

SYMBIOSIS INSTITUTE OF TECHNOLOGY
MASTER OF TECHNOLOGY (COMPUTER AIDED DESIGN
AND MANUFACTURE)
PROGRAM STRUCTURE 2014-16

1. **OBJECTIVES**
 - To generate competent manpower in the emerging areas of Computer Aided Design and Manufacturing Technology.
 - To inculcate among the students an aptitude for engineering and research for the furthering of knowledge in the chosen field.

2. **DURATION** Two Years Full Time

3. **INTAKE** 18 Students

4. **RESERVATION**
 - I. Within the sanctioned intake:
 - a) Scheduled Castes-15%
 - b) Scheduled Tribes-7.5%
 - c) Differently abled-3%

 - II. Over and above the sanctioned intake:
 - a) Kashmiri Migrants - 2 Seats
 - b) International Students - 15%

5. **ELIGIBILITY** At least 50% marks in B. Tech/B.E in Mechanical, Production, Industrial, Automobile, Aeronautical or Metallurgical (45% for SC/ST candidates)

6. **SELECTION PROCEDURE** GATE score or Entrance Test for non-GATE candidates

7. **MEDIUM OF INSTRUCTION** English

8. **PROGRAM PATTERN** Semester Pattern - 4 Semesters

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- 9. COURSES & SPECIALIZATION** As per Annexure A
- 10. FEE**
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|-------------------------------|---------------------|
| Indian Students | |
| Academic Fee p.a. | Rs. 1,40,000 |
| Institute Deposit | Rs. 10,000 |
| Total Fee | Rs. 1,50,000 |
| International Students | |
| Academic Fee p.a. | Rs. 2,10,000 |
| Institute Deposit | Rs. 10,000 |
| Total Fee | Rs. 2,20,000 |
- 11. ASSESSMENT** All internal courses will have 100% component as internal evaluation at the institute level. All external courses will have 40% internal component and 60% component as external [University] examination.
- 12. STANDARD OF PASSING** The assessment of students for each examination is done, based on relative performance. Maximum Grade Point (GP) is 4.000 corresponding to A+. For all courses, a student is required to pass both internal and external examination separately with a minimum Grade Point of 2.000 corresponding to Grade D. 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 2.000 out of maximum of 4.000 for the program.
- 13. AWARD OF DEGREE** **Master of Technology (Computer Aided Design and Manufacture) M. Tech. (CAD&M)** will be awarded at the end of semester IV examination by taking into consideration the performance of all semester examinations after obtaining minimum 2.00 CGPA out of 4.000.

Annexure A

Semester I

Temporary Course Code	Course Code	Course Title	Nature of Course	Teaching Scheme			Examination Scheme Marks				Total Credit	Total Marks
				L	T	Lab	Practical		CA	ESE		
							Int	Ext				
T7135	070142101	Computer Graphics and Data Structure	C	3	-	-	-	-	60	90	3	150
T7100	070142102	Mechatronics	C	4	-	-	-	-	80	120	4	200
T7004	070142103	Advanced Numerical Methods in Engineering	ES	3	-	-	-	-	60	90	3	150
T7126	070142104	Computer Aided Production Planning and Control	C	4	-	-	-	-	80	120	4	200
T7122	070142105	Computer Aided Design	C	4	-	-	-	-	80	120	4	200
T7136	070142106	Computer Graphics and Data Structure Lab	C	-	-	2	20	30	-	-	1	50
T7101	070142107	Mechatronics Lab	C	-	-	2	20	30	-	-	1	50
T7005	070142108	Advanced Numerical Method in Engineering Lab	C	-	-	2	20	30	-	-	1	50
T7123	070142109	Computer Aided Design Lab	C	-	-	2	20	30	-	-	1	50
T7674	070142110	Cyber Security	GP	2	-	-	-	-	100	-	2	100
			Total	20	-	8	80	120	460	540	24	1200

Semester II

Temporary Course Code	Course Code	Course Title	Nature of Course	Teaching Scheme			Examination Scheme Marks				Total Credit	Total Marks
				L	T	Lab	Practical		CA	ESE		
							Int	Ext				
T7124	070142201	Computer Aided Manufacturing	C	4	-	-	-	-	80	120	4	200
T7026	070142202	Research Methodology in Engineering	PD	3	-	-	-	-	60	90	3	150
T7117	070142203	Advanced Finite Element Method	C	4	-	-	-	-	80	120	4	200
T7119	070142204	Advanced Industrial Automation and Robotics	C	4	-	-	-	-	80	120	4	200
T7115	070142205	Advanced Computational Fluid Dynamics	C	4	-	-	-	-	80	120	4	200
T7127	070142206	Emerging Concepts and Techniques in Manufacturing Management	C	4	-	-	-	-	80	120	4	200
T7125	070142207	Computer Aided Manufacturing Lab	C	-	-	2	20	30	-	-	1	50
T7118	070142208	Advanced Finite Element Method Lab	C	-	-	2	20	30	-	-	1	50
T7116	070142209	Advanced Computational Fluid Dynamics Lab	C	-	-	2	20	30	-	-	1	50
			Total	23	-	6	60	90	460	690	26	1300
T4005	070144210	*Integrated Disaster Management		-	-	-	-	-	-	-	-	Letter Grade

Semester III

Temporary Course Code	Course Code	Course Title	Nature of Course	Teaching Scheme			Examination Scheme Marks			Total Credit	Total Marks
				L	T	Lab	TW	CA	ESE		
T7809	070142301	M.Tech Project**	PD	-	-	-	-	270	180**	9	450
T7675	070142302	Review of Literature	PD	-	-	-	-	240	160**	8	400
Elective-I (choose any one from 303 to 305)											
T7121	070142303	Advanced Mechanical System Design	C	4	-	-	-	80	120	4	200
T7128	070142304	Engineering Optimization Techniques	C	4	-	-	-	80	120	4	200
T7130	070142305	Product Design and Development	C	4	-	-	-	80	120	4	200
Elective-II (choose any one from 306 to 308)											
T7120	070142306	Advanced Materials	C	4	-	-	-	80	120	4	200
T7659	070142307	Artificial Intelligence and Neural Networks	C	4	-	-	-	80	120	4	200
T7129	070142308	Fracture and Failure Analysis	C	4	-	-	-	80	120	4	200
Total				8	-	-	-	670	580	25	1250

Semester IV

Temporary Course Code	Course Code	Course Title	Nature of Course	Teaching Scheme			Examination Scheme Marks			Total Credit	Total Marks
				L	T	Lab	TW	CA	ESE		
T7851	070142401	Thesis	PD	-	-	-	-	750	500	25	1250
Total				-	-	-	-	750	500	25	1250

Summary

Semester	Internal Credits	External Credits	Total Credits	Total Marks
Semester I	02	22	24	1200
Semester II	-	26	26	1300
Semester III	-	25	25	1250
Semester IV	-	25	25	1250
Total	02	98	100	5000

*Integrated Disaster Management is mandatory for the award of degree.

** ESE would be Final VIVA-VOCE conducted by the institute

C – Core Course

ID – Inter Disciplinary Course

ES – Engineering Science Course

PD – Professional Development Course

GP – General Proficiency Course

L – Lecture, T– Tutorial

TW – Term Work (Practical)

HA – Home Assignment

ESE – End Semester Examination

CA – Continuous Assessment