

Study Scheme for 2025 batch B. Tech. (Robotics & Artificial Intelligence)

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

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		Elements of Mechanical Engineering	3	1	2	5
3	PCC		Machine Drawing and CAD	3	0	2	4
4	PCC		Kinematics of Robotics-I	3	0	2	4
5	PCC		Engineering Materials	3	0	2	4
6	MNC		Environment Sciences & Sustainability	2	0	0	0
7	MNC		Essence of Indian Knowledge Tradition	2	0	0	0
8	PW&S		Training 1 (after 1 st Year)				1
9	PW &S		Seminar	0	0	1	1
10	MPD		MPD	0	0	1	0
TOTAL (34 hrs)							24

Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PCC		Strength of Materials	3	1	2	5
2	PCC		Elements of Mechanical Engineering	3	1	2	5
3	PCC		Machine Drawing and CAD	3	0	2	4
4	PCC		Kinematics of Robotics-I	3	0	2	4
5	PCC		Engineering Materials	3	0	2	4
6	MNC		Environment Sciences & Sustainability	2	0	0	0
7	MNC		Essence of Indian Knowledge Tradition	2	0	0	0
8	PW&S		Training 1 (after 1 st Year)				1
9	PW &S		Seminar	0	0	1	1
10	MPD		MPD	0	0	1	0
TOTAL (34 hrs)							24

Fourth semester

Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PCC		Introduction to Artificial Intelligence	3	1	2	5
2	PCC		Computer Integrated Manufacturing	3	0	2	4
3	PCC		Kinematics of Robotics -II	3	1	2	5
4	BSS		Maths III	3	1	0	4
5	PEC		Elective- I	4	0	0	4
6	HSS		Management	2	0	0	2
7	MNC		Indian Constitution	2	0	0	0
8	MPD		MPD	0	0	1	1
TOTAL (30 Hrs)							25

Fifth semester

Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PCC		Robotics Actuators and Sensors	3	0	2	4
2	PCC		Machine Learning	3	1	2	5
3	PCC		Hydraulic and Pneumatic Systems	3	0	2	4
4	PCC		Analogue and Digital Electronics	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 (31 Hrs)							25

Sixth semester							
Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PCC		Microprocessors and Micro Controllers	3	0	2	4
2	PCC		Mechatronics	3	0	2	4
3	PCC		Industrial Engineering	3	0	2	4
4	PEC		Elective- III	4	0	0	4
5	ESC		Prog. Specific Course (Artificial Intelligence in Robotics)	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 (31 Hrs)							25

Sr. No.	Category	Code	Course Title	Hours per Week			Credits
				L	T	P	
1	PCC		Microprocessors and Micro Controllers	3	0	2	4
2	PCC		Mechatronics	3	0	2	4
3	PCC		Industrial Engineering	3	0	2	4
4	PEC		Elective- III	4	0	0	4
5	ESC		Prog. Specific Course (Artificial Intelligence in Robotics)	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 (31 Hrs)							25

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

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