FACULTY OF ENGINEERING

GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY

FOR THE MOTHERLAND FOREVER

STUDENT HANDBOOK - 2022

Key Appointments

Chancellor	General Gerard Hector de Silva (Retd) RWP VSP USP ndc
Vice Chancellor	Major General Milinda Peiris RWP RSP VSV USP ndc psc MPhill (ind)
Deputy Vice Chancellor (Defence & Administration)	Brigadier W Chandrasiri RSP USP psc
Deputy Vice Chancellor (Academic)	Prof. KAS Dhammika
Deans of Faculties	
Defence studies and strategic studies	Colonel RKARP Rathnayake RSP USP
Engineering	Captain (Retd)Eng.SU Dampage
Graduate studies	Brigadier RGU Rajapakshe RSP psc
Law	Mr. WS Wijesinghe
Management, Social sciences and Humanities	Mr. Kithsiri Amaratunga
Medicine	Gp. Cpt. (Prof.) RANK Wijesinghe
Research and Development	Prof. Charitha L. Goonasekara
Allied health sciences	Captain NRP Perera
Computing	Dr. Asela Gunasekara
Built environment and spatial sciences	Dr. AH Lakmal
Technology	Dr. KMG Prasanna Premadasa

Staff – Faculty of Engineering

Dean	Captain (Retd) Eng. SU Dampage
Heads of Departments	
Aeronautical Engineering	Wg Cdr UDLP Gunasinghe
Civil Engineering	Dr.(Mrs.) DDTK Kulathunga
Electrical Electronic & Telecommunication Engineering	Captain (L) WPC Weerawardena
Marine Engineering	Commodore (E) MCP Dissanayake
Mechanical Engineering	Captain (E) DS Bogahawatte
Mathematics	Dr. US Rahubadde
Other	
Senior Assistant Registrar	

Contact Information

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WEB *https://www.kdu.ac.lk/faculty-of-engineering/*

Vision

Be an internationally recognized center for education in Engineering and Engineering sciences as well as multi-disciplinary research focusing on national needs.

Mission

To produce internationally recognized graduates in Engineering and Engineering sciences while providing a productive research environment.

MESSAGE FROM THE DEAN

The role of engineers is at a crucial juncture at present. Today, the world is heavily relying on engineering inventors to solve enormous challenges. Humanity is looking forward to engineers on leadership, and it's the responsibility of universities to prepare them to lead.

At KDU's Faculty of Engineering (FOE), we've set exciting new goals to ensure the highest quality and excellence in all disciplines. By attracting innovative minds to our talented faculty, our students will have the opportunity to learn from the best in their fields. By focusing on the quality of everything even outside the lab and classroom, experiential learning, and counseling, we're serving the needs of the whole student.

On this pathway to the graduation, the kind of leaders we ultimately deliver is unique to the KDU's FoE due to well amalgamated civil-military partnership.

We believe that the biggest impact we can achieve as a faculty will come from creating an inspired and passionate culture that is driven by a common mission to continuously learn, to innovate, and to contribute—for the good of one another, our communities, indeed, for the whole humankind.

I also believe that tomorrow's leaders are made, not born. As such, the Faculty of Engineering is committed to providing our blueprint for leadership development: an alliance of civil- military expertise, technical fluency, life skills, community interaction, and crucial conversations about what leadership means and looks like in the workplace, and in society at large.

We start with raw material. We then set out to realize that promise with utmost commitment, incorporated with the Faculty of Defence and Strategic Studies.

Our students have the capacity to develop wide-ranging skills, tackle new opportunities & experiences, and become well-rounded leaders long before even graduation due to aforesaid partnership.

Within the faculty, you will find hardworking academia, technical officers, office staff, counselors, and other supporting staff who are energized to help you achieve your goals.

At KDU, we're not only developing the leaders of tomorrow, but we also looking forward to the sustainable future.

Captain (Retd) Eng. SU Dampage
Dean / Faculty of Engineering,

FACULTY OF ENGINEERING, KOTELAWALA DEFENCE UNIVERSITY

The Faculty of Engineering, is the only national military educational Engineering Institution inSriLankawhichwasestablishedin2009.Thefacultyoffersundergraduateandpostgraduate degree programmes in nine disciplines under six Departments namely, Department of Mechanical Engineering, Department of Civil Engineering, Department of Electrical, Electronic & Telecommunication Engineering, Department of Aeronautical Engineering, Department of Marine Engineering & Sciences and Department of Mathematics for officers from tri-services, officer cadets and civilian students. The Engineering course is conducted by well experienced academic and engineering professionals. The Faculty supports the university endeavor to groom well-disciplined graduates capable of accomplishing complex tasks under most difficult conditions.

ADMISSION REQUREMENTS

Admission requirements for officer cadets

The candidate should

- Be a citizen of Sri Lanka
- Be not less than 18 years and not more than 22 years of age on the closing date of application
- Be eligible to apply for university admission
- Be unmarried
- Satisfy the minimum physical standards

Educational Requirements

Minimum of 2 “C” passes and 1 “S” pass in GCE Advanced Level (Local) in the Physical Science Stream (Combined Mathematics, Physics and Chemistry) in one and same sitting

OR

Minimum of 2 “B” passes and 1 “C” pass in GCE Advanced Level (Cambridge or Edexcel) covering Combined Mathematics, Physics and Chemistry in one and the same sitting

A minimum of a Credit (C) pass for English language at GCE (OrdinaryLevel) Examination.

A pass mark (marks 30 or above) for the Common General Test.

Admission requirements for Day Scholars

The candidate should

- Be a citizen of Sri Lanka
- Be not less than 18 years and not more than 22 years of age on the closing date of application
- Be eligible to apply for university admission

Educational Requirements

Minimum of 2 “C” passes and 1“S” pass in GCE Advanced Level (Local) in the Physical Science Stream (Combined Mathematics, Physics and Chemistry) in one and same sitting

OR

Minimum of 2 “B” passes and 1 “C” pass in GCE Advanced Level (Cambridge or Edexcel) covering Combined Mathematics, Physics and Chemistry in one and the same sitting

A minimum of a Credit (C) pass for English language at GCE (Ordinary Level) Examination.

A pass mark (marks 30 or above) for the Common General Test.

Admission requirements for Foreign Students

Foreign students need to have relevant minimum qualifications equivalent to Sri Lankan GCE (A/L) examination. Validation of such qualification should be obtained from the Department of Examinations of Sri Lanka. They are also required to submit a letter from a recognized university/academy/higher educational institution of the awarding country certifying that the relevant qualification is sufficient to register at a university/academy/higher educational institution to follow an undergraduate course of study leading a bachelor’s degree.

DEPARTMENT OF AERONAUTICAL ENGINEERING

DEPARTMENT OF AERONAUTICAL ENGINEERING

1.0 Why Study Aeronautical Engineering?

Aeronautical engineering degrees represent the branch of engineering that deals with the research, design, development, construction, testing, science and technology of aircraft. The fieldalsocoversinvestigationintoaerodynamiccharacteristicsofaircraft, including behaviors and related factors such as airfoil, control surfaces, lift and drag. In recent years, aeronautical engineering has become one of two major and overlapping branches of aerospace engineering, with astronautical engineering being the second.

Our Vision

To be the prominent global leader for conducting world class education and research in Aeronautical Engineering and Aircraft Maintenance Engineering.

Our Mission

To provide a value driven learning and research platform for the students to acquire knowledge andprofessionalskillsinAeronauticalEngineeringandAircraftMaintenanceEngineeringand empower graduates to shoulder higher responsibilities for the development of the local and global aviation industry.

1.1 B.Sc. Eng. (Hons) in Aeronautical Engineering

The subject of Aeronautical Engineering is having a broad scope, ranging from design considerations of aircraft and related systems, their operation and maintenance. The broad subject areas covered during this programme include aircraft structures, propulsion, flight stability and control, aerodynamics, aeronautical lab, aircraft materials and hardware, maintenance practices and weapons technology. Practical training is provided with in house laboratory facilities and by utilizing actual aircraft available in the department. A strong practical base is supported by conducting field visits and training at aircraft engineering and flying formations of the Sri Lanka Air Force.

The programme is conducted by well qualified internal and external academic staff, having specialization in a variety of distinct sub-disciplines within Aeronautical Engineering field.

Further, this programme promotes research culture, industry collaboration and development of the aviation field both locally and internationally.

Successful completion of the Aeronautical Engineering degree programme will lead to the degreeofBachelorofScienceinEngineeringinAeronauticalEngineeringintheAviationand Aircraft Design and Manufacturing industry. In case of military students, it prepares the Officer Cadets for wide variety of assignments in research and development, testing and operations in the discipline of the Sri Lanka Air Force.

1.2 Why Study Aircraft Maintenance?

Aircraft maintenance relates to the inspection, repair, modification, replacement and overhaul of aircraft equipment to ensure that an aircraft is in optimal condition and most importantly, safe for flying. Aircrafts, such as aero planes and helicopters, are often subject to undergo routine maintenance after a certain number of flight hours or flight cycles. During this time, aircraft maintenance engineers and technicians perform inspections to ensure the quality and airworthiness of aircrafts. Some of the tasks include replacing worn or damaged components, testing engine operation to detect malfunctions and inspecting engine parts such as turbine blades and cylinders for wear, warping and leaks.

As part of your studies in aircraft maintenance, you will equip yourself with the knowledge and skills to inspect aircraft components and systems, diagnose aircraft-related problems and rectifytheseissuesaccordingly.Youwillalsogainanunderstandingofthelegal requirements and managerial aspects relating to the operation of commercial aircrafts.

1.3 B.Sc. (Hons) in Aircraft Maintenance

This degree programme is conducted for civilian undergraduates in affiliation with Sri Lankan Airlines. The undergraduates will follow the EASA certified B 1.1 or B2 course at Sri Lankan Aviation College (SLAC) and upon successful completion they will continue another one and half years of academics at KDU. The final six months of the degree programme will be conducted at SLAC as internship/OJT. On successful completion of this degree graduates will be competent in aircraft maintenance in Mechanical or Avionics field and eligible to obtain BSc (Hons) in Aircraft Maintenance degree. Further graduates are eligible to obtain EASA license with further two years' practical experience in the aircraft maintenance field.

1.2 Top-up Degree

TheKDUofferslateralentryatthirdyearlevel,forthosewhohavesuccessfullycompletedall EASA modules under either category B1.1 or B2 basic course at Sri Lankan Airlines or an EASA 147 approved maintenance training organization (AMTO) along with university entrance qualifications at an Advanced Level Examination have the option of joining the new degree programme as a top-up degree at KDU for two years.

2.0 Laboratory Facilities and Training

The Department of Aeronautical Engineering of KDU is the premier institute in higher educationinthefieldwhichwasformedin1993tocaterthedemandofqualifiedAeronautical Engineers for Sri Lanka Air Force. So far we have produced more than 200 engineers who are maintaining the Sri Lanka Air Force Aircraft Fleet. Department has further enhanced in 2012, by commencing to produce graduates to the civil sector, still as the pioneer in the field.

In terms of infrastructure, the department is well equipped with all kinds of laboratory and workshop facilities for productive practical training. It consists with:

- Mi-24Helicopter
- Educational Wind Tunnel
- Engine Models
- Gyroscope Apparatus
- Eddy Current Testing Facility
- NDT Apparatus
- Structural Repair Training Facilities
- Gas Turbine Engine Tester
- Fatigue Testing Machine
- Ultrasonic Cleaning Facility
- Borescope Inspection Facility
- Pneumatic System design and Testing Apparatus
- NDT Testing Equipment

Upon successful completion of the degree programme, Graduates will be able to, become competent Aeronautical Engineers and Aircraft Maintenance Engineers in reputed airlines as well as in Sri Lanka Air Force. The BSc. (Hons) in Aircraft Maintenance students comprise with the added advantage of completion of EASA basic programme certificates within the tenure of the programme.

Academic Staff

Head of the Department:

Wg Cdr UDLP Gunasinghe, *BSc (Def Studies) in Aeronautical Engineering (KDU), PG Dip Defence Management (University of Kelaniya), AMIE(SL), FRAeS(UK), CTHE (KDU)*

Senior Lecturers:

Mr. SLMD Rangajeeva, *BSc Engineering (Honours), University of Moratuwa, MSc. Aeronautics and Space Technology, Cranfield University UK & ISAE – Supaero France, CTHE (KDU)*

Sqn Ldr (Retd) Mrs. JI Abeygoonewardene, *BSc (Defence Studies) in Aeronautical Engineering, Kotelawala Defence University, Sri Lanka, MS in Aeronautical Engineering, Air Force Institute of Technology, USA, PG Diploma in Defence Management, University of Kelaniya, CTHE (KDU)*

Dr. Thusitha Rodrigo, *BSc in Aeronautical Engineering (KDU), PG in Manufacturing Management, Colombo, Phd (China HUST, China), CTHE(KDU)*

Ms. KADD Kuruppu, *BTech (Hons) in Materials Science and Technology (UWU), MPhil in Faculty of Science at University of Colombo, University of Cambridge and Sri Lanka Institute of Nanotechnology, CTHE (KDU)*

Probationary Lecturers:

Sqn Ldr HD Millewa, *BSc. in Aeronautical Engineering (KDU), AMIE(SL), MRAeS*

Mr. WDT Fernando, *BSc. (Hons.) in Aircraft Maintenance Engineering (KDU), MBA (UWTSD, UK) (Reading), CTUI (KDU)*

Instructors:

Mr. KAP Malake, *BSc. (Hons) in Aircraft Maintenance Engineering (KDU), MBA (PIM, USJP) (Reading)*

Programme Structure - B.Sc. Eng. (Hons.) in Aeronautical Engineering

LEVEL 1

SEMESTER 1					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
CE 1102	*Fundamentals of Civil Engineering*	*C*	*2*		
EE 1102	*Fundamentals of Electrical Engineering*	*C*	*2*		
ET 1102	*Basic Electronics*	*C*	*2*		
MA 1103	*Mathematics*	*C*	*3*		
ME 1103	*Workshop Technology*	*C*	*3*		
IT 1012	*Basic Computer Programming and Networking*	*C*	*2*		
DL 1131	*English: Basic Study skills (Engineering)*	*C*		*1*	
ME 1112	*Engineering Drawing*	*C*	*2*		
MS 1014	*Military Studies*	*C*			*4*
		Semester Total	**16**	**1**	**4**
		Total credits up to Semester 1	**16**	**1**	**4**

INTERMEDIATE TERM I					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
DL 1341	*Sinhala: Basics for Beginners*	*E*		*1*	
DL 1351	*Tamil: Basics for Beginners*	*E*			
MA 1002	*Mathematical Software*	*C*	*2*		
		Semester Total	**2**	**1**	
		Total credits up to Intermediate Term 2	**18**	**2**	**4**

SEMESTER 2					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AE 1203	*Airframe Systems*	*C*	*3*		
CE 1222	*Structural Mechanics I*	*C*	*2*		
CE 1232	*Fluid Mechanics I*	*C*	*2*		
ME 1202	*Fundamentals of Thermodynamics*	*C*	*2*		
ME 1212	*Engineering Materials*	*C*	*2*		
ME 1222	*Applied Mechanics*	*C*	*2*		
MA 1203	*Calculus*	*C*	*3*		
DL 2141	*English: Advanced Study Skills (Engineering)*	*C*		*1*	
MS 2024	*Military Studies*	*C*			*4*
		Semester Total	**16**	**1**	**4**
		Total credits up to Intermediate Term 2	**34**	**3**	**8**

LEVEL 2

SEMESTER 3					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AE 2102	*Air breathing Propulsion I*	*C*	*2*		
CE 2102	*Structural Mechanics II*	*C*	*2*		
ME 2123	*Manufacturing Systems*	*C*	*3*		
ME 2132	*Dynamics of Mechanical Systems*	*C*	*2*		
EE 2122	*Electrical Measurements & Electronic Instrumentation*	*C*	*2*		
ME 2112	*Applied Thermodynamics*	*C*	*2*		
MA 2103	*Advanced Calculus*	*C*	*3*		
ME 2102	*Computer Aided Drafting*	*C*	*2*		
DL 3151	*English Writing & Speaking Skills (Engineering)*	*C*		*1*	
MS 3032	*Strategic and Defense Studies*	*C*			*2*
MS 3044	*Military Studies*	*C*			*4*
		Semester Total	**18**	**1**	**6**
		Total credits up to Semester 3	**52**	**4**	**14**

SEMESTER 4					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AE 2203	*Aeronautical Fluid Dynamics*	*C*	*3*		
AE 2213	*Avionics I*	*C*	*3*		
AM 2222	*Human Factors*	*O*		*2*	
MA 2203	*Numerical Methods & Complex Variables*	*C*	*3*		
ME 2213	*Control Systems Engineering*	*C*	*3*		
ME 2222	*Heat & Mass Transfer*	*C*	*2*		
ME 2203	*Physical Metallurgy*	*C*	*3*		
ME 2233	*Mechanics of Machines*	*C*	*3*		
DL 4161	*English Research Writing Skills (Engineering)*	*C*		*1*	
MS 4064	*Military Studies*	*C*			*4*
		Semester Total	**20**	**3**	**4**
		Total credits up to Semester 4	**72**	**7**	**18**

INTERMEDIATE TERM II					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AE 2011	*Industrial Visits & Report Writing*	*C*		*1*	
AE 2021	*Solid Modelling Software*	*C*		*1*	
EN 2xx2	*Humanities Elective I*	*E*		*2*	
EN 2xx2	*Humanities Elective II*	*E*		*2*	
		Semester Total		**6**	
		Total credits up to Semester 5	**72**	**13**	**18**

LEVEL 3

SEMESTER 5					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AE 3103	*Aircraft Performance & Static Stability*	*C*	*3*		
AE 3113	*Aircraft Structures*	*C*	*3*		
CE 3142	*Professional Ethics*	*C*	*2*		
ME 3123	*Machine Elements in Design*	*C*	*3*		
ME 3113	*Advanced Control Systems*	*C*	*3*		
MF 3122	*Principles of Management*	*C*	*2*		
MA 3102	*Applied Statistics*	*C*	*2*		
		Semester Total	**18**		
		Total credits up to Semester 5	**90**	**13**	**18**

SEMESTER 6					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AE 3203	*Air breathing Propulsion II*	*C*	*3*		
AE 3212	*Maintenance Practices*	*C*	*2*		
AE 3223	*Rotorcraft Aeromechanics*	*C*	*3*		
AE 3233	*Advanced Aerodynamics*	*C*	*3*		
AE 3242	*Aviation Research & Design*	*C*	*2*		
AE 3253	*Computational Fluid Dynamics for Aeronautical Applications*	*C*	*3*		
MF 3112	*Business Economics & Accounting*	*C*	*2*		
		Semester Total	**18**		
		Total credits up to Semester 6	**108**	**13**	**18**

CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AE 3016	*Industrial Training*	*C*		*6*	
		Semester Total		**6**	
		Total credits up to Industrial Training	**108**	**19**	**18**

LEVEL 4

SEMESTER 7					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AE 4103	*Aircraft Composites & Structural Design*	*C*	*3*		
AE 4112	*Aeronautics Laboratory*	*C*	*2*		
AE 4123	*Avionics II*	*C*	*3*		
AE 4133	*Air Force Engineering Management (only for Officer Cadets)*	*C*	*3*		
AE 4143	*Aviation Operations Management (only for Day Scholars)*	*C*			
AE 4206	*Research Project*	*C*	*		
MF 4112	*Human Resource Management and Industrial Relations*	*C*	*2*		
		Semester Total	**13**		
		Total credits up to Semester 7	**121**	**19**	**18**

* Continued in Semester 8

SEMESTER 8					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AE 4206	*Research Project*	*C*	*6*		
AE 4213	*Aircraft Armament & Guided Weapons (only for Officer Cadets)*	*C*	*3*		
AE 4223	*Aviation Quality Management (only for Day Scholars)*				
AE 4232	*Commercial & Aviation Law*	*C*	*2*		
ME 4223	*Industrial Engineering*	*C*	*3*		
		Semester Total	**14**		
		Total credits up to Semester 8	**135**	**19**	**18**

SEMESTER 9					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MS 9074	*Advanced Military Training*	*C*			*15*
		Semester Total			**15**
		Total credits up to Semester 9	**135**	**19**	**33**

Grand Total	**CREDITS**		
	GPA	**NGPA**	**MGPA**
	135	**19**	**33**

Code	Humanities Elective I	Category
EN 2012	*Art & Tradition*	*HE 1*
EN 2022	*Photography*	
EN 2032	*International Relations*	
		Category
EN 2042	*Human Rights*	*HE 2*
EN 2052	*History and Development of Engineering*	
EN 2062	*Psychology for Engineers*	

Programme Structure - B.Sc. (Hons.) in Aircraft Maintenance

B1.1 Category Curriculum

LEVEL1

SEMESTER 1					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
AC1102	*Mathematics*	*C*	*2*		
AC1113	*Physics*	*C*	*3*		
AC1124	*Electrical Fundamentals I*	*C*	*4*		
AC1132	*Electronic Fundamentals I*	*C*	*2*		
AC1143	*Digital Techniques/ Electronic Instrument Systems I*	*C*	*3*		
AC1155	*Materials and Hardware I*	*C*	*5*		
		Semester Total	**19**		
		Total credits up to Semester 1	**19**		

SEMESTER 2					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
AC1204	*Maintenance Practices I*	*C*	*4*		
AC1212	*Basic Aerodynamics I*	*C*	*2*		
AC1221	*Human Factors*	*C*	*1*		
AC1231	*Aviation Legislation*	*C*	*1*		
AC1244	*Turbine Aeroplane Aerodynamics, Structures and Systems IA*	*C*	*4*		
AC1253	*Turbine Aeroplane Aerodynamics, Structures and Systems IB*	*C*	*3*		
AC1266	*Gas Turbine Engines I*	*C*	*6*		
AC1271	*Propeller*	*C*	*1*		
		Semester Total	**22**		
		Total credits up to Semester 2	**41**		

LEVEL2

SEMESTER 3					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
AC2101	*Electrical Fundamentals II*	*C*	*1*		
AC2111	*Digital Techniques/ Electronic Instrument Systems II*	*C*	*1*		
AC2123	*Materials and Hardware II*	*C*	*3*		
AC2138	*Maintenance Practices II*	*C*	*8*		
		Semester Total	**13**		
		Total credits up to Semester 3	**54**		

SEMESTER 4					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AC2206	*Turbine Aeroplane Aerodynamics, Structures and Systems IIA*		*6*		
AC2215	*Turbine Aeroplane Aerodynamics, Structures and Systems IIB*		*5*		
AC2223	*Gas Turbine Engines II*		*3*		
		Semester Total	**14**		
		Total credits up to Semester 4	**68**		

LEVEL 3

SEMESTER 5					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AC3103	*Quality Management Systems*	*C*	*3*		
AC3112	*Maintenance Operations in Aviation*	*C*	*2*		
AC3122	*Field Specific Software (Solid modeling)*	*C*	*2*		
AC3132	*Aviation Research & Design*	*C*	*2*		
AC3143	*Aircraft Metallurgy*	*C*	*3*		
MA3123	*Mathematics*	*C*	*3*		
IT1012	*Basic Programming and Networking*	*C*	*2*		
DL2141	*English: Advanced Study Skills*	*C*		*1*	
DL5162	*Communication Skills Development*	*C*		*2*	
		Semester Total	**17**	**3**	
		Total credits up to Semester 5	**85**	**3**	

SEMESTER 6					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AC3203	*Aircraft Accident Investigation & Response*	*C*	*3*		
AC3213	*Aviation Maintenance Management*	*C*	*3*		
AC3222	*Commercial and Aviation Law*	*C*	*2*		
AC3236	*Research Project'*	*C*	*6*		
AE4223	*Aviation Quality Management*	*C*	*3*		
MA3212	*Operational Research*	*C*	*2*		
EN2022	*Humanities Elective II (Human Rights)*	*C*		*2*	
		Semester Total	**19**	**2**	
		Total credits up to Semester 6	**104**	**5**	

LEVEL 4

SEMESTER 7					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AC3236	*Research Project"*	*C*	*		
AC4103	*Workshop and Hangar Practices*	*C*	*3*		
AC4113	*Aircraft Composite Materials*	*C*	*3*		
AC4123	*Aviation Safety Management Systems*	*C*	*3*		
AE4143	*Aviation Operations Management*	*C*	*3*		
MF4112	*Human Resource Management and Industrial Relations*	*C*	*2*		
MA4113	*Probability and Statistics*	*C*	*3*		
EN2022	*Humanities Elective I (Photography)*	*C*		*2*	
		Semester Total	**17**		
		Total credits up to Semester 7	**121**	**7**	

* Continued in Semester 7

INDUSTRIAL TRAINING					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AC4206	*Industrial Training*	*C*		*6*	
		Semester Total		**6**	
		Total credits up to Industrial Training	**121**	**13**	

Grand Total	**CREDITS**		
	GPA	**NGPA**	**MGPA**
	121	**13**	

B2 Category Curriculum

LEVEL1

SEMESTER 1					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
AC1102	*Mathematics*	*C*	*2*		
AC1113	*Physics*	*C*	*3*		
AC1124	*Electrical Fundamentals I*	*C*	*4*		
AC1134	*Electronic Fundamentals I*	*C*	*4*		
AC1145	*Digital Techniques/ Electronic Instrument Systems I*	*C*	*5*		
AC1154	*Materials and Hardware I*	*C*	*4*		
		Semester Total	**22**		
		Total credits up to Semester 1	**22**		

SEMESTER 2					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
AC1205	*Maintenance Practices I*	*C*	*5*		
AC1212	*Basic Aerodynamics I*	*C*	*2*		
AC1221	*Human Factors*	*C*	*1*		
AC1231	*Aviation Legislation*	*C*	*1*		
AC1245	*Aircraft Aerodynamics, Structures and Systems IA*	*C*	*5*		
AC1255	*Aircraft Aerodynamics, Structures and Systems IB*	*C*	*5*		
AC1262	*Propulsion I*	*C*	*2*		
AC1205	*Maintenance Practices I*	*C*	*5*		
		Semester Total	**21**		
		Total credits up to Semester 2	**43**		

LEVEL2

SEMESTER 3					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
AC2101	*Electrical Fundamentals II*	*C*	*1*		
AC2111	*Digital Techniques/ Electronic Instrument Systems II*	*C*	*1*		
AC2122	*Materials and Hardware II*	*C*	*2*		
AC2137	*Maintenance Practices II*	*C*	*7*		
		Semester Total	**11**		
		Total credits up to Semester 3	**54**		

SEMESTER 4					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AC2207	*Turbine Aeroplane Aerodynamics, Structures and Systems IIA*		*7*		
AC2216	*Turbine Aeroplane Aerodynamics, Structures and Systems IIB*		*6*		
AC2221	*Gas Turbine Engines II*		*1*		
		Semester Total	**14**		
		Total credits up to Semester 4	**68**		

LEVEL 3

SEMESTER 5					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AC3103	*Quality Management Systems*	*C*	*3*		
AC3112	*Maintenance Operations in Aviation*	*C*	*2*		
AC3122	*Field Specific Software (Solid modeling)*	*C*	*2*		
AC3132	*Aviation Research & Design*	*C*	*2*		
EE2122	*Electrical Measurements and Electronics Instrumentation*	*C*	*2*		
MA3123	*Mathematics*	*C*	*3*		
IT1012	*Basic Programming and Networking*	*C*	*2*		
DL2141	*English: Advanced Study Skills*	*C*		*1*	
DL5162	*Communication Skills Development*	*C*		*2*	
		Semester Total	**16**	**3**	
		Total credits up to Semester 5	**84**	**3**	

SEMESTER 6					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AC3203	*Aircraft Accident Investigation & Response*	*C*	*3*		
AC3213	*Aviation Maintenance Management*	*C*	*3*		
AC3222	*Commercial and Aviation Law*	*C*	*2*		
AC3236	*Research Project'*	*C*	*6*		
AE4223	*Aviation Quality Management*	*C*	*3*		
MA3212	*Operational Research*	*C*	*2*		
EN2022	*Humanities Elective II (Human Rights)*	*C*		*2*	
		Semester Total	**19**	**2**	
		Total credits up to Semester 6	**103**	**5**	

LEVEL 4

SEMESTER 7					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AC3236	*Research Project"*	*C*	*		
AC4103	*Workshop and Hangar Practices*	*C*	*3*		
AC4113	*Aircraft Composite Materials*	*C*	*3*		
AC4123	*Aviation Safety Management Systems*	*C*	*3*		
AE4143	*Aviation Operations Management*	*C*	*3*		
MF4112	*Human Resource Management and Industrial Relations*	*C*	*2*		
MA4113	*Probability and Statistics*	*C*	*3*		
EN2022	*Humanities Elective I (Photography)*	*C*		*2*	
		Semester Total	**17**		
		Total credits up to Semester 7	**120**	**7**	

* Continued in Semester 7

INDUSTRIAL TRAINING					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AC4206	*Industrial Training*	*C*		*6*	
		Semester Total		**6**	
		Total credits up to Industrial Training	**120**	**13**	

Grand Total	**CREDITS**		
	GPA	**NGPA**	**MGPA**
	120	**13**	

DEPARTMENT OF CIVIL ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

1.0 Degrees offered by the Department

The department of Civil Engineering currently offers B.Sc. Eng. (Hons) in Civil Engineering. The department also introduced a new degree programme, B.Sc. Eng. (Hons) in Building Services Engineering, from 2023 onwards.

Our Mission

To produce graduates equipped with Civil Engineering competencies fitting into multi-disciplinary setup capable of facing diverse challenges in tri-Services, industry and entrepreneurship giving due attention to social, environmental and sustainability concerns.

1.1 B.Sc. Eng. (Hons) in CivilEngineering

B.Sc.Eng.(Hons) in Civil Engineering degree programme offered by the Department of Civil Engineering is a 4-year full-time degree. The target group consists of Officers/ Officer Cadets of Tri-Services as well as local/foreign Day Scholars. The medium of instruction is English. The programme is structured into 8 academic semesters and Industrial Training.

1.2 B.Sc. Eng. (Hons) in Building Services Engineering

B.Sc. Eng. (Hons) in Building Services Engineering degree programme offered by the Department of Civil Engineering is a 4-year full-time degree. The target group consists of Officers/ Officer Cadets of Tri-Services as well as local/foreign Day Scholars. The medium of instruction is English. The programme is structured into 8 academic semesters and Industrial Training.

1.3 M.Sc. in Civil and Structural Engineering

M.Sc. in Civil and Structural Engineering degree is offered by the Department of Civil EngineeringandcoordinatedbytheFacultyofGraduateStudies.Theprogrammeisconducted over four semesters on both Saturdays and Sundays for every other weekend for a duration of two years. It covers the advanced topics in Civil Engineering with the specialization in Structural Engineering.

2.0 Laboratory Facilities

The Department has seven state-of -the-art laboratories which are used for undergraduate and postgraduate teaching and research.

- Structural Engineering Laboratory
- Hydraulic Engineering Laboratory
- Surveying Laboratory
- Geotechnical Engineering Laboratory
- Environmental Engineering Laboratory
- Highway and Transportation Engineering Laboratory
- Construction Materials Laboratory

Academic Staff

Head of the Department:

Dr. (Mrs.) DDTK Kulathunga, *BSc Eng. (Hons.) (Moratuwa), PhD (NUS),AMIE(SL), CTHE(KDU)*

Professor:

Prof. (Mrs.) WCDK Fernando, *BSc Eng. (Hons.) (Moratuwa), MEng (Moratuwa), PhD (Moratuwa), AMIE(SL), CTHE (Colombo)*

Senior Lecturers:

Dr. TMWRMB Samarakoon, *BSc Eng. (Peradeniya), MEng (AIT, Bangkok), PhD (Saitama, Japan), AMIE(SL), CTHE (KDU)*

Dr. AH Lakmal, *BSc (ISM), MSc (Peradeniya), PhD (China), CTHE (Colombo)*

Dr. (Mrs.) RP Kumanayake, *BSc Eng. (Hon.) (Moratuwa), MBA (Colombo), PhD (China), AMIE(SL), CTHE (KDU)*

Dr. NS Miguntanna, *BSc. Eng. (Hons.) (Peradeniya), MSc. (QUT, Australia), PhD (UOW, Australia), AMIE(SL), CTHE (UOR)*

Eng. KM Vignarajah, *BSc Eng. (Hon.) (Peradeniya), MSc, MPhil (Peradeniya)*

Dr. (Mrs.) NK Gunasekara, *BSc Eng. (Peradeniya), MSc (Tohoku, Japan), PhD (Tohoku, Japan), AMIE(SL), CTHE (KDU)*

Dr. (Mrs.) TWKIM Dias, *BSc. Eng. (Hons.) (Moratuwa), MSc. (Moratuwa), PhD (Kansas,USA), AMIE(SL), CTHE (KDU)*

Eng. BHJ Pushpakumara, *BSc Eng. (Hons.) (Ruhuna), MPhil (Ruhuna), AMIE(SL), CTHE (KDU)*

Dr. TA Madanayake, *BSc Eng (Hons), MEng, Ph.D. (JCU, Australia), AMIE(SL)*

Dr. ASM Mendis, *BSc. Eng. (Hons.) (Ruhuna), PhD (Australia), CTHE (SLIIT)*

Probationary Lecturers:

Mr. GA Thusitha, *BSc. Eng. (Hons.) (KDU)*

Mrs. SAIA Suraweera, *BSc. Eng. (Hons.) (KDU), MSc (Japan)*

Eng. GP Jayasiri, *BSc. Eng (Hons), MSc (Moratuwa), AMIE(SL)*

Eng. (Mrs.) MLC Surangi, *BSc Eng. (Hons.) (Ruhuna), MSc (Thammasat, Thailand), AMIE(SL)*

Programme Structure

B.Sc. Engineering in Civil Engineering

SEMESTER 1					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
CE 1102	*Fundamentals of Civil Engineering*	*C*	*2*		
EE 1102	*Fundamentals of Electrical Engineering*	*C*	*2*		
ET 1102	*Basic Electronics*	*C*	*2*		
MA1103	*Mathematics*	*C*	*3*		
ME1103	*Workshop Technology*	*C*	*3*		
ME1112	*Engineering Drawing*	*C*	*2*		
IT1012	*Basic Computer Programming and networking*	*C*	*2*		
DL1131	*English: Basic Study Skills (Engineering)*	*C*		*1*	
DL1341	*Sinhala for Beginners **	*HE*		*1*	
DL1351	*Tamil for Beginners **				
MS1014	*Military Studies*	*C*			*4*
	Semester Total		**16**	**1**	**4**
	Total credits up to Semester 1		**16**	**1**	**4**

* One module out of two will be selected as per the student's proficiency/ preference and will be conducted in the last three weeks of the semester.

SEMESTER 2					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
CE 1203	*Building Construction and Materials*	*C*	*3*		
CE 1213	*Soil Mechanics and Geology*	*C*	*3*		
CE 1222	*Structural Mechanics I*	*C*	*2*		
CE 1232	*Fluid Mechanics I*	*C*	*2*		
MA1002	*Mathematical Software*	*C*	*2*		
MA1203	*Calculus*	*C*	*3*		
ME1202	*Fundamentals of Thermodynamics*	*C*	*2*		
ME1222	*Applied Mechanics*	*C*	*2*		
DL2141	*English: Advanced Study Skills(Engineering)*	*C*		*1*	
EN 2012	*Art and Tradition*	*HE I*		*2*	
EN 2022	*Photography*				
EN 2032	*International Relations*				
EN 2072	*Western Dancing*				
EN2042	*Human Rights*	*C*			
MS 2024	*Military Studies*	*C*			*4*
	Semester Total		**17**	**1**	**19**

		Total credits up to Semester 2	**35**	**3**	**35**
SEMESTER 3					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
CE 2102	*Structural Mechanics II*	*C*	*2*		
CE 2112	*Fundamentals of Transportation Engineering*	*C*	*2*		
CE 2123	*Surveying I*	*C*	*3*		
CE 2133	*Engineering Hydrology*	*C*	*3*		
CE 2142	*Structural Analysis I*	*C*	*2*		
CE 2152	*Concrete Technology*	*C*	*2*		
MA2103	*Advanced Calculus*	*C*	*3*		
ME2102	*Computer Aided Drafting*	*C*	*2*		
DL3151	*English: Writing and Speaking Skills(Engineering)*	*C*		*1*	
EN 2042	*Human Rights*	*HE II*		*2*	
EN 2052	*History & Development of Engineering*				
EN 2062	*Psychology for Engineers*				
MS3032	*Strategic and Defence Studies*	*C*			*2*
MS3044	*Military Studies*	*C*			*4*
		Semester Total	**19**	**3**	**6**
		Total credits up to Semester 3	**54**	**8**	**14**

SEMESTER 4					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
CE 2203	*Hydraulic Engineering*	*C*	*3*		
CE 2213	*Environmental Engineering I*	*C*	*3*		
CE 2222	*Structural Analysis II*	*C*	*2*		
CE 2233	*Surveying II*	*C*	*3*		
CE 2242	*Design of Timber and Masonry Structures*	*C*	*2*		
CE 2252	*Highway Engineering*	*C*	*2*		
CE 2011	*Industrial visits and report writing*	*C*		*1*	
CE 2022	*Survey camp **	*C*		*2*	
MA 2203	*Numerical Methods and Complex Variables*	*C*	*3*		
DL 4161	*English: Research Writing Skills*	*C*		*1*	
MS 4064	*Military Studies*	*C*			*4*
		Semester Total	**18**	**4**	**4**
		Total credits up to Semester 4	**72**	**12**	**18**

* To be scheduled at the last 2 weeks of the semester.

SEMESTER 5					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
CE 3102	*Fluid Mechanics II*	*C*	*2*		
CE 3113	*Environmental Engineering II*	*C*	*3*		
CE 3123	*Design of Concrete Structures I*	*C*	*3*		
CE 3133	*Construction Planning and Cost Estimating*	*C*	*3*		
CE 3142	*Professional Ethics*	*C*	*2*		
CE 3152	*Highway Maintenance Management*	*TE I*	*2*		
CE 3162	*Coastal Engineering*				
MA 3102	*Applied Statistics*	*C*	*2*		
MF 3122	*Principles of Management*	*C*	*2*		
		Semester Total	**19**	**0**	**0**
		Total credits up to Semester 5	**91**	**12**	**18**

SEMESTER 6					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
CE3203	*Geotechnical Engineering*	*C*	*3*		
CE3212	*Construction Management*	*C*	*2*		
CE3222	*Research Methodology*	*C*	*2*		
CE3232	*Design of Steel Structures*	*C*	*2*		
CE3242	*Design of Concrete Structures II*	*C*	*2*		
CE3253	*Construction Technology*	*C*	*3*		
CE4206	*Individual Research Project*	*C*	*		
MF3112	*Business Economics & Accounting*	*C*	*2*		
		Semester Total	**16**	**0**	**0**
		Total credits up to Semester 6	**107**	**12**	**18**

* To be evaluated in Semester 08

INDUSTRIAL TRAINING					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
CE 3016	*Industrial Training*	*C*		*6*	
		Semester Total	**0**	**6**	**0**
		Total credits up to Semester	**107**	**18**	**18**

SEMESTER 7					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
CE 4102	*Hydraulic Design*	*C*	*2*		
CE 4113	*Geotechnical Design*	*C*	*3*		
CE 4123	*Building Services Engineering*	*C*	*3*		
CE 4132	*Remote Sensing, GIS and Mapping*	*TE II*	*2*		
CE 4142	*Applied Finite Element Methods in Structural Analysis*				
CE 4152	*Irrigation Engineering*				
CE 4206	*Individual Research Project*	*C*	*		
CE 4214	*Comprehensive Design Project*	*C*	*		
MF 4112	*Human Resource Management and Industrial Relations*	*C*	*2*		
	Semester Total		**12**	**0**	**0**
	Total credits up to Semester 7		**119**	**18**	**18**

* To be evaluated in Semester 08

SEMESTER 8					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
CE 4206	*Individual Research Project*	*C*	*6*		
CE 4214	*Comprehensive Design Project*	*C*	*4*		
CE 4222	*Engineering Economics*	*C*	*2*		
CE 4232	*Bridge Engineering*	*TE III*	*2*		
CE 4242	*Traffic Engineering*				
CE 4252	*Sustainable Design and Construction*				
LW 4252	*Commercial and Industrial Law*	*C*	*2*		
	Semester Total		**16**	**0**	**0**
	Total credits up to Semester 8		**135**	**18**	**18**

CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
MS9074	Advanced Military Training	C			15
Total Credits by the end of Semester 9			**135**	**18**	**33**

FINALCREDITSUMMARY

TOTALCREDITS	GPA	NGPA	MGPA
153	**135**	**18**	**33**

B.Sc. Engineering in Building Services Engineering

LEVEL 1					
SEMESTER 1					
CODE	**MODULE**	**Category**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
CE1102	*Fundamentals of Civil Engineering*	*C*	*2*		
MA1103	*Mathematics*	*C*	*3*		
ME 1103	*Workshop Technology*	*C*	*3*		
ME 1112	*Engineering Drawing*	*C*	*2*		
EE1102	*Fundamentals of Electrical Engineering*	*C*	*2*		
ET1102	*Basic Electronics*	*C*	*2*		
IT1012	*Basic Computer Programming and networking*	*C*	*2*		
DL1131	*English: Basic Study Skills (Engineering)*	*C*		*1*	
DL1341	*Sinhala for Beginners*	*HE*		*1*	
DL1351	*Tamil for Beginners*				
MS1014	*Military Studies*	*C*			***4***
	Semester Total		**16**	**2**	**4**
	Total credits up to Semester 1		**16**	**2**	**4**
SEMESTER 2					
Code	**Module**	**Category**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
AR02252	*Architectural Aspects in Buildings*	*C*	*2*		
EE1203	*Theory of Electricity*	*C*	*3*		
CE1232	*Fluid Mechanics I*	*C*	*2*		
ME 1202	*Fundamentals of Thermodynamics*	*C*	*2*		
ME 1212	*Engineering Materials*	*C*	*2*		
ME 1222	*Applied Mechanics*	*C*	*2*		
MA1203	*Calculus*	*C*	*3*		
MA1002	*Mathematical Software*	*C*	*2*		
DL2141	*English: Advanced Study Skills (Engineering)*	*C*		*1*	
EN2012	*Art & Tradition*	*HE 1*		*2*	
EN2022	*Photography*				
EN2032	*International Relations*				
EN2072	*Western Dancing*				
EN4351	*Creative Writing*				
MS2024	*Military Studies*	*C*			*4*
	Semester Total		**18**	**3**	**4**
	Total credits up to Semester 2		**34**	**5**	**8**

LEVEL 2					
SEMESTER 3					
Code	**Module**	**Category**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
CBS2103	*Plumbing & Drainage System Design*	*C*	*3*		
CBS2114	*Water and Wastewater Engineering*	*C*	*4*		
EBS2103	*Electrical Machines and Applications*	*C*	*3*		
EBS2113	*Lighting Design and Acoustic*	*C*	*3*		
ME2112	*Applied Thermodynamics*	*C*	*2*		
ME2102	*Computer Aided Drafting*	*C*	*2*		
DL3151	*English: Writing & Speaking Skills (Engineering)*	*C*		*1*	
EN2042	*Human Rights*	*HE 2*		*2*	
EN2052	*History and Development of Engineering*				
EN2062	*Psychology for Engineers*				
MS3032	*Strategic & Defence Studies*	*C*			*2*
MS3044	*Military Studies*	*C*			*4*
Semester Total			**17**	**3**	**6**
Total credits up to Semester 3			**51**	**8**	**14**
SEMESTER 4					
Code	**Module**	**Category**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
CBS2202	*Building Construction*	*C*	*2*		
CBS2212	*Integrated Solid Waste Management*	*C*	*2*		
CBS2222	*Surveying*	*C*	*2*		
EBS2203	*MV and LV Power Distribution Systems*	*C*	*3*		
ME2213	*Control Systems Engineering*	*C*	*3*		
ME2223	*Heat and Mass Transfer*	*C*	*2*		
MA2203	*Numerical Methods & Complex Variables*	*C*	*3*		
DL4161	*English: Research Writing Skills*	*C*		*1*	
CE2011	*Industrial visits & report writing*	*C*		*1*	
MS4064	*Military Studies*	*C*			*4*
Semester Total			**17**	**2**	**4**
Total credits up to Semester 4			**68**	**10**	**18**

LEVEL 3					
SEMESTER 5					
Code	**Module**	**Category**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
CBS3103	*Project Management*	*C*	*3*		
EBS3103	*Electrical Installation Design*	*C*	*3*		
MBS3102	*Heating Ventilation and Air Conditioning I*	*C*	*2*		
MBS3112	*Fire Engineering I*	*C*	*2*		
CBS3112	*Sustainable Building Design & Management*	*C*	*2*		
MBS3122	*Computational Fluid Dynamics for Building Applications*	*TE 1*	*2*		
EBS3112	*Energy Management*				
MA3102	*Applied Statistics*	*C*	*2*		
MF3122	*Principles of Management*	*C*	*2*		
	Semester Total		**18**	**0**	**0**
	Total credits up to Semester 5		**86**	**10**	**18**
SEMESTER 6					
Code	**Module**	**Category**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
CBS3201	*Seminars & Case Studies in Building Services Engineering*	*C*	*1*		
EBS3202	*Extra Low Voltage Systems I*	*C*	*2*		
EBS3212	*Basics of Power Electronics*	*C*	*2*		
MBS3202	*Heating Ventilation and Air Conditioning II*	*C*	*2*		
MBS3212	*Fire Engineering II*	*C*	*2*		
QS39403	*Procurement and Contract Administration*	*C*	*3*		
CE3222	*Research Methodology*	*C*	*2*		
CE 3262	*Professional Ethics*	*C*	*2*		
MF3112	*Business Economics & Accounting*	*C*	*2*		
	Semester Total		**18**	**0**	**0**
	Total credits up to Semester 6		**104**	**10**	**18**
INDUSTRIAL TRAINING					
CBS 3016	*Industrial Training*	C	-	6	-
	Total credits up to Semester		**104**	**16**	**18**

LEVEL 4					
SEMESTER 7					
Code	**Module**	**Category**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EBS4102	*Building Automation and Control Systems*	*C*	*2*		
EBS4112	*Extra Low Voltage Systems II*	*C*	*2*		
MBS4102	*Transportation Systems in Buildings*	*C*	*2*		
MBS4113	*Energy Efficiency in Built Environment*	*C*	*3*		
CBS4103	*Building Information Modelling*	*C*	*3*		
CBS4206	*Final Year Research Project*	*C*	**		
CBS4214	*Compressive Design Project*	*C*	**		
MF4112	*Human Resource Management & Industrial Relations*	*C*	*2*		
	Semester Total		**14**	**0**	**0**
	Total credits up to Semester 7		**118**	**16**	**18**
**To be evaluated in Semester 8					
SEMESTER 8					
Code	**Module**	**Category**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EBS4201	*Testing, Commissioning, and Certification*	*C*	*1*		
CBS4206	*Final Year Research Project*	*C*	*6*		
CBS4214	*Comprehensive Design Project*	*C*	*4*		
QS49502	*Construction Law*	*C*	*2*		
MBS4202	*Pneumatics, Medical Gas and Process Piping Systems*	*TE 2*	*2*		
EBS4212	*Lighting Protection, Earthing and Surge Protection*				
CE4222	*Engineering Economics*	*C*	*2*		
	Semester Total		**18**	**0**	**0**
	Total credits up to Semester 8		**135**	**16**	**18**
Semester 9					
Code	**Module**	**Category**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MS9074	*Advanced Military Training*	*C*	-	-	*15*
	Semester Total		**0**	**0**	**18**
	Total Credits by the end of Semester 9		**135**	**16**	**33**

DEPARTMENT OF ELECTRICAL, ELECTRONIC & TELECOMMUNICATION ENGINEERING

DEPARTMENT OF ELECTRICAL, ELECTRONIC & TELECOMMUNICATION ENGINEERING

Electrical, Electronic and Telecommunication engineering has a broader scope, spanning from electrical power engineering at one end to the electronic & telecommunication engineering at the other end. To cover this broad span, the department offers three separate undergraduate degree programs.

· Electrical and Electronic Engineering degree program

· Electronic and Telecommunication degree program

· Biomedical engineering degree program.

Also, the department offers three postgraduate MSc course programs in the three areas of engineering, in addition to research based other postgraduate degree programs.

1.0 Why Study Electrical and Electronic Engineering?

Electrical and Electronic engineers primarily deal with design, construction, operation, control and maintenance of large power and energy systems, such as national power systems. They involve in design and construction of large electrical installations, industrial automation systems, complex building management systems for modern buildings, large renewable energy systems with solar and wind power generations, micro-grids for community level power systems, smart-grids with embedded intelligence, and electrical transport systems including electric-vehicles and rail transports. Electrical and electronic engineers involve in forecasting and planning of national energy requirement, economic energy mix and consumer tariffs.

1.1 Why Study Electronic and Telecommunication Engineering?

Electronic and Telecommunication engineers deal with large networks of cellular, satellite and data communications, in planning, design, construction, operation, maintenance and management. They deal with embedded electronic designs and system-on-chip designs for automotive, computer, industrial and communication products. Electronic and Telecommunication engineers have a firm footing in the software industry with new technologies such as cloud computing and smart phones that demands telecommunication related software developments. They deal with design and construction of automation systems involving artificial intelligence and computer visions.

1.2 Why Study Biomedical Engineering?

Biomedical engineers primarily deal with the engineering space of the medical field. They involve in development of biocompatible prostheses, various diagnostic and therapeutic medical devices ranging from clinical equipment to micro-implants, common imaging equipment such as MRIs and EKG/ECGs, regenerative tissue growth, pharmaceutical drugs and therapeutic biologicals. Biomedical engineers have a far greater role in the future medical services as engineering systems are becoming an integral part in all aspects of the medical profession. The base of the biomedical engineer has strong roots in electrical, electronic, and telecommunication engineering.

Our Vision

Internationally recognized, best higher education seat in the region, in the fields of Electrical, Electronic, Telecommunication and Biomedical Engineering.

Our Mission

Toachieveexcellenceandhighestqualitylearnercenterededucationalexperience, through professional and research centered degree programmes in Electrical, Electronic, Telecommunication and Biomedical Engineering.

1.0 B.Sc. Eng. (Hons) in Electrical & Electronic Engineering

This four-year full time undergraduate programme aims to impart competencies in Theory of Electricity, Signals and Systems, Power Systems, Control Systems Engineering, High Voltage Engineering, Electrical Installation Design, Electrical Machines & Drives, Electrical Machines & Drives, Electrical Machines & Drives, Electrical Machines & Drives, Electrical Machines & Drives so that the graduates are well equipped to become competent Electrical & Electronic Engineers. Students need to earn 135 GPA credits and 16 NGPA credits for graduation while Engineering officer cadets in this stream require further 18 MGPA credits (Military GPA credits).

Project work, industrial training and field visits are components embedded to the programme. A wide range of other competencies that are required for functioning as a professional engineer and military officer, are developed by incorporating inter-disciplinary studies from the fields of management, law, languages and information technology. The Department collaborates with other departments in the Faculty and also with other Faculties in the KDU for offering cross-discipline and affiliated modules.

1.1 BSc Engineering in Electronic & Telecommunication Engineering

This four-year full time undergraduate programme aims to impart competencies in Next Generation Networks, Communication Technology, Digital System Design, Machine Learning, Power Electronics and Applications, Signals and Systems, Microprocessors Microcontrollers & Embedded Systems, Numerical methods & Complex Variables, Control Systems Engineering so that the graduates are well equipped to become competent Electronic & Telecommunication Engineers. Students need to earn 135 GPA credits and 16 NGPA credits for graduation while Engineering officer cadets in this stream require further 18 MGPA credits.

Project work, industrial training and field visits are components embedded to the programme. A wide range of other competencies that are required for functioning as a professional engineer and military officer, are developed by incorporating inter-disciplinary studies from the fields of management, law, languages and information technology. The Department collaborates with other departments in the Faculty and also with other Faculties in the KDU for offering cross-discipline and affiliated modules.

1.2 BSc Engineering in Biomedical Engineering

This four-year full time undergraduate programme aims to impart competencies in Molecular Biotechnology, Engineering Product Design, Biomaterials, Medical Instrumentation, Immunology and microbiology, Physics of Radiology so that the graduates are well equipped to become competent Biomedical Engineers. Students need to earn 135 GPA credits and 18 NGPAcreditsforgraduationwhileEngineeringofficercadetsinthisstreamrequirefurther18 MGPA credits.

Project work, industrial training and field visits are components embedded to the programme. A wide range of other competencies that are required for functioning as a professional engineer and military officer, are developed by incorporating inter-disciplinary studies from the fields of management, law, languages and information technology. The Department collaborates with other departments in the Faculty and also with other Faculties in the KDU for offering cross-discipline and affiliated modules.

1.3 M.Sc. in Electronic & Telecommunication Engineering

Faculty of Graduate Studies in collaboration with the Department of Electrical, Electronics & Telecommunication Engineering offers MSc in Electronics and Telecommunication 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

isforbothtaughtmodulesandtheresearchproject.Theprogrammecoversadvancedtopicsin Electronics and Telecommunication Engineering, and is designed in accordance with the Sri Lankan Qualification Framework, published by the Ministry of Higher Education and its academic standard is equivalent to Sri Lanka Qualifying level 10. It has been designed by a panel of senior academics and professionals from reputed universities/institutions in Sri Lanka ensuring a high academic standard to facilitate participants to complete in two years even whilst being employed. The medium of instruction is English and all the lectures are web cast through the m-learning platform of KDU.

1.4 M.Sc. in Electrical Engineering

Faculty of Graduate Studies in collaboration with the Department of Electrical, Electronics& Telecommunication Engineering offers MSc in Electrical Engineering. This postgraduate programme is conducted on Saturdays and Sundays (every other weekend) for a period of two years. The first year is dedicated for taught course modules and second year is for both taught modules and the research project. The programme covers advanced topics in Electrical Engineering and is designed in accordance with the Sri Lankan Qualification Framework, published by the Ministry of Higher Education and its academic standard is equivalent to Sri Lanka Qualifying level 10. It has been designed by a panel of senior academics and professionals from reputed universities/institutions in Sri Lanka ensuring a high academic standard to facilitate participants to complete in two years even whilst being employed. The medium of instruction is English and all the lectures are webcast through the m-learning platform of KDU.

1.5 M.Sc. in Biomedical Engineering

Faculty of Graduate Studies in collaboration with the Department of Electrical, Electronics & Telecommunication Engineering offers MSc in Biomedical 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 both taught modules and the research project. The programme covers advanced topics in Biomedical Engineering and is designed in accordance with the Sri Lankan Qualification Framework, published by the Ministry of Higher Education and its academic standard is equivalent to Sri Lanka Qualifying level 10. It has been designed by a panel of senior academics and professionals from reputed universities /institutions in Sri Lanka ensuring a high academic standard to facilitate participants to complete in two years even whilst being employed. The medium of instruction is English and all the lectures are webcast through the m-learning platform of KDU.

2.0 Laboratory Facilities

a. Advance Electrical Laboratory

The laboratory has been set up mainly to teach the practical aspects of electrical power systems and Electrical machines to undergraduate students.

b. High Voltage Laboratory

The laboratory is a one of few modern High Voltage Laboratories available in the island. High voltage break-down and testing are extensively carried out in the laboratory by the researchers and students.

c. Electrical Measurement Laboratory

The laboratories have been set up mainly to teach the practical aspects of the principles of electricity and electrical measuring instruments to undergraduate students. This is also used for research and development activities of the department.

d. Electronic Laboratory

The Electronic Laboratory has been set up mainly to teach the practical aspects of the principles of Electronic Engineering to undergraduate students. This is also used for research and development activities of the department.

e. Robotics Laboratory

The Robotics Laboratory has been set up mainly to teach the practical aspects of the principles of Robotic Engineering to undergraduate students. This is claimed to be one of the best and modern Robotics laboratories in the country. This is also used for research and development activities of the department.

f. Communication Laboratory

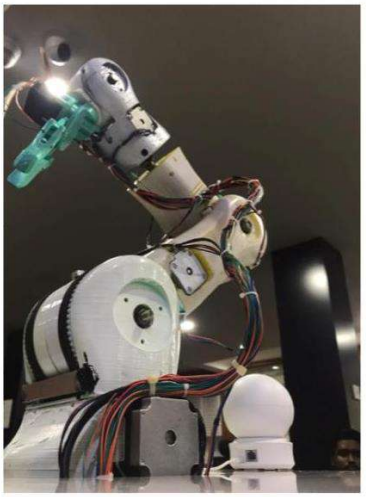
The laboratory facilitates sophisticated equipment for the research and development aspect as well as the practical aspects in the field of fiber optics, radar engineering, wireless communication, etc.

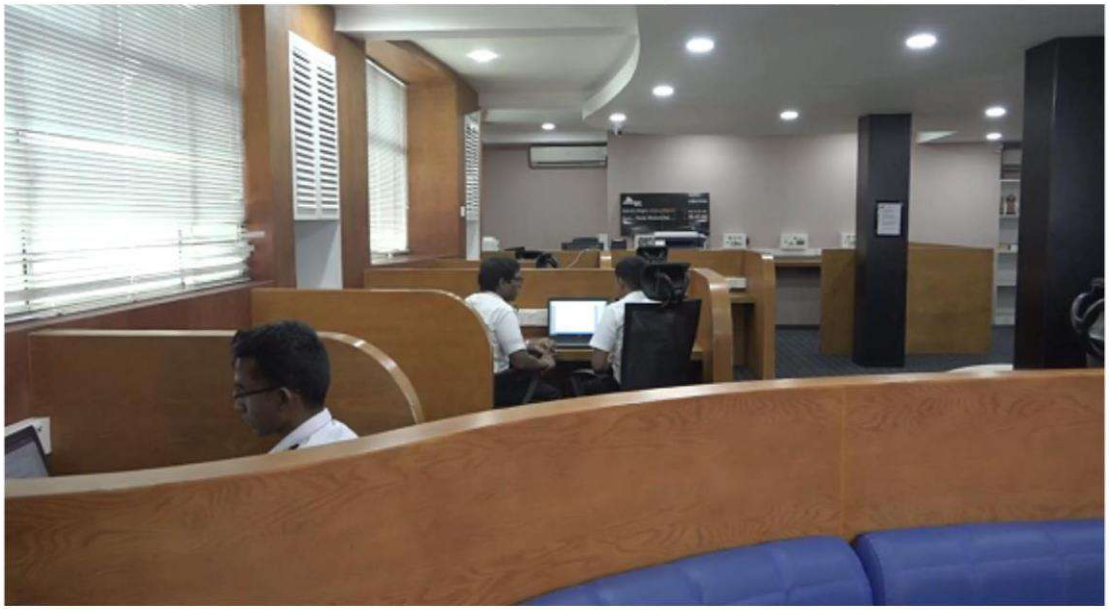
g. Digital Systems Design Laboratory

The laboratory is available with plentiful equipment for students and researcher to sharpen their knowledge and experience on digital electronics and system designing.

h. 24/7 Research Laboratory

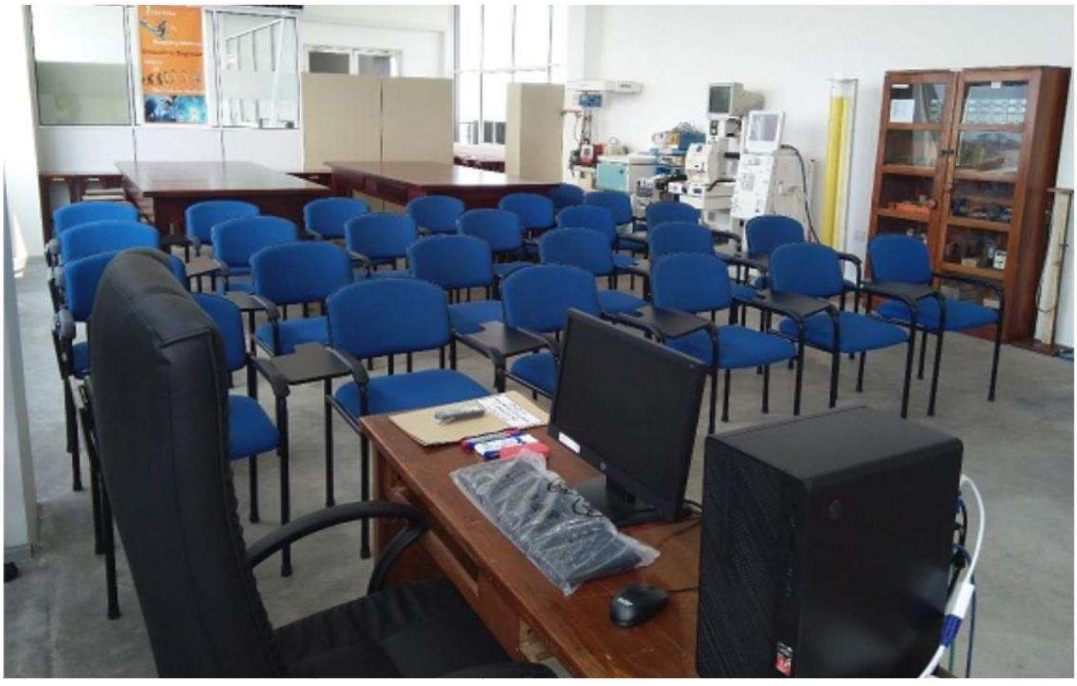
The 24/7 research laboratory has been setup mainly to cater to high-end research by postgraduate students and research fellows. This facility is also open to undergraduate students of the department. The laboratory is equipped with modern equipment and design /simulation tools. It is built to give a rich working environment with all the necessary support facilities. The laboratory is open round the clock.





i. Medical Instrumentation Laboratory

The Medical instrumentation laboratory has been set up mainly to provide practical knowledge and hands on experience on medical equipment to the biomedical engineering undergraduate students. This laboratory is used for research and development purposes, practical sessions and for lectures regarding medical instrumentation.



j. Tissue Engineering Laboratory

The Tissue engineering laboratory has been setup mainly to facilitate the research and development aspect as well as the practical aspects of the tissue engineering and biomaterials, to the undergraduate students.

k. Biomechanics Laboratory

The Biomechanics laboratory has been setup mainly to provide the practical knowledge and to facilitate the research aspect of biomechanics and prosthetic designing areas, to the undergraduate students.

Academic Staff

Head of the Department:

Captain (L) WPC Weerawardena USP
BSc(DS) Eng, AMIE(SL), CEng(In), MIET

Professor:

Prof. JR Lucas, BSc Eng(Cey), Msc(Manch), PhD(Manch), FIEE, CEng, FIE(S.Lanka), IPEng, MCS(S.Lanka)

Prof. JP Karunadasa PhD (Manchester), MSc (Manchester), BSc (UOM), MIE (SL), CEng, MIEEE

Prof. TL Weerawardane BSc Eng (UOM), MSc (Germany), PhD (Germany) MIEEE,AMIE (SL),MCS(SL)

Senior Lecturers:

Eng. SU Dampage, BSc Eng(Hons), M.Eng, CEng, FIE, MIEEE, Inventor-Platinum Category I Sri Lanka Inventors Commission- Reg. No: 7542 9411 13000100

Dr PPCR Karunasekara, BSc (Moratuwa), MSc (Ireland), MSc(Netherlands), PhD (Italy)

Dr. US Rahubadde, BSc (Kelaniya), PG Dip (Peradeniya), PhD (HUST), MIP(SL), MSLAAS, MIEEE, CPhys

Eng. (Mrs.) PN Karunanayake, BSc Eng (UoM), MSc (UoM), PhD (Reading) (University of Bremen, Germany)

Eng.(Ms) HMAI Herath, BSc Eng (Hons)(Ruhuna), MSc (UoM), CEng, MIE(SL)

Mr. EHADK Hewadikaram, BSc (Colombo), MSc (USA) MPhill (Colombo), Sigma Pi, Sigma (USA)

Dr. SK Wijesekara, BSc(Hons) in IT (SLIIT), MSc (AIT, Thailand), PhD(CU, Thailand), MIEEE Cisco Certified Network Associated CCNA certifier

Maj. PWMK Perera, BSc (Sp) Sabaragamuwa University, MSc (Pera.), PhD(Reading) in HUST , China

Probationary lecturers

Mr. WLPK Wijesinghe, BSc (Colombo), MSc (Colombo)

LCdr MRRA Bandara BSc. (DS) EEEng (Hons.) (KDU), CEng (I), AMIE(SL), AMIE (I)

Maj. RMCP Ranasinghe, BSc. (Eng.)(Hons.), AMIE(SL), MIET (UK),CEH,CHFI

Capt. DDGR Karunarathne BSc. (Eng.)(Hons.), AMIE(SL)

Mrs. OC Dewanarayana BSc.Eng (Hons.) (KDU)

Eng.(Mr) PCD Dharmabandu BSc. (Eng) (Hons.) (UOM), AMIE(SL), ECSL, IET(UK)

Eng.(Ms) ERMCK Rajapaksha BSc. (Eng) (Hons.) (KDU), MSC (Germany) AMIE(SL), ECSL

Eng.(Mr) KG Samarawickrama BSc. (Eng) (Hons.) (KDU), MPhil (UOM) Reading, AMIE(SL)

Mr IMCWB Kohombakadawala BSc. (Eng) (Hons.) (KDU), MSc (UOC) Reading

Engineering Teaching Assistant:

Mr. SD Karunarathne, BSc Hons (Physics) (Sri J'pura)

Eng. (Mrs) SS Morapitiya, B.Tec (Eng)(Hons) , PG/Dip(UoM), MPhil (Reading) (UOM), AMIE(SL)

KDCN Jayawardana, BSc.(Kelaniya), MSc. (Pera.) following PDN Senarathna, BSc(UoC), MSc. (UoC)

PDN Senarathna, BSc(UoC), MSc. (UoC)

Programme Structure - BSc in Engineering (Hons.) in Electrical & Electronic Engineering

SEMESTER 01					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE 1102	*Fundamentals of Electrical Engineering*	*C*	*2*		
ET 1102	*Basic Electronics*	*C*	*2*		
CE 1102	*Fundamentals of Civil Engineering*	*C*	*2*		
MA 1103	*Mathematics*	*C*	*3*		
ME 1103	*Workshop Technology*	*C*	*3*		
ME 1112	*Engineering Drawing*	*C*	*2*		
DL 1131	*English: Basic Study Skills (Engineering)*	*C*		*1*	
IT 1012	*Basic Computer Programming and networking*	*C*	*2*		
MS 1014	*Military Studies*	*C*			*4*
Semester Total			**16**	**1**	**4**
Total credits up to Semester 1			**16**	**1**	**4**

INTERMEDIATE TERM I					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
DL1341	*Sinhala for Beginners*	*C*		*1*	
DL1351	*Tamil for Beginners*				
MA1002	*Mathematical Software*	*C*	*2*		
Semester Total			2	1	0
Total credits up to Intermediate Term 1			**18**	**2**	**4**

SEMESTER 02					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE1203	*Theory of Electricity*	*C*	*3*		
EE1212	*Electronic Systems I*	*C*	*2*		
ET1202	*Introduction to Telecommunication*	*C*	*2*		
ME1202	*Fundamentals of Thermodynamics*	*C*	*2*		
ME1222	*Applied Mechanics*	*C*	*2*		
MA1203	*Calculus*	*C*	*3*		
IT2022	*Object oriented Programming*	*C*	*2*		
DL2141	*English - Advanced Study Skills (Engineering)*	*C*		*1*	
MS2024	*Military Studies*	*C*			*4*
Semester Credits			**16**	**1**	**4**
Total Credits up to Semester 2			**34**	**3**	**8**

SEMESTER 03					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE2102	*Electrical Machines and Drives I*	*C*	*2*		
EE2112	*Power Systems I*	*C*	*2*		
EE2122	*Electrical Measurements and Electronic Instrumentation*	*C*	*2*		
EE2132	*Electrical Properties of Materials*	*C*	*2*		
EE2142	*Electronic Systems II*	*C*	*2*		
ET2103	*Signals and Systems*	*C*	*3*		
ET2112	*Design Software*	*C*	*2*		
MA2103	*Advanced Calculus*	*C*	*3*		
DL3151	*English - Writing and Speaking Skills (Engineering)*	*C*		*1*	
MS3032	*Strategic and Defence Studies*	*C*			*2*
MS3044	*Military Studies*	*C*			*4*
Semester Credits			**18**	**1**	**6**
Total Credits up to Semester 3			**52**	**4**	**14**

SEMESTER 04					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE2203	*Power Systems II*	*C*	*3*		
EE2212	*Electromagnetics*	*C*	*2*		
ET2213	*Communication Theory I*	*C*	*3*		
ET2223	*Microprocessors Microcontrollers & Embedded Systems*	*C*	*3*		
MA2203	*Numerical methods & Complex Variables*	*C*	*3*		
ME2213	*Control Systems Engineering*	*C*	*3*		
DL4161	*English- Research Writing Skills (Engineering)*	*C*		*1*	
MS4064	*Military Studies*	*C*			*4*
Semester Credits			**17**	**1**	**4**
Total Credits up to Semester 4			**69**	**5**	**18**

INTERMEDIATE TERM II					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ET2011	*Industrial Visits & Report Writing*	*C*		*1*	
ET2023	*Individual Design Project*	*C*	*3*		
EN2XX2	*Humanities Elective I*	*E*		*2*	
EN2XX2	*Humanities Elective II*	*E*		*2*	
Semester Credits			**3**	**5**	**0**
Total Credits up to Intermediate 2			**72**	**10**	**18**

Note: **Individual Design Project

Prior Individual Design Project students will undergo two workshops for preliminary skill development on;

A. Introduction to development platforms and programming
B. Project report writing

CODE	HUMANITIES ELECTIVE I	CATEGORY
EN 2012	*Art & Tradition*	HE 1
EN 2022	*Photography*	
EN 2032	*International Relations*	
CODE	**HUMANITIES ELECTIVE II**	**CATEGORY**
EN 2042	*Human Rights*	HE 2
EN 2052	*History and Development of Engineering*	
EN 2062	*Psychology for Engineers*	

SEMESTER 05					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE3102	*High Voltage Engineering I*	*C*	2		
EE3112	*Electrical Installation Design I*	*C*	2		
EE3123	*Electrical Machines & Drives II*	*C*	3		
EE3132	*Energy Studies and Environment*	*C*	2		
MA3102	*Applied Statistics*	*C*	2		
CE3142	*Professional Ethics*	*C*	2		
MF3122	*Principles of Management*	*C*	2		
	Technical Elective I	*E*	2		
Semester Credits			**17**	**0**	**0**
Total Credits up to Semester 5			**89**	**10**	**18**

CODE	MODULE	CATEGORY
ET3102	*Communication Networks*	**Technical Elective I**
ET3132	*Photonics and Optoelectronics*	
ET3112	*Image Processing and Machine Vision*	

SEMESTER 06					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE3202	*Electrical Installation Design II*	*C*	*2*		
EE3213	*Power Electronics and Applications I*	*C*	*3*		
EE3222	*Renewable Energy Systems*	*C*	*2*		
EE3233	*Power System Protection*	*C*	*3*		
EE3252	*Research Methodology*	*C*	*2*		
MF3112	*Business Economics & Financial Accounting*	*C*	*2*		
	Technical Elective II	*E*	*2*		
Semester Credits			**16**	**0**	**0**
Total Credits up to Semester 6			**105**	**10**	**18**

CODE	MODULE	CATEGORY
EE3242	*Project Management*	**Technical Elective II**
ME3212	*Entrepreneurship for Engineers*	

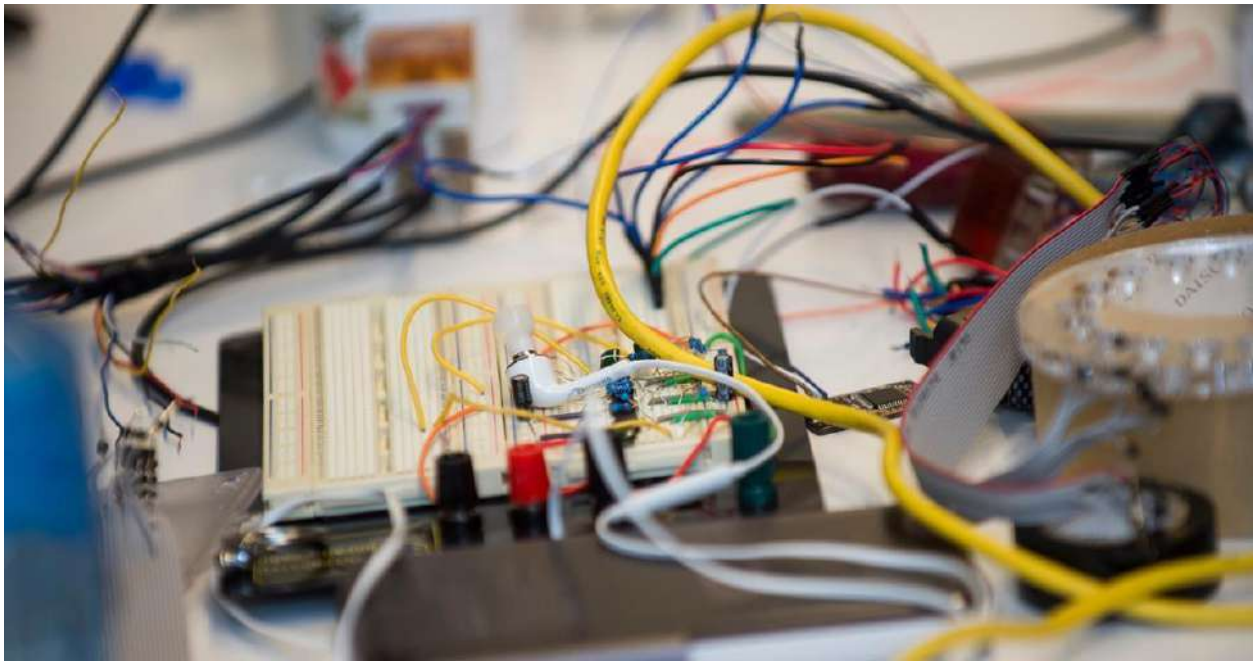
INDUSTRIAL TRAINING					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE3016	*Industrial Training*	C		6	
Semester Credits			**0**	**6**	**0**
Total Credits up to Industrial Training			**105**	**16**	**18**

SEMESTER 07					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE4102	*Power System III*	*C*	*2*		
ET4113	*Robotics*	*C*	*3*		
EE4206	*Research Project**	*C*			
EE4112	*Power Electronics and Applications II*	*C*	*2*		
MF4112	*Human Resource Management and Industrial Relations*	*C*	*2*		
	Technical Elective III	*E*	*3*		
	Technical Elective IV	*E*	*2*		
Semester Credits			**14**	**0**	**0**
Total Credits up to Semester 7			**119**	**16**	**18**

CODE	MODULE	CATEGORY
EE4133	*Industrial Automation*	**Technical Elective III**
EE4143	*Advanced Control Systems*	
ET4103	*Machine Learning*	
CODE	**MODULE**	**CATEGORY**
ET4152	*Radar Engineering*	**Technical Elective IV**
EE4122	*Power System Planning and Reliability*	

SEMESTER 08					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE4206	*Research Project*	*C*	*6*		
EE4212	*High Voltage Engineering II*	*C*	*2*		
EE4223	*Machines and Drives III*	*C*	*3*		
LW4252	*Commercial & Industrial Law*	*C*	*2*		
	Technical Elective V	*E*	*3*		
Semester Credits			**16**	**0**	**0**
Total Credits up to Semester 8			**135**	**16**	**18**

CODE	MODULE	CATEGORY
EE4233	*Smart Grids and Distribution Networks*	**Technical Elective V**
EE4243	*Power Quality*	
ET4253	*Mechatronics Systems*	



Program Structure – BSc Engineering (Hons.) in Electronic and Telecommunication Engineering

SEMESTER 01					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE 1102	*Fundamentals of Electrical Engineering*	*C*	*2*		
ET 1102	*Basic Electronics*	*C*	*2*		
CE 1102	*Fundamentals of Civil Engineering*	*C*	*2*		
MA 1103	*Mathematics*	*C*	*3*		
ME 1103	*Workshop Technology*	*C*	*3*		
ME 1112	*Engineering Drawing*	*C*	*2*		
DL 1131	*English: Basic Study Skills (Engineering)*	*C*		*1*	
IT 1012	*Basic Computer Programming and networking*	*C*	*2*		
MS 1014	*Military Studies*	*C*			*4*
Semester Total			**16**	**1**	**4**
Total credits up to Semester 1			**16**	**1**	**4**

INTERMEDIATE TERM I					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
DL1341	*Sinhala for Beginners*	*C*		*1*	
DL1351	*Tamil for Beginners*				
MA1002	*Mathematical Software*	*C*	*2*		
Semester Total			2	1	0
Total credits up to Intermediate Term 1			**18**	**2**	**4**

SEMESTER 02					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE1203	*Theory of Electricity*	*C*	*3*		
EE1212	*Electronic Systems I*	*C*	*2*		
ET1202	*Introduction to Telecommunication*	*C*	*2*		
ME1202	*Fundamentals of Thermodynamics*	*C*	*2*		
ME1222	*Applied Mechanics*	*C*	*2*		
MA1203	*Calculus*	*C*	*3*		
IT2022	*Object oriented Programming*	*C*	*2*		
DL2141	*English - Advanced Study Skills (Engineering)*	*C*		*1*	
MS2024	*Military Studies*	*C*			*4*
Semester Credits			**16**	**1**	**4**
Total Credits up to Semester 2			**34**	**3**	**8**

SEMESTER 03					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
EE2102	*Electrical Machines and Drives I*	*C*	*2*		
EE2112	*Power Systems I*	*C*	*2*		
EE2122	*Electrical Measurements and Electronic Instrumentation*	*C*	*2*		
EE2132	*Electrical Properties of Materials*	*C*	*2*		
EE2142	*Electronic Systems II*	*C*	*2*		
ET2103	*Signals and Systems*	*C*	*3*		
ET2112	*Design Software*	*C*	*2*		
MA2103	*Advanced Calculus*	*C*	*3*		
DL3151	*English - Writing and Speaking Skills (Engineering)*	*C*		*1*	
MS3032	*Strategic and Defence Studies*	*C*			*2*
MS3044	*Military Studies*	*C*			*4*
Semester Credits			**18**	**1**	**6**
Total Credits up to Semester 3			**52**	**4**	**14**

SEMESTER 04					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
EE2212	*Electromagnetics*	*C*	*2*		
ET2202	*Random Signals and Processes*	*C*	*2*		
ET2213	*Communication Theory I*	*C*	*3*		
ET2223	*Microprocessors Microcontrollers & Embedded Systems*	*C*	*3*		
MA2203	*Numerical methods & Complex Variables*	*C*	*3*		
ME2213	*Control Systems Engineering*	*C*	*3*		
DL4161	*English- Research Writing Skills (Engineering)*	*C*		*1*	
MS4064	*Military Studies*	*C*			*4*
Semester Credits			**16**	**1**	**4**
Total Credits up to Semester 4			**68**	**5**	**18**

INTERMEDIATE TERM II					
CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
ET2011	*Industrial Visits & Report Writing*	*C*		*1*	
ET2023	*Individual Design Project **	*C*	*3*		
EN2XX2	*Humanities Elective I*	*E*		*2*	
EN2XX2	*Humanities Elective II*	*E*		*2*	
Semester Credits			**3**	**5**	**0**
Total Credits up to Intermediate 2			**71**	**10**	**18**

Note: **Individual DesignProject

Prior Individual Design Project students will undergo two workshops for preliminary skill development on;

A. Introduction to development platformsand programming

B. Project reportwriting

CODE	HUMANITIES ELECTIVE I	CATEGORY
EN 2012	*Art & Tradition*	HE 1
EN 2022	*Photography*	
EN 2032	*International Relations*	
CODE	**HUMANITIES ELECTIVE II**	**CATEGORY**
EN 2042	*Human Rights*	HE 2
EN 2052	*History and Development of Engineering*	
EN 2062	*Psychology for Engineers*	

SEMESTER 05					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ET3122	*Antennas and Propagation*	*C*	*2*		
ET3142	*Digital Signal Processing*	*C*	*2*		
ET3153	*Engineering Product Design*	*C*	*3*		
CE3142	*Professional Ethics*	*C*	*2*		
MA3102	*Applied Statistics*	*C*	*2*		
MF3122	*Principles of Management*	*C*	*2*		
	Technical Elective I	*E*	*2*		
	Technical Elective II	*E*	*2*		
Semester Credits			**17**	**0**	**0**
Total Credits up to Semester 5			**88**	**10**	**18**

CODE	MODULE	CATEGORY
ET3102	*Communication Networks*	**Technical Elective I**
ET3132	*Photonics and Optoelectronics*	
CODE	**MODULE**	**CATEGORY**
ET3112	*Image Processing and Machine Vision*	***Technical Elective II***
ET3162	*Semiconductors and Solid-State Devices*	

SEMESTER 06					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ET3202	*Wireless Communication I*	*C*	*2*		
ET3212	*Microwave Engineering*	*C*	*2*		
ET3223	*Communication Theory II*	*C*	*3*		
EE3213	*Power Electronics and Applications, I*	*C*	*3*		
EE3252	*Research Methodology*	*C*	*2*		
MF3112	*Business Economics & Financial Accounting*	*C*	*2*		
	Technical Elective III	*E*	*2*		
Semester Credits			**16**	**0**	**0**
Total Credits up to Semester 6			**104**	**10**	**18**

CODE	MODULE	CATEGORY
EE 3242	*Project Management*	**Technical Elective III**
ME3212	*Entrepreneurship for Engineers*	

INDUSTRIAL TRAINING					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ET3016	*Industrial Training*	*C*		*6*	
Semester Credits			**0**	**6**	**0**
Total Credits up to Industrial Training			**104**	**16**	**18**

SEMESTER 07					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ET4173	*Digital Systems Design*	*C*	*3*		
ET4103	*Machine learning*	*C*	*3*		
ET4152	*Radar Engineering*	*C*	*2*		
ET4206	*Research Project**	*C*	*-*		
MF4112	*Human Resource Management and Industrial Relations*	*C*	*2*		
ET4142	*Wearable Electronics (Optional)*	*O*	*2*		
	Technical Elective IV	*E*	*3*		
	Technical Elective V	*E*	*2*		
Semester Credits			**15**	**0**	**0**
Total Credits up to Semester 7			**119**	**16**	**18**

*Continued in Semester 8

CODE	MODULE	CATEGORY
ET4113	*Robotics*	**Technical Elective IV**
ET4163	*Optical Communication Systems*	
CODE	**MODULE**	**CATEGORY**
ET4132	*Communication Systems*	**Technical Elective V**
ET4122	*VLSI Design*	
ET4162	*Mechatronics*	

SEMESTER 08					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ET4206	*Research Project*	*C*	*6*		
ET4222	*Communication Theory III*	*C*	*2*		
LW4252	*Commercial & Industrial Law*	*C*	*2*		
	Technical Elective VI	E	3		
	Technical Elective VII	E	3		
Semester Credits			**16**	**0**	**0**
Total Credits up to Semester 8			**135**	**16**	**18**

CODE	**MODULE**	**CATEGORY**
ET4213	*Next Generation Networks*	**Technical Elective VI**
ET4283	*Wireless and Mobile Communication*	
ET4233	*Telecommunications Network Architectures*	
CODE	**MODULE**	**CATEGORY**
ET4243	*Internet of Things*	**Technical Elective VII**
ET4273	*Deep Learning*	

Program Structure – BSc Engineering (Hons.) in Biomedical Engineering

SEMESTER 01					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE 1102	*Fundamentals of Electrical Engineering*	*C*	*2*		
ET 1102	*Basic Electronics*	*C*	*2*		
CE 1102	*Fundamentals of Civil Engineering*	*C*	*2*		
MA 1103	*Mathematics*	*C*	*3*		
ME 1103	*Workshop Technology*	*C*	*3*		
ME 1112	*Engineering Drawing*	*C*	*2*		
DL 1131	*English: Basic Study Skills (Engineering)*	*C*		*1*	
IT 1012	*Basic Computer Programming and networking*	*C*	*2*		
MS 1014	*Military Studies*	*C*			*4*
Semester Total			**16**	**1**	**4**
Total credits up to Semester 1			**16**	**1**	**4**

INTERMEDIATE TERM I					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
DL1341	*Sinhala for Beginners*	*C*		*1*	
DL1351	*Tamil for Beginners*				
MA1002	*Mathematical Software*	*C*	*2*		
Semester Total			2	1	0
Total credits up to Intermediate Term 1			**18**	**2**	**4**

SEMESTER 02					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
BM1201	*Introduction to Biomedical Engineering*	*C*	*1*		
BM1212	*Introductory Biology*	*C*	*2*		
BM1222	*Introductory Chemistry*	*C*	*2*		
BM1232	*General Physics I*	*C*	*2*		
EE1203	*Theory of Electricity*	*C*	*3*		
MA1203	*Calculus*	*C*	*3*		
ME1222	*Applied Mechanics*	*C*	*2*		
IT2022	*Object Oriented Programming*	*C*	*2*		
DL2141	*English - Advance Study Skills*	*C*		*1*	
MS2024	*Military Studies*	*C*			*4*
Semester Credits			**17**	**1**	**4**
Total Credits up to Semester 2			**35**	**3**	**8**

SEMESTER 03					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
BM2102	*Human Anatomy*	*C*	*2*		
BM2112	*Biochemistry*	*C*	*2*		
BM2122	*General Physics II*	*C*	*2*		
BM2133	*Electronic Circuits*	*C*	*3*		
ET2103	*Signals and Systems*	*C*	*3*		
EE2102	*Electrical Machine and Drives I*	*C*	*2*		
MA2103	*Advanced Calculus*	*C*	*3*		
ME2102	*Computer Aided Drafting*	*C*	*2*		
DL3151	*English - Writing and Speaking Skills*	*C*		*1*	
MS3032	*Strategic and Defence Studies*	*C*			*2*
MS3044	*Military Studies*	*C*			*4*
Semester Credits			**19**	**1**	**6**
Total Credits up to Semester 3			**54**	**4**	**14**

SEMESTER 04					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
BM2202	*Human Physiology*	*C*	*2*		
BM2212	*Biophysics*	*C*	*2*		
BM2222	*Instrumental Methods in Life & Biomedical Sciences*	*C*	*2*		
BM2233	*Medical Instrumentation I*	*C*	*3*		
BM2242	*Physiological Control Systems I*	*C*	*2*		
BM2252	*Biomedical Digital Signal Processing I*	*C*	*2*		
CS2062	*Advanced Programming*	*C*	*2*		
MA2203	*Numerical Methods & Complex Variables*	*C*	*3*		
MS4064	*Military Studies*	*C*			*4*
Semester Credits			**18**	**0**	**4**
Total Credits up to Semester 4			**72**	**4**	**18**

INTERMEDIATE TERM II					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
BM2003	*Engineering Product Design*	*C*	*3*		
BM2012	*Administrative Engineering*	*C*		*2*	
EN2XX2	*Humanities Elective I*	*E*		*2*	
EN2XX2	*Humanities Elective II*	*E*		*2*	
Semester Credits			**3**	**6**	**0**
Total Credits up to Intermediate 2			**75**	**10**	**18**

CODE	HUMANITIES ELECTIVE I	CATEGORY
EN 2012	*Art & Tradition*	HE 1
EN 2022	*Photography*	
EN 2032	*International Relations*	
CODE	**HUMANITIES ELECTIVE II**	**CATEGORY**
EN 2042	*Human Rights*	HE 2
EN 2052	*History and Development of Engineering*	
EN 2062	*Psychology for Engineers*	

SEMESTER 05					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
BM3103	*Physics of Radiology*	*C*	*3*		
BM3112	*Physiological Control Systems II*	*C*	*2*		
BM3122	*Biomechanics I*	*C*	*2*		
BM3134	*Molecular Biotechnology*	*C*	*4*		
MA3102	*Applied Statistics*	*C*	*2*		
MF3122	*Principles of Management*	*C*	*2*		
CE3142	*Professional Ethics*	*C*	*2*		
Semester Credits			**17**	**0**	**0**
Total Credits up to Semester 5			**92**	**10**	**18**

SEMESTER 06					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
BM3202	*Machine Vision and Image Processing*	*C*	*2*		
BM3213	*Immunology and microbiology*	*C*	*3*		
BM3222	*Hospital safety and Maintenance Engineering*	*C*	*2*		
BM3233	*Medical Instrumentation II*	*C*	*3*		
BM3242	*Biomedical Digital Signal Processing II*	*C*	*2*		
BM3252	*Biotelemetry*	*C*	*2*		
MF3112	*Business Economics and Financial Accounting*	*C*	*2*		
	Technical Electives – Semester 06	*E*			
Semester Credits			**18**	**0**	**0**
Total Credits up to Semester 6			**110**	**10**	**18**

CODE	MODULE	CATEGORY
BM3272	*Electrical Installation*	**Technical Electives – Semester 06**
BM3282	*Nanotechnology*	
ME3212	*Entrepreneurship for Engineers*	

INDUSTRIAL TRAINING					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
BM3016	*Industrial Training*	*C*		*6*	
Semester Credits			**0**	**6**	**0**
Total Credits up to Industrial Training			**110**	**16**	**18**

SEMESTER 07					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
BM4102	*Tissue Engineering*	*C*	*2*		
BM4113	*Biomaterials*	*C*	*3*		
BM4122	*Research Writing Skills*	*C*		*2*	
BM4132	*Medical Instrumentation III*	*C*	*2*		
BM4162	*Biomechanics II*	*C*	*2*		
MF4112	*Human Resource Management & Industrial Relations*	*C*	*2*		
	Technical Electives – Semester 07	*E*	*2*		
Semester Credits			**13**	**2**	**0**
Total Credits up to Semester 7			**123**	**18**	**18**

CODE	MODULE	CATEGORY
BM4152	*Medical Image Processing*	***Technical Electives – Semester 07***
BM4142	*Power Electronics and Applications*	
BM4172	*Finite Element Modelling*	

SEMESTER 08					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
BM4206	*Research Project*	*C*	*6*		
BM4212	*Prosthetic Design*	*C*	*2*		
LW4252	*Commercial & Industrial Law*	*C*	*2*		
	Technical Electives – Semester 08	*E*	*2*		
Semester Credits			**12**	**0**	**0**
Total Credits up to Semester 8			**135**	**18**	**18**

CODE	MODULE	CATEGORY
BM4222	*Rehabilitation Engineering*	**Technical Electives – Semester 08**
BM4242	*Neural Engineering*	
BM4252	*Bioinformatics*	
BM4272	*Medical Instrumentation IV*	
BM4282	*Medical Informatics and Expert Systems*	

DEPARTMENT OF MARINE ENGINEERING

DEPARTMENT OF MARINE ENGINEERING

1.0 Why Study Marine Engineering?

The earth can be called as the blue planet since the majority of its surface is covered by water therefore maritime transportation has identified as the most energy effective means transportation and with 90 per cent of world trade being boat borne it's the base for our ultramodern life. Therefore, Maritime studies and engineering is a demanding field in any country, especially in island nations.

Marine Engineers are involved in designing, construction, installation, operation, maintenance and repairing of main propulsion engines and auxiliary machinery systems, which are common to any class of ships or off shore installations.

Marine Engineering is one of the most diverse subject filed, which combines with mechanical engineering,electricalengineeringandstructuralengineeringdisciplinestherefore,knowledge scope of a marine engineer should be extensive for a productive outcome.

Marine Engineers design and develop solutions to a wide range of problems in the industry including hull designing, propulsion system designing and selection, accurate maintenance strategies for marine diesel engines in performance optimization and auxiliary machinery on-board such as diesel alternators, air-conditioning plants, propulsion systems and etc. which has created a never ending job demand in the global context.

Our Vision

OurvisionistofulfilltheexpectationofSriLankaNavywithutmostprofessionalismathighest degree of efficiency by incorporating new naval design and adhering best naval engineering practices

Our Mission

Our mission is to produce a marine engineer who is equipped with high personal and professional capabilities and who by virtue of innovative knowledge, competency, training and

Self-discipline keeps with the requirement of a skilled marine engineer for the society and is a perfect match to perform expected job function.

1.1 BSc. Eng. (Hons) in Marine Engineering

This four-year full-time undergraduate program aims to deliver the proficiency on designing ship structures, develop solutions to operational restrictions of on-board machinery in installation, operate marine propulsion engines, and determine optimistic maintenance strategies for marine propulsion engines and associated systems, so that the graduates to become well competent marine engineers and engine room watch keepers. Students are required to earn 138 GPA credits and 17 NGPA credits for graduation. Officer Cadets require 33 Military GPA Credits upon completion of Marine Engineering degree program.

1.2 BSc. Eng. (Hons) in Marine Engineering and Naval Architecture

Naval Architecture is another demanding field in Marine Engineering industry and this degree program is intended to offer from 2022 onwards. The degree curriculum was prepared considering the job demand in the industry, covering the depths of the field to produce a well competent Naval Architect.

This degree program is a blend of Marine Engineering and Naval Architecture, which cover theory and practical work related to machinery operation and maintenance, design features of ships, and designing of ship structures however, the mainstream of the program cover design and simulation of ship structures using modern IT tools and software, as a fulfillment of the industrial requirement.

2.0 Laboratory Facilities

In terms of infrastructure, the department is well equipped with necessary laboratory and a fully-fledged workshop facility for practical sessions and student projects.

Marine Laboratory was first established in 2005 with limited facilities/ available resources, in view of providing better knowledge of marine equipment and main parts of marine machineries to marine engineering undergraduates. Marine Engineering Laboratory was then improved several times with the help of Sri Lanka Navy and was provided heavy, light marine diesel engines and diesel alternators, which were used in Fast Missile Vessels and Fast Gun Boats, in 2007.

AworkingcutmodelofadieselengineinstalledatFastGunBoatwashandedoverin2010by Naval Dockyard, Trincomalee and cut models of main engine components were included in 2011 with the purpose of deepening the knowledge of operation and working principles of Marine machineries/ auxiliaries and propulsion systems.

An engine bay was established as an additional section to the marine laboratory in early 2012 and presently carrying out practical sessions in dismantling, starting and stopping procedures. Furthermore, this engine bay is equipped with modern tools for dismantling, assembling and inspection of engine components and variety of most common engine types in modern propulsion context namely MTU, CUMMINS, MAN and a ZF gearbox.

To accommodate for emerging training requirements of marine engineers and modern ship technologies, the department established a live marine diesel engine simulator and an Engine Room Simulator. This Marine Diesel Engine, NIIGATA (Model – 6M26ZEG) along with its gearbox was acquired by EX – A 522 ship of Sri Lanka Navy.

To attain the knowledge and exposure on small craft powering, P 129 Inshore Patrol Craft of Sri Lanka Navy was undertaken and presently utilized for undergraduates to experience a real
– time experience

Academic Staff

Head of the Department:

Cmde (E) MCP Dissanayake, *USP, psc MSc in Mar. Eng. (Aus), BTECH in Mech. Eng. (India), CEng (I), CEng(UK), AMIE(I), AMIE(SL), FRINA(UK)*

Senior Lecturers:

LCdr (E) NVL Silva, *MBA (MoT), MSc MarEng, BSc(DS) MarEng, AMIE (SL), CEng (I)*

Probationary Lecturers:

LCdr (E) VADJV Perera, *BSc (Hons) Mar. Eng. MHRM(UOC), CENG(UK), CEng (I), AMIE (I), MRINA (UK)*

LCdr (E) RDMHM Ariyarathne *BSc (Hons) Mar. Eng. CEng (I), AMIE (I), AMIE (SL)*

`LCdr (E) KREMSB Ekanayake *BTech in Mech. Eng. CEng(I), AMIE(I), AMIE(SL)*

Programme Structure - BSc. Eng. (Hons.) in Marine Engineering

LEVEL 1

SEMESTER 1					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MA 1103	*Mathematics*	C	3	-	-
CE 1102	*Fundamentals of Civil Engineering*	C	2	-	-
ME 1103	*Workshop Technology*	C	3	-	-
ME 1112	*Engineering Drawing*	C	2	-	-
ET 1102	*Basic Electronics*	C	2	-	-
EE 1102	*Fundamentals of Electrical Engineering*	C	2	-	-
IT 1102	*Basic Computer Programming & Networking*	C	2	-	-
DL 1131	*English : Basic StudySkill (Engineering)*	C	-	1	-
MS 1014	*Military Studies*	C	-	-	4
		Semester Total	**16**	**1**	**4**
		Total credits up to Semester 1	**16**	**1**	**4**

INTERMEDIATE TERM 1 (04 WEEKS)					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MA 1002	*Mathematical Software*	C	2		-
DL 1341	*Sinhala/Tamil: Basics for Beginners*	C	-	1	-
DL 1351	*Tamil: Basic for Beginners*	C	-	1	-
		Semester Total	**2**	**2**	**0**
		Total credits up to Intermediate Term 1	**18**	**3**	**4**

SEMESTER 2					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MR 1223	*Engineering Knowledge (Motor) I*	C	3	-	-
MR 1202	*Marine Engineering Materials*	C	2	-	-
MR 1213	*Marine Power Transmission*	C	3	-	-
CE 1222	*Structural Mechanics I*	C	2	-	-
CE 1232	*Fluid Mechanics I*	C	2	-	
ME 1202	*Fundamentals of Thermodynamics*	C	2	-	-
ME 1222	*Applied Mechanics*	C	2	-	-
MA 1203	*Calculus*	C	3	-	-
DL 1241	*English Advanced Study Skills (Engineering)*	C	-	1	-
MS 2024	*Military Studies*	C	-	-	4
		Semester Total	**19**	**1**	**4**
		Total credits up to Semester 2	**37**	**4**	**8**

SEMESTER 3					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
MR 2102	*Marine Engineering Drawing*	C	2	-	-
ME 2112	*Applied Thermodynamics*	C	2	-	-
ME 2123	*Manufacturing Systems*	C	3	-	-
ME 2132	*Dynamics of Mechanical Systems*	C	2	-	-
CE 2102	*Structural Mechanics II*	C	2	-	-
EE 2122	*Electrical Measurements and Electronic Instrumentation*	C	2	-	-
MA 2103	*Advanced Calculus*	C	3	-	-
DL 3151	*English: Writing & Speaking Skills(Engineering)*	C	-	1	-
MS 3032	*Strategic & Defence Studies*	C	-	-	2
MS 3044	*Military Studies*	C	-	-	4
		Semester Total	**16**	**1**	**6**
		Total credits up to Semester 3	**53**	**5**	**14**
			GPA	**NGPA**	**MGPA**

SEMESTER 4					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MR 2213	*Naval Architecture and Ship's Stability*	C	3	-	-
ME 2203	*Physical Metallurgy*	C	3	-	-
MA 2203	*Numerical Methods & Complex Variables*	C	3	-	-
ME 2213	*Control Systems Engineering*	C	3	-	-
ME 2222	*Heat & Mass Transfer*	C	2	-	-
ME 2233	*Mechanics of Machines*	C	3	-	-
DL 4161	*English: Research Writing Skills(Engineering)*	C	-	1	-
MS 4064	*Military Studies*	C	-	-	4
		Semester Total	**17**	**1**	**4**
		Total credits up to Semester 4	**70**	**6**	**18**

INTERMEDIATE TERM 2 (09 WEEKS)					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MR 2011	*Industrial Visits & Report Writing*	C	-	1	-
AE 2021	*Field specific software (Solid Works/FEA)*	C	-	1	-
EN 20X1	*Humanities Elective I*	E	-	2	
EN 20X2	*Humanities Elective II*	E		2	-
		Semester Total	**0**	**6**	**0**
		Total credits up to Intermediate Term 1	**70**	**12**	**18**

LEVEL 3

SEMESTER 5					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MR 3103	*Ship Resistance & Propulsion*	C	3	-	-
ME 3113	*Advanced Control Systems*	C	3	-	-
ME 3123	*Machine Elements in Design*	C	3	-	-
ME 3133	*Fluid Power Systems*	C	3	-	-
CE 3142	*Professional Ethics*	C	2	-	-
MA 3102	*Applied Statistics*	C	2	-	-
MF 3122	*Principles of Management*	C	2	-	-
		Semester Total	**18**	**0**	**0**
		Total credits up to Semester 4	**88**	**12**	**18**

SEMESTER 6					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MR 3203	*Ship Construction*	C	3	-	-
MR 3213	*Engineering Knowledge (Motor) II*	C	3	-	-
MR 3223	*Small Craft Powering*	C	3	-	-
MR 3232	*Marine Electrical Technology*	C	2	-	-
ME 3243	*Computational Fluid Dynamics*	C	3	-	-
MF 3112	*Business Economics &Accounting*	C	2	-	-
		Semester Total	**16**	**0**	**0**
		Total credits up to Semester 4	**104**	**12**	**18**

INDUSTRIAL TRAINING					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MR 3016	*Industrial Training*	C	-	6	-
		Semester Total	**0**	**6**	**0**
		Total credits up to Semester 4	**104**	**18**	**18**

SEMESTER 7					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MR 4206	*Group Research Project **	C	-	-	-
MR 4103	*Ship Controllability & Vibration*	C	3	-	-
MR 4113	*Engineering Knowledge (General) I*	C	3		
MR 4123	*Marine Vehicle Design*	C	3	-	-
MR 4132	*Marine Project Management*	C	2	-	-
MR 4142	*Research Methodology*	C	2	-	-

MF 4112	*Human Resource Management & Industrial Relations*	C	2	-	-
		Semester Total	**15**	**0**	**0**
		Total credits up to Semester 4	**119**	**18**	**18**

**This module will be continued and evaluated in semester 8*

SEMESTER 8					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MR 4206	*Group Research Project*	C	6	-	-
MR 4212	*Maritime Law*	C	2	-	-
MR 4223	*Steam Plant & Gas Turbine*	C	3	-	-
MR 4233	*Marine Industrial Engineering*	C	3	-	-
MR 4213	*Engineering Knowledge (General) II*	C	3	-	-
MR 42X2	*Technical Elective*	E	2	-	-
		Semester Total	**19**	**0**	**0**
		Total credits up to Semester 4	**138**	**18**	**18**

Code	**Technical Elective**	**Category**
MR 4242	*International Safety Management & Engine Room Resource Management*	
MR 4252	*Fire Engineering and NBC Safety*	
Code	**Humanities Elective I**	**Category**
EN 2012	*Art & Tradition*	*HE 1*
EN 2022	*Photography*	
EN 2032	*International Relations*	
Code	**Humanities Elective II**	***Category***
EN 2042	*Human Rights*	*HE 2*
EN 2052	*History and Development of Engineering*	
EN 2062	*Psychology for Engineers*	

DEPARTMENT OF MECHANICAL ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

The department of Mechanical Engineering offers two specializations, namely Mechanical Engineering and Mechatronic Engineering, of BSc in Engineering degree programme, and it has been playing a dynamic role in the FOE mainly due to the presence of a highly qualified panel of lecturers with a wide range of expertise; their academic background, teaching experiences, research capabilities and industrial exposure make a significant contribution to the overall strength of the department.

1.0 Why Study Mechanical Engineering?

Mechanical Engineers build the world around us. From the tiniest nanotechnology, through to cars and buildings, to airplanes and space stations, mechanical engineers are responsible for the design and development. Studying mechanical engineering is a combination of science, mathematics and computing.

One of the most diverse and versatile engineering fields, Mechanical Engineering is the study of objects and systems in motion. As such, the field of mechanical engineering touches virtually every aspect of modern life, including the human body, a highly complex machine. A career in Mechanical Engineering allows you to build a better future for you and for the world. Enormous percentage of engineers have high levels of job satisfaction has been reported in many research studies.

Mechanical Engineers design and build solutions to a range of problems, improving efficiency across a wide range of industries. By studying Mechanical Engineering, students can look forward to good job prospects, high salaries and varied work. Mechanical Engineers are always in demand for jobs such as Automotive Engineer, Control and Instrumentation Engineer, Maintenance Engineer, Mechanical Engineer, Manufacturing Engineer, etc.

Our Vision

To be an indispensable organization in Mechanical Engineering education with zeal to provide the value driven platform for the students to acquire knowledge and empower themselves to shoulder higher responsibilities in the development of the nation.

Our Mission

TopromoteMechanicalEngineeringeducationandresearchbyprovidingqualityeducation,keeping pace with time and technology.

To produce graduates who are practitioners of engineering, concerned with applying scientific

knowledge, mathematics and ingenuity to develop solutions for Engineering problems.

1.1 B.Sc. Eng. (Hons) in Mechanical Engineering

This four-year full time undergraduate programme aims to impart competencies on Mechanical Engineering related to Design, Manufacturing, Control Systems, Industrial Engineering, Energy Engineering and Automobile Engineering there by the graduates are well equipped to become competent Mechanical Engineers. Students need to earn 135 GPA credits and 16 NGPA credits for graduation while Engineering officer cadets in this stream require further 33 MGPA credits.

1.2 B.Sc. Eng. (Hons) in Mechatronic Engineering

This four-year full time undergraduate programme aims to deliver the competencies on design and development of Mechatronic Systems, which integrate Mechanical Engineering, Electronic Engineering,Control Systems and Information Technology, thereby the graduates are well equipped to become competent Mechatronics Engineers. Students are required to earn 135 GPA credits and 18 NGPA credits for graduation. Officer Cadets require 33 MGPA credits on top of above the graduation.

2.0 Laboratory Facilities

The department progresses with well-equipped laboratories in Thermodynamics, Material Testing, Metrology & NDT, Automobile Engineering, Control & Mechanics, Mechatronics Engineering and Manufacturing. The department implements its well-designed curricula and in addition to the programme of lectures and practical sessions, the department also organizes industrial visits and guest lectures providing further opportunities for enhancement and consolidation of students' knowledge.

Academic Staff

Head of the Department:

Captain (E) DS Bogahawatte**,** *MBA(MOT), MMM(UOC), BSc (DS) Mar. Eng (Hons), CEng, MIM(SL), FIE(SL)*

Senior Lecturers:

Dr. RMPS Bandara, *BSc Eng (Hons) (Moratuwa), PhD (Moratuwa), AMIE (SL), MSLAAS, CTHE (Colombo)*

Mrs. PPSS Pussepitiya,*BSc Eng (Peradeniya) (Hons.), MSc (Moratuwa), AMIE (SL)*

Mr. WSP Fernando, *BSc Eng (Moratuwa), MPhil (Moratuwa), MSc (Moratuwa)*

Mr. KDPR Jayathilake, *Eng (Hons.) (Moratuwa), MSc in Engineering and Technology (SIIT, Thailand), AMIE (SL)*

Probationary Lecturers:

Mrs. GMSM Gaspe, *B.Tech (Hons) (UWU), MSc (UOC)*

LCdr (E) PMKC Chandimal, *BSc (DS) Mar. Eng (Hons), PGD in Def Mgt., C Eng (I), AMIE (SL)*

Maj MSR De Soyza, *BSc Eng (Hons) (KDU)*

Mr. SP Gajanayake, *BSc Eng (Hons) (KDU), AMIE (SL),ECSL*

Mr. FBYR de Silva, *BSc Eng (Hons) (KDU), AMIE (SL),ECSL*

Mr. RMRC Udayanandana, *BSc (Peradeniya), PG Dip (Mechanical Eng) (UK), PG Dip (Manufacturing Sys Eng) (Moratuwa), MPhil (Moratuwa, Reading), AMIE (SL)*

Mr. MANI Munasinghe, *BSc Eng (Hons) (Moratuwa), MEng (Canada), AMIE (SL), AMIMechE, CIMA (Adv. Dip MA) (UK)*

Mr. PSH Pallemulla, *BSc Eng (Hons) (KDU), MPhil (Moratuwa, reading), AMIE (SL)*

Ms. HDI Piyumini, *BSc Eng (Hons) (SLIIT), MSc (Engineering & Technology) (TU, Thailand), AMIE (SL), AMIMechE*

Ms. IM Akarawita, *BSc Eng (Hons) (KDU), MSc (Industrial Automation) (Moratuwa, Reading*)

Capt TDK Gunasena, *BSc Eng (Hons) (KDU)*

Engineering Teaching Assistant

Mrs. S Kasthuri, *B. Tech (UWU)*

Academic Supportive Staff

Ms. WVPP Madhumali, *BSc Eng (Hons) (KDU)*

Ms. ULTH Ratnayake, *BSc Eng (Hons) (KDU)*

Ms. MSD Nimali, *BSc Eng (Hons) (UOR),AMIE(SL)*

Mr. HAI de Silva, *BSc (Phy) (Kelaniya), PGDip in Industrial Automation (Moratuwa)*

Mr.UVH Sameera, *BSc Eng (Hons) (KDU)*

Mr.SAN Kulasingha, *BSc Eng (Hons) (KDU)*

Programme Structure B.Sc. Eng (Hons.) in Mechanical Engineering

SEMESTER 01					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE 1102	*Fundamentals of Electrical Engineering*	C	2		
ET 1102	*Basic Electronics*	C	2		
CE 1102	*Fundamentals of Civil Engineering*	C	2		
MA 1103	*Mathematics*	C	3		
ME 1103	*Workshop Technology*	C	3		
ME 1112	*Engineering Drawing*	C	2		
DL 1131	*English: Basic Study Skills (Engineering)*	C		1	
IT 1012	*Basic Computer Programming and networking*	C	2		
MS 1014	*Military Studies*	C			4
Semester Total			**16**	**1**	**4**
Total credits up to Semester 1			**16**	**1**	**4**

INTERMEDIATE TERM I					
CODE	**MODULE**	**CATEGOR Y**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
DL1341	*Sinhala for Beginners*	C		1	
DL1351	*Tamil for Beginners*				
MA1002	*Mathematical Software*	C	2		
Semester Total			2	1	0
Total credits up to Intermediate Term 1			**18**	**2**	**4**

SEMESTER 02					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ME 1202	*Fundamentals of Thermodynamics*	C	2		
ME 1212	*Engineering Materials*	C	2		
ME 1222	*Applied Mechanics*	C	2		
CE 1222	*Structural Mechanics I*	C	2		
CE 1232	*Fluid Mechanics I*	C	2		
EE 1203	*Theory of Electricity*	C	3		
MA 1203	*Calculus*	C	3		
DL 2141	*English: Advanced Study Skills (Engineering)*	C		1	
MS 2024	*Military Studies*	C			4
Semester Credits			**16**	**1**	**4**
Total Credits up to Semester 2			**34**	**3**	**8**

SEMESTER 03					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ME 2102	*Computer Aided Drafting*	C	2		
ME 2112	*Applied Thermodynamics*	C	2		
ME 2123	*Manufacturing Systems*	C	3		
ME 2132	*Dynamics of Mechanical Systems*	C	2		
CE 2102	*Structural Mechanics II*	C	2		
EE 2102	*Electrical Machines & Drives I*	C	2		
EE 2122	*Electrical Measurements & Electronic Instrumentation*	C	2		
MA 2103	*Advanced Calculus*	C	3		
DL 3151	*English Writing & Speaking Skills (Engineering)*	C		1	
MS 3032	*Strategic & Defence Studies*	C			2
MS 3044	*Military Studies*	C			4
Semester Credits			**18**	**1**	**6**
Total Credits up to Semester 3			**52**	**4**	**14**

SEMESTER 04					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ME 2203	*Physical Metallurgy*	C	3		
ME 2213	*Control Systems Engineering*	C	3		
ME 2222	*Heat & Mass Transfer*	C	2		
ME 2233	*Mechanics of Machines*	C	3		
MC 2212	*Sensors & Actuators*	C	2		
MA 2203	*Numerical Methods & Complex Variables*	C	3		
DL 4161	*English: Research Writing Skills*	C		1	
MS 4064	*Military Studies*	C			4
Semester Credits			**16**	**1**	**4**
Total Credits up to Semester 4			**68**	**5**	**18**

INTERMEDIATE TERM II					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ME 2011	*Industrial Visits & Report Writing*	C		1	
ME 2022	*Finite Element Analysis*	C	2		
EN 2XX2	*Humanities Elective I*	HE 1		2	
EN 2XX2	*Humanities Elective II*	HE 2		2	
Semester Credits			**2**	**5**	**0**
Total Credits up to Intermediate Term II			**70**	**10**	**18**

Code	Humanities Elective I	Category
EN 2012	*Art & Tradition*	HE 1
EN 2022	*Photography*	
EN 2032	*International Relations*	
Code	**Humanities Elective II**	**Category**
EN 2042	*Human Rights*	HE 2
EN 2052	*History and Development of Engineering*	
EN 2062	*Psychology for Engineers*	

SEMESTER 05					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			PA	**NGPA**	**MGPA**
ME 3103	*Automotive Engineering I*	C	3		
ME 3113	*Advanced Control Systems*	C	3		
ME 3123	*Machine Elements in Design*	C	3		
ME 3133	*Fluid Power Systems*	C	3		
CE 3142	*Professional Ethics*	C	2		
MA 3102	*Applied Statistics*	C	2		
MF 3122	*Principles of Management*	C	2		
Semester Credits			**18**	**0**	**0**
Total Credits up to Semester 5			**88**	**10**	**18**

SEMESTER 06					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ME 3202	*Ballistic Engineering (only for officer cadets)*	C	2		
ME 3212	*Entrepreneurship for Engineers (Only for day scholars)*	C			
ME 3223	*Automotive Engineering II*	C	3		
ME 3233	*Energy Technology & Environment*	C	3		
ME 3243	*Computational Fluid Dynamics*	C	3		
ME 3252	*Principles of Automation*	C	2		
ME 3262	*Research Methodology*	C	2		
MF 3112	*Business Economics & Financial Accounting*	C	2		
Semester Credits			**17**	**0**	**0**
Total Credits up to Semester 6			**105**	**10**	**18**

INDUSTRIAL TRAINING					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ME 3016	*Industrial Training*	C		6	
Semester Credits			**0**	**6**	**0**
Total Credits up to Industrial Training			**105**	**16**	**18**

SEMESTER 07					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ME 4104	*Machine Design*	C	4		
ME 4112	*Industrial Project Management*	C	2		
ME 4122	*Solid Mechanics*	C	2		
ME 4206	*Research Project* *	C	*		
MA 4102	*Operational Research*	C	2		
MF 4112	*Human Resource Management & Industrial Relations*	C	2		
ME 4XX2	*Technical Elective I*	E	2		
Semester Credits			**14**	**0**	**0**
Total Credits up to Semester 7			**119**	**16**	**18**

CODE	**MODULE**	**CATEGORY**
ME 4402	*Robotics Technology*	**Technical Elective I**
ME 4412	*Energy Conservation*	
ME 4452	*Advanced Automation*	
MC 4142	*Computer Integrated Manufacturing (Offered at Semester 8 only for Intake 35)*	
MR4162	*Naval Architecture and Boat Design I*	

SEMESTER 08					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
ME 4206	*Research Project*	C	6		
ME 4213	*Mechatronic Systems*	C	3		
ME 4223	*Industrial Engineering*	C	3		
LW 4252	*Commercial & Industrial Law*	C	2		
ME 4XX2	*Technical Elective II*	E	2		
Semester Credits			**16**	**0**	**0**
Total Credits up to Semester 8			**135**	**16**	**18**

CODE	**MODULE**	**CATEGORY**
ME 4422	*Building Energy Systems*	**Technical Elective II**
ME 4432	*Advanced Vibration & Dynamics*	
ME 4442	*Advanced Automotive Engineering*	
MC 4402	*Intelligent Systems Control*	
MR 4272	*Naval Architecture and Boat Design II*	

Programme Structure B.Sc. Eng (Hons.) in Mechatronic Engineering

SEMESTER 01					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
EE 1102	*Fundamentals of Electrical Engineering*	C	2		
ET 1102	*Basic Electronics*	C	2		
CE 1102	*Fundamentals of Civil Engineering*	C	2		
MA 1103	*Mathematics*	C	3		
ME 1103	*Workshop Technology*	C	3		
ME 1112	*Engineering Drawing*	C	2		
DL 1131	*English: Basic Study Skills (Engineering)*	C		1	
IT 1012	*Basic Computer Programming and networking*	C	2		
MS 1014	*Military Studies*	C			4
Semester Total			**16**	**1**	**4**
Total credits up to Semester 1			**16**	**1**	**4**

INTERMEDIATE TERM I					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGP A**	**MGPA**
DL1341	*Sinhala for Beginners*	C		1	
DL1351	*Tamil for Beginners*				
MA1002	*Mathematical Software*	C	2		
Semester Total			2	1	0
Total credits up to Intermediate Term 1			**18**	**2**	**4**

SEMESTER 02					
CODE	**MODULE**	**CATEGOR Y**	**CREDITS**		
			GPA	**NGP A**	**MGPA**
MC 1202	*Analog Electronics*	C	2		
ME 1202	*Fundamentals of Thermodynamics*	C	2		
ME 1212	*Engineering Materials*	C	2		
ME 1222	*Applied Mechanics*	C	2		
CE 1222	*Structural Mechanics I*	C	2		
EE 1203	*Theory of Electricity*	C	3		
MA 1203	*Calculus*	C	3		
DL 2141	*English: Advanced Study Skills (Engineering)*	C		1	
MS 2024	*Military Studies*	C			4
Semester Credits			**16**	**1**	**4**
Total Credits up to Semester 2			**34**	**3**	**8**

SEMESTER 03					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MC 2112	*Digital Electronics*	C	2		
ME 2102	*Computer Aided Drafting*	C	2		
ME 2123	*Manufacturing Systems*	C	3		
ME 2132	*Dynamics of Mechanical Systems*	C	2		
ET 2103	*Signals and Systems*	C	3		
EE 2102	*Electrical Machines & Drives I*	C	2		
EE 2122	*Electrical Measurements & Electronic Instrumentation*	C	2		
MA 2103	*Advanced Calculus*	C	3		
DL 3151	*English Writing & Speaking Skills (Engineering)*	C		1	
MS 3032	*Strategic & Defence Studies*	C			2
MS 3044	*Military Studies*	C			4
Semester Credits			**19**	**1**	**6**
Total Credits up to Semester 3			**53**	**4**	**14**

SEMESTER 04					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MC 2202	*Programming for Mechatronic Systems*	C	2		
MC 2212	*Sensors and Actuators*	C	2		
ME 2203	*Physical Metallurgy*	C	3		
ME 2213	*Control Systems Engineering*	C	3		
ME 2233	*Mechanics of Machines*	C	3		
ET 2223	*Microprocessors, Microcontrollers & Embedded Systems*	C	3		
MA 2203	*Numerical Methods & Complex Variables*	C	3		
DL 4161	*English: Research Writing Skills*	C		1	
MS 4064	*Military Studies*	C			4
Semester Credits			**19**	**1**	**6**
Total Credits up to Semester 4			**72**	**5**	**18**

INTERMEDIATE TERM II					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MC 2012	*Mini Project*			2	
ME 2011	*Industrial Visits & Report Writing*	C		1	
ME 2022	*Finite Element Analysis*	C	2		
EN 2XX2	*Humanities Elective I*	HE 1		2	
EN 2XX2	*Humanities Elective II*	HE 2		2	
Semester Credits			**2**	**7**	**0**
Total Credits up to Intermediate Term II			**74**	**12**	**18**

Code	Humanities Elective I	Category
EN 2012	*Art & Tradition*	HE 1
EN 2022	*Photography*	
EN 2032	*International Relations*	
Code	**Humanities Elective II**	**Category**
EN 2042	*Human Rights*	HE 2
EN 2052	*History and Development of Engineering*	
EN 2062	*Psychology for Engineers*	

SEMESTER 05					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MC 3102	*Mechatronic System Design*	C	2		
ME 3113	*Advanced Control Systems*	C	3		
ME 3123	*Machine Elements in Design*	C	3		
ET 3142	*Digital Signal Processing*	C	2		
CE 3142	*Professional Ethics*	C	2		
MA 3102	*Applied Statistics*	C	2		
MF 3122	*Principles of Management*	C	2		
Semester Credits			**16**	**0**	**0**
Total Credits up to Semester 5			**90**	**12**	**18**

SEMESTER 06					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MC 3202	*Principles of Automation*	C	2		
MC 3213	*Mechatronic Design Project*	C	3		
MC 3222	*Fundamentals of Robotics*	C	2		
ME 3202	*Ballistic Engineering (only for officer cadets)*	C	2		
ME 3212	*Entrepreneurship for Engineers(only for day scholars)*	C			
EE 3223	*Power Electronics and Applications I*	C	3		
ME 3262	*Research Methodology*	C	2		
MF 3112	*Business Economics & Financial Accounting*	C	2		
Semester Credits			**16**	**0**	**0**
Total Credits up to Semester 6			**106**	**12**	**18**

INDUSTRIAL TRAINING					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MC 3016	*Industrial Training*	C		6	
Semester Credits			**0**	**6**	**0**
Total Credits up to Industrial Training			**106**	**18**	**18**

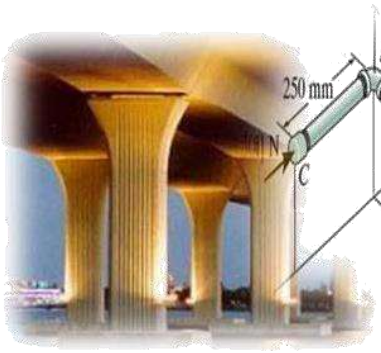
SEMESTER 07					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MC 4102	*Advanced Automation*	C	2		
MC 4112	*Advanced Robotics and Manipulators*	C	2		
MC 4122	*Intelligent Systems Control*	C	2		
ME 4112	*Industrial Project Management*	C	2		
MC 4206	*Research Project*	C	*		
MA 4102	*Operational Research*	C	2		
MF 4112	*Human Resource Management & Industrial Relations*	C	2		
MC 4XX2	*Technical Elective I*	E	2		
Semester Credits			**14**	**0**	**0**
Total Credits up to Semester 7			**120**	**18**	**18**

*Continued in Semester 8

CODE	MODULE	CATEGORY
ME 4122	*Solid Mechanics*	**Technical Elective I**
MC 4152	*Automotive Systems*	
MC 4132	*Machine learning*	
MC 4142	*Computer Integrated Manufacturing*	

SEMESTER 08					
CODE	**MODULE**	**CATEGORY**	**CREDITS**		
			GPA	**NGPA**	**MGPA**
MC 4212	*Non-linear Control Systems*	C	2		
MC 4206	*Research Project*	C	6		
ME 4223	*Industrial Engineering*	C	3		
LW 4252	*Commercial & Industrial Law*	C	2		
MC 4XX2	*Technical Elective II*	E	2		
Semester Credits			**15**	**0**	**0**
Total Credits up to Semester 8			**135**	**18**	**18**

CODE	MODULE	CATEGORY
ME 4442	*Advanced Automotive Engineering*	**Technical Elective II**
ET 4242	*Internet of Things*	
ET 4272	*Deep Learning*	



$$dQ = v\,dA$$

$$\frac{dQ}{dr} = \frac{(P_1 - P_2)}{4\mu L}\left(R^2 - r^2\right)2\pi r$$

DEPARTMENT OF MATHEMATICS

$$\frac{df(t)}{dx} = Af(t) + Lw(t)$$

DEPARTMENT OF MATHEMATICS

1.0 Introduction

The Department of Mathematics was established in 2011 and is blessed with a team of highly dedicated and research-oriented academic staff who are always ready to help their academic pursuits.

The department offers modules in both Mathematics and Statistics for B.Sc. degrees in Aeronautical Engineering, Civil Engineering, Marine Engineering, Mechanical Engineering, Electrical, Electronic, and Telecommunication Engineering. Moreover, we offer several modules in Mathematics to the Faculty of Management, Social Sciences and Humanities and Faculty of Allied Health Sciences, Faculty of Defence & Strategic Studies, Faculty of Technology, Faculty of Built Environment and Spatial Science, Faculty of Computing at KDU.

Our Mission

The department's mission is to elevate the quality of a graduate and carry out multidisciplinary research by mobilizing analytical thinking, quantification, and reasoning by enhancing the learner's mathematical capacity. The courses we offer at the department have been designed to enhance the students' intellectual capacity and broaden the horizon of abstract reasoning of the students at KDU.

Academic Staff

Head of the Department:

Dr. US Rahubadde, *BSc Special (Kelaniya), PG Dip (Peradeniya), PhD(Hust, China), CPhys, MIP (SL), MSLAAS, MIEEE, CTHE (Kelaniya)*

Senior Lectures

Mr. NS Rathnayake, *Mphil in Mathematics (Colombo) BSc (Hons) Special in Mathematics (Ruhuna) CTHE (Colombo) (On Study Leave)*

Probationary Lectures

Mr. MKAJ Maldeniya, *MSc (Maths), New Mexico State University, USA, BSc (Hons) Special in Mathematics (J'Pura), CTHE (Colombo)*

Ms.NGSANawarathne,*B.Sc.(Hons)SpecialinMathematics(Peradeniya),M.Sc.(Applied statistics)(Reading)*

Academic Supportive Staff

Instructor Gr. I

Ms. AG Ashani, *BSc in Mathematics (Colombo), PGD in Mathematics Education (Colombo), MSc in Mathematics (SHSU – USA), MSc in Mathematics (UWO – Canada)*

Instructor Gr. I

Ms. KMEM Karunawardana, *BSc Special in Mathematics (Ruhuna), Mphil in Mathematics (Ruhuna), MSc in Operational Research (Moratuwa)*

Instructor Gr. II

Mr. PVNMC Perera, *BSc (Hons) Special in Mathematics (Kelaniya)*

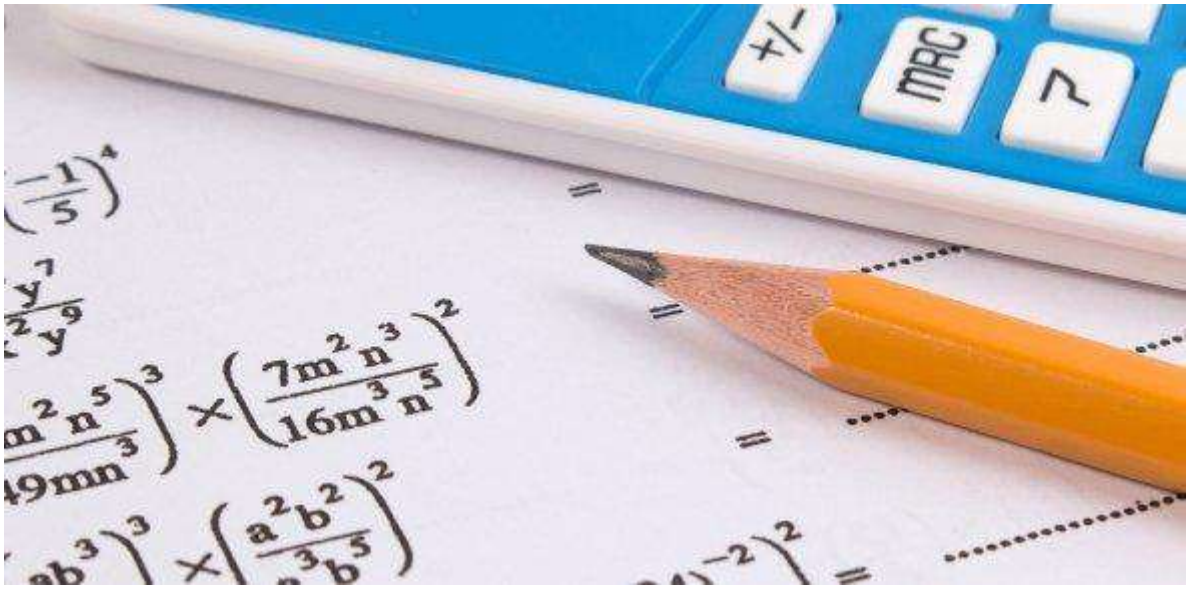
Instructor Gr. II

JADIIL Jayathunga, *BSc (Hons) in Mathematics (Kelaniya - 01st Class Honors)*

MODULES OFFERED BY THE DEPARTMENT OF MATHEMATICS

ODD SEMESTER					
Faculty of Engineering					
Sr. No	**Semester**	**Code**	**Subject**	**No. of Credits (GPA)**	**Modules offered to:**
1	*I*	*MA 1103*	*Mathematics*	*3*	*All Eng.*
2	*III*	*MA 2103*	*Advanced Calculus*	*3*	*All Eng.*
3	*V*	*MA 3102*	*Applied Statistics*	*2*	*All Eng.*
4	*VII*	*MA 4102*	*Operational Research*	*2*	*ME, MC*
-	**BSc (Hons) in Aircraft Maintenance Degree Programme**				
5	*V*	*MA 3123*	*Mathematics*	*3*	*Aircraft Maintenance*
6	*VII*	*MA 4113*	*Probability and Statistics*	*3*	*Aircraft Maintenance*
Other Faculties - KDU					
7	*I*	*MT 1113*	*Mathematics*	*3*	*Management and Technical Sciences– FMSH*
8	*III*	*MA 2112*	*Probability & Statistics*	*2*	*Defence & Strategic Studies - FDSS*
9	*I*	*TETC 1112*	*Mathematics*	*2*	*Construction Technology/ Bio Medical Instrumentation Technology/ Building Service Technology - FOT*
10	*I*	*LB 1114*	*Fundamentals of Mathematics*	*4*	*Applied Data Science Communication - FMSH*
11	*III*	*CM 2042*	*Calculus II*	*2*	*Data Science and Business Analytic - FOC*
12	*I*	*SP 13103*	*Geometry and Linear Algebra*	*3*	*Surveying Sciences - FBESS*
13	*I*	*MA 1113*	*Basic Mathematics*	*3*	*Social Sciences - FMSH*
14	*III*	*RT 2121*	*Mathematics I*	*2*	*Radiotherapy - FAHS*
15	*V*	*RT 3124*	*Mathematics II*	*2*	*Radiotherapy - FAHS*
16	*I*	*SS 1162*	*Mathematics*	*2*	*Social Science - FAHS*

EVEN SEMESTER					
Faculty of Engineering					
1	*II*	*MA 1232*	*Mathematical Software*	*2*	*All Eng.*
2	*II*	*MA 1203*	*Calculus*	*3*	*All Eng.*
3	*IV*	*MA 2203*	*Numerical methods & Complex Variables*	*3*	*All Eng.*
- BSc (Hons) in Aircraft Maintenance Degree Programme					
4	*VI*	*MA 3212*	*Operational Research*	*2*	*Aircraft Maintenance*
Other Faculties - KDU					
5	*II*	*TETC 1212*	*Calculus I*	*2*	*Construction Technology/ Bio Medical Instrumentation Technology/ Building Service Technology/ Information and Communication Technology -FOT*
6	*II*	*PM 1225*	*Pharmaceutical Mathematics*	*2*	*Pharmacy – FAHS*
7	*II*	*MA 1212*	*Basic Calculus*	*2*	*Management and Technical Sciences – FMSH*
8	*II*	*MA 1222*	*Mathematics I*	*2*	*International Relations and Strategic Studies – FMSH*



MODULES OFFERED BY THE DEPARTMENT OF MATHEMATICS

Intake 35 onwards							
ODD SEMESTER							
Sr. No	**Semester**	**Code**	**Subject**	**No. of Credits (GPA)**	**Total Hrs**	**Degree Programme**	**Faculty**
1st semester							
1	*I*	*MA 1103*	*Mathematics*	*3*	*60hrs*	*All Eng.*	*FOE*
2	*I*	*MA 1113*	*Basic Mathematics*	*3*	*45hrs*	*BSc in Social Science*	*FMSH*
3	*I*	*TETC 1112*	*Fundamental Mathematics*	*3*	*45hrs*	*B ET (Hons)*	*FOT*
4	*I*	*MT 1113*	*Mathematics*	*3*	*45hrs*	*BSc in Management & Technical Sciences*	*FMSH*
5	*I*	*LB 1114*	*Fundamentals of Mathematics*	*4*	*90hrs*	*BSc in Applied Data Science*	*FMSH*
6	*I*	*SP 13103*	*Geometry and Linear Algebra*	*3*	*45hrs*	*BSc in Surveying Sciences*	*FBESS*
7	*I*	*SS 1162*	*Mathematics*	*2*	*30hrs*	*BSc in Social Science*	*FMSH*
3rd Semester							
8	*III*	*MA 2103*	*Advanced Calculus*	*3*	*60hrs*	*All Eng.*	*FOE*
9	*III*	*MA 2112*	*Probability & Statistics*	*2*	*45hrs*	*Defence & Strategic Studies - FDSS*	*FDSS*
10	*III*	*RT 2121*	*Mathematics I*	*2*	*30hrs*	*Radiotherapy*	*FAHS*
11	*III*	*CM 2042*	*Calculus II*	*2*	*30hrs*	*BSc in Data Science and Business Analytic*	*FOC*
5th Semester							
12	*V*	*MA 3102*	*Applied Statistics*	*2*	*35hrs*	*All Eng.*	*FOE*
13	*V*	*MA 3123*	*Mathematics*	*3*	*60hrs*	*Aircraft Maintenance Engineering*	*FOE*
14	*V*	*RT 3124*	*Mathematics II*	*2*	*30hrs*	*Radiotherapy*	*FAHS*
7th Semester							
15	*VII*	*MA 4102*	*Operational Research*	*2*	*45hrs*	*Mechanical/Mechatronic*	*FOE*
16	*VII*	*MA 4113*	*Probability & Statistics*	*3*	*60hrs*	*Aircraft Maintenance Engineering*	*FOE*
Total Credits of Odd Semester				*42*			

EVEN SEMESTER							
Sr. No	**Semester**	**Module Code**	**Module**	**No. of Credits**	**Total Hrs**	**Degree Programme**	**Faculty**
2nd Semester							
1	*II*	*MA 1203*	*Calculus*	*3*	*60hrs*	*All Eng.*	*FOE*
2	*II*	*MA 1232*	*Mathematical Software*	*2*	*45hrs*	*All Eng.*	*FOE*
3	*II*	*MA 1212*	*Basic Calculus*	*2*	*45hrs*	*BSc in Management & Technical Sciences*	*FMSH*
4	*II*	*MA 1222*	*Mathematics I*	*2*	*30hrs*	*BSc in International Relations & Strategic Studies*	*FDSS*
5	*II*	*TETC 1212*	*Calculus I*	*2*	*30Hrs*	*B ET (Hons)*	*FOT*
6	*II*	*PM 1225*	*Pharmaceutical Mathematics*	*2*	*30hrs*	*B Pharm (Hons)*	*FAHS*
4th Semester							
7	*IV*	*MA 2203*	*Numerical methods & Complex Variables*	*3*	*60hrs*	*All Eng -AME*	*FOE*
6th Semester							
8	*VI*	*MA 3212*	*Operational Research*	*2*	*45hrs*	*Aircraft Maintenance Engineering*	*FOE*
Total Credits of Even Semester				*18*			

Course Structure

Level (Year)	Semester/ Intermediate Term/ Industrial Training	Number of weeks
Level (01)	Pre Academic Term	**6**
	Semester 01	**15**
	Intermediate Term I	**4**
	Semester 02	**15**
Level (02)	Semester 03	**15**
	Semester 04	**15**
	Intermediate Term II	**09**
Level (03)	Semester 05	**15**
	Semester 06	**15**
	Industrial Training	**12**
Level (04)	Industrial Training	**12**
	Semester 07	**15**
	Semester 08	**15**

Semester based academic program

The bachelor of the Science of Engineering Degree of KDU is designed in a way to ensure that the graduate receives a foundation in mathematics and basic sciences. A broad understanding in Engineering sciences, an exposure to Engineering design aspects and other non-technical subjects that complement the technical subjects.

The degree is four-year full time and conducted in a semester-based system. The minimum duration of the academic programme is four academic years. The academic programme consists of eight semesters, two intermediate academic terms, and an industrial Training period. Each semester of each academic year consists of a minimum of fifteen weeks for teaching. A minimum duration of 24 weeks is allocated for industrial training. The entire programme comprises of 135 Academic Credits and additional academic credits to demonstrative innovation and to achieve specific needs identified by the KDU.

Evaluation of Performance

Grading System

Students' performance is graded on a scale ranging from "A+" to "D+". Grades in respect of all Course Unit examinations is determined as in the Table below.

MARKS	GRADE	GPV
85-100	A+	4.20
75-84	A	4.00
70-74	A-	3.70
65-69	B+	3.30
60-64	B	3.00
55-59	B-	2.70
50-54	C+	2.30
45-49	C	2.00
40-44	C-	1.70
35-39	D+	1.30
<35	F	0.00
not eligible	ne	0.00
Abscent	ab	0.00
Excused	ex	

a. Grade "C" and above are pass grades. They require, a mark of 35% or above in the End Semester (ES) component in addition to achieving the overall mark indicated.

b. Grade "C-" and "D+" are weak pass grades and require, a mark of 35% or above in each ES component in addition to achieving the overall mark indicated.

c. Grade "F" is a failure grade given for failing to reach either 35% in the overall mark or 35% in the ES component.

d. "ne" recorded in the grading column is indicative of "not eligible" and is recorded when the eligibility criteria to sit for the ES examination has not been satisfied.

e. "ab" is recorded for being absent at an ES examination. The Continuous Assessment (CAS) mark will be carried over to be used with a subsequent sitting as a repeat candidate.

f. "ex" is recorded when absent from the ES examination for valid excuses accepted by the Dean Engineering. The CAS mark will be carried over to be used with a subsequent sitting as a first attempt candidate at the next available ES examination.

g. The highest grade obtainable at a repeat attempt, even to upgrade a result, is the grade "C", other than for NGPA modules, and will have a maximum allocated raw mark of 45%.

Grade Point Average (GPA)

The GPA is the credit weighted average of the grade points of value of all Course Units except NGPA Course Units taken in the degree programme.

GPA is calculated for each semester (SGPA) for each year (YGPA) and for the entire degree programme (FGPA) as follows:

$$\text{GPA} = \frac{\sum Xi \,.\, Yi}{\sum Yi}$$

X_i = *Grade Point Value of the* i^{th} *Course Unit*

Y_i = *Number of credits in the* i^{th} *Course Unit*

Semester Grade Point Average (SGPA)

The semester Grade Point Average (SGPA) is the Cumulative GPA for a semester and ascertains the performance of a student in the particular semester. It is calculated on a weighted basis as follows:

$$\text{SGPA} = \frac{\sum(\textit{Grade Point scored for Course Unit X Credit value of the Course Unit})}{\textit{Cumulative credit value of all GPA Course Units of the Semester}}$$

Year Grade Point Average (YGPA)

The year grade point average (YGPA) is the Cumulative GPA for a year and ascertains the performance of a student and whether the student can proceed to the following year. It is calculated on a weight basis as follows:

$$\text{YGPA} = \frac{\sum(\textit{Grade Point scored for Course Unit X Credit value of the Course Unit})}{\textit{Cumulative credit value of all GPA Course Units of the Year}}$$

Final Grade Point Average (FGPA)

The final Grade Point Average (YGPA) is the Cumulative GPA for the entire period of a degree programme and ascertains the performance of a student in the degree programme. It is used in the Award of a Class or a Pass in the degree. It is calculated to the second decimal place on the completion of all requirements for such programme as follows.

$$\text{FGPA} = \frac{\sum(\textit{Grade Point scored for Course Unit X Credit value of the Course Unit})}{\textit{Cumulative credit value of all GPA Course Units of the Degree Programme}}$$

All non-GPA credit courses (NGPA courses) shall not be considered for determining the Semester Grade Point Average (SGPA), Year Grade Point Average (YGPA) or the Final Grade Point Average (FGPA).

GRADUATION REQUIREMENTS

Minimum and Maximum residence times

The minimum duration of the academic programme is four academic years, calculated from the date of registration of students to the academic programme. The maximum allowed duration of academic study is Eight academic years, calculated from the date of registration.

Credit requirements

- Following the programme in the specified field of study for the minimum stipulated period of time;
- Satisfactory completion of the academic requirements of all semesters of the Degree Programme
- Obtaining a minimum of 135 GPA credits and a minimum of 15 NGPA credits
- Fulfilment of the criteria for completing the examinations within the maximum stipulated time period;
- Earning a GPA of not less than 2.00 for the entire degree programme;
- Not having more than 1 D+ or C- grades per semester in the entire programme.

AWARD OF THE DEGREE

Classes

Awarding of classes is determined at the completion of all requirements for graduation within the maximum time period stipulated for the degree programme, The highest eligible Class shall be awarded based on the FGPA as given in the Table below:

FGPA	Final Result
3.70 - 4.20	First Class
3.30 - 3.69	Second Class (Upper Division)
3.00 - 3.29	Second Class (Lower Division)
2.00 - 2.99	Pass

First Class

For the award of a First Class, a student shall have received a FGPA of not less than 3.70 for the entire Degree programme and not have received any failure grade at any time during the entire Degree programme and did not carry over any weak passes for the entire Degree Programme at the time of finalizing the awarding of classes.

Second Class (Upper Division)

For the award of a Second Class (Upper Division), a student shall have received a FGPA of not less than 3.30 for the entire Degree Programme, and not have received more than one failure grades at any time during the entire Degree Programme, and not have received any failure grade during the semesters 7 and 8 and haven't carried over any incomplete or failure grades or weak passes for the entire Degree Programme at the time of finalizing the awarding of classes.

Second Class (Lower Division)

For the award of a Second Class (Lower Division), a student shall have received a FGPA of not less than 3.00 for the entire Degree Programme, and not have received more than two failure grades at any time during the Programme, and not have received any failure grade during the semesters 7 and 8, and haven't carried over any incomplete or failure grades for the entire Degree Programme at the time of finalizing the awarding of classes.

Deans' List/ VC's List

Recognition for inclusion in the VC's List or in the Dean's List will only be if students have not been subjected to severe punishment on disciplinary grounds or guilty of any serious violation of the student code of conduct.

Dean's List

Any student who achieves a YGPA of between 3.70 and 3.90 as per the merit order, is eligible to be in the Dean's list.

VC's List

Any student who achieves a YGPA of 3.90 or above as per the merit order list is eligible to be in the Vice Chancellor's list.

Awards and medals

Students obtaining the highest GPA in Academic Studies are entitled for the respective Awards of merit. Awards to which students may be eligible on the recommendation of relevant authorities and the approval of the Board of Management are:

- Trophy for the First in Order of Merit in the Intake awarded by Gen. SC Ranatunga VSV, USP, psc.
- Trophy for the best overall performance in Academic Studies in the Faculty of Engineering awarded by the KDU.
- Trophy for the best Student in Aeronautical Engineering awarded by Air Vice Marshal U Wanasinghe BSc (Ceyl.), USP, psc.
- Trophy for the best Student in Aircraft Maintenance Engineering
- Trophy for the best Student in Biomedical Engineering
- Trophy for the best Student in Civil Engineering
- Trophy for the best Student in Electrical & Electronic Engineering awarded by Mrs. Nilanthi Fernando in memory of her late husband Cmde. EMK Fernando, SLN, MSc (DS), CEng, psc.
- Trophy for the best Student in Electronic & Telecommunication Engineering
- Trophy for the best Student in Marine Engineering.
- Trophy for the best Student in Mechanical Engineering.
- Trophy for the best Student in Mechatronic Engineering.


FACILITIES

Language lab

Language learning is a path to wisdom. It entails larger horizons of knowledge, self - empowerment, better attitudes, and fair conduct and develops respect and tolerance towards cultural, social, and political diversity, which is essential for peaceful and harmonious living.

While English language is given priority as it is the medium of instruction at the university, the Department of Languages at the Faculty of Management, Social Sciences and Humanities conducts basic Sinhala and basic Tamil courses for all KDU students in order to give them an exposure to these national languages.

All foreign students studying at the university are required to follow national languages courses. Students whose native language is Sinhalese are required to follow the Tamil course and the students whose native language is Tamil have to follow the Sinhala language course.

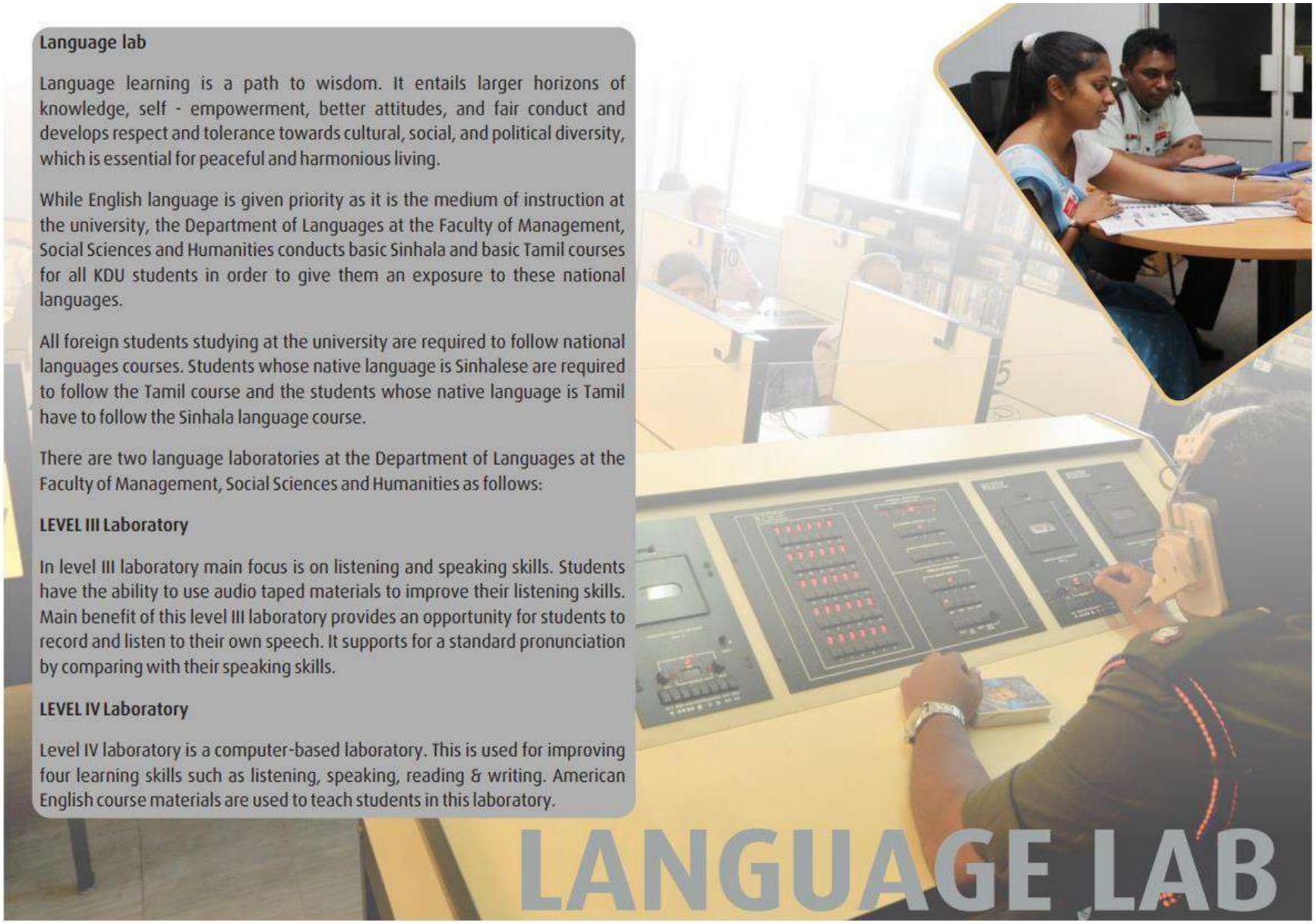
There are two language laboratories at the Department of Languages at the Faculty of Management, Social Sciences and Humanities as follows:

LEVEL III Laboratory

In level III laboratory main focus is on listening and speaking skills. Students have the ability to use audio taped materials to improve their listening skills. Main benefit of this level III laboratory provides an opportunity for students to record and listen to their own speech. It supports for a standard pronunciation by comparing with their speaking skills.

LEVEL IV Laboratory

Level IV laboratory is a computer-based laboratory. This is used for improving four learning skills such as listening, speaking, reading & writing. American English course materials are used to teach students in this laboratory.



SPORTS

KDU encourages all students to take part in sports activities as an integral part of their training. Further, KDU provides facilities and equipment for team sports such as soccer, rugby, cricket, basketball, volleyball, hockey, and individual sports such as squash, tennis, Badminton, table tennis and swimming etc. KDU teams play regular matches with other universities and clubs. Entrance to National Tournaments at appropriate levels can also be facilitated. A swimming pool, table tennis and weight training equipment, gymnasium and playground are also available for the use of students.

The main objective of KDU medical centre conveniently located in the University premises is to provide health care for resident students and the University community. In order to cater healthcare and emergency medical needs. It operates a 24-hour ambulance service and daily clinics. University Medical Officer (UMO) and his supportive staff of nurses and attendants are dedicated to cater to the health care needs of the University community. In addition to his main duties, UMO has the sole authority to issue medical certificates and validate external medical certificates.

MEDICAL CENTRE

Mentoring and Counselling support

Mentoring

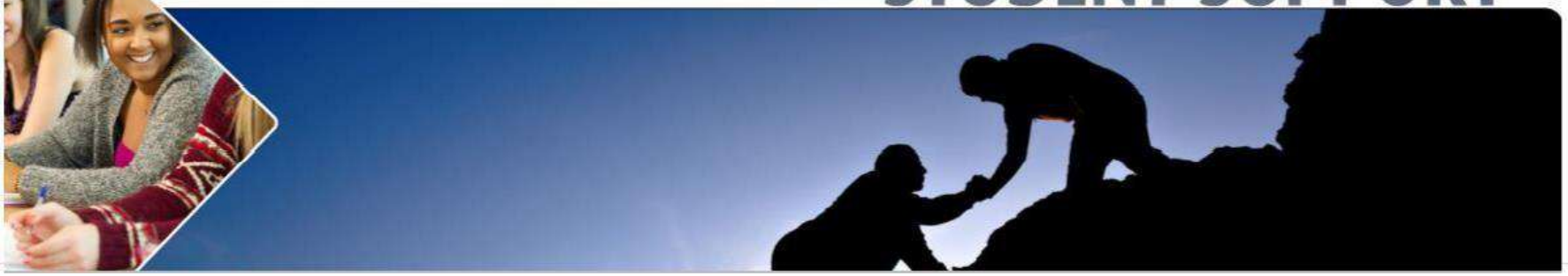
In the FOE, at program level, all students are assigned with a student mentor whom they can contact to discuss matters affecting their studies. Student either can directly discuss the matter with the mentor or seek his/her assistance in getting further help. If the mentor feels that the student's issues are best addressed by a competent counsellor, he/she may refer students to Faculty Student Counsellors.

Counselling

Counselling Service is there to help students make the best of their time at the university by offering confidential and non-judgemental support. The first point of contact for a student for counselling may be his/her student mentor.

The Faculty Student Counsellor may help students with a variety of personal and study-related difficulties ranging from anxiety, bullying, lack of confidence, depression, relationship difficulties with friends or family, problems with their course, time management, homesickness, eating disorders, cultural issues and many more.

Any student in need of professional counselling is directed to the university counsellor, where a trained professional counsellor handles student issues. If the university counsellor feels that a student needs further assistance or medical intervention, such students are directed to the psychiatrist of the university.




SOCIETIES

Biomedical Engineering Scoiety

The mission of BMES is to promote and strengthen the field of Biomedical Engineering. The organization is led and run by students with the assistance of academic advisors. All students enrolled at BSc (Hons) of Engineering degree at KDU are the members of the organization.

BMES actively initiates, encourages and supports various academic, research and public activity programs, develops professional, personal and academic standards among members and promotes cordial relations with the faculty, all other faculties of the university, other educational institutions and any of its community.

It also intends to provide professional exposure and experience in the field of Biomedical Engineering to the students, enhance the managerial, communicational and social skills of the students and to promote activities that would guide students to become socially responsible Biomedical Engineers.

BES

Civil Engineering Society

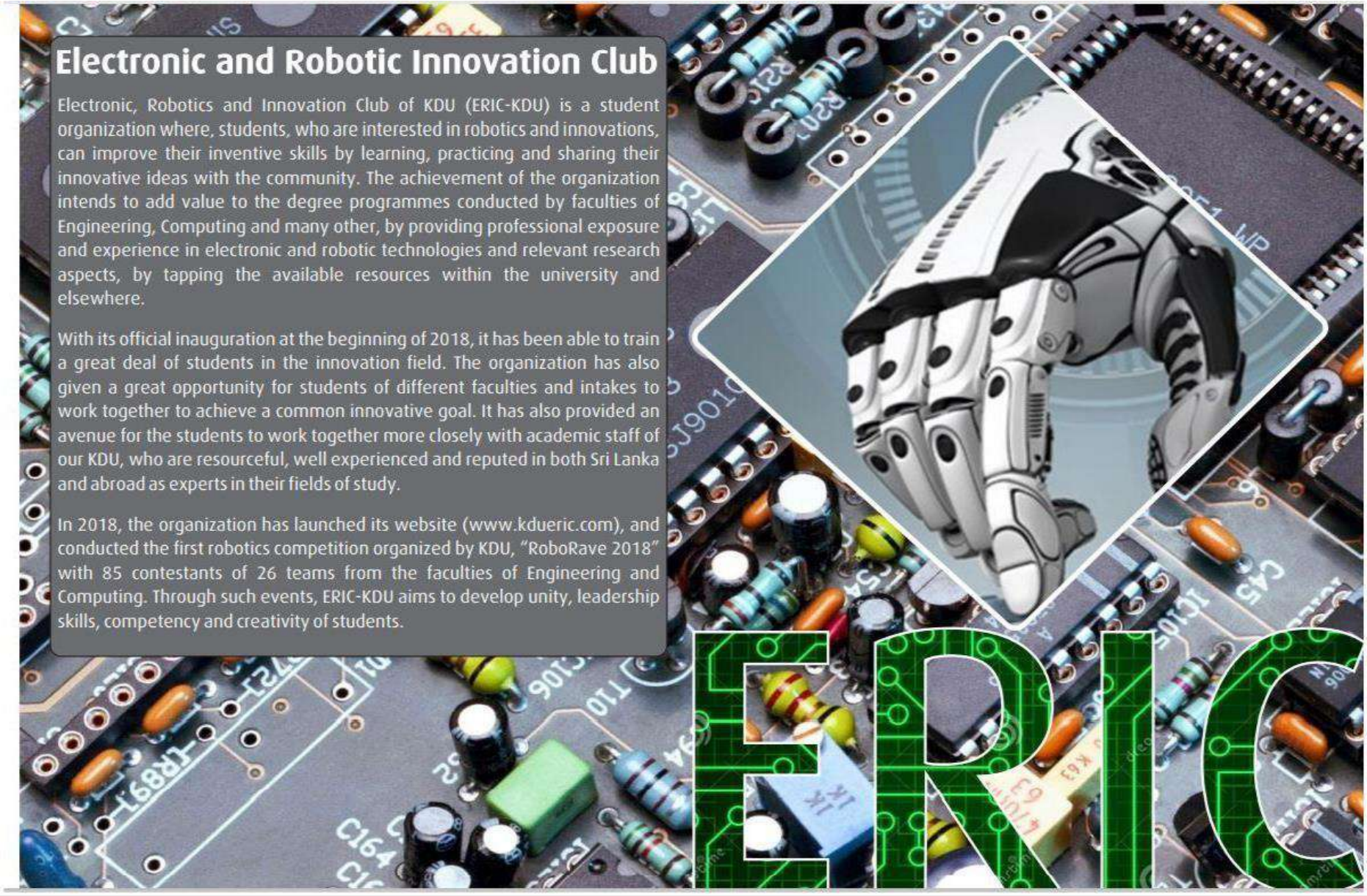
The establishment of CES-KDU intends to add value to the BSc (Hons) in Engineering degree specialized in Civil Engineering at KDU. It enhances professional exposure and Engineering, communicational, managerial and social skills of the Engineering students at KDU as well.

The organization aims at disseminating knowledge and practice of aspects related to Civil Engineering. Furnishing professional development of students and organizing activities to educate students on the social responsibility of the civil Engineering profession are among its objectives.

CES-KDU

HIGHWAY ENGINEERING SOCIETY

The KDU student chapter is a student society registered under the Highway Engineering Society (HES) Sri Lanka. The chapter was established in June, 2017 upon the request through the faculty board paper S1/06 in May, 2017. Till then the student chapter was performing with successful achievements. The chapter is advised by its chapter advisor, Dr. TWKIM Dias, who is the secretary (2018/2019) of the HES - Sri Lanka. According to its constitution, the purpose of this Chapter shall be to promote the advancement of transportation and traffic Engineering by fostering the association of students with the transportation and traffic Engineering profession and the HES. During its time, over a year, the chapter has conducted multiple field visits to highway-construction related fields and has also conducted valuable guest lectures by prominent professionals in the area of concern. All the guest lectures organized by the Chapter is open to anyone in Kotelawala Defence University. A student should have the student membership if they are interested in participating in field visits. Students also get the Student Membership form HES upon this request.


Electronic and Robotic Innovation Club
Electronic, Robotics and Innovation Club of KDU (ERIC-KDU) is a student organization where, students, who are interested in robotics and innovations, can improve their inventive skills by learning, practicing and sharing their innovative ideas with the community. The achievement of the organization intends to add value to the degree programmes conducted by faculties of Engineering, Computing and many other, by providing professional exposure and experience in electronic and robotic technologies and relevant research aspects, by tapping the available resources within the university and elsewhere.
With its official inauguration at the beginning of 2018, it has been able to train a great deal of students in the innovation field. The organization has also given a great opportunity for students of different faculties and intakes to work together to achieve a common innovative goal. It has also provided an avenue for the students to work together more closely with academic staff of our KDU, who are resourceful, well experienced and reputed in both Sri Lanka and abroad as experts in their fields of study.
In 2018, the organization has launched its website (www.kdueric.com), and conducted the first robotics competition organized by KDU, "RoboRave 2018" with 85 contestants of 26 teams from the faculties of Engineering and Computing. Through such events, ERIC-KDU aims to develop unity, leadership skills, competency and creativity of students.
ERIC

Kotelawala Defence University Student Chapter of IMechE

Kotelawala Defence University Student Chapter of IMechE is a student society established in the Faculty of Engineering of Sir John Kotelawala Defence University in 2022,to provide motivation and guidance to Mechanical and Mechatronic Engineering Undergraduates to become fully-fledged engineers by improving their competencies including academic, technical, communication and social aspects.

It mainly focuses on conducting workshops, guest lectures, seminars, industrial visits and other colloborative tasks, to expose the students of Department of Mechanical Engineering to modern and emerging technologies, while encouraging students to participate in research work, individually and colloboratively.

Marine Engineering Students Society

General Sir John Kotelawala Defence University

Objectives of the society

- To introduce modern and trending concepts in different engineering aspects to undergraduates.
- To increase exposure to the industrial and research environment.
- To encourage undergraduates to enter the reach culture in the military, government, and private sectors
- To enhance and improve the academic performance and self-learning skills of undergraduates.
- To improve the interest in community services through CSR projects

The Aim

"To provide motivation and guidance to engineering undergraduates to become self-capable and team-capable engineers by improving their competencies, including academic, technical, communication, and social aspects."

ROYAL AERONAUTICAL SOCIETY

STUDENT CHAPTER AT KDU

The Student Chapter of Royal Aeronautical Society at General Sir John Kotelawala Defence University is one of the most active academic societies in KDU operates under the patron of Department of Aeronautical Engineering and it is providing a rich programme of seminar series, workshops and field visits. While based in KDU, all talks are free and open to all members of the university. We hold monthly talks related to Aeronautical Engineering and Aerospace Engineering. Browse through our programme through our departmental webpage to see the remarkable speakers and events we have lined up.