

**Minor & Honors Certification Program**  
**under**  
**Department of Mechanical Engineering, SPCE**  
(Credit System)

- 1. Minor Certification in Machine Design**
- 2. Minor Certification in Thermal Engineering**

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- 1. Honor Certification in Machine Design**
  - 2. Minor Certification in Thermal Engineering**

**Sardar Patel College of Engineering**  
**Academic Year 2023-24**  
**Credit System for Minor in Machine Design**

Sr. No.	Course Name	Code	Course Plan per Week (Hrs)			Credits	In semester Evaluation (Points)		End Semester Evaluation (Points)		End semester weightage (%)	Term work/Practical	Total Points
			L	P	T		T-I	T-II	Points	Time (Hrs)		(Note 2)	
Semester V													
1	Dynamics of Machinery	PC-BTM512	3	0	1	4	20	20	100	3	60	25	125
Semester VI													
2	Machine Design	PC-BTM612	3	0	1	4	20	20	100	3	60	25	125
Semester VII													
3	Design of Machines and Mechanical Systems	PC-BTM711	3	0	1	4	20	20	100	3	60	25	125
Semester VIII													
4	Process Eqpt. Design and Piping Engineering	PE-BTM711	3	0	1	4	20	20	100	3	60	25	125
5.	Design Project	PR-BTM401	2	0	0	2	-	-	-	-	-	100	100
	TOTAL additional credits					18							600

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**Credit System for Minor in Thermal Engineering**

Sr. No.	Course Name	Code	Course Plan per Week (Hrs)			Credits	In semester Evaluation (Points)		End Semester Evaluation (Points)		End semester weightage (%)	Term work/P ractical	Total Points
			L	P	T		T-I	T-II	Points	Time (Hrs)		(Note 2)	
Semester V													
1	Heat and Mass Transfer	PC-BTM501	3	0	1	4	20	20	100	3	60	25	125
Semester VI													
2	Refrigeration and Air Conditioning	PC-BTM611	3	0	1	4	20	20	100	3	60	25	125
Semester VII													
3	Power Plant Engineering	PE-BTM754	3	0	1	4	20	20	100	3	60	25	125
Semester VIII													
4	Renewable Energy Sources and Utilization	PE-BTM756	3	0	1	4	20	20	100	3	60	25	125
5.	Project	PR-BTM401	2	0	0	2						100	100
	<b>TOTAL additional credits</b>					<b>18</b>							600

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			L	P	T		T-I	T-II	Poin ts	Time (Hrs)		(Note 2)	
Semester V													
1	Advanced Stress Analysis	PC-MTMD101	3	0	0	3	20	20	100	3	60%	0	100
2	Design Lab-I	PC-MTMD103	0	4	0	2	0	0	0	0	0	50	50
Semester VI													
3	System Modeling and Synthesis of Mechanisms	PC-MTMD203	3	0	0	3	20	20	100	3	60%	0	100
4	Design Lab-II	PC-MTMD206	0	4	0	2	0	0	0	0	0	50	50
Semester VII													
5	Computer Aided Design	PC-MTMD102	3	0	0	3	20	20	100	3	60%	0	100
Semester VIII													
6	Advanced Finite Element Methods	PC-MTMD204	3	0	0	3	20	20	100	3	60%	0	100
7	Project	DS-MTMD421	0	4	0	2						100	100
	<b>TOTAL additional credits</b>					<b>18</b>							

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			L	P	T		T-I	T-II	Points	Time (Hrs)		(Note 2)	
Semester V													
1	Transport Phenomena	PC-MTTH101	3	0	0	3	20	20	100	3	60%	0	100
2	Thermal Laboratory-I	PC-MTTH103	0	4	0	2	0	0	0	0	0%	50	50
Semester VI													
3	Design of Heat Exchangers	PC-MTTH201	3	0	0	3	20	20	100	3	60%	0	100
4	Thermal Laboratory II	PC-MTTH204	0	4	0	2	0	0	0	0	0	50	50
Semester VII													
5	Energy Resources, Storage and management	PC-MTTH102	3	0	0	3	20	20	100	3	60%	0	100
Semester VIII													
6	Computational Fluid Dynamics	PC-MTTH202	3	0	0	3	20	20	100	3	60%	0	100
7	Project	DS-MTTH421	0	4	0	2						100	100
	<b>TOTAL additional credits</b>					<b>18</b>							