

# Curriculum for B.Tech

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Design Engineering

From The Academic Year 2025

(Approved in Senate 60)



Indian Institute of Information Technology Design and Manufacturing, Kancheepuram

Chennai-600 127

Semester 1					
Category	Course Name	L	T	P	C
BSC	Calculus	3	1	0	4
BSC	Physics for Engineers	3	0	2	4
BEC	Basic Electrical Engineering	3	1	0	4
ITC	Problem Solving and Programming	2	0	4	4
DSC	Concepts in Engineering Design	2	0	2	3
BEC	Engineering Skills Practice	0	0	2	1
HMC	Effective Language and Communication Skills	1	0	2	2
HMC	NSO/NCC/SSG/NSS/YOGA	0	0	2	P/F
					<b>22.0</b>
Semester 2					
Category	Course Name	L	T	P	C
BSC	Differential Equations	3	1	0	4
ITC	Data Structures and Algorithms	3	0	2	4
PCC	Materials for Design Engineers	3	0	0	3
PCC	Electronics for Designers	3	0	2	4
DSC	Form Design and CAD Modeling	2	0	2	3
DSC	Biology for Design	2	0	2	3
HMC	Earth, Environment and Design	1	0	0	P/F
					<b>21.0</b>
Semester 3					
Category	Course Name	L	T	P	C
SEC	Dept. Specific Science Elective I (Linear Algebra)	3	0	0	3
ITC	Introduction to AI with Python	2	0	2	3
PCC	Mechanics and Mechanisms	3	0	2	4
PCC	Instrumentation and Control systems	3	0	2	4
DSC	Sociology of Design	2	0	2	3
DSC	Human Centered Design	2	0	2	3
DSC	Techno-aesthetics in Product Detailing	2	0	2	3
HMC	Indian Constitution, Essence of Indian Traditional Knowledge	1	0	0	P/F
					<b>23.0</b>
Semester 4					
Category	Course Name	L	T	P	C
SEC	Dept. Specific Science Elective II (Probability and Statistics)	3	0	0	3
PCC	Design of Engineering Components	3	0	2	4
PCC	Fluids and thermodynamics	2	0	2	3
PCC	Embedded systems for product development	2	0	2	3
PCC	Manufacturing Technology	3	0	2	4
DSC	Data Driven Design	2	0	2	3
DSC	Systems Thinking for Design	2	0	2	3
HMC	Human Values and Stress Management	1	0	0	P / F
					<b>23.0</b>

Semester 5					
Category	Course Name	L	T	P	C
PCC	Cyber Physical Systems	3	0	2	4
PCC	Advanced Manufacturing	3	0	2	4
DSC	Generative Design	2	0	2	3
DSC	Smart Product Design	2	0	2	3
DSC	Entrepreneurship and Venture Creation	3	1	0	4
PEC	Program Elective 1	3	1	0	4
HMC	Professional Ethics and Organizational Behaviour	1	0	0	P/F
					<b>22.0</b>
Semester 6					
Category	Course Name	L	T	P	C
SEC	Dept. Specific Science Elective III (Numerical and Computational Methods)	3	0	0	3
DSC	Simulation Driven Design	2	0	2	3
DSC	Ergonomics and Usability	2	0	2	3
DSC	Product and Innovation Management	3	1	0	4
PEC	Program Elective 2	3	1	0	4
ELC	Free/Open Elective 1	3	0	0	3
HMC	Professional Communication	1	0	2	2
HMC	Intellectual Property Rights	1	0	0	P/F
					<b>22.0</b>
	<b>Summer</b>				
PCD	<b>Summer Internship MID MAY to MID JULY</b>				<b>P/F</b>
Semester 7					
Category	Course Name	L	T	P	C
PEC	Program Elective 3	3	0	0	3
ELC	Free/Open Elective 2	3	0	0	3
ELC	Free/Open Elective 3	3	0	0	3
ELC	Free/Open Elective 4	3	0	0	3
ELC	Free/Open Elective 5	3	0	0	3
PCD	Comprehensive Exam				P/F
HMC	Invited Expert Lectures*	0	0	0	P/F
	<b>* 6 Expert lectures to be attended from Sem 1 to Sem 7</b>				<b>15.0</b>
Semester 8					
Category	Course Name	L	T	P	C
PCD	B.Tech. Project (BTP)	0	0	18	9
					<b>9.0</b>

9 Credits for the BTP can be earned by any of the following:

1. Fully In-house BTP at the institute.
2. BTP IITs/IISc/IISERs/TIFR/ISI/DRDO/ISRO, etc if 148 credits are completed by the end of 7th semester.
3. Three Program Elective courses, each with a minimum of three credit, in lieu of BTP.
4. Industry Internship/Training in lieu of BTP at the company selected through the Institute Placement Cell and if 148 credits are completed by the end of 7th semester.

<b>Semester wise Credit Distribution</b>	<b>Credits</b>									
<b>Category</b>	<b>S1</b>	<b>S2</b>	<b>S3</b>	<b>S4</b>	<b>S5</b>	<b>S6</b>	<b>S7</b>	<b>S8</b>	<b>Total</b>	<b>%</b>
<b>Basic Science Course (BSC)</b>	8	4	0	0	0	0	0	0	12	8
<b>Science Elective Course (SEC)</b>	0	0	3	3	0	3	0	0	9	6
<b>Basic Engineering Course (BEC)</b>	5	0	0	0	0	0	0	0	5	3
<b>IT Skill Course (ITC)</b>	4	4	3	0	0	0	0	0	11	7
<b>Program Core Course (PCC)</b>	0	7	8	14	8	0	0	0	37	24
<b>Program Elective Course (PEC)</b>	0	0	0	0	4	4	3	0	11	7
<b>Elective Course (ELC)</b>	0	0	0	0	0	3	12	0	15	10
<b>Humanities and Management Course (HMC)</b>	2	0	0	0	0	2	0	0	4	3
<b>Professional Career Development (PCD)</b>	0	0	0	0	0	0	0	9	9	6
<b>Design Course (DSC)</b>	3	6	9	6	10	10	0	0	44	28
<b>Total</b>	22	21	23	23	22	22	15	9	157	100
	<b>22</b>	<b>43</b>	<b>66</b>	<b>89</b>	<b>111</b>	<b>133</b>	<b>148</b>	<b>157</b>	<b>157</b>	