Courses of Study

Certificate program in Design Thinking and Entrepreneurship

CLUSTER INNOVATION CENTRE

UNIVERSITY OF DELHI

2023-24

Certificate program in Design Thinking and Entrepreneurship

Recognizing start-ups as the engine for the innovation led economy and development of a nation, India under its presidency in G20 2023 has initiated Startup20. In order to keep pace with innovation and along with policies, frameworks and regulations, Higher Education Institutes need to inculcate the entrepreneurial mind-set of young students. The course developed is one step closer to establishing the goal. The certificate course in Design Thinking and Entrepreneurship is envisaged to ignite the latent creativity of the participants by engaging them in brainstorming, discussions and workshops and inseminate the skills required to be an entrepreneur.

Title of the program: Certificate Program in Design Thinking and Entrepreneurship

Duration: One semester (as per University of Delhi Academic Calendar)

Admission to the course: Twice a year

Eligibility Criteria:
A school-leaving (Class XII or equivalent) certificate with following minimum aggregate marks in different categories of students:
GENERAL & EWS: 60% in 4 subjects
OBC: 54% in 4 subjects
PH: 57% in 4 subjects
SC/ST: pass marks

Number of Seats: 40 (Reservation as per the University Rules for UG admissions)
Fee: 15,000/-

Program Structure
Program shall be of 20 credits.

Methodology of Teaching

The course will be delivered in a blended learning format. Experts will conduct workshops and online case studies will be given to the students and discussed. Each unit would be augmented with assignments that would have to done either individually or in a group. The assessment would be carried out in a continuous assessment mode.

COURSE STRUCTURE

S.No.	Interactive Learning M	Credits			Marks		Practical	Total
		L	P	Total	Theory			
					Continuous Assessment	End Test		
1	Design Thinking	2	2	4	20	40	40	100
2	Business, Entrepreneurship and Innovation Management	2	2	4	20	40	40	100
3	Prototyping Lab	-	2	2	-	-	50	50
4	Project	-	10	10	-	-	250	250

The certificate will be awarded by Design Innovation centre under the aegis of Cluster Innovation Centre, University of Delhi. Director of Cluster Innovation Centre will be the signatory.

Course Content Description

Module 1: Design Thinking (4 credits: 2 Theory + 2 Practical)

Objective: This module will cover the basics of how to approach design as an organic process and explore a practical methodology of problem solving to the thinking exercise. The underlining aim of the course is to prepare future innovators to become breakthrough thinkers. The course conceptually spans across a range of themes that cut across disciplines such as art, engineering, social sciences. It brings forth the relevant themes of design thinking, research, target groups and technology. It marks a shift from theory to practice by framing design and its applications in context of contemporary issues and challenges in society. It aims to expose the students to real-life circumstances and explore the possibilities of solution - finding through design thinking and creative interventions.

Outline and Methodology:

The theory part addressing the five stages of Design Thinking – Empathize, Define, Ideate, Prototype, Test will be carried out in workshop mode conducted by experts. Students would be evaluated based on their class participation and an end test conducted by the expert after each workshop.

For the practical part students would be required to work in groups. Following are suggestive activities:

- Identifying a problem in self-routine (can be of a product, system, space etcetera) and frame it as a design problem.
- Self-branding: Understanding oneself as a consumer based on self-profiling i.e. hobbies, attributes, personal demographics and psychographics.
- Ideate concepts after placing oneself in position of the user group. Underlining empathy and challenge identification.
- Multiple classroom exercises on alternative thinking techniques. Major emphasis on brainstorming exercises as a trigger of thinking design.

Evaluation:

Max Marks: 100

Theory: 60 Marks (40 Marks for end tests + 20 marks for continuous assessment)

Practical: 40 Marks (Continuous assessment based on Assignments, Group Discussions, Presentations, etc)

Pass Criteria: A student must score a minimum of

- 16 Marks in Theory tests
- 24 Marks in Theory component
- 16 Marks in Practical

Module 2: Business, Entrepreneurship and Innovation Management (4 Credits: 2 Theory + 2 Practical)

Objective: The module is a basic introduction to the nature of innovation, and will cover a wide range of associated topics, which needs to be addressed by management and policy makers. It comprises a set of self-contained, but related topics, which are necessary to the understanding of the nature of innovation and entrepreneurial decisions. The module would also provide opportunity to Innovators and Entrepreneurs to accelerate the development of their Startup ideas.

Outline and Methodology:

The theory component shall cover the following suggestive topics:

- Understanding Business
- Types of Business Activities
- Evaluating the Business
- Business organization
- Starting a Business
- Entrepreneurship concept
- Entrepreneurial attributes & characteristics
- Leadership
- Business Plan preparation
- B2B and B2C models
- Creativity & its components
- Invention vs. Innovation
- Types of innovation
- Innovation and Technology
- Innovation policy & IPR
- Commercialization of Innovation.

The practical component shall compromise of exploring and discussions on

– Frugal Innovations and Rural Entrepreneurship
– Understanding & mapping startup ecosystems
– Inspiring case studies of successful startups and corporate
– Key success & failure factors, failing and learning

Evaluation:

Max Marks: 100

Theory: 60 Marks (40 Marks for end test + 20 marks for continuous assessment)

Practical: 40 Marks (Continuous assessment based on Group Discussions and Presentations on selected Case Studies)

Pass Criteria: A student must score a minimum of

- 16 Marks in the end test
- 24 Marks in Theory component (end test + continuous assessment)
- 16 Marks in Practical

Module 3: Prototyping Lab (2 credits: Practical)

Objective: The objective of the module will be to expose the students to various open source platforms that can be employed to prototype and visualize their ideas and designs.

Outline and Methodology:

The various platforms that will be introduced would be:

- Graphics Design & Illustration using Canva
- Visual design and UX/UI usingFigma
- 3D Product design and conceptualization using Blender
- Designing and hosting Website & Mobile apps on HTML5/CSS3/Wordpress/Cloud computing
- Game designing, AR & VR using Unity platform

Evaluation:

Max Marks: 50

There will be a continuous assessment based on exercises/ assignments given on the different components.

Pass Criteria: A student must score a minimum of 20 Marks

Module 4: Project (10 Credits)

A common theme/problem area would be suggested by the class. Each student would use the design process and techniques step-by- step—starting with brainstorming—to narrow-down and define an issue in the suggested problem and ideate and create a strategic solution.

Evaluation:

Max Marks: 250

The students will give a presentation, submit a project report and design a prototype for evaluation. Mentors will be assigned to a group of ten students to assist them.

Pass Criteria: A student must score a minimum of 100 Marks

Suggestive References

1. B.R. Ingle, Design Thinking for Entrepreneurs and Small Businesses: Putting the Power of Design to work, Apress, 2013.
2. Nigel Cross, Design Thinking: Understanding how Designers Think and Work, Bloomsbury Visual Art, 2019.
3. S. Balaram, Thinking Design, Sage India, 2010.
4. Tom Brown, Change by Design: How Design Thinking Transforms Organizationa and Inspire Innovations, Harper Collins, 2009.
5. R.I. Stutton, Weird Ideas that Work, Free press, 2007
6. Tom Kelley, The Art of Innovation: Lessons in Creativity, Currency, 2001.
7. Jeff Dyer, Hal Gregersen, C.M. Christensen, The Innovator's DNA: Mastering the Five Skills of Disruptive Innovators, Harvard Business Review Press, 2011.
8. F. Drucker, Innovation and entrepreneurship: Practice and principles. Elsevier, USA, 2006
9. M. Vianna, Y. Vianna, I K Adler, B Lucena and B Russo, Design Thinking: Business Innovation, MJV Press, 2011
10. Don Norman, The Design of everyday things, Basic Books, 2013.
11. B.K. Chakravarthy, Design, technology and Innovation, SWAYAM NPTEL (Online Course)
12. B.K. Chakravarthy, Innovation by Design, SWAYAM NPTEL (Online Course)
13. Nina Sabnani, Understanding Design, SWAYAM NPTEL (Online Course)
14. R T Krishnan and V Dhabolkar, Managing Innovation, SWAYAM NPTEL (Online Course)