



Daffodil International University

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Program: Bachelor of Science in Robotics and Mechatronics Engineering (B.Sc. in RME)

(Applicable for all students of RME under the new syllabus that will be effective as per decision)

To obtain B. Sc. in Robotics and Mechatronics Engineering (RME), students will have to complete 154 credits with a minimum CGPA of 2.00. If any student fails in any course, he/she will get the opportunity to improve the grade by retaking the same in the subsequent semesters. The program having **12 semesters** normally extends over four academic years.

Students willing to obtain a Bachelor of Science degree in Robotics and Mechatronics Engineering will have to follow the general guidelines of degree requirements of the university. The courses are organized under five groups as shown below:

Core	Group 1	RME Courses	78 Credits	51%
	Group 2	Language	05 Credits	15%
		General Education	18 Credits	
	Group 3	Basic Sciences	08 Credits	17.5%
		Mathematics	19 Credits	
	Group 4	Other Engineering	12 Credits	8%
Elective	Group 5	Technical Electives	14 Credits	8.5%
		Total	154 Credits	100%

Course Schedule:

* Offering of the courses will be decided by the department.

Level 1 Term 1			
Code	Course Title	Prerequisite Course	Credits
PHY 111	Physics		3
PHY 112	Physics Laboratory		1
CHE 111	Chemistry		3
CHE 112	Chemistry Laboratory		1
MAT 111	Calculus and Geometry		3
RME 112	Machine Shop Practice		1
	Total		12

Level 1 Term 2			
Code	Course Title	Prerequisite Course	Credits
RME 121	Engineering Mechanics and Mechanics of Solids		3
RME 120	Engineering Drawing Laboratory		1
RME 123	Fundamentals of Computing		2
HUM 121	Functional Bengali Language		2
HUM 123	Art of Living		3
MAT 121	Vector, Matrix and Ordinary Differential Equation		3
	Total		14

Level 1 Term 3			
Code	Course Title	Prerequisite Course	Credits
EEE 131	Fundamentals of Electrical and Electronic Engineering		3
EEE 132	Fundamentals of Electrical and Electronic Engineering Laboratory		1
RME 131	Thermodynamics and Heat Transfer		3
RME 132	Thermodynamics and Heat Transfer Laboratory		1
CSE 131	Fundamentals of Programming		3
CSE 132	Fundamentals of Programming Laboratory		1
	Total		12
Total Credits in Level 1: 38 (Theory 31 credits and Laboratory 7 credits)			

Level 2 Term 1			
Code	Course Title	Prerequisite Course	Credits
CSE 211	Object Oriented Programming		3
CSE 212	Object Oriented Programming Laboratory		1
RME 211	Digital Logic Circuit and Microprocessor		3
RME 212	Digital Logic Circuit and Microprocessor Laboratory		1
ENG 211	Technical and Communicative English		3
MAT 211	Fourier Analysis and Laplace Transformation		3
	Total		14

Level 2 Term 2			
Code	Course Title	Prerequisite Course	Credits
RME 215	Mechatronics Systems		3
RME 216	Mechatronics Systems Laboratory		1
RME 221	Electro-Mechanical Systems		3
RME 222	Electro-Mechanical Systems Laboratory		1
RME 223	Sensors and Instrumentations		3
RME 224	Sensors and Instrumentations Laboratory		1
	Total		12

Level 2 Term 3			
Code	Course Title	Prerequisite Course	Credits
HUM 221	Engineering Economics and Accounting		3
RME 225	Introduction to Robotics		3
RME 226	Introduction to Robotics Laboratory		1
RME 227	Manufacturing Process		3
RME 228	Manufacturing Process Laboratory		1
RME 229	Data Structures and Algorithms		3
	Total		14
Total Credits in Level 2: 40 (Theory 33 credits and Laboratory 7 credits)			

Level 3 Term 1			
Code	Course Title	Prerequisite Course	Credits
RME 311	Advanced Mechatronics Engineering		3
RME 312	Advanced Mechatronics Engineering Laboratory		1

RME 313	Control Systems		3
RME 314	Control Systems Laboratory		1
RME 315	Artificial Intelligence		3
RME 316	Artificial Intelligence Laboratory		1
	Total		12

Level 3 Term 2			
Code	Course Title	Prerequisite Course	Credits
RME 317	Machine Design and System Dynamics		3
BDS 311 / HUM 311	Bangladesh Studies / Sociology		2
RME 321	Microcontroller and Programmable Logic Controller		3
RME 322	Microcontroller and Programmable Logic Controller Laboratory		1.5
RME 323	Fluid Mechanics and Control		3
RME 324	Fluid Mechanics and Control Laboratory		1.5
	Total		14

Level 3 Term 3			
Code	Course Title	Prerequisite Course	Credits
MGT 311	Industrial Laws and Management		2
MAT 312	Numerical Methods Lab		1
RME 326	CAD Practice with Simulation and Modeling Laboratory		1
MAT 321	Probability and Statistics		3
MAT 323	Signals and Linear Systems		3
RME 327	Machine Learning Algorithms		3
RME 328	Machine Learning Algorithms Laboratory		1
	Total		14
Total Credits in Level 3: 40 (Theory 32 credits and Laboratory 8 credits)			

Level 4 Term 1			
Code	Course Title	Prerequisite Course	Credits
RME 411	Digital Signal Processing		3
RME 412	Digital Signal Processing Laboratory		1
RME 413	Advanced Robotics		3
RME 414	Advanced Robotics Laboratory		1

RME 43*	Elective I-1		3
RME 43*	Elective I-1 Laboratory		1
	Total		12

Level 4 Term 2			
Code	Course Title	Prerequisite Course	Credits
RME 410	Industrial Training		1
RME 400	Capstone Project- I		2
MGT 411	Project Management and Finance		3
HUM 421	Employability 360°		3
RME 423	Power Electronics and Drives		3
	Total		12

Level 4 Term 3			
Code	Course Title	Prerequisite Course	Credits
RME 425	Deep Learning		3
RME 44*	Elective II		3
RME 45*	Elective III		3
RME 400	Capstone Project-II		3
	Total		12
Total Credits in Level 4: 36 (Theory 32 credits and Laboratory 4 credits)			

*** Offering and pre-requisite courses will be decided by the Head of the Robotics and Mechatronics Engineering Department. But the students must be in level 4 if they want to take these courses.**

Level 1: Total 38 credits

Level 2: Total 40 credits

Level 3: Total 40 credits

Level 4: Total 36 credits

Total : 154 credits

(Professor Dr. Md. Taslim Arefin)

Head (In-Charge)

Department of RME

Daffodil International University