

CURRICULUM

MASTER OF SCIENCE

IN

ELECTRICAL ENGINEERING

GENERAL SIR JOHN KOTELAWALA

DEFENCE UNIVERSITY

(MEMBER OF THE ASSOCIATION OF COMMONWEALTH UNIVERSITIES AND
INTERNATIONAL ASSOCIATION OF UNIVERSITIES)

MSc/PG DIPLOMA IN ELECTRICAL ENGINEERING

INTRODUCTION

1. The Department of Electrical, Electronic & Telecommunication Engineering offers Postgraduate Diploma/MSc in Electrical Engineering. This postgraduate programme is conducted on Saturdays and Sundays for a period of one/two years. The first year is dedicated for taught course modules and second year is for the research project. The programme covers advanced topics in electrical engineering.

OBJECTIVES

2. To produce high quality Electrical Engineering professional who is capable of
 - a. Analyzing and solving complex engineering problems through a process of creative and innovative thinking,
 - b. Planning and utilizing resources efficiently for sustainable development,
 - c. Developing , conducting and managing engineering projects fulfilling national, social and environmental requirements,
 - d. Adapting to changing environment through self learning and research,
 - e. Functioning as a socially responsible senior professional.

INTENDED LEARNING OUTCOMES AND EXPECTATIONS

3. To produce Electrical Engineering professionals with ability to
 - a. Investigate, analyze and solve complex problems in Electrical Engineering by applying knowledge of basic science, engineering fundamentals and in-depth technical competence,
 - b. Function effectively as a leader or manager or as an effective team member in multi-disciplinary and multi-cultural teams contributing to the community at large,
 - c. Evaluate the impact of professional solution in societal and environmental context while adhering to engineering standards, practices and ethics, recognizing the need for sustainable development in designing Engineering solutions for national and international requirements,

- d. Engage in independent and lifelong learning in the context of technological changes.

PROGRAMME STRUCTURE

4. The programme is designed with 40 credit for PG diploma in the first year and additional 20 credit research project leading to MSc in second year. The classes are conducted on weekends.

COURSE DELIVERY PLAN

5. The PG Diploma shall consist of the following:
 - a. A regular taught course of lectures at the University, normally 40 credits, as envisaged in the curriculum approved by the Senate;
 - b. Assignments, such as Course work, Project work, Design project work, Laboratory work, Tutorials, Field trips and Field camps, for which the credits are allocated in section (a) and as envisaged in the curriculum approved by the Senate.
6. MSc Degree shall consists of the following:
 - a. 5a and 5b above
 - b. Research in a specified area under the guidance of a Supervisor(s), normally 20 credits, the results of which shall be presented in the form of a Dissertation or Design Project Report as envisaged in the curriculum approved by the Senate.
7. The curriculum is attached as annex “A”.

ELIGIBILITY CRITERIA

8. Applicants satisfying the following requirements are eligible for admission:
Applicants satisfying **ONE** the following requirements are eligible for admission:
 - a. Degree of the Bachelor of Science (Defence Studies) in Electrical & Electronic AND a minimum of three years of appropriate experience as an Engineer as approved by the Dean, Faculty of Engineering, KDU, **OR**

- b. Degree of Bachelor of Science in Engineering specialized in Electrical & Electronic Degree of at least four year duration of General Sir John Kotelawala Defence University (KDU), **OR**
- c. Electrical & Electronic related degree of at least four year duration from a State University in Sri Lanka where both the relevance and equivalence judged by the Dean, Faculty of Engineering and approved by the Senate of KDU, **OR**
- d. Associate Membership or above of Institution of Engineers Sri Lanka (IESL) **AND** a minimum of one year of appropriate experience after obtaining such membership as approved by the Dean, Faculty of Engineering, KDU, **OR**
- e. Associate Membership or above of a professional Engineering Institute recognized by Institution of Engineers Sri Lanka (IESL) **AND** a minimum of one year of appropriate experience after obtaining such membership as approved by the Dean, faculty of Engineering. KDU.

HOW TO APPLY

9. A person who wishes to be a candidate of the Postgraduate Diploma/MSc in Electrical Engineering shall make an application to respective service commander / Inspector General of Police/ Head of Department who will submit these applications to the Register with their recommendations. All applicants will be required to pass an interview conducted by KDU.

COURSE FEES

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|---|-------|-------------------------------|
| a. Registration Fees for 3 years initial registration periods | - Rs | 5000.00 (Civil) |
| | - Rs | 4000.00 (Military/Police/MOD) |
| b. Library Fees | - Rs | 2000.00 |
| c. Refundable Library Fees | - Rs | 4000.00 |
| d. Refundable Mess Deposit | - Rs | 2000.00 |
| e. Tuition Fees | -Rs | 300,000.00 |
| f. Registration Renewal Fee | - | |
| 1 st Year after initial registration | - | Rs. 12,500/= |
| 2 nd Year after initial registration period | - | Rs. 25,000/= |
| Continuation to another additional year under any circumstances | - | Rs. 100,000/= |
| g. Re Exam Fee for a Semester | - Rs. | 2500.00 |
| h. Re Exam Fee for a Subject | - Rs. | 1000.00 |

CURRICULUM AND SCHEME OF EVALUATION

	Code	Course Unit	Core Credits ¹	Elective Credits ²	Evaluation	
					Assignments	Final Exam
Semester 1	EE9013	Statistical & Numerical Methods	3		30	70
	EE9022	Research Methodology I	2		50	50
	EE9034	Project Management	4		30	70
	EE9043	Advanced Power Systems	3		30	70
	EE9053	Controlled Drives	3		30	70
	EE9062	Energy Efficiency, Demand Management & Conservation	2		30	70
	EE9073	Renewable Energy Development		3	30	70
	ET9083	Artificial Intelligent Techniques		3	30	70
Semester 2	EE9113	Operation Research	3		30	70
	EE9122	Research Methodology II	2		100	-
	EE9133	Power Electronic Designs	3		30	70
	EE9143	Smart Technologies in Power Systems	3		30	70
	EE9153	Design Aspects of Electrical Installations	3		30	70
	EE9163	Microcontrollers, PLCs & Embedded Systems		3	30	70
	ET9143	Information Security & Cryptography		3		
	EE9183	Energy Economics		3		
S1&2		Total	31	9/15		
S3&4	EE9999	Dissertation (for MSc)	20		100	-

¹ A credit corresponds to 15 hours of lectures or equivalent

² For graduation 9 credits out of elective modules are required

Closing date to submit the applications – 25th August 2017