

# University of Mumbai




No. AAMS (UG) //43 of 2021

## CIRCULAR:-

Attention of the Principals of the Affiliated Colleges and Directors of the recognized Institutions in Faculty of Science and Technology.

They are hereby informed that the recommendations made by the Ad-hoc Board of Studies in **Home Science** at its meeting held on 20<sup>th</sup> March, 2021 vide item No. 1(ii) and subsequently passed by the Board of Deans at its meeting held on 11<sup>th</sup> June, 2021 vide item No. 8.3 have been accepted by the Academic Council at its meeting held on 29<sup>th</sup> June, 2021, vide item No. 8.3 and subsequently approved by the Management Council at its meeting held on 29<sup>th</sup> July, 2021 vide item No. 16 and that in accordance therewith, in exercise of the powers conferred upon the Management Council under Section 74(4) of the Maharashtra Public Universities Act, 2016 (Mah. Act No. VI of 2017) the Ordinance 6677 & 6678 Regulations 9420 & 9421 and the syllabus of **Add On Online and Offline Certificate Course Design Thinking, Innovation and Start-Ups** has been introduced and the same have been brought into force with effect from the academic year **2022-23**, accordingly. (The same is available on the University's website [www.mu.ac.in](http://www.mu.ac.in)).

MUMBAI - 400 032  
25<sup>th</sup> October, 2021  
To,

  
(Sudhir S. Puranik)  
REGISTRAR

The Principals of the Affiliated Colleges and Directors of the recognized Institutions in Faculty of Science and Technology. (Circular No. UG/334 of 2017-18 dated 9<sup>th</sup> January, 2018.)


A.C/8.3/29/06/2021  
M.C/16/29/07/2021

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No. AAMS (UG) //43-A of 2021      MUMBAI-400 032      25<sup>th</sup> October, 2021

Copy forwarded with Compliments for information to:-

- 1) The Chairman, Board of Deans
- 2) The Dean Faculty of Science and Technology,
- 3) The Chairman, Ad-hoc Board of Studies in Home Science,
- 4) The Director, Board of Examinations and Evaluation,
- 5) The Director, Board of Students Development,
- 6) The Co-ordinator, University Computerization Centre,

  
(Sudhir S. Puranik)  
REGISTRAR

**Copy to :-**

- 1. The Deputy Registrar, Academic Authorities Meetings and Services (AAMS),**
- 2. The Deputy Registrar, College Affiliations & Development Department (CAD),**
- 3. The Deputy Registrar, (Admissions, Enrolment, Eligibility and Migration Department (AEM),**
- 4. The Deputy Registrar, Research Administration & Promotion Cell (RAPC),**
- 5. The Deputy Registrar, Executive Authorities Section (EA),**
- 6. The Deputy Registrar, PRO, Fort, (Publication Section),**
- 7. The Deputy Registrar, (Special Cell),**
- 8. The Deputy Registrar, Fort/ Vidyanagari Administration Department (FAD) (VAD), Record Section,**
- 9. The Director, Institute of Distance and Open Learning (IDOL Admin), Vidyanagari,**

**They are requested to treat this as action taken report on the concerned resolution adopted by the Academic Council referred to in the above circular and that on separate Action Taken Report will be sent in this connection.**

- 1. P.A to Hon'ble Vice-Chancellor,**
- 2. P.A Pro-Vice-Chancellor,**
- 3. P.A to Registrar,**
- 4. All Deans of all Faculties,**
- 5. P.A to Finance & Account Officers, (F.& A.O),**
- 6. P.A to Director, Board of Examinations and Evaluation,**
- 7. P.A to Director, Innovation, Incubation and Linkages,**
- 8. P.A to Director, Board of Lifelong Learning and Extension (BLLE),**
- 9. The Director, Dept. of Information and Communication Technology (DICT) (CCF & UCC), Vidyanagari,**
- 10. The Director of Board of Student Development,**
- 11. The Director, Department of Students Welfare (DSD),**
- 12. All Deputy Registrar, Examination House,**
- 13. The Deputy Registrars, Finance & Accounts Section,**
- 14. The Assistant Registrar, Administrative sub-Campus Thane,**
- 15. The Assistant Registrar, School of Engg. & Applied Sciences, Kalyan,**
- 16. The Assistant Registrar, Ratnagiri sub-centre, Ratnagiri,**
- 17. The Assistant Registrar, Constituent Colleges Unit,**
- 18. BUCTU,**
- 19. The Receptionist,**
- 20. The Telephone Operator,**
- 21. The Secretary MUASA**

**for information.**

**(Appendix 'B')**

**New ordinances 6677 & 6678 relating to the Add On  
Online and Offline Certificate Course Design Thinking,  
Innovation and Start-Ups.**

**1. Necessity for starting these course:**

In today's world everyone is expected to do better with less. Thereby innovation and design thinking is needed in all kinds of jobs. Design thinking provides the tools to become an innovative thinker and uncover creative opportunities. This course will cater to the UN Sustainable Goals.

This course will provide an overview of design thinking, Innovation and Start-up. Through several tools this course will help to understand design thinking as a problem solving approach. Emphasis would be given on ideation, prototype development, market study and building important building blocks of a business case.

- A. a. To facilitate new skill development amongst students as per changing needs of the industry for placements and internships.
- b. To facilitate students to take up interdisciplinary courses based on their interests and aptitude.

**Specific Objectives**

- To understand role of incubator and need of a mentoring program.
- To identify right problem and opportunities.
- To develop viable solutions using the design thinking and hypothesis-driven innovation processes.
- To develop Proof of Concept (PoC) and prototype & product development.
- To develop and test a business model or business case to support the viability of the solution.
- To understand Intellectual Property (IP) Management at Early Stage of Innovation and Start-ups

**2. Whether UGC has recommended to start the said course?**

A. Yes. UGC has recommended skill based/vocational/technical courses.

3. Whether all the courses have commenced from the academic year 2019-20

A, We plan to commence the courses from academic year 2022 - 23

4. The courses started by the University are self financed, whether adequate number of eligible permanent Faculties are available?

A. The courses are self financed. Adequate permanent faculties are available to facilitate the running of the courses.

5. To give details regarding duration of the course and is it possible to compress the course

A. It is possible to complete the courses during the academic year. It is not possible to further compress the courses.

6. The intake capacity of each course and number of admissions given in the current academic year 2019-20

A. Maximum 30 students in a batch

7. Opportunities of Employability/Employment available after taking these courses.

A. Many new opportunities are available after the courses

**AC-29/06/2021**  
**Item No. – 8.3 (N)**

# UNIVERSITY OF MUMBAI



## **ADD – ON ONLINE AND OFFLINE CERTIFICATE COURSE DESIGN THINKING, INNOVATION AND START-UPS**

(to be introduced with effect from the academic year 2022-23)

# UNIVERSITY OF MUMBAI



## Syllabus for Approval

Sr. No.	Heading	Particulars
1	Title of the Course <b>O.6677</b>	<b>ADD – ON ONLINE AND OFFLINE CERTIFICATE COURSE DESIGN THINKING, INNOVATION AND START-UPS</b>
2	Eligibility for Admission <b>O.6678</b>	XII or equivalent
3	Passing Marks <b>R - 9420</b>	40
4	Ordinances / Regulations ( if any)	
5	No. of Years / Semesters <b>R - 9421</b>	1 Semester (/30 hours)
6	Level	<del>P.G. / U.G. / Diploma</del> / Certificate ( Strike out which is not applicable)
7	Pattern	<del>Yearly</del> / Semester ( Strike out which is not applicable)
8	Status	New / <del>Revised</del> ( Strike out which is not applicable)
9	To be implemented from Academic Year	From Academic Year 2022-23

Name & Signature of BOS Chairperson :  
Name & Signature of Dean:

**Dr. (Mrs.) Geeta Ibrahim**

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# **ADD – ON ONLINE AND OFFLINE CERTIFICATE COURSE DESIGN THINKING, INNOVATION AND START-UPS**

**Type of course:** Add-on Certificate course

**Duration of the Course:** Total 30 hours

**Mode of instruction:** Offline and online

Experts will be called from outside and linkages and networks will be tapped for inviting resource persons involving participant learning.

**Vision:** The mantra in today's world is to do better with less, thereby innovation and design thinking is the need of the hour. In sync with the United Nations Sustainable Development Goals, this course in Design Thinking, Innovation and Start-ups will help provide the tools to become an innovative thinker thus uncovering creative opportunities

**Mission:** This course will provide an overview of Design Thinking, Innovation and Start-ups. Through several tools, this course will help to understand design thinking as a problem-solving approach. Emphasis would be given on ideation, prototype development, market study and creating important building blocks for a business setup

## **Objectives:**

- To understand role of incubator and need of a mentoring program
- To identify problem and opportunities
- To develop viable solutions using the design thinking and hypothesis-driven innovation processes
- To develop Proof of Concept (PoC), prototype and product development.
- To develop and test a business model or business case to support the viability of the solution
- To understand Intellectual Property (IP) Management at Early Stage of Innovation and Start-ups

**Eligibility:** XII or equivalent

**Intake capacity:** Minimum 10 students per batch

**Credits:** 2 credits

**Fees for the course:** Rs 3500/- (+ GST Applicable) per student

**Honorarium:** Rs. 750/- per hour for Practical and Theory

**Coordinator fees for academic year/course:** Rs. 5,000/- entire course





## SYLLABUS

### Preamble to the Course

The mantra in today's world is to do better with less, thereby innovation and design thinking is the need of the hour. In sync with the United Nations Sustainable Development Goals, this course in Design Thinking, Innovation and Start-ups will help provide the tools to become an innovative thinker thus uncovering creative opportunities. This course will help to understand design thinking as a problem-solving approach. Emphasis would be given on ideation, prototype development, market study and creating important building blocks of a business case

Title of the Course	Total Hours	Marks allotted	Credits for the Course
Design Thinking, Innovation and Start-ups	30	100	2

Module No./Title	No. of Hours
Module I – Incubation and Opportunity Identification	06
Module II – Innovation and Start-ups	06
Module III – Project / Practical	18

### Module I – Incubation and Opportunity Identification

#### Objectives:

- To understand role of incubator and need of a mentoring program
- To identify right problem and opportunities
- To study gaps arising from the market and identify entrepreneurship opportunities

Unit	Course Content	Hours
I	<ul style="list-style-type: none"> <li>• Incubator- Key Components in Planning an Incubator, Tasks of the development team, Learning and Capacity Building, Infrastructure &amp; Facilities, Designing the incubator to suit the requirements of the start-ups</li> <li>• Pre-Incubation Vs Incubation Vs Accelerator</li> <li>• Funding an Incubator, Handle Financials of the incubator</li> <li>• Mentoring Program- Elements of Mentoring, Types of Mentoring, Need of Mentoring Program, Working of Mentoring Program, Mentor – Mentee Relationship, Mentor's Approach</li> <li>• Networking</li> </ul>	2
II	<ul style="list-style-type: none"> <li>• Innovating Self- Screen and Identify right opportunities</li> <li>• Identify Right Problem and Solution using the Double</li> </ul>	2

	<p>Diamond Approach in Design</p> <ul style="list-style-type: none"> <li>• Design thinking and importance of problem finding</li> <li>• Steps and Approaches of Double Diamond Process in design thinking</li> <li>• Tools in the Double Diamond process</li> <li>• Strategize product innovation/development and business offerings using design thinking</li> </ul>	
III	<ul style="list-style-type: none"> <li>• Entrepreneurship and Entrepreneurial Motivation</li> <li>• Idea, Entrepreneurship Opportunities, Business Model and Business Plan</li> <li>• Understanding Market Research- Market Size, Market Penetration, Segmenting, Targeting, Positioning</li> <li>• Use of Market Data and Application of Marketing Research Tools and Methodology</li> </ul>	2

## Module II – Innovation and Start-ups

### Objectives:

- To develop viable solutions using the design thinking and hypothesis-driven innovation processes
- To develop Proof of Concept (PoC), prototype and product development.
- To develop and test a business model or business case to support the viability of the solution
- To understand Intellectual Property (IP) Management at Early Stage of Innovation and Start-ups

Unit	Course Content	Hours
I	<ul style="list-style-type: none"> <li>• Innovation Risk Diagnostic – Product Innovation Rubric(PIR)</li> <li>• Start-up: Idea to Business- Problem, Prototype, Product, Profit</li> <li>• Ways of getting target customer to experience value</li> <li>• Product Innovation Hypothesis</li> <li>• Innovation, Risk Associated with Innovation, Frugal Innovation, Social Entrepreneurship</li> </ul>	2
II	<ul style="list-style-type: none"> <li>• Angel and Venture Capital Funding <ul style="list-style-type: none"> <li>○ Right stage of innovation or start-up to approach Angel or Venture Capital</li> <li>○ Checklist before approach Angel and Venture Capital Fund</li> <li>○ Identification of Right Angel and Venture Capital Agency</li> </ul> </li> <li>• Stage of Angel and Venture Capital Fund</li> </ul>	2
III	<ul style="list-style-type: none"> <li>• Intellectual Property (IP) Management at Early Stage of Innovation and Start-ups</li> <li>• Definition of IP, Types and importance</li> <li>• Identification of IP Component and its Management – Do's &amp; Don'ts</li> <li>• Approach and Preparation Before Filing IP</li> <li>• Commercialization of IP – Start-up and Technology Transfer</li> </ul>	2

### Module III – Project / Practical

#### Objective:

- To provide practical experience of understanding the dynamics of business start-up and management

Unit	Course Content	Hours
1	<b>Project/Practical experience comprising of-</b> <ul style="list-style-type: none"><li>• Project/Practical experience comprising of-<ul style="list-style-type: none"><li>○ Ideation</li><li>○ Proof of Concept (PoC)</li><li>○ Developing and Testing Prototypes</li><li>○ Minimal Viable Products</li></ul></li><li>• Defining and Testing Business Models and Business Cases</li></ul>	18

#### References for Module I, Module II and Module III:

- [https://api.mic.gov.in/uploads/institutes/wp\\_custom/online/resource/FAQS-FOR-CAPITAL-RAISE.pdf](https://api.mic.gov.in/uploads/institutes/wp_custom/online/resource/FAQS-FOR-CAPITAL-RAISE.pdf)
- [https://api.mic.gov.in/uploads/institutes/wp\\_custom/online/resource/Legal-and-Ethical-Steps.pdf](https://api.mic.gov.in/uploads/institutes/wp_custom/online/resource/Legal-and-Ethical-Steps.pdf)
- [https://api.mic.gov.in/uploads/institutes/wp\\_custom/online/resource/Idea-Entrepreneurship-Opportunities.pdf](https://api.mic.gov.in/uploads/institutes/wp_custom/online/resource/Idea-Entrepreneurship-Opportunities.pdf)
- Stanford Webinar – Design Thinking vs. The Lean Startup  
<https://www.youtube.com/watch?reload=9&v=snxicC5cI9A>
- Seed Funding for Startups: How to raise venture capital as an entrepreneur  
<https://www.youtube.com/watch?v=4RAs9Y5ww>

#### Mode of assessment & evaluation for the course:

- Regular internal assignments and project work will be given by the concerned faculty and will have 40% weightage. It may include assignments, class tests, case studies or project work.
- The term end examination shall have 60% weightage and will be conducted by the concerned faculty.