

B.Sc. Engineering in Mechatronic Engineering

Intake 38 Curriculum

Semester 01

CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
ME 1103	Workshop Technology	C	3		
ME 1112	Engineering Drawing*	C	2		
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		
IT 1012	Basic Computer Programming and networking	C	2		
DL 1131	English: Basic Study Skills (Engineering)	C		1	
DL 1341	Sinhala for Beginners**	HE		1	
DL 1351	Tamil for Beginners**				
MS 1014	Military Studies	C			4
Semester Total Credits			16	2	4
Total credits up to Semester 1			16	2	4

* Offered in Semester 02 for Intake 38 due to pandemic situation.

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

Intermediate Term

CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
EN 2012	Art and Tradition	HE I			
EN 2022	Photography				
EN 2032	International Relations			2	
EN 2072	Western Dancing				
EN 2042	Human Rights	HE II			
EN 2052	History and Development of Engineering			2	
EN 2062	Psychology for Engineers				
Semester Total Credits			0	4	0
Total credits up to Intermediate Term			16	6	4

* Intermediate Term will be offered after Semester 08 for Intake 38 Batch B due to pandemic situation

Semester 02

CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	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		
CE 1232	Fluid Mechanics I	C	2		
EE 1203	Theory of Electricity	C	3		
MA 1002	Mathematical Software	C	2		
MA 1203	Calculus	C	3		
DL 2141	English: Advanced Study Skills (Engineering)	C		1	
MS 2024	Military Studies	C			4
Semester Total Credits			20	1	4
Total credits up to Semester 2			36	7	8

Semester 03

CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
MC 2102	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		
EE 2102	Electrical Machines and Drives I	C	2		
EE 2122	Electrical Measurements and Electronic Instrumentations	C	2		
ET 2103	Signals and Systems	C	3		
MA 2103	Advanced Calculus	C	3		
DL 3151	English: Writing and Speaking Skills (Engineering)	C		1	
MS 3032	Strategic and Defence Studies	C			2
MS 3044	Military Studies	C			4
Semester Total Credits			19	1	6
Total credits up to Semester 3			55	8	14

Semester 04

CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
MC 2011	Industrial Visits and Report Writing	C		1	
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 and Embedded Systems	C	3		
MA 2203	Numerical Methods and Complex Variables	C	3		
DL 4161	English: Research Writing Skills (Engineering)	C		1	
MS 4064	Military Studies	C			4
Semester Total Credits			19	2	4
Total credits up to Semester 4			74	10	18

Semester 05

CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
MC 2012	Mini Project*	C		2	
MC 3102	Mechatronic System Design	C	2		
ME 3113	Advanced Control Systems	C	3		
ME 3123	Machine Elements in Design	C	3		
CE 3142	Professional Ethics	C	2		
ET 3142	Digital Signal Processing	C	2		
MA 3102	Applied Statistics	C	2		
MF 3122	Principles of Management	C	2		
Semester Total Credits			16	2	0
Total credits up to Semester 5			90	12	18

*Module was shifted from Semester 4 to reduce credit load in Semester 4

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		
MC 3232	Finite Element Analysis*	C		2	
ME 3202	Ballistic Engineering **	C	2		
ME 3212	Entrepreneurship for Engineers ***				
ME 3262	Research Methodology	C	2		
EE 3213	Power Electronics and Applications I	C	3		
MF 3112	Business Economics and Financial Accounting	C	2		
Semester Total Credits			16	2	0
Total credits up to Semester 6			106	14	18

* Module was shifted from Semester 4 to reduce credit load in Semester 4

** Only for local officer cadets

*** Only for Day-Scholars

Industrial Training

CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
MC 3016	Industrial Training	C		6	
Total credits up to Industrial Training			106	20	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		
MC 4132	Machine learning	TE I	2		
MC 4142	Computer Integrated Manufacturing				
MC 4152	Automotive Systems				
ME 4122	Solid Mechanics				
MC 4206	Research Project*	C	*		
ME 4112	Industrial Project Management	C	2		
MA 4102	Operational Research	C	2		
MF 4112	Human Resource Management and Industrial Relations	C	2		
Semester Total Credits			14	0	0
Total credits up to Semester 7			120	20	18

* To be evaluated in Semester 8

Semester 08

CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
MC 4206	Research Project	C	6		
MC 4212	Non-linear Control Systems	C	2		
ME 4223	Industrial Engineering	C	3		
ME 4442	Advanced Automotive Engineering	TE II	2		
ET 4242	Internet of Things				
ET 4272	Deep Learning				
LW 4252	Commercial and Industrial Law	C	2		
Semester Total Credits			15	0	0
Total credits up to Semester 8			135	20	18

Semester 09

CODE	MODULE	CATEGORY	CREDITS		
			GPA	NGPA	MGPA
MS 9074	Advanced Military Training	C			15
Total Credits by the end of Semester 9			135	20	33

FINAL CREDIT SUMMARY

TOTAL CREDITS	GPA	NGPA	MGPA
155	135	20	33