

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Computer Science and Engineering)

Dual Degree in collaboration with Deakin University, Australia

Programme Structure 2025-2029

1. OBJECTIVE	The B.Tech Dual Degree is a four-year, full-time programme offered in collaboration with Deakin University, Australia. Students spend the first two years at Symbiosis Institute of Technology, Pune, and the remaining two years at Deakin University, earning dual degrees. The programme focuses on building a strong foundation in computer engineering along with essential skills in data science. The curriculum combines basic sciences, humanities, and professional subjects to support overall development, teamwork, and ethical understanding. It maintains a balance between theoretical concepts and practical learning, enabling students to work with real-world data, identify patterns, and support effective decision-making. International exposure helps develop adaptability and a broader outlook. Graduates are equipped to work in diverse roles, contribute to organisational growth, and handle challenges in a technology-driven environment while remaining responsible members of society.			
2. DURATION (IN MONTHS)	48 (Full Time)			
3. INTAKE	10			
4. RESERVATION	I. Within the sanctioned intake	a) SC (In Percentage)	b) ST (In Percentage)	c) Differently abled (In Percentage)
		15	7.5	3
	II. Over and above the sanctioned intake	a) Kashmiri Migrants (In Seats)		b) International Students (In Percentage)
		2		20
5. ELIGIBILITY	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 Overall score of at least 65% in 12th grade (Physics and Maths compulsory), plus a qualifying score in Symbiosis Entrance Exam / equivalent entrance examination. In addition to the above, for progression to the Dual Degree program at Deakin University, Australia, the following terms for eligibility			

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		<p>apply: For progression to Dual Degree- 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 Bachelor of Data Science (Honours). Official transcript from SIT reporting all courses with grades for Year-1 and 2 in SIT. No disciplinary other cases shall be impending on the student and no active backlogs. IELTS:6.0 overall (with no band score less than 6.0).</p>			
6.	SELECTION PROCEDURE	<p>For Symbiosis Institute of Technology 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 Deakin University, Australia Selection for progression to a Dual Degree will be based on fulfillment of the Eligibility Criteria listed above and submission of an official transcript from SIT reporting all modules with grades for their Year 1 and Year 2 in SIT</p>			
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)		422000	20000	442000
	International Students	NRI/ PIO/ OCI Category (Amount in US\$)	5370	275	5645
		Foreign National Category (Amount in US\$)	1300	275	1575
(The students will pay only First and Second year fees at SIT, SIU and Third and Fourth year fees at Deakin University, Australia.)					
11.	ASSESSMENT	At Symbiosis Institute of Technology The theory courses will have 40% Continuous Assessment and 60% Term End [University] examination, and 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. For the Bachelor of Data Science (Honours) programme, Deakin University, Australia, the assessment standards will be as per Deakin University, Australia.			
12.	STANDARD OF PASSING	At Symbiosis Institute of Technology The assessment of the student for each examination is done based on relative performance. The maximum Grade Point (GP) is 10, corresponding to O (Outstanding). For all courses, a student is required to pass both internal and external examinations 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 a maximum of 10 CGPA for the programme. For the Bachelor of Data Science (Honours) programme, Deakin University, Australia, the standard of passing will be as per Deakin University norms.			

13.	AWARD OF DEGREE	<p>The first two years of the programme shall be completed at Symbiosis International (Deemed University) [SIU], and the third and fourth year at Deakin University, Australia and the respective University's passing criteria shall be applicable. Bachelor of Technology (Computer Science and 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.</p> <p>Bachelor of Data Science (Honours) degree will be awarded by Deakin University, Australia, upon successful completion of the programme requirements and satisfactory performance as per Deakin University regulations.</p>
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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	7	1	0	2	0	0	2	20	0	As per the student's choice
2	3	7	9	0	1	0	0	0	20	1 *	
3	3	0	17	0	0	0	0	0	20	1 *	
4	3	1	11	0	0	3	2	0	20	2 *	
5	Courses delivered as per the syllabus and structure of the Bachelor of Data Science (Honours) at Deakin University, Australia.										
6	Courses delivered as per the syllabus and structure of the Bachelor of Data Science (Honours) at Deakin University, Australia.										
7	Courses delivered as per the syllabus and structure of the Bachelor of Data Science (Honours) at Deakin University, Australia.										
8	Courses delivered as per the syllabus and structure of the Bachelor of Data Science (Honours) at Deakin University, Australia.										
Total	17	15	38	0	3	3	2	2	80	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
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 1													
Generic Core Courses													
TEE7237	0701310101	Calculus	BS		3	1	0	0	0	40	60	4	100
TEE7244	0701310102	Fundamentals of Quantum Physics	BS		3	0	2	15	10	30	45	4	100
TEE7301	0701310103	Programming Paradigm and Problem Solving	ES		2	0	2	15	10	20	30	3	75
TEE7303	0701310104	Software and Generative AI Tools	ES		0	0	2	15	10	0	0	1	25
TEE7310	0701310105	Digital Electronics and Logic Design	ES		2	0	2	15	10	20	30	3	75
TEE7296	0701310106	Object Oriented Programming	PC		0	0	2	15	10	0	0	1	25
THM6150	0701310107	Technical and Professional Communication Skills	HSMC		0	0	2	25	0	0	0	1	25
T6732	0701310108	Critical Thinking	HSMC		1	0	0	0	0	25	0	1	25
THM6144	0701310109	Indian Knowledge Systems	IKS		2	0	0	0	0	50	0	2	50
Total					13	1	12	100	50	185	165	20	500
Semester : 2													
Generic Core Courses													
TEE7255	0701310201	Linear Algebra	BS		2	1	0	0	0	30	45	3	75

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					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TEE7317	0701310202	Microcontrollers and Sensors	ES		2	0	2	15	10	20	30	3	75
TEE7306	0701310203	Cyber Security	ES		1	0	2	25	0	25	0	2	50
TM2278	0701310204	Introduction to Environment and Sustainability	ES		0	0	2	25	0	0	0	1	25
TEE7364	0701310205	Tinker and IDEA Lab	ES		0	0	2	25	0	0	0	1	25
TEE7302	0701310206	Python Programming	PC		2	0	2	15	10	20	30	3	75
TEE7290	0701310207	Computer Architecture and Organization	PC		2	0	2	15	10	20	30	3	75
TEE7304	0701310208	Software Engineering	PC		2	0	2	15	10	20	30	3	75
T6873	0701310209	Creative Thinking	HSMC		1	0	0	0	0	25	0	1	25
TEE7265	0701310210	Career Essentials - I *	MC		0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
Total					12	1	14	135	40	160	165	20	500
Semester : 3													
Generic Core Courses													
TEE7254	0701310301	Discrete Mathematics	BS		2	1	0	0	0	30	45	3	75

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					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TEE7448	0701310302	Data Structures	PC		2	0	4	30	20	20	30	4	100
TEE7455	0701310303	Operating Systems	PC		3	0	2	15	10	30	45	4	100
TEE7449	0701310304	Database Management Systems	PC		2	0	4	30	20	20	30	4	100
F0002	0701310305	Flexi-Credit Course	PC		0	0	4	50	0	0	0	2	50
TEE7456	0701310306	Programming with JAVA	PC		0	0	4	30	20	0	0	2	50
TEE7457	0701310307	Web Application Development	PC		0	0	2	15	10	0	0	1	25
TEE7419	0701310308	Career Essentials - II *	MC		0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
Total					9	1	20	170	80	100	150	20	500
Semester : 4													
Generic Core Courses													
TE7689	0701310401	Statistics and Probability	BS		2	1	0	0	0	30	45	3	75
TEE7478	0701310402	Design Thinking	ES		1	0	0	0	0	25	0	1	25
TEE7442	0701310403	Computer Networks	PC		3	0	2	15	10	30	45	4	100

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					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TEE7450	0701310404	Design and Analysis of Algorithms	PC		2	0	2	15	10	20	30	3	75
TEE7446	0701310405	Data Management and Visualization	PC		2	0	2	15	10	20	30	3	75
TEE7441	0701310406	Advanced Python Lab	PC		0	0	2	15	10	0	0	1	25
TE7290	0701310407	Project Based Learning -I	PIS		0	0	4	50	0	0	0	2	50
TEE7420	0701310408	Career Essentials - III *	MC		0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
SMC001	0701310421	Vasudhaiva Kutumbakam *	MC		0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
Total					10	1	12	110	40	125	150	17	425
Multidisciplinary Open Elective Courses (Choose Any One Course)													
TEE7416	0701310409	Quantum Computing for Engineers	MOPE		2	1	0	0	0	30	45	3	75
TEE7414	0701310410	Mathematics for 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		
TEE7438	0701310411	Smart Cities Planning and Management	MOPE		2	1	0	0	0	30	45	3	75
TEE7435	0701310412	Intelligent Waste Management Techniques	MOPE		2	1	0	0	0	30	45	3	75
TEE7018	0701310413	Engineering Simulation and Modeling Tools	MOPE		2	1	0	0	0	30	45	3	75
TEE7472	0701310414	Medical Electronics	MOPE		2	1	0	0	0	30	45	3	75
TE7351	0701310415	3D Printing and Prototyping	MOPE		2	1	0	0	0	30	45	3	75
TEE7476	0701310416	Battery Management Systems	MOPE		2	1	0	0	0	30	45	3	75
TEE7425	0701310417	Fundamentals of Machine Learning	MOPE		2	1	0	0	0	30	45	3	75
TEE7418	0701310418	AI System Development	MOPE		2	1	0	0	0	30	45	3	75
TEE7489	0701310419	Fundamentals of Robotics and Automation	MOPE		2	1	0	0	0	30	45	3	75
TEE7499	0701310420	Robotic Process Automation	MOPE		2	1	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75

5th to 8th Semesters

Courses will be delivered as per the syllabus and structure of the Bachelor of Data Science (Honours) program offered by Deakin University, Australia. 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	4	16	20	500
Semester 2	5	15	20	500
Semester 3	2	18	20	500
Semester 4	3	17	20	500
Semester 5	Courses delivered as per the syllabus and structure of the Bachelor of Data Science (Honours) at Deakin University, Australia.			
Semester 6	Courses delivered as per the syllabus and structure of the Bachelor of Data Science (Honours) at Deakin University, Australia.			
Semester 7	Courses delivered as per the syllabus and structure of the Bachelor of Data Science (Honours) at Deakin University, Australia.			
Semester 8	Courses delivered as per the syllabus and structure of the Bachelor of Data Science (Honours) at Deakin University, Australia.			
Total	14	66	80	2000



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Annexure D
Course Mapping Sheet

Bachelor of Data Science, Deakin University, Australia.					
Sr. No.	Course Mapping Semester	Course Title	Course Credits	Deakin University, Australia	
				University Course Title	Credits
1	5	Deep Learning Essentials	3	SIT319 Deep Learning	1
2	5	Theory of Computation	3	SIT330 Natural Language Programming	1
3	5	Cryptography and Information Security	3	SIT 307 Machine Learning	1
4	5	Data Science and Business Intelligence	3	SIT220 Data Wrangling	1
5	5	Cloud Computing	3	SIT343 Feature Generation and Engineering	1
6	5	Data Warehousing and Mining	4	SIT225 Data Capture Technologies	1
7	5	Entrepreneurship Venture	1	SIT723 Research Techniques and Applications	2
8	5	Service Learning	2	SIT 379 Ethical Hacking (Minor)	1
9	6	Flexi-Credit Course	3		
10	6	Organizational Behaviour	1		
11	6	Data Engineering and Applications	3	SIT225 Data Capture Technologies	1
12	6	Compiler Design	3	SIT724 Research Project OR SIT746 Research Project Advanced	2
13	6	Distributed System	3	SIT223 Professional Practice in Information Technology	1
14	6	Blockchain Technology	3	SIT220 Data Wrangling	1
15	6	Malware Analysis and Secure Coding	4	SIT292 Linear Algebra for Data Analysis	1



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Annexure D
Course Mapping Sheet

16	6	Project Based Learning-II	2	SIT343 Feature Generation and Engineering	1
17	7	Flexi-Credit Course	3	SIT724 Research Project OR SIT746 Research Project Advanced	2
18	7	Technical Writing and Seminars	3	SIT343 Feature Generation and Engineering	1
19	7	Project	4	SIT374 Team Project (A) - Project Management and Practices	1
20	7	Industry Internship	12	SIT723 Research Techniques and Applications	2
21	8	Seminar	2	SIT344 Professional Practice OR SIT378 Team Project B -Execution and Delivery AND SIT306 IT Placements and Industry Experience	2
22	8	Internship	12		
Total Credits			80		16

*Course mapping is subject to change.