

Programme Template

1. Name of the Programme and Code	BTech in Design
2. Degree (UG/PG)	UG
3. Minimum Duration of the Programme (Specify for FT and PT, if applicable)	8 semesters
4. Maximum Duration of the Programme (Specify for FT and PT, if applicable)	12 semesters
5. Capacity (Max. Student Strength) of the Programme	20
6. Number of Regular Faculty Members Involved as Teaching Faculty in the Programme	12
7. Minimum Credit Requirements for the Degree	147

8. Articulate the Program Learning Outcomes (PLO)

[For example see: Objectives vs. Outcomes and Student Outcomes]

PLO1. Develop core design and technical competencies to analyse problems as well as synthesize and communicate solutions

PLO2. Demonstrate scientific temperament, integrity, personal and professional responsibility, and empathy for human beings and other species on this planet

PLO3. Identify, analyse and solve challenging, ill-defined/wicked problems in the socio-technical systems using the design process within and across disciplines

PLO4. Apply their creative, research and analytical abilities to design sustainable, scalable and ethical solutions to issues of societal concern

9. Map PLOs with Institute Learning Outcomes (ILOs) of the Degree

[Indicate '1' for weak, '2' for good, and '3' for excellent relation. Leave the cell blank to indicate no relation]

	PLO1	PLO2	PLO3	PLO4
ILO1	3	2	2	2
ILO2	2	3	2	2
ILO3	2	2	3	2
ILO4	2	2	2	3

10. Number of Programme Core Credits

42

11. Number of Programme Elective Credits	15
12. Number of Open Credits	9
13. Number of Project Core Credits	18
14. Details of Creative Expression and Ethical Reasoning (CEER) Component in the Programme [Mandatory for UG]	
Number of Credits Assigned	
Courses Involved and Credits Accounted <i>[e.g., If one module in AMLXXX with contact hours YY satisfies Z credits, then write AMLXXX (Z credits)]</i>	1. Introduction to Design (1 credit) 2. Methods for Design Thinking (1 credit) 3. Art and Craft Practicum (1 credit) 4. Materials and Prototyping (1 credit) 5. Aesthetics in Design (1 credit)
15. Details of Emerging Trends (ETT) Component in the Programme [Mandatory for UG]	
Number of Credits Assigned	
Courses Involved and Credits Accounted <i>[e.g., If one module in AMLXXX with contact hours YY satisfies Z credits, then write AMLXXX (Z credits)]</i>	1. Emerging Trends and Technologies in Design (3 credits) 2. Computer Aided Design (0.5 credits)

16. Details of Environment and Sustainability (E&S) Component in the Programme [Mandatory for UG]

Number of Credits Assigned	
Courses Involved and Credits Accounted <i>[e.g., If one module in AMLXXX with contact hours YY satisfies Z credits, then write AMLXXX (Z credits)]</i>	1. Understanding Design and Environment (2.5 credits) 2. Design Project on Sustainable Development Goals (2.5 credits) 3. Systems and Lifecycle Perspectives in Design (0.5 credit)

17. Details of Research/Technical Communication Component in the Programme [Mandatory for PG]

Number of Credits Assigned	
Courses Involved and Credits Accounted <i>[e.g., If one module in AMLXXX with contact hours YY satisfies Z credits, then write AMLXXX (Z credits)]</i>	1. Design Communication and Presentation (1 credit)

18. Details of Professional Ethics Component in the Programme [Mandatory for PG]

Number of Credits Assigned	
Courses Involved and Credits Accounted	1. Understanding Design and Environment (0.5 credit)

[e.g., If one module in AMLXXX with contact hours YY satisfies Z credits, then write AMLXXX (Z credits)]	2. Ergonomics and Human Factors (0.5 credits) 3. Design Project on Sustainable Development Goals (0.5 credit)
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19. Details of External Connect Component in the Programme
[Mandatory for PG]

Number of Credits Assigned	
Courses Involved and Credits Accounted [e.g., If one module in AMLXXX with contact hours YY satisfies Z credits, then write AMLXXX (Z credits)]	1. Majority of Design Courses/Projects have External Connect.

20. List of prescribed courses in all baskets (BS, GE, DC/PC, DE/PE, ...)

Basic Sciences (BS)	General Engineering (GE)	Departmental/Programme Core (DC/PC)	Departmental/Programme Elective (DE/PE)
Waves and oscillations	Engineering Visualization and Manufacturing for Product Innovation	Introduction to Design	Qualitative and Quantitative Methods in Design
The Art and	Engineering Mechanics	Methods for Design Thinking	DRM: Methodology for Research into

Science of Building Molecules and Materials			Design
Biology for Engineers: Microbes in health and disease	Introduction to Electrical Engg	Computer Aided Design	Design for Sustainability
Experimental Biology for Engineers	Computer Literacy	Materials and Prototyping	Healthcare Design
Physics Lab	Programming I	Understanding Design and Environment	Media Studies
Chemistry Lab	Programming II	Design Communication and Presentation	Design in Indian Context
Calculus		Ergonomics and Human Factors	Designing for Society and Culture
Linear		Art and Craft	Design Futures

Algebra and Differential Equations		Practicum	
		Social Immersion	Design of Sustainable Habitats
		Behavioural Design	Design for Environmental Change
		Aesthetics in Design	Systematic Product Design
		Systems and Lifecycle Perspectives in Design	Data driven design
		Emerging Trends and Technologies in Design	Introduction to DIY Electronics
		Design Management and Entrepreneurship	TRIZ: Inventive Problem Solving
		UX Design for Contemporary	Design of Assistive Technologies

			Technologies	
				Design for Resource Constrained Populations
				Design Research
				Special Topics in Design - I

21. Nominal Semester-wise Academic Plan [An example is provided below]

Semester	Course 1	Course 2	Course 3	Course 4	Course 5	Course 6	Course 7	Course 8	L	T	P	Total Credits	Contact Hours	
I	COL0100: Computer Literacy	COL0101: Programming I	BS Chem Lab	The Art and Science of Building Molecules and Materials	Engg Visualization and Manufacturing for Product Innovation	Calculus			9	2	9	15.5	20	
II	COL0102: Programming II	Introduction to Electrical Engg	BS Phy Lab	Waves and oscillations	DC: Introduction to Design (JK/SV/JD)	Linear Algebra and Differential Equations			10	3	11	18.5	24	Institute Core
III	Engg Mechanics	HU1	Biology	BS Elective	Methods for Design Thinking (SV/JK)	Understanding Design and Environment (JD/SS/JK)	Aesthetics in Design (PK/JK)		18	1	6	22	25	Dept Core
IV	GE Elective1	HU2	Computer Aided Design (PK/PV/MR/SP)	Materials and Prototyping (JD/PV/MR/PK)	Behavioural Design (PK/JK)	Ergonomics and Human Factors (GK/SV)	Art and Craft Practicum (PV/MR/JK)	Social Immersion (JD)	12	1	16	21	29	Dept Electives
V	GE Elective2	HU3	Design Communication and Presentation (JK/CM/PK)	Systems and Lifecycle Perspectives in Design (SV/JD)	DE1	DE2	DP1-SDGs (JD)		13	1	16	22	30	Design Projects
VI	OE1	HU4	OE2	Emerging Trends and Technologies in Design (JD/PV/MR)	UX Design for Contemporary Technologies (JK/PK)	DE3	DP2 (JD)		12	0	18	21	30	Common courses between BDes and BTEch in Design
VII	OE3	HU5	Design Management and Entrepreneurship (PV/MR/SS)	DE4	DE5	DP3 (JD)			10	0	16	18	26	
VIII	DP4 - Design Project cum Thesis (JD)								0	0	18	9	18	
												147	202	

22.Average Contact Hours per Faculty *per Week*, for this Programme

4.9

23.Average Credit Students per Faculty per Semester, for this Programme

62.5

24.If the program is a revision of an existing program, please list the major changes made.	The program was approved by the Senate in 2021 but it is going to start from 2025. Most of the departmental core, project and elective courses have been retained from the approved curriculum from 2021 with the changes made as per the curricular principles and institute learning outcomes of the new curriculum.
25.Please elaborate on,	
a) how flexibility for the students has increased?	This is a new program and it has been designed to accommodate flexibility. For this program, there is flexibility to choose $33/75 = 45\%$ of the credits in the department.
b) how engagement and interaction with the student have increased?	Studio mode of learning and project based learning in design promotes engagement and interaction with the students.

c) how hands-on learning is emphasized in the program?	Hands-on learning is an important component of the ethos of the Department of Design, IIT Delhi. Most of the departmental core courses have a significant hands-on learning component in them.
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