

Study Scheme for 2024 batch B. Tech. (Mechanical Engineering)

As per College Academic Policy

Guru Nanak Dev Engineering College, Ludhiana

Abbreviation	Full Name
HSS	Humananities , Social Sciences and Management
BSC	Basic Science Courses
ESC	Engineering Science Courses
PCC	Professional Core Courses
PEC	Professional Elective Courses
OEC	Open Elective Courses
PW&S	Project work, Seminar & Internship
MNC	Mandatory Non Credit Course
MPD	Mentoring & Professional Development

Total Credits

	3 rd	4 th	5 th	6 th	7 th	8 th	Total
HSS	-	2	2	-	-	-	4
BSC	-	4	-	-	-	-	4
ESC	-	-	1	7	-	-	8
PCC	21	15	17	12	-	-	65
PEC	-	4	4	4	4		16
OEC	-	-	-	-	9	-	09
PW&S	2	0	1	1	4	12	20
MNC	0	0	0	0	-	-	0
MPD	-	1	-	1	-	1	3
Total	23	26	25	25	17	13	129
Credits during First Year							41
Total Credits							170

Category	Breakup of Credits as per AICTE	Breakup of Credits as per GNDEC Current 2018	Breakup of Credits 2024 GNDEC
Humanities and Social Sciences including Management courses	12	10	11
Basic Science courses	29	21	21
Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc	27	18	24
Professional core courses	58	66	65
Professional Elective courses relevant to chosen specialization/branch	09	16	16
Open subjects – Electives from other technical and /or emerging subjects	09	06	09
Project work, seminar and internship in industry or elsewhere	16	23	20
Mandatory Courses [Environmental Sciences, Induction Program, Indian Constitution, Essence of Indian Knowledge Tradition]	NC	NC	NC
GF	0	04	04
TOTAL	160	164	170

Third semester							
Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PCC		Strength of Materials	3	1	2	5
2	PCC		Applied Thermodynamics-I	3	1	0	4
3	PCC		Machine Drawing and CAD	3	0	2	4
4	PCC		Manufacturing Practices	3	0	2	4
5	PCC		Engineering. Materials & Metallurgy	3	0	2	4
6	MNC		Environment Sciences & Sustainability	2	0	0	0
7	MNC		Essence of Indian Knowledge	2	0	0	0
8	PW&S		Training 1 (after 1 st semester)				1
9	PW &S		Seminar	0	0	1	1
10	MPD		MPD	0	0	1	0
TOTAL (32 hrs)							23

Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PCC		Strength of Materials	3	1	2	5
2	PCC		Applied Thermodynamics-I	3	1	0	4
3	PCC		Machine Drawing and CAD	3	0	2	4
4	PCC		Manufacturing Practices	3	0	2	4
5	PCC		Engineering. Materials & Metallurgy	3	0	2	4
6	MNC		Environment Sciences & Sustainability	2	0	0	0
7	MNC		Essence of Indian Knowledge	2	0	0	0
8	PW&S		Training 1 (after 1 st semester)				1
9	PW &S		Seminar	0	0	1	1
10	MPD		MPD	0	0	1	0
TOTAL (32 hrs)							23

Fourth semester

Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PCC		Theory of Machines	3	1	2	5
2	PCC		Applied Thermodynamics- II	3	1	2	5
3	PCC		Fluid Mechanics	3	1	2	5
4	BSS		Maths III	3	1	0	4
5	PEC		Elective- I (NCER/M. Sc./CM)*	4	0	0	4
6	HSS		Introductory Course on Management	2	0	0	2
7	MNC		Indian Constitution	2	0	0	0
8	MPD		MPD	0	0	1	1
TOTAL (31 Hrs)							26

*NCER: Non Conventional Energy Resources

M Sc : Machining Science

CM: Computational Methods

Fifth semester

Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PCC		Design of Machine Elements	3	0	2	4
2	PCC		Heat Transfer	3	1	2	5
3	PCC		Mechanical Measurement and Control	3	0	2	4
4	PCC		Industrial Automation and Control	3	0	2	4
5	PEC		Elective- II	4	0	0	4
6	ESC		Design Thinking	0	0	2	1
7	MNC		Language	2	0	0	0
8	HSS		Universal Human Values & Professional Ethics	2	0	0	2
9	MPD		MPD	0	0	1	0
10	PW&S	Training -II (after 2 nd year)					1
TOTAL (32 Hrs)							25

Sixth semester

Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PCC		Refrigeration and Air Conditioning	3	0	2	4
2	PCC		Operations Research	3	1	0	4
3	PCC		Industrial Engineering	3	0	2	4
4	PEC		Elective- III (FMC/M.M Sc./CAD)*	4	0	0	4
5	ESC		Prog. Specific Course (MV)	3	0	2	4
6	MNC		Organizational Behavior	2	0	0	0
7	ESC		Entrepreneurship and Startups	3	0	0	3
8	PW&S		Project -I	0	0	2	1
9	MPD			0	0	1	1
12							
TOTAL (30 Hrs)							25

*F MC: Fluid Machinery

MMSc: Modern Machining Sciences

CAD; Computer Aided Design

Seventh Semester							
Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PEC	MOOCS	Elective –IV	4	0	0	4
2	OEC	MOOCS	OE –I	3	0	0	3
3	OEC	MOOCS	OE –II	3	0	0	3
4	OEC	MOOCS	OE –III	3	0	0	3
5	PW&S		Project –II	0	0	6	3
6	PW&S		MIP	0	0	2	1
16	MPD			0	0	1	0
TOTAL							17

Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PEC	MOOCS	Elective –IV	4	0	0	4
2	OEC	MOOCS	OE –I	3	0	0	3
3	OEC	MOOCS	OE –II	3	0	0	3
4	OEC	MOOCS	OE –III	3	0	0	3
5	PW&S		Project –II	0	0	6	3
6	PW&S		MIP	0	0	2	1
16	MPD			0	0	1	0
TOTAL							17

Eighth semester

Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PW&S	Industrial Training (Trg-III)					12
2	MPD			0	0	1	1
TOTAL							13