

- EEE228/3, 101, 2010, Signal And System , 145, 2
- EEM241/3, 101, 2010, Mechatronic Laboratory I , 25, 3
- EUT201/2, 101, 2010, Thinking Technique , 226, 10

Academic Session 2009/2010: Semester 3

- EEU104/3, 095, 2010, Electrical Technology , 6, 3
- EEE228/3, 095, 2010, Signal And System , 9, 1

Academic Session 2009/2010: Semester 2

- EEK499/6, 093, 2009, Undergraduate Project , 40, 1
- EEE499/6, 093, 2009, Undergraduate Project , 87, 1
- EEU104/3, 093, 2009, Electrical Technology , 422, 3
- EEM499/6, 093, 2009, Undergraduate Project , 38, 1
- EEE125/3, 092, 2010, Basic Circuit Laboratory , 118, 5

Academic Session 2009/2010: Semester 1

- EEE228/3, 091, 2009, Signal And System , 135, 2
- EEM241/3, 091, 2009, Mechatronic Laboratory I , 26, 3
- EUM111/4, 091, 2009, Engineering Mathematics , 529, 4

Academic Session 2008/2009: Semester 3

- EUM111/4, 085, 2009, Engineering Mathematics , 12, 6
- EUM112/4, 085, 2009, Numerical Methods And Engineering Statistics , 24, 8
- EEE228/3, 085, 2009, Signal And System , 3, 2

Academic Session 2008/2009: Semester 2

- EUM112/4, 082, 2009, Numerical Methods And Engineering Statistics , 588, 4

Academic Session 2008/2009: Semester 1

- EEE228/3, 081, 2008, Signal And System , 208, 2
- EUM111/4, 081, 2008, Engineering Mathematics , 566, 4