

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Mechanical Engineering)
Dual Degree in collaboration with University of East Anglia, United Kingdom
Programme Structure 2025-2029

1. OBJECTIVE	<p>The Bachelor of Technology (Mechanical Engineering) Dual Degree programme is a full-time four-year graduation programme in partnership with the University of East Anglia, Norwich, UK. This programme enables students to complete two years at Symbiosis Institute of Technology and the remaining two years at the University of East Anglia (UEA), earning a Dual degree in B. Eng. (Hons) Mechanical Engineering and Bachelor of Technology (Mechanical Engineering). International exposure enhances adaptability, critical thinking, and a global perspective. The programme is designed to foster holistic personality development, enabling students to effectively meet the challenges of the, today's workplaces and preparing them for global careers while becoming responsible members of society, and enriching their learning experience with contemporary global knowledge and practices.</p>			
2. DURATION (IN MONTHS)	48 (Full Time)			
3. INTAKE	8			
4. RESERVATION	I. Within the sanctioned intake	a) SC (In Percentage)	b) ST (In Percentage)	c) Differently abled (In Percentage)
		15	15	3
	II. Over and above the sanctioned intake	a) Kashmiri Migrants (In Seats)		b) International Students (In Percentage)
		2		20
5. ELIGIBILITY	<p>Passed 10+2 examination with Physics and Mathematics as compulsory subjects along with one of Chemistry/ Computer Science/ Electronics/ Information Technology/Biology/Informatics Practices/ Biotechnology/Technical Vocational subject/Agriculture/Engineering Graphics/Business Studies /Entrepreneurship. Obtained at least 45% marks (40% marks in case of candidates belonging to reserved category) in the above subjects taken together. In addition to the above, for progression to the Dual Degree program at the University of East Anglia, Norwich, UK ,the following terms for eligibility apply:</p>			

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		Those students who complete the first two years (4 semesters) at SIT with a minimum "B" grade (55 % or CGPA of 5.5), will be eligible to go for the B. Eng. (Hons) Mechanical Engineering at UEA. a) Official transcript from SIT reporting all courses with grades for Year-1 and 2 in SIT b) No disciplinary other cases shall be impending on the student and no active backlogs c) IELTS: 6.0 overall (minimum 5.5 in all components).			
6.	SELECTION PROCEDURE	Merit list by valid score of Symbiosis Entrance Test (SET) or Joint Entrance Examination (JEE - Main) or Any State Government Engineering Entrance Examination For Dual Degree program at the University of East Anglia, Norwich, UK . Selection for progression to Dual Degree will be based on fulfilment of Eligibility Criteria listed above and submission of official transcript from SIT, Pune reporting all courses with grades for their Year 1 and Year 2.			
7.	MEDIUM OF INSTRUCTION	English			
8.	PROGRAMME PATTERN	Semester			
9.	COURSE & SPECIALISATION	As per Annexure A			
10.	FEE		Academic Fee p.a	Institute Deposit	Total

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	Indian Students (Amount in INR)		450000	20000	470000
	International Students	NRI/ PIO/ OCI Category (Amount in US\$)	4297	275	4572
		Foreign National Category (Amount in US\$)	1300	275	1575
Students opting for East Anglia University Dual Degree programme (Students will pay only first and second year fees at SIT, SIU and third and fourth year fees at University of East Anglia, Norwich, UK)					
11.	ASSESSMENT	<p>The theory courses will have 40% Continuous Assessment and 60% Term End [University] examination, Lab courses (Practical) will have 60% Continuous Assessment and 40% Term End [University] examination however, some courses (not more than 30% of the total programme credits) may have 100% Continuous Assessment.</p> <p>For Bachelor of Engineering Mechanical Engineering Programme, University of East Anglia, Norwich, UK the assessment standards will be as per University of East Anglia, norms</p>			
12.	STANDARD OF PASSING	<p>The assessment of the student for each examination is done, based on relative performance. Maximum Grade Point (GP) is 10 corresponding to O (Outstanding). For all courses, a student is required to pass both internal and external examination separately with a minimum Grade Point of 4 corresponding to Grade P. Students securing less than 40% absolute marks in each head of passing will be declared FAIL. The University awards a degree to the student who has achieved a minimum CGPA of 4 out of maximum of 10 CGPA for the programme.</p> <p>For Bachelor of Engineering Mechanical Engineering Programme, University of East Anglia, Norwich, UK the assessment standards will be as per University of East Anglia, norms</p>			

13. AWARD OF DEGREE	The first two years of the programme shall be completed at Symbiosis International (Deemed University) [SIU], and the third and fourth year at University of East Anglia, Norwich, UK and the respective University's passing criteria shall be applicable.
	Bachelor of Technology (Mechanical Engineering) degree will be awarded upon successful completion of the programme requirements and obtaining a minimum of 4 out of a maximum of 10 CGPA.
	Bachelor of Engineering Mechanical Engineering degree will be awarded by University of East Anglia, Norwich, UK, upon successful completion of the programme requirements and satisfactory performance as per University of East Anglia, Norwich, regulations.

14. CLASSIFICATION OF CREDITS

Semester	Basic Sciences	Engineering Sciences	Professional Core	Professional Elective	Humanities and Social Sciences including Management	Multidisciplinary Open Electives	Project/ Internship/ Seminar	Indian Knowledge System	Total Credits	No. of Mandatory Non-Credit Course/s	No. of Non-Credit Audit Course/s
1	8	8	3	0	1	0	0	0	20	0	As per the student's choice
2	8	8	0	0	2	0	0	2	20	2 *	
3	3	2	12	3	0	0	0	0	20	1 *	
4	0	0	11	4	3	3	0	0	21	1 *	
5	Courses delivered as per the syllabus and structure of Bachelor of Engineering Mechanical Engineering from University of East Anglia, Norwich, UK										
6	Courses delivered as per the syllabus and structure of Bachelor of Engineering Mechanical Engineering from University of East Anglia, Norwich, UK										
7	Courses delivered as per the syllabus and structure of Bachelor of Engineering Mechanical Engineering from University of East Anglia, Norwich, UK										
8	Courses delivered as per the syllabus and structure of Bachelor of Engineering Mechanical Engineering from University of East Anglia, Norwich, UK										
Total	19	18	26	7	6	3	0	2	81	0	

* Satisfactory completion of non credit courses '*Vasudhaiva Kutumbakam*' is mandatory for award of degree.

This Programme Structure is aligned with the norms laid down by the University and is approved by the Academic Council and Executive Council. Hereafter changes (if any) which conform to the policy on "Curriculum Development and Review" would be permissible, subject to revision of the Programme Structure, following the specified processes.

Director - Academics

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Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
Semester : 1													
Generic Core Courses													
TEE7246	0701300101	Matrices and Calculus	BS		3	1	0	0	0	40	60	4	100
TEE7232	0701300102	Applied Chemistry	BS		3	0	2	15	10	30	45	4	100
TEE7336	0701300103	Workshop Practice	ES		0	0	2	25	0	0	0	1	25
TEE7323	0701300104	Engineering Drawing	ES		1	0	4	50	0	25	0	3	75
TEE7322	0701300105	Computer Aided Drafting	ES		0	0	2	15	10	0	0	1	25
TE7289	0701300106	Programming in C Lab	ES		0	0	2	15	10	0	0	1	25
TEE7364	0701300107	Tinker and IDEA Lab	ES		0	0	2	25	0	0	0	1	25
TM2278	0701300108	Introduction to Environment and Sustainability	ES		0	0	2	25	0	0	0	1	25
TEE7329	0701300109	Manufacturing Processes	PC		3	0	0	0	0	30	45	3	75
T6873	0701300110	Creative Thinking	HSMC		1	0	0	0	0	25	0	1	25
Total					11	1	16	170	30	150	150	20	500
Semester : 2													
Generic Core Courses													
TEE7231	0701300201	Advanced Calculus	BS		3	1	0	0	0	40	60	4	100

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					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TEE7243	0701300202	Fundamentals of Mechanics	BS		3	0	2	15	10	30	45	4	100
TEE7327	0701300203	Foundations of Mechanical Engineering	ES		2	0	2	25	0	50	0	3	75
TEE7313	0701300204	Elements of Electrical and Electronics Engineering	ES		3	0	2	15	10	30	45	4	100
TE7555	0701300205	Introduction to Python Programming Lab	ES		0	0	2	15	10	0	0	1	25
THM6150	0701300206	Technical and Professional Communication Skills	HSMC		0	0	2	25	0	0	0	1	25
T6732	0701300207	Critical Thinking	HSMC		1	0	0	0	0	25	0	1	25
THM6144	0701300208	Indian Knowledge Systems	IKS		2	0	0	0	0	50	0	2	50
TEE7265	0701300209	Career Essentials - I *	MC		0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
SMC001	0701300210	Vasudhaiva Kutumbakam *	MC		0	0	0	0	0	0	0	Mandatory Non-Credit Course	0

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					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Total					14	1	10	95	30	225	150	20	500
Semester : 3													
Generic Core Courses													
TEE7250	0701300301	PDE, Probability and Statistics	BS		2	1	0	0	0	30	45	3	75
TEE7478	0701300302	Design Thinking	ES		1	0	0	0	0	25	0	1	25
P4411	0701300303	Principles of Economics	ES		1	0	0	0	0	25	0	1	25
TEE7335	0701300304	Strength of Materials and Testing	PC		2	1	2	15	10	30	45	4	100
TEE7481	0701300305	Fluid Mechanics	PC		2	1	2	15	10	30	45	4	100
TEE7479	0701300306	Engineering Thermodynamics	PC		3	0	2	15	10	30	45	4	100
TEE7419	0701300307	Career Essentials - II *	MC		0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
Total					11	3	6	45	30	170	180	17	425
Programme Elective Courses Group- I (Choose any one course)													
TE7359	0701300308	Composite Materials	PE		3	0	0	0	0	30	45	3	75

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					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7367	0701300309	Engineering Materials and Metallurgy	PE		3	0	0	0	0	30	45	3	75
TE7700	0701300310	Smart Materials	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Semester : 4													
Generic Core Courses													
TEE7321	0701300401	Computer Aided Design and Machine Drawing	PC		0	0	2	15	10	0	0	1	25
TEE7484	0701300402	Kinematics and Dynamics of Machines	PC		3	0	2	15	10	30	45	4	100
TEE7407	0701300403	Mechatronics	PC		1	0	0	0	0	25	0	1	25
TEE7492	0701300404	Mechatronics Lab	PC		0	0	2	15	10	0	0	1	25
TEE7490	0701300405	Hydraulic and Pneumatic Systems	PC		2	0	2	15	10	20	30	3	75
TEE7401	0701300406	Total Productive Maintenance	PC		0	0	2	15	10	0	0	1	25
P4618	0701300407	Service Learning	HSMC		0	0	4	30	20	0	0	2	50
TEE7482	0701300408	Foundations of Entrepreneurship	HSMC		1	0	0	0	0	25	0	1	25

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					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TEE7420	0701300409	Career Essentials - III *	MC		0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
Total					7	0	14	105	70	100	75	14	350
Programme Elective Courses Group - I (Choose Any One Course)													
TEE7480	0701300410	Finite Element Methods	PE		3	0	2	15	10	30	45	4	100
TEE7477	0701300411	Computational Fluid Dynamics	PE		3	0	2	15	10	30	45	4	100
TEE7483	0701300412	IC Engine	PE		3	0	2	15	10	30	45	4	100
Total Required Credits								15	10	30	45	4	100
Multi-Disciplinary Open Elective Courses I (Choose Any One Course)													
TEE7416	0701300413	Quantum Computing for Engineers	MOPE		2	1	0	0	0	30	45	3	75
TEE7414	0701300414	Mathematics for Data Science	MOPE		2	1	0	0	0	30	45	3	75
TEE7438	0701300415	Smart Cities Planning and Management	MOPE		2	1	0	0	0	30	45	3	75
TEE7435	0701300416	Intelligent Waste Management Techniques	MOPE		2	1	0	0	0	30	45	3	75
TEE7458	0701300417	Web Technologies	MOPE		2	1	0	0	0	30	45	3	75
TEE7447	0701300418	Data Science	MOPE		2	1	0	0	0	30	45	3	75

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					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TEE7018	0701300419	Engineering Simulation and Modeling Tools	MOPE		2	1	0	0	0	30	45	3	75
TEE7472	0701300420	Medical Electronics	MOPE		2	1	0	0	0	30	45	3	75
TEE7425	0701300421	Fundamentals of Machine Learning	MOPE		2	1	0	0	0	30	45	3	75
TEE7418	0701300422	AI System Development	MOPE		2	1	0	0	0	30	45	3	75
TEE7489	0701300423	Fundamentals of Robotics and Automation	MOPE		2	1	0	0	0	30	45	3	75
TEE7499	0701300424	Robotic Process Automation	MOPE		2	1	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
5th semester To 8th semester Courses delivered as per the syllabus and structure of Bachelor of Engineering Mechanical Engineering from University of East Anglia, Norwich, UK. Students will take courses to fulfil the credit requirements of our Programme.													

Abbreviations (Nature)	Description
BS	Basic Sciences
ES	Engineering Sciences
PC	Professional Core
PE	Professional Elective
HSMC	Humanities and Social Sciences including Management
MOPE	Multidisciplinary Open Electives
PIS	Project, Internship, Seminar
IKS	Indian Knowledge System
L	Lecture
MC	Mandatory Course
T	Tutorial
CA	Continuous Assessment
ESE	End Semester Examination
LAB	Laboratory

Track 1 (T1): For Regular Students

Track 2 (T2): For Students opting for Internship/ Entrepreneurship

Definition:

Honours: Students have the option to pursue an "Honours" degree by completing an additional 20 credits within their major discipline, focusing on more advanced, specialised, emerging, or multidisciplinary courses beyond the standard requirements of the B.Tech degree.

Minors: Students have the option to pursue a "Minor" by completing 18 credits in a discipline/ specialisation other than their major discipline beyond the standard requirements of the B.Tech. Degree.

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Semester	Continuous Assessment	End Semester Examination	Total Credits	Total Marks
Common				
Semester 1	7	13	20	500
Semester 2	7	13	20	500
Semester 3	2	18	20	500
Semester 4	2	19	21	525
Semester 5	Courses delivered as per the syllabus and structure of Bachelor of Engineering Mechanical Engineering from University of East Anglia, Norwich, UK			
Semester 6	Courses delivered as per the syllabus and structure of Bachelor of Engineering Mechanical Engineering from University of East Anglia, Norwich, UK			
Semester 7	Courses delivered as per the syllabus and structure of Bachelor of Engineering Mechanical Engineering from University of East Anglia, Norwich, UK			
Semester 8	Courses delivered as per the syllabus and structure of Bachelor of Engineering Mechanical Engineering from University of East Anglia, Norwich, UK			
Total	18	63	81	2025



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Annexure D
Course Mapping Sheet

Bachelor of Engineering Mechanical Engineering from University of East Anglia, Norwich, UK					
Sr. No.	Course Mapping Semester	Course Title	Course Credits	University of East Anglia, United Kingdom	
				University Course Title	Credits
1	5	Heat Transfer	4	Thermo-fluid Analysis and Design	20
2	5	Design of Machine Elements	4	Stress Analysis & Design	20
3	5	Sustainability Engineering- Design and Innovation	3		
4	5	Career Essentials - IV		Engineering Design Project	20
5	5	Programmable Logic Controller and Human Machine Interface	4	Control Systems	20
6	5	Process Control and Instrumentation	4	Thermo-fluid Analysis and Design	20
7	5	Manufacturing Technology	3	Manufacturing Technology	20
8	5	Project Based Learning -I	2	Engineering Design Project	20
9	5	Servo Motors and Drives	1	Control Systems	20
10	5	Servo Motors and Drives Lab	1		
11	6	Renewable Energy Systems	3	Power Systems Engineering	20
12	6	Manufacturing Systems	4	Manufacturing Technology	20
13	6	Industrial Internet of Things	4	Control Systems	20
14	6	AI for Manufacturing	4	Manufacturing Technology	20
15	6	Project Based Learning-II	2	Engineering Design Project	20



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Annexure D
Course Mapping Sheet

16	6	Applied ARVR	1	Stress Analysis & Design	20
17	7	Refrigeration and Airconditioning	4	Thermo-fluid Analysis and Design	20
18	7	Business Analytics Fundamentals	3	Engineering Design Project	20
19	7	Smart Manufacturing and Digital Twins	2	Manufacturing Technology	20
20	7	Project	4	Engineering Major Project	40
21	7	Power Plant Engineering	3	Power Systems Engineering	20
22	7	Cyber Physical Security and cloud computing	3	Ubiquitous Computing	
23	7	Cyber Security	2		
24	8	Seminar	2	Engineering Major Project	40
25	8	Internship	12		
26				Analogue and Digital Electronics	20
27				Dynamics and Vibration	20
28				Further Mathematical Methods for Science and Engineering	20
29				Structures and Materials	20
Total Credits			79		240

*Course mapping is subject to change.