STUDENT HANDBOOK

DEPARTMENT OF CIVIL ENGINEERING

GENERAL SIR JOHN KOTELAWALA
DEFENCE UNIVERSITY

2025

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DEPARTMENT OF CIVIL ENGINEERING

FACULTY OF ENGINEERING

GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY

DEPARTMENT HANDBOOK 2025

D E F E N C E
UNIVERSITY PRESS

Personal Details

Name : .....

Address : .....

Phone : .....

E-mail : .....

Handbook Committee

Dr. NS Miguntanna : Chairperson

Mrs. KGKR Gunarathna : Member

Mrs. EMS Anuththara : Member

Ms. HK Pathinayaka : Member

Published by:

Faculty of Engineering,

General Sir John Kotelawala Defence University,

Kandawala Road,

Ratmalana 10390,

Sri Lanka

VISION

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To become an outstanding and leading Civil Engineering Department in the country as the academic centre of excellence in teaching, research, and development.

MISSION

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

Contents

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Chapter 1

1. Introduction

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Welcome to the Department of Civil Engineering the General Sir John Kotelawala Defence University (KDU). As a cornerstone of our esteemed institution, the Civil Engineering Department is committed to fostering academic excellence, professional development, and a culture of innovation within the realm of civil engineering.

At KDU, we pride ourselves on providing a comprehensive educational experience that equips our students with the knowledge, skills, and ethical foundation necessary to thrive in the dynamic field of civil engineering. With a focus on both theoretical understanding and practical application, our department endeavours to produce graduates who are not only technically proficient but also socially responsible leaders in their field.

This handbook serves as a guide to our department's policies, procedures, resources, and expectations. Whether you are a prospective student, a current student, a faculty member, or a staff member, we encourage you to familiarize yourself with its contents to make the most of your time here at KDU.

Within these pages, you will find information on our academic programs, course offerings, research opportunities, faculty profiles, student organizations, and support services. Additionally, you'll discover our commitment to fostering a collaborative and inclusive learning environment where diversity is celebrated, ideas are exchanged, and excellence is pursued.

As you embark on your journey with us, we encourage you to seize every opportunity for growth, exploration, and achievement. Together, let us uphold the legacy of General Sir John Kotelawala Defence University and contribute to the advancement of civil engineering for the betterment of society.

Welcome to the Department of Civil Engineering, General Sir John Kotelawala Defence University, where knowledge meets innovation, and where aspiring engineers become leaders of tomorrow.

1.1. Message from Head of the Department

It is with great pleasure that I welcome you to the Department of Civil Engineering in the Faculty of Engineering of the General Sir John Kotelawala Defence University. With the increasing infrastructure needs driven by the rapid rise in the world population, the construction industry has entered a phase of rapid development. Civil Engineering and Building Services Engineering are two of the most demanded fields in construction today. Civil engineers play a critical role in construction industry due to their involvement in design, construction and maintenance of buildings and infrastructure facilities. In recent years, Building Services Engineers came to the forefront of the industry due to their role in developing and maintenance of building services. The Department of Civil Engineering is committed to producing Civil Engineers and Building Services Engineers who can leverage today's technology and understand their societal responsibilities. Both of these professions will continue to be vital as they evolve to meet humanity's needs.

At present, the department focuses primarily on its undergraduate degree programs, which lead to four-year degrees in Bachelor of the Science of Engineering Honours in Civil Engineering and Bachelor of the Science of Engineering Honours in Building Services Engineering. The Civil Engineering degree program is one of the first-degree programs of the faculty. Recognizing the novel trends and emerging needs in the industry, we have newly introduced a degree program in Building Services Engineering, making us the first state university to offer a specialized degree in this field. Additionally, we offer a Master's degree program leading to an MSc in Civil and Structural Engineering with the Faculty of Graduate Studies. These programs are developed in collaboration with the faculty, industry experts, and fellow academics to meet national and international engineering education standards.

We place significant emphasis on developing and delivering our degree programs in line with Outcome-Based Education for engineering. The department is on the path to applying for accreditation status from the Institution of Engineers, Sri Lanka under the Washington Accord. While the degree programs cover the essential credits required for a graduate Civil Engineer or Building Services engineer, the undergraduates have the option to specialize further in a number of areas of demand by selecting technical elective modules of their choice.

Furthermore, the department is actively engaged in research activities. Our academic staff members continue their research in collaboration with industry partners and prestigious national and international universities. The department offers M.Phil. and Ph.D. degrees by research in partnership with the Faculty of Graduate Studies. Dear students, your decision to select either Civil Engineering degree program or Building Services Engineering degree program is indeed a wise investment in your future. Throughout your undergraduate journey, you will be guided by a well-

qualified and experienced team of academic staff members dedicated to nurturing your talents and helping you realize your full potential. Alongside our academic staff, our team of academic support and non-academic staff are always ready to offer their support and assistance.

We are excited and optimistic about the future and invite you to be a part of this promising journey ahead. As the Head of Department, I look forward to welcoming you to the Department of Civil Engineering.

Dr Nadeeka S Miguntanna
PhD (UOW-Australia), MSc. (Full time Research-QUT-Australia, BSc Eng. (Hons) (UoP, Sri Lanka), AMWATTLE, AMIESL. MIEPSL, MSLAAS

Head of Department/ Senior Lecturer (Grade I)
Department of Civil Engineering
Faculty of Engineering
General Sir John Kotelawala Defence University
Kandawala Rd, Ratmalana,10390, Sri Lanka.

1.2. Department Organogram

The department is headed by Head of the Department of Civil Engineering. Under her, Senior and Junior Academic staff, Academic support staff and Non-Academic staff function with assigned responsibilities. Two programme coordinators are responsible for Civil Engineering and Building Services Engineering degree programs. Each degree has level coordinators under respective programme coordinator.

1.3. History of the Department

The Civil Engineering Department at the General Sir John Kotelawala Defence University (KDU) has a significant history tied to the university's establishment and evolution. Established in 1989, the department is considered one of its oldest and most respected departments of the Faculty of Engineering. Over the years, the Civil Engineering Department at KDU has evolved, likely adapting to changes in curriculum, technology, and industry demands. The department has aimed to provide high-quality education and training in civil engineering principles and practices under the excellent guidance of the following Head of the department since 1989.

Heads of the Department			
S/N	**Name of the HOD**	**Duration**	
		From	**To**
1	Mr. Palitha Asalaarachchi	1989	2002
2	Prof. WCDK Fernando	2002	2006
3	Mr. EJKP Sirisena	2006	2011
4	Prof. WCDK Fernando	May 2011	May 2014
5	Dr. TMWRMB Samarakoon	May 2014	May 2017
6	Dr. NK Gunasekara	May 2017	May 2019
7	Dr. RP Kumanayake	May 2019	May 2021
8	Dr. DDTK Kulathunga	May 2021	May 2023
9	Dr. TWKIM Dias	May 2023	May 2024
10	Dr. NS Miguntanna	May 2024	Present

Over time, the department has developed, extending its faculty, infrastructure, and academic programs to provide a comprehensive education that includes both theoretical knowledge and practical skills by introducing various aspects.

Another area which reflects the success of the department is that the alumni which started very recently but have shown a tremendous success in a very short time of period. The alumni of the Civil Engineering Department at the General Sir John Kotelawala Defence University represent a diverse and accomplished group of professionals with a foundation rooted in both discipline and academic excellence. Our graduates have gone on to make significant contributions across various sectors. From designing critical infrastructure to sustainable development projects, KDU alumni showcase their expertise and leadership in tackling complex engineering challenges both domestically and internationally. Their resilience, problem-solving skills, and commitment to service reflect the values instilled by their alma mater, making them valuable assets in shaping the future of civil engineering and beyond.

With an extremely proud history, we invite you to join us on this exciting journey to explore the world of Civil Engineering and become the next generation of innovative leaders in civil Engineering.

Chapter 2

2. Staff

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The Department of Civil Engineering is occupied with well-qualified academic staff, academic supportive staff, and non-academic staff. The Civil Engineering Department at the General Sir John Kotelawala Defence University (KDU) boasts a diverse and accomplished academic staff, representing a wide spectrum of expertise and experience. From structural engineering to highway and transportation engineering, hydraulic engineering, geotechnical engineering, environmental engineering, and construction management, our faculty members bring unparalleled depth and breadth to the educational experience. With backgrounds in both academia and industry, our professors are renowned experts in their respective fields, offering invaluable insights and mentorship to students. Through their dedication to teaching, research, and service, they inspire and guide the next generation of engineering leaders at KDU.

2.1. Academic Staff

The Civil Engineering Department is blessed with a team of dedicated and experienced professors, Senior Lecturers. The academic staff office of the department is located in the **3rd floor of faculty of Engineering**.

Head of the Department

Dr. NS Miguntanna

BSc. Eng. (Hons.) (UOP), MSc (QUT), PhD (UOW), AMIE(SL)

e-mail *miguntannans@kdu.ac.lk*

Phone: *071-4476126*

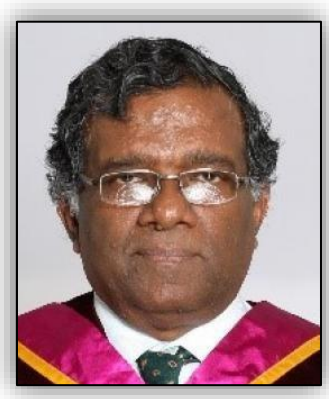
Professors

Prof. WCDK Fernando

B.Sc. Eng. (Hons.) (UOM), MEng (UOM), PhD (UOM), AMIE(SL)

e-mail: *kumari@kdu.ac.lk*

Phone: *071-8132721*



Emeritus Prof. SAS Kulathilaka

B.Sc. Eng. (Hons.) (UOM), PhD (Monash), CEng, MIE(SL)

e-mail: *kulathilakas@kdu.ac.lk*

Phone: *077-9148765*

Prof. RP Kumanayake

BSc. Eng. (Hons.) (UOM), MBA (UOC), PhD (HUST), AMIE(SL)

e-mail: *ramyak@kdu.ac.lk*

Phone: *071-8126568*

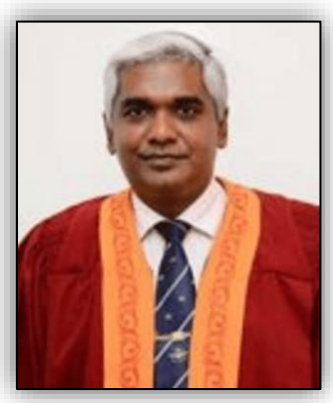
Senior Lecturers - Grade I

Dr. TMWRMB Samarakoon

B.Sc. Eng. (Hons.) (UOP), MEng (AIT), PhD (Saitama, Japan), AMIE(SL)

e-mail: *methsiri@kdu.ac.lk*

Phone: *077-0635001*



Dr. AH Lakmal

B.Sc. Surveying Science (ISMD), MSc (UOP), PhD (LNTU), Member GRSS (USA)

e-mail: *lakmalah@kdu.ac.lk*

Phone: *071-6865304*

Dr. NK Gunasekara

B.Sc. Eng. (Hons.) (UOP), MSc (TU), PhD (TU), AMIE(SL)

e-mail: nilupul.gunasekara@kdu.ac.lk

Phone: *071-2682612*

Dr. DDTK Kulathunga

B.Sc. Eng. (Hons.) (UOM), PhD (NUS), AMIE(SL)

e-mail: *thanuja.kulathunga@kdu.ac.lk*

Phone: *071-7516227*

Eng. KM Vignarajah

B.Sc. Eng. (Hons.) (UOP), MSc (Texas Tech, USA), M.Phil. (UOP)

e-mail: *vignarajahkm@kdu.ac.lk*

Dr. TWK M Dias

B.Sc. Eng. (Hons.) (UOM), MSc (UOM), PhD (Kansas, USA), AMIE(SL)

e-mail: *ishanidias@kdu.ac.lk*

Phone: *071-0219277*

Lt Col (Eng) OMR Priyantha

B.Sc. Eng. (Hons.) (UOM), Postgrad Dip (UOM), MPhil (Reading) (KDU), AMIE(SL)

e-mail: *priyantha_omr@kdu.ac.lk*

Phone: *0710219511* | *0715345508*

Senior Lecturers - Grade II

Eng. BHJ Pushpakumara

B.Sc. Eng. (Hons.) (UOR), MPhil (UOR), AMIE(SL)

e-mail: *pushpakumarabhj@kdu.ac.lk*

Phone: *077-2206662*

Dr. TA Madanayake

BSc. Eng. (Hons.) (UOM), MEng (UOM), PhD (JCU), AMIE(SL)

e-mail: *madanayaketa@kdu.ac.lk*

Phone: *076-7022799*

Dr. ASM Mendis

B.Sc. Eng. (Hons.) (UOR), PhD (UNSW), AMIE(SL)

e-mail: *mendisasm@kdu.ac.lk*

Phone: *071-4399914*

Lecturer – Probationary

Mr. GA Thusitha

BSc. Eng. (Hons.) (KDU)

e-mail: *thusithaga@kdu.ac.lk*

Phone: *071-6107652*

Ms. Lathika Hitige

B.Sc. Eng. (Hons.) (KDU)

e-mail: *lathikahitige@kdu.ac.lk*

Phone: *070-2166491*

Mr. Damsara Anthony

B.Sc. Eng. (Hons.) (KDU)

e-mail: *damsara.anthony@kdu.ac.lk*

Phone: *077-4271028*

Instructors - Grade II

Mr. MON Lochana

B.Sc. Eng. (Hons.) (KDU)

e-mail: *lochanamon@kdu.ac.lk*

Mr. Theekshana Gannile

B.Sc. Eng. (Hons.) (KDU)

e-mail: *gannile.ymtd@kdu.ac.lk*

Temporary Instructors

Mrs. Kavishka Gunarathna

B.Sc. Eng. (Hons.) (KDU)

e-mail: *kgkr.gunarathne@kdu.ac.lk*

Temporary Demonstrators

Ms. Sanjani Anuththara

B.Sc. Eng. (Hons.) (KDU)

e-mail: *sanjani.a@kdu.ac.lk*

Ms. Hashini Pathinayaka

B.Sc. Eng. (Hons.) (KDU)

e-mail: *pathinayakah@kdu.ac.lk*

2.2. Visiting Staff

Eng. N Athukorala

Eng. BDNM Batapola

Eng. Nilupul Senarathna

Eng. Russel De Silva

2.3. Non- Academic Staff

Management Assistant Grade II

Ms. KSSJ Silva

Technical Officers - Grade II

Mr. PP Rajamanthri

Ms. AI Kumaranayake

Mr. KSR Wijaythilaka

Ms. UKT Prabodhini

Laboratory Attendants

Mr. KT Dharmathilaka

Mr. SHSS Kumara

Mr. GMR Bandara

Mr. A Shalitha

Labourer – Grade III

Mr. HM Silva

Chapter 3

3. Degree Programme

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The Department of Civil Engineering offers following two degrees.

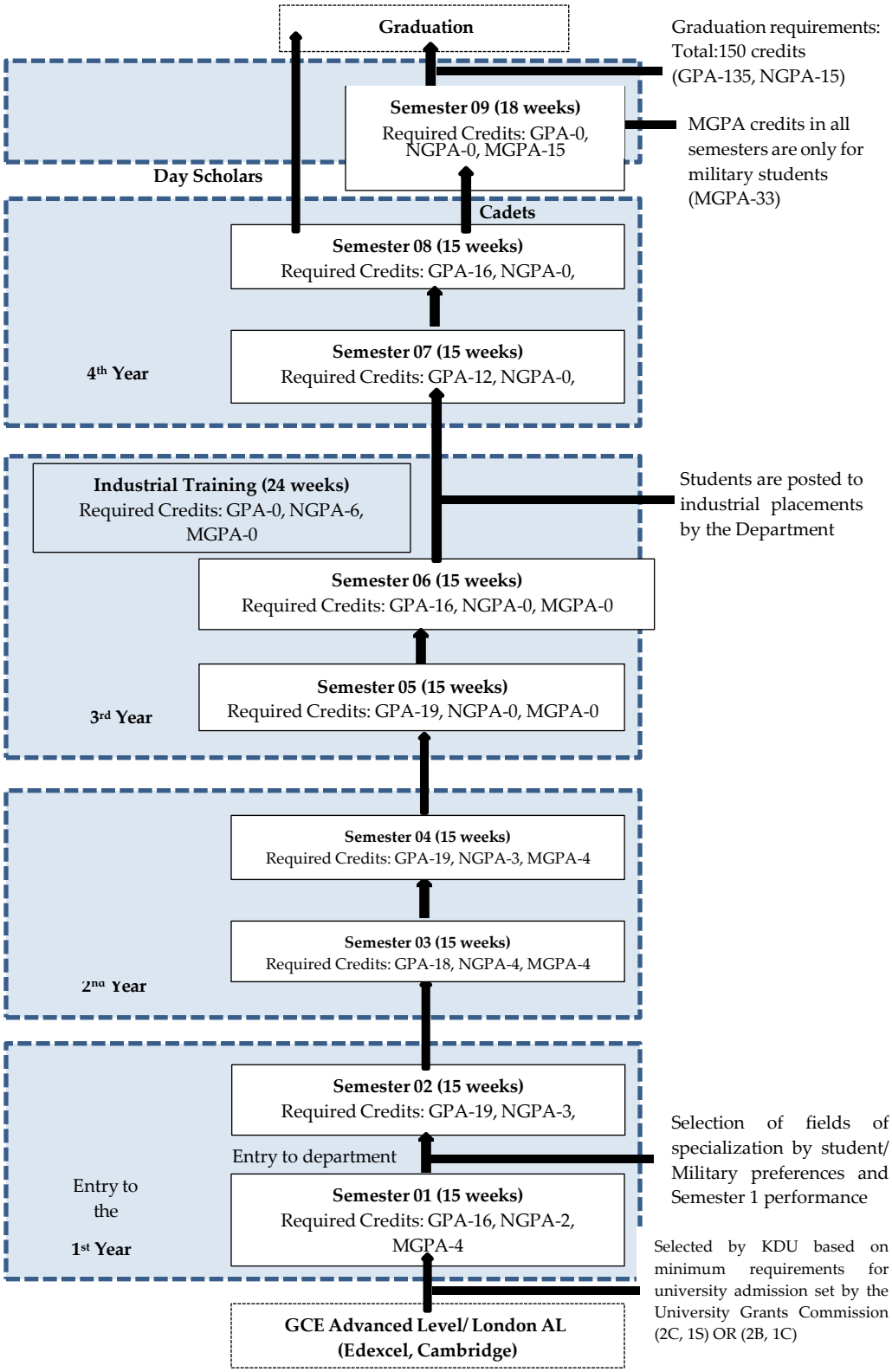
1. **Bachelor of the Science of Engineering (Honours) in Civil Engineering**

2. **Bachelor of the Science of Engineering (Honours) in Building Services Engineering**

The course duration of both Civil Engineering and Building Services Engineering degree programmes is 4 years (eight semesters), and an additional 6 months are allocated for military training, only for officer cadets. The students in the Faculty of Engineering select their specializations at the end of the first semester. Presently, the department accommodates students who fall into the following categories:

* The officer cadets who are permanently recruited into the armed forces.
* The commissioned officers.
* The foreign national officer cadets.
* The students who are admitted to the faculty as day scholars on a fee-levying basis.

3.1. Structure



3.2. Curriculum

3.2.1. BSc. Eng. Hons in Civil Engineering

Semester 01					
Code	**Module**	**Category**	**Credits**		
			GPA	**NGPA**	**MGPA**
CE1013	Engineering Physics	C	3		
CE1023	Engineering Mechanics	C	3		
CE1033	Civil Engineering Drawing	C	3		
CE1043	Construction Materials and Methods	C	3		
ID1213	Computer Programming	C	3		
MA1113	Algebra and Calculus	C	3		
LE1121	English for Academic Purposes I	C		1	
MS1014	Military Studies	C			4
Semester Total Credits			**18**	**1**	**4**
Total credits up to Semester 1			**18**	**1**	**4**

Semester 02					
Code	**Module**	**Category**	**Credits**		
			GPA	**NGPA**	**MGPA**
CE1263	Structural Mechanics	C	3		
CE1272	Fluid Mechanics	C	2		
CE1282	Concrete Technology	C	2		
CE1293	Engineering Surveying	C	3		
MA1363	Advanced Calculus	C	3		
ID1012	Photography	HE1		2	
ID1022	Western Dancing				
LE1231	English for Academic Purposes II	C		1	
MS2024	Military Studies	C			4
Semester Total Credits			**13**	**3**	**4**
Total credits up to Semester 2			**31**	**4**	**8**

Semester 03					
Code	**Module**	**Category**	**Credits**		
			GPA	**NGPA**	**MGPA**
CE2013	Structural Analysis	C	3		
CE2023	Fluid Dynamics	C	3		
CE2033	Soil Mechanics and Geology	C	3		
CE2042	Environmental Engineering	C	2		
CE2052	Transportation Engineering	C	2		
ID2211	Engineer in Society	HE2		1	
ID2221	Mindfulness for Engineers				
MA2113	Probability and Applied Statistics	C	3		
ID2012	Creative Arts	HE3		2	
ID2022	Creative Writing				
LE2151	Research Writing Skills for Engineering			1	
MS3032	Strategic and Defence Studies	C			2
MS3044	Military Studies	C			4
Semester Total Credits			**16**	**4**	**6**
Total credits up to Semester 3			**47**	**8**	**14**

Semester 04					
Code	**Module**	**Category**	**Credits**		
			GPA	**NGPA**	**MGPA**
CE2262	Design of Timber and Masonry Structures	C	2		
CE2273	Engineering Hydrology	C	3		
CE2283	Geotechnical Engineering	C	3		
CE2293	Construction Planning and Cost Estimating	C	3		
CE2303	Water and Wastewater Engineering	C	3		
CE2312	Highway Engineering	C	2		
MA2363	Numerical Methods and Complex Variables	C	3		
LE2261	English for Engineering Professionals	C		1	
MS4064	Military Studies	C			4
Semester Total Credits			**19**	**1**	**4**
Total credits up to Semester 4			**66**	**9**	**18**

Semester 05					
Code	**Module**	**Category**	**Credits**		
			GPA	**NGPA**	**MGPA**
CE3013	Design of Concrete Structures I	C	3		
CE3023	Hydraulic Engineering	C	3		
CE3032	Research Methodology	C	2		
CE3043	Construction Management	C	3		
CE3052	Design of Steel Structures	C	2		
CE3062	Remote Sensing and GIS	C	2		
CE3162	Environmental Health and Sanitation	TE1	2		
CE3172	Construction Technology				
CE3182	Dynamics and Control of Structures				
CE3192	Coastal Engineering				
Semester Total Credits			**17**		
Total credits up to Semester 5			**83**	**9**	**18**

Semester 06 - Industrial Training					
Code	**Module**	**Category**	**Credits**		
			GPA	**NGPA**	**MGPA**
CE3506	Industrial Training	C		6	
CE3081	Survey Camp	C		1	
Semester Total Credits				**7**	
Total credits up to Semester 6			**83**	**16**	**18**

Semester 07					
Code	**Module**	**Category**	**Credits**		
			GPA	**NGPA**	**MGPA**
CE4012	Design of Concrete Structures II	C	2		
CE4023	Hydraulic Design	C	3		
CE4033	Sustainable Construction Practices	C	3		
CE4043	Geotechnical Design	C	3		
CE4053	Building Services Engineering	C	3		
CE4296	Individual Research Project*	C	(2)*		
CE4304	Comprehensive Design Project*	C	(2)*		

CE4162	Project Management	TE2	2		
CE4172	Ground Improvement Techniques				
CE4182	Highway Construction and Maintenance				
CE4192	Irrigation Engineering				
CE4202	Applied Finite Element Methods				
CE4212	Integrated Solid Waste Management				
CE4222	Structural Design office practice and responsibilities				
Semester Total Credits			**16**		
Total credits up to Semester 7			**99**	**16**	**18**

Semester 08					
Code	**Module**	**Category**	**Credits**		
			GPA	**NGPA**	**MGPA**
CE4262	Professional Ethics and Practices	C	2		
CE4273	Engineering Economics	C	3		
CE4282	Construction Law and Contract Administration	C	2		
CE4296	Individual Research Project	C	6		
CE4304	Comprehensive Design Project	C	4		
CE4412	Numerical Methods in Geotechnics	TE3	2		
CE4422	Urban Stormwater Management				
CE4432	Computational Fluid Dynamics for Hydraulic Structures				
CE4442	Life Cycle Thinking and Circular Economy				
CE4452	Traffic Engineering	TE4	2		
CE4462	Bridge Engineering				
CE4472	Disaster Management in a Changing Climate				
CE4482	Building Information Modelling				
Semester Total Credits			**21**		
Total credits up to Semester 8			**120**	**16**	**18**

Semester 09					
Code	**Module**	**Category**	**Credits**		
			GPA	**NGPA**	**MGPA**
MS9074	Advanced Military Training	C			15
Total Credits by the end of Semester 9					**33**

FINAL CREDIT SUMMARY

TOTAL CREDITS	GPA	NGPA	MGPA*
136	**120**	**16**	**33**

* MGPA (Military GPA) is only for cadets.

3.2.2. BSc. Eng. Hons in Building Services Engineering

Semester 01					
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 02					
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**

Semester 03					
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 04					
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**

Semester 05					
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 06					
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					
Code	**Module**	**Category**	**Credits**		
			GPA	**NGPA**	**MGPA**
CBS 3016	Industrial Training	C	-	6	-
Total credits up to Semester			**104**	**16**	**18**

Semester 07					
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 08					
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 09					
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**

FINAL CREDIT SUMMARY

TOTAL CREDITS	GPA	NGPA	MGPA
151	**135**	**16**	**33**

∗ MGPA (Military GPA) is only for cadets.

3.3. Graduate Attributes

GA1: Apply knowledge of mathematics, natural science, computing and Civil/ Building Services engineering fundamentals, and Civil/ Building Services engineering specialization to develop solutions to complex engineering problems.

GA2: Identify, formulate, research literature and analyze complex Civil/ Building Services engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences with holistic considerations for sustainable development.

GA3: Design creative solutions for complex Civil/ Building Services engineering problems and design systems, components or processes to meet identified needs with appropriate consideration for public health and safety, whole-life cost, net zero carbon as well as resource, cultural, societal, and environmental considerations as required.

GA4: Conduct investigations of complex Civil/ Building Services engineering problems using research methods including research-based knowledge, design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

GA5: Create, select and apply, and recognize limitations of appropriate techniques, resources, and modern Civil/ Building Services engineering and IT tools, including prediction and modelling, to complex engineering problems.

GA6: When solving complex Civil/ Building Services engineering problems, analyse and evaluate sustainable development impacts* to: society, the economy, sustainability, health and safety, legal frameworks, and the environment.

GA7: Apply ethical principles and commit to professional ethics and norms of Civil/ Building Services engineering practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion.

GA8: Function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.

GA9: Communicate effectively and inclusively on complex Civil/ Building Services engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, taking into account cultural, language, and learning differences.

GA10: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

GA11: Recognize the need for, and have the preparation and ability for

i. independent and life-long learning
ii. adaptability to new and emerging technologies and
iii. critical thinking in the broadest context of technological change.

3.4. External Reviewers for the degree Programme

Degree Programme	Name of the External Reviewers	Qualifications	Present Designation and office address
BSc Eng Hons in Civil Engineering	Prof Udeni Nawagamuwa	PhD (Yokohama) MEng (AIT), BSc Eng (Hons) (Moratuwa)	Professor, Department of Civil Engineering, Faculty of Engineering, University of Moratuwa.
	Prof Lalith Rajapakshe	PhD (Saitama) MSc (Saitama), BSc Eng (Hons) (Moratuwa)	
BSc Eng Hons in Building Services Engineering	Prof GG Chaminda Tushara	PhD (Tokyo) MEng (AIT), BSc Eng (Hons) (Peradeniya), AMIE(SL), A Eng GAP(SL)	Professor, Department of Civil and Environmental Engineering, Faculty of Engineering, University of (Ruhuna).
	Eng Prasanna Narangoda	MSc in Building Services Engineering, BSc Eng (Hons) Chartered Engineer, MIESL, MLABSE	MEP Manager, Havelock City (Pvt) Ltd.

3.5. Programme and Level Coordinators

Civil Engineering Degree Programme		
Programme Coordinator: Eng. BHJ Pushpakumara		
Level Coordinators	Level 1	Dr. DDTK Kulathunga
	Level 2	Mr. AD Rasandun
	Level 3	Dr. NK Gunasekara
	Level 4	Dr. TMWRMB Samarakoon

Building Services Engineering Degree Programme		
Programme Coordinator: Dr. ASM Mendis		
Level Coordinators	Level 1	Mr. KM Vignaraja
	Level 2	Prof. RP Kumanayaka
	Level 3	Ms. LY Hitige
	Level 4	Prof. WCDK Fernando

3.6. Student Research

The Final Year Project Exhibition of the Faculty of Engineering - 2024

The Final Year Project Exhibition of the Faculty of Engineering was held in the faculty premises on 23rd January 2024, where graduating students showcased their innovative and groundbreaking projects. The culmination of months of hard work was achieved as a few selected projects rose to the top, earning recognition and applause from judges, faculty, and fellow undergraduates. This year's exhibition saw a diverse range of projects, representing each department of the faculty. Unlike the last year this time the evaluation was done considering the projects according to seven clusters.

Among the standout projects were five from the Civil Engineering discipline:

1. **DA Oshadhi** presented an investigation into the effectiveness of graphene oxide in preventing corrosion in concrete structures.

2. **RMS Thennakoonwela** evalauted the cost-effectiveness of performance-based maintenance contract systems, aiming to identify sustainable methods for road maintenance.

3. **FHAS Silva** conducted a comparative study on the environmental performance of conventional clay bricks versus autoclaved aerated concrete blocks, utilizing lifecycle assessment methodology.

4. **JMDSN Jayamanne** explored the self-healing capacity of concrete infused with graphene oxide, offering insights into potential durability enhancements.

5. **HPNSC Pathirathne** investigated how soil characteristics influence the corrosion of marine concrete structures, contributing to a deeper understanding of materials behaviour in coastal environments.

The pinnacle of achievement was reached by DA Oshadhi, whose project on graphene oxide's effectiveness earned her the prestigious award for the best project in Civil Engineering. Overall, the exhibition underscored the faculty's commitment to nurturing budding engineers and fostering groundbreaking research in the field of engineering.

3.7. Awards

3.7.1. Asia's Outstanding Engineer of the Year Award 2020/2021

In recognition of the outstanding achievements of our graduates, we proudly highlight the prestigious accolades received by members of the KDU engineering community. Among these honours stands the esteemed Asia's Outstanding Engineer of the Year Award 2020/2021, a distinction bestowed upon Dulana Gajaba Kaluarachchi, a distinguished alumnus of KDU from Intake 30.

3.7.2. Emerging Civil Engineer Award - SLAICE

The Emerging Civil Engineer Award is an esteemed annual competition aimed at identifying and rewarding the most innovative civil engineering undergraduates in Sri Lanka while fostering a culture of innovative thinking among aspiring engineers. The competition serves as a platform for students to showcase their talents, creativity, and problem-solving skills in the field of civil engineering.

2020

Winners:

1st Place: Avishka Siriwardhana - Intake 33, KDU
1st Runners-up: Lathika Hitige - Intake 33, KDU
2nd Runners-up: Thyaga Gunasekara - Intake 33, KDU

2019

Winner: Nimmi Kurakulasooriya
Intake 32, KDU

2018

Winner: Nadeesha Abeysinghe
Intake 31, KDU

2016

Winner: Dulana Gajaba Kaluarachchi
Intake 30, KDU

Chapter 4

4. Facilities

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4.1. Laboratory Facilities

Department of Civil Engineering of KDU consist of several laboratories with modern machines and equipment to assist the undergraduates in their lab sessions and as well for their research purposes. Following are the laboratory facilities of Civil Engineering department and their locations.

- Building material and Construction Laboratory
  - ✓ Ground floor of new laboratory building in front of FOE
- Environmental Engineering Laboratory
  - ✓ 1st floor in FOE building
- Geotechnical Engineering Laboratory
  - ✓ 2nd floor of new laboratory building in front of FOE
- Highway and Transportation Engineering Laboratory
  - ✓ 3rd floor in FOE building
- Structural Engineering Laboratory
  - ✓ Ground floor in FOE building
- Surveying Laboratory
  - ✓ 1st floor in FOC building
- Hydraulic Engineering Laboratory
  - ✓ Ground floor in FOE building

4.1.1. Building Materials and Construction Laboratory

The Building Materials and Construction Laboratory, under the supervision of Eng. BHJ Pushpakumara, provides essential resources for undergraduate learning and facilitating engineering research. Mr. KSR Wijayathilaka has been appointed to oversee the operations of the laboratory, ensuring its smooth functioning and maintenance.

Lab In-charge	Eng. BHJ Pushpakumara
Appointed TO	Mr. KSR Wijayathilaka
Appointed Lab Attendant	Mr. A. Shalitha

Equipment Available:

- Universal Testing Machine (1000 kN): Used for conducting tensile, compressive, and flexural tests on various construction materials.
- V Funnel Apparatus: Utilized for determining the flow properties of self-compacting concrete mixes.
- Rebound Hammer: Employed for assessing the compressive strength of concrete by measuring the rebound of an impact hammer.
- Cover Meter: Used to detect the depth and location of reinforcement bars in concrete structures.

- Digital Crack Width Gauge: Enables precise measurement of crack widths in concrete surfaces.
- Drying Shrinkage and Moisture Apparatus: Used to evaluate the drying shrinkage and moisture content of concrete specimens.
- Vicat Apparatus: Employed for determining the consistency and setting time of cement paste.
- Auto Blaine Apparatus: Utilized for measuring the fineness of cement particles.
- Core Cutting Machine: Used for obtaining cylindrical specimens from hardened concrete for testing.
- Heat of Hydration Calorimeter: Enables the measurement of heat released during the hydration process of cementitious materials.
- pH Meter: Used for measuring the acidity or alkalinity of solutions, essential for assessing the corrosive potential of concrete mixes.
- 100 kg Balance and Digital Balance: Instruments for precise measurement of material masses.
- Bouncy Balance: Utilized for determining the specific gravity of aggregates and other materials.
- Vee Bee Consistometer: Used for measuring the workability of concrete mixes.
- Air Entrainment Meter: Employed for determining the air content in fresh concrete mixes.
- Rapid Chloride Permeability Tester: Used for assessing the permeability of concrete to chloride ions, crucial for durability evaluation.
- Concrete Resistivity Meter (Portable): Enables the measurement of concrete resistivity, providing insights into its electrical properties and durability.
- Bar Cutting Machine: Used for cutting reinforcement bars to required lengths during construction.
- Bar Bending Machine: Employed for bending reinforcement bars to desired shapes as per structural requirements.
- Force Convention Oven
- Flexural Test device
- Data Logger

The comprehensive range of equipment available in the Building Materials and Construction Laboratory facilitates hands-on learning experiences for students and supports advanced research initiatives in the field of civil engineering.

4.1.2. Environmental Engineering Laboratory

Environmental Engineering is one of the core subjects of the Civil Engineering degree programme. Environmental Engineering Laboratory provides the students with facilities to investigate and observe both chemical and biological parameters related to water quality.

Lab In-charge	Dr TMWRMB Samarakoon
Appointed TO	Ms UKT Prabodhini
Appointed Lab Attendant	Mr. SHSS Kumara

The laboratory is currently equipped with the following instruments to aid in undergraduate learning and engineering research:

- Microscope
- Thermostatic Cabinet
- Portable Turbidimeter
- Magnetic Stirrer
- Electronic Balance
- PH meter
- Jar test machine
- Digital Titrator

- UV Visible Spectrophotometer
- Turbidimeter
- Stopwatch
- Thermometer
- Muffle Furnace
- Distilled Water Machine
- Multi meter
- Fume hood
- Portable Incubator
- Laboratory Incubator
- Laboratory Freezer
- DO meter
- Photometer
- Top Loading Autoclave
- Imhoff cone with filtration unit
- Laboratory oven

4.1.3. Geotechnical Engineering Laboratory

Geotechnical Engineering is the specialty of Civil Engineering which deals with the properties and behaviour of soil in engineering purposes. This is one of the core subject areas in the Civil Engineering degree programme. Geotechnical Engineering Laboratory contributes mainly for teaching activities, design project activities, and engineering research activities providing support in a wide range of specialized areas including testing of soil properties, soil characterization and stability analysis of the soil mass.

Lab In-charge	Dr. Thushara Madanayaka
Appointed TO	Mr. PP Rajamanthri
Appointed Lab Attendant	Mr. A. Shalitha

The lab tests that can be carried out at the Geotechnical Engineering Laboratory include Moisture Content Determination, Maximum and Minimum Dry Density Determination, Grain Size Analysis (Sieve Analysis), Determination of Consistency Limits and Indices, Determination of Field Density of Soil (Sand Replacement Method), Compaction Test (Standard Proctor Compaction), Permeability Test (Constant and Falling head), Consolidation Test, Direct Shear Test, and Unconfined Compression Test.

The laboratory is currently equipped with the following instruments to aid in undergraduate learning and engineering research:

- Sieve Analysis Test Apparatus
- Casagrande Test Apparatus
- Sand Cone Test Apparatus
- Standard Proctor Compaction Test Apparatus
- Permeability Test Apparatus
- Consolidation Test Apparatus
- Direct Shear Test Apparatus
- Unconfined Compression Test Apparatus
- Liquid Limit Cone penetration test apparatus
- Vane Shear Test Apparatus

4.1.4. Highway and Transportation Engineering Laboratory

The Highway and Transportation Engineering Laboratory of the Civil Engineering Department is a teaching and research laboratory and facilitates students to conduct practicals and research-oriented experiments, standard tests and their applications to engineering problems in the areas of Highway and Transportation Engineering.

Lab In-charge	Dr. TWKIM Dias
Appointed TO	Mr KSR Wijayathilaka
Appointed Lab Attendant	Mr. GMR Bandara

The laboratory is currently equipped with the following instruments to aid in undergraduate/ postgraduate learning and engineering research:

- California Bearing Ratio (CBR) apparatus
- Dynamic Cone Penetrometer (DCP)
- Standardized Bitumen Penetrometer
- Ring-and-Ball apparatus
- Los Angeles Abrasion Value (LAAV) apparatus
- Aggregate Impact Value (AIV) apparatus
- Aggregate Crushing Value (ACV) apparatus

- Ductility testing machine
- Mechanical Sieve Shaker
- Miscellaneous items:
    - Lab electric thermostatic drying oven
    - Mechanical tally counters
    - Thermometers of different ranges

4.1.5. Structural Engineering Laboratory

The Structural Engineering is a field which covers four core modules in the degree programme. Structural Engineering Laboratory provides modern facilities and instruments for structural testing.

Lab In-charge	Dr. DDTK Kulathunga
Appointed TO	Ms. AI Kumaranayake
Lab Attendant	Mr. KT Dharmathilaka

The laboratory is currently equipped with the following instruments to aid in undergraduate learning and research:

- Universal Testing Machine (1000 kN)
- Torsion Testing machine
- Compression Testing machine (3000 kN)
- Buckling Apparats
- Bending Moment Apparatus
- Shear Force Apparatus
- Portal Frame Apparatus
- Concrete Mixer
- Slump Cone
- Vibrating Table
- Concrete Moulds

4.1.6. Surveying Laboratory

Surveying is one of the core subjects of the Civil Engineering degree programme. Surveying Laboratory facilitate students to investigate, observe and perform various engineering measurements. The laboratory contains instruments for perform Chain surveying, Theodolite surveying, Levelling surveying, Travers Surveying and Detailed surveying, setting out surveying and applying corrections to observations.

Lab In-charge	Dr. AH Lakmal, Ms. LY Hitige
Appointed TO	Mr KSR Wijayathilaka
Lab Attendant	Mr. SHSS Kumara

The laboratory is currently equipped with the following instruments to aid in undergraduate learning and engineering research:

- Measuring Tape with relevant equipment
- Theodolite Machine with relevant equipment
- Levelling Machine with relevant equipment
- Total Station with relevant equipment
- Survey Grade GPS Set with Accessories

4.1.7. Hydraulic Engineering Laboratory

Hydraulic Engineering is one of the core subjects of the Civil Engineering degree programme at General Sir John Kotelawala Defence University. The Hydraulic Engineering Laboratory offers a variety of equipment for experimenting and analysing various topics in fluid mechanics and hydraulic engineering including engineering properties of fluids, hydrostatics, fluid kinematics.

Lab In-charge	Dr. N.K. Gunasekara
Appointed TO	Mr. PP Rajamanthri
Lab Attendant	Mr. KT Dharmathilaka

The laboratory is currently equipped with the following instruments to aid in undergraduate learning and engineering research:

- Bernoulli's Theorem apparatus
- Metacentric Height Apparatus
- Hydraulic Bench
- Portable Current Meter
- Hydraulic Flume
- Flow over weirs
- Hydrostatic Pressure Apparatus
- Venturi meter & Orifice Meter

4.2. Other Facilities from the faculty and university

4.2.1. Library

KDU library network consists of the Main Library, the Faculty Libraries of the Faculty of Medicine (FOM) and the Faculty of Allied Health Sciences (FAHS) and the Southern Campus Library. Further, the entire library network is Wi-Fi enabled with high-speed internet connection to allow the students to access the internet, and it provides electronic access to full text databases to facilitate research activities of the University. Also, it provides internet-accessible computers to access Electronic Library Catalogues and various web pages related to research activities. Inter library loan, document delivery service, display of new arrivals and photocopying are some of the facilities provided for its users to meet the information needs of both students and the staff.

4.2.2. Medical Centre

Located conveniently within the university premises, the KDU medical Centre serves as a vital resource for resident students and the wider university community, offering essential healthcare services and addressing emergency medical needs. Operating round-the-clock ambulance services and daily clinics, the medical centre is staffed by a University Medical Officer (UMO) supported by dedicated nurses and attendants. The UMO, in addition to primary healthcare responsibilities, holds the authority to issue medical certificates and authenticate external medical documentation, ensuring the well-being of all members of the university community.

4.2.3. The 24/7 Laboratory

The 24/7 research laboratory has been set up 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.

4.2.4. Modern Auditorium

The auditorium is designed with a focus on comfort and modern technology. It has high-definition audio-visual systems that can accommodate a variety of presentations. Additionally, it features a large digital screen, and LED lighting to create an immersive viewing experience. It also provides free wi-fi access and charging stations to help keep everyone connected.

4.2.5. Sports facilities

KDU places a strong emphasis on student participation in sports activities, considering them an essential component of holistic development. The university provides state-of-the-art facilities and equipment for various team sports like soccer, rugby, cricket, basketball, volleyball, and hockey, as well as individual sports including squash, tennis, badminton, table tennis, and swimming. Regular matches with other universities and clubs are organized for KDU teams, fostering a competitive spirit and teamwork. Additionally, the university facilitates participation in National Tournaments at appropriate levels, promoting sportsmanship and excellence among its students.

5. Student Societies

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5.1. Highway Engineering Society

5.1.1. Introduction

The KDU Student chapter is registered under the Highway Engineering Society (HES) Sri Lanka. The chapter was established in June 2017 upon the request through the faculty board paper 51/06 in May 2017. Since then, the student chapter was performing with successful achievements.

The chapter is advised by its chapter advisor, Dr. TWKIM Dias, who was 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 student with transportation and traffic engineering professions and the HES.

5.1.2. Membership

Any student enrolled in the program BSc in Engineering, specializing in Civil Engineering at KDU is eligible for membership of the society. An eligible can become a member by going through an application process.

5.1.3. Executive Committee

- President
- Vice president (Day scholar 1)
- Vice president (Day scholar 2)
- Vice president (Cadet)
- Secretary
- Treasurer
- PR Leader
- Editor
- President elect
- Asst. secretary

- Asst. treasurer
- Publicity officer
- Co editor
- Co Editor
- Assistant Secretary
- Assistant Treasurer
- Publicity Officer

5.1.4. Events organized

Guest lectures and webinars.

The knowledge and experience of the expertise of highway and transportation engineering fields are shared among the undergraduates through these guest lectures and webinars. Undergraduates take the opportunity to pave their future career path to a success through this exposure.

Field visits

5.2. Civil Engineering Society

5.2.1. Society Introduction

Civil Engineering Society of General Sir John Kotelawala Defence University (CES-KDU) was established in 2017, under the guidance of former Dean, Dr. WCDK Fernando and former Head, Department of Civil Engineering, Dr. TMWRMB Samarakoon with the students of Intake 31.

Since then, it has been adding vivid experiences to the student life and a greater platform for the undergraduates by organizing guest lectures, workshops, competitions, social outreach activities, industrial day and exhibitions with the blessings of the university. These activities increase creativity and soft skills of the students and facilitates the development of a Civil Engineer responsible to the society.

Currently the 8th Executive Committee of CES-KDU is functioning with the fullest cooperation of the undergraduates of the Department, guided by its advisors, Dean, Faculty of Engineering, Prof. Thushara Weerawardane, Head of the Department of Civil Engineering, Dr. Ishani Dias, and Society advisor Dr. Shayani Mendis, Senior Lecturers, with timely advises of all academic staff of the department.

5.2.2. Membership

Any student enrolled in the programme BSc in Engineering, specializing in Civil Engineering at KDU are eligible for the membership of the society. An eligible can become a member by going through an application process.

5.2.3. Executive Committee

The executive committee is selected at the Annual General Meeting of the Civil Engineering Society. The executive committee consists of the following positions.

Academic Year - 4

- President
- Vice president (Day Scholar)
- Vice president (Cadet)
- Secretary
- Treasurer
- Editor
- PR director

Academic Year - 3

- Assistant Secretary
- Assistant Treasurer
- Co-director (PR)
- Co-editor
- Director (Event Coordinating)
- Director (Educational)

Academic Year - 2

- Co-director (PR)
- Co-editor
- Co-director (Event Coordinating)
- Co-director (Educational)
- Co-director (Financial)

5.2.4. Events organized

Different events are organized to enrich the knowledge of Civil Engineering Undergraduates in relevant fields and to improve the interpersonal relationships among the students. Spaghetti Bridge Competition and Athwela outreach projects are the main events in society calendar.

Spaghetti Bridge Competition

The primary objective of the Spaghetti Bridge Competition is to provide a platform for undergraduate students to apply their theoretical knowledge and practical skills in civil engineering.

By challenging participants to design and construct bridges using only spaghetti and glue, we aim to promote creativity, problem-solving, teamwork, and innovation among the future engineers. Up to 2022 it was organized as an intra-university competition and in 2023 it was upgraded to a inter university competition.

Athwela Outreach project

'Athwela', the outreach project is a main event in the event calendar of Civil Engineering Society of General Sir John Kotelawala Defence University initiated in 2018 with the aim of uplifting educational standards of underprivileged schools in Sri Lanka, by providing educationally needed materials and equipment. Every year an underprivileged school is selected and the requirements of them are fulfilled. Seminars are also conducted to improve the knowledge and skills of the school community.

Guest lectures and webinars

The knowledge and experience of the expertise of civil engineering fields are shared among the undergraduates through these guest lectures and webinars. Undergraduates take the opportunity to pave their future career path to a success through this exposure.

6. Student Projects

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6.1. Final Year Research Projects

Final year research projects (FYRP) start in the 6th semester and continue up to the final semester. Undergraduates can select a supervisor based on their research interest to complete the project. FYRP is a 6 credit GPA module in the curriculum.

6.1.1. B.Sc. Eng. (Hons) in Civil Engineering

Intake 38

Supervisor	Co-supervisor	Student Name	Research Topic
Prof WCDK Fernando	Ms. LY Hitige	MMJR Malwattegedara	Analysis of Variation of Rainfall and Streamflow in Kalu River Basin
		DSM Fernando	Monitoring the water quality parameters in Negombo lagoon in relation with brush park fishing
		DMB Ariyarathne	Assessing effect to air quality due to cement production
		MADHS Piyathilake	Quantification of greenhouse gasses by hazardous healthcare waste components using gate to grave

			approach
		KMVS Karunanayake	Enhancing wastewater treatment practices in the Sri Lankan automobile service stations and repair shops
Dr Methsiri Samarakoon		BS Madurasinghe	Assessing the waste-to-energy approach of the non-organic burnable portion of municipal solid waste
		ON Gunawardhana	Study on sustainable treatment method for textile wastewater
Dr. RP Kumanayake	Mr. Damsara Rasandun	WMKM Samaranayake	Study of awareness of green building practices of construction professionals in Sri Lankan construction sector
		PKRI Samarakoon	Life cycle assessment of window materials: a comparative analysis
		GWM Dakshitha	Life cycle environmental assessment of multi story building complex
	Mr. Damsara Rasandun	PAJL Panditharathna	Quality Management practices used in

			building construction projects in Sri Lanka
		WGM Mihiranga	Study of digital technologies used in construction projects in Sri Lanka
Dr. Nilupul Gunasekara	Eng. Sooriyabandara	YTB Abeygunawardhana	Analysis of Upstream Flooding due to the Nilwala Salinity Barrier.
		KI Pramodya	Analyzing the Timing of extreme events in the Kelani Basin.
	Eng. Sooriyabandara	DMDW Dissanayake	Software Modelling of Hydraulic Structures
		KANA Siriwardane	Detecting changes in the onset of monsoon in Kelani River basin
Dr, DDTK Kulathunaga		SAR Samarakoon	Determining the optimum heating temperature for bentonite to enhance concrete properties
		AG Ruwanpathirana	Investigating the use of Ground Tyre Fibre to Improve Properties of Rubberised Concrete
		HPMM Gunasekara	Investigating the potential of natural graphite as a conductive filler in self-sensing concrete
		WL Janith Sewmina	Investigating the Effect of Polypropylene

			Fibers in Enhancing Properties of Concrete
Dr. TWKIM Dias		G Wickramaarachchi	Investigating red-light violations at signalised intersections to identify their characteristics
		HLSS Lunuwila	Developing an evaluation criterion to assess first and last-mile walkability for daily commuters
		SSWBMS Puswella	Evaluating the air and noise levels compared to walkability in Kandy city
Eng. Thiranka Ariyarathna		MTZ Bongso	Modification of bitumen with used grease
Eng KM Vignarajah		Bayma Faye	Study of the wind-induced vibration of the KDU faculty of engineering building
		MM Hotak	Ductile performance of FOE building under seismic loads
Dr Nadeeka Miguntanna	Ms. LY Hitige	OVPR Vithana	Study on the Awareness of Wastewater Management Practices for Reducing Microplastic Pollution in Colombo's Industrial Sector.

		KM Herath	Investigation of the scouring effect of sediments around bridge piers
		HM Godage	Assessing the Impact of Air Borne Pollutants from the Karadiyana Dump site on the Quality of Harvested Rainwater.
		KU Perera	Cooling Effect of Wetlands in Urban Areas: Case study in Western Province, Sri Lanka.
Eng BHJ Pushpakumara		PMKN Bandara	Potential use of copper slag waste as fine aggregates in concrete
		SHW Manamperi	Characteristics of masonry blocks manufactured with copper slag waste
		HSS Gamage	Modelling the corrosion behaviour of pre-stressed concrete structures
		THM Premathilaka	Influence of construction activities on the sustainability of urban forests in developing countries
Dr. TA Madanayaka		SS Siriwardana	Effect of Particle Size, Sample Height and Shearing Rate on the Small Box Direct Shear Test for Dry Sands

		TD Fernando	Applicability of method of fragments technique for seepage analysis of isotropic soils in a layered system
Snr. Prof. SAS Kulathiaka	Dr. TA Madanayaka	DMD Ruvindi	Effect of relict joints on the rain induced slope failures: a numerical modelling approach
Dr. Shayani Mendis		AUI Dayananda	Experimental inspection of mechanical properties of crumb rubber concrete with porcelain waste
		PHKR Kumara	Durability properties of concrete with wood ash as cement replacement
		KTD Mohotti	Experimental investigation on crumb rubber concrete with ceramic waste
		KVLV Senarathna	A comparative study of concrete performance using quarry rock dust and natural sand as fine aggregate
Eng. DEN Senarathne	Dr. NS Miguntanna	RK Disanayake	Effectiveness Of Nearshore Detached Breakwaters in Moratuwa West Beach Area
	Dr. NK Gunasekara	WADB Yashoran	Evaluating the effectiveness of the 2020 beach

			nourishment in Mt. Lavinia beach
	Dr. NS Miguntanna	SA Ahamed	Evaluate the impact on the west coast due to the construction of south port breakwater of Colombo harbour

Intake 37

Supervisor	Co-supervisor	Student Name	Research Topic
Prof WCDK Fernando	Dr. RMPS Bandara	HPSC Thisarangana	Flow performance over Giritale dam using a numerical approach with CFD
		KVV Pathiratne	Water balance study to detect water scarcity in Batalagoda Irrigation scheme
Dr Methsiri Samarakoon		NGP Aparna	Recycling of construction and demolition waste in Sri Lanka
		JMV Kanchana	Challenges and issues in electrical and electronic waste management in Sri Lanka
Dr. RP Kumanayake		WAC Jeewantha	Delay analysis of construction projects
		FHAS Silva	A comparison of the environmental performance of conventional clay bricks and autoclaved aerated concrete blocks using lifecycle assessment methodology

		BP Chamika	Safety risks in construction projects and their mitigation.
Dr Nadeeka Miguntanna	Mr Gimhan Jayasiri	RARS Ranasinghe	Stormwater quality in urban impervious surfaces
		HLRD Liyanage	Investigation of efficiency and efficacy of micropollutants in wastewater treatment processes
		HK Pathinayaka	Study on suitable/ economical colour removal techniques for textile/ industrial wastewater
Dr. DDTK Kulathunga		JMDSN Jayamanne	Evaluating the performance of graphene nanosheet concrete
Eng KM Vignarajah		PKS De Silva	Structural systems used in high rise buildings
		HPM Perera	Non-linear Finite Element Analysis of CFRP strengthened Initial curved beams
Dr. Nilupul Gunasekara	Mr Gimhan Jayasiri	HMNS Bandara	Water distribution system (Case study on Katuwalamulla area)
		EGAS Teshan	Social acceptability of using reclaimed wastewater in the Rathmalana area
		TKAGW Chathurangani	Water consumption pattern changes due to the economic crisis in Matara Malimbada area
Eng BHJ Pushpakumara		DMT Dissanayake	Development of structural health monitoring tool for unreinforced masonry structures
		HPNSC Pathirathne	Effect of characteristics of soil on corrosion of marine concrete structures
		DA Oshadhi	Evaluation of effectiveness of graphene oxide on the

			corrosion of concrete structures
Dr. TA Madanayaka	Dr. NS Miguntanna	AMRM Abeykoon	Impact of unattended landfills in degradation of ground water quality
		RS Weerasinghe	Relation of Atterberg limits to optimum moisture content at maximum dry density for fine grained soils
		SH Seneviratne	Impact of coarse-grained components of fine-grained soils on Atterberg limits
Dr. Shayani Mendis		DMS Priyashan	Mechanical properties of concrete with waste plastic
		AH Ranasinghe	E-plastic as partial replacement for fine aggregate in masonry blocks
Dr. Judith Samaranayake		AS Rathnayake	Temporary and permanent solution for repairing cracks and potholes of flexible pavement
		RMS Thennakoonwela	Evaluation cost effectiveness of performance base maintenance contract
		TRAK Bandara	Maintenance solutions for bleeding and flushed pavements surfaced with a seal coat or surface treatment

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

Building Service Engineering undergraduates have to start their FYRP in their seventh semester. Since the first batch of Building Services Engineering is in their second academic year no final year research projects have been done.

6.2. Comprehensive Design Projects

Comprehensive Design Project (CDP) is another important module with 4 GPA credits. A CDP group consists of six to eight members and groups are allocated based on the GPA of the students. Proposal submission for the project should be completed in the seventh semester and the final evaluations are at the end of final semester. Both individual and groupwise assessments are done in evaluations.

6.2.1. B.Sc. Eng. (Hons) in Civil Engineering

Intake 38 Comprehensive Design project		
Group	**Supervisor/s**	**Project**
1	Dr. ASM. Mendis Eng. BHJ Pushpakumara Ms. LY Hitige	Designing an Open-Air Theatre
2	Dr. TMWRMB Samarakoon	Luxury Eco Hotel Project
3	Dr. NS Miguntanna Dr. TA Madanayake	Development of Infrastructure Facilities for pilgrims and tourists visiting Adam's Peak, Sri Lanka
4	Prof. WCDK Fernando	Designing a minor irrigation tank in Matara
5	Dr. RP Kumanayake Mr. Damsara Anthony	Designing EcoLuxe Green Residential Apartment Complex in Colombo
6	Eng. KM Vignarajah	Re-designing of Parevi Duwa Bridge, designing an observation deck and other infrastructure in Parevi Duwa, Matara.

Intake 37 Comprehensive Design project		
Group	**Supervisor/s**	**Project**
1	Dr. ASM. Mendis	Design a luxury multi-purpose building complex with underwater extension.
2	Eng. BHJ. Pushpakumara	Construction of a Villa at hill terrain
3	Dr. NK. Gunasekara and Eng. M. Vignarajah	Establishing a Hydraulic Simulation Setup in KDU
4	Dr. NS. Miguntanna and Dr. TA. Madanayaka	Design and construction of a structure to descend Adam's Peak

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

Building Service Engineering undergraduates have to start their CDP in their seventh semester. Since the first batch of Building Services Engineering is in their second academic year no comprehensive design projects have been initiated.