

**Master of Design program
at School of Planning and Architecture Bhopal**

Proposal for the course curriculum of M.Des Programme at School of Planning and Architecture, Bhopal

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M. Des @ SPA Bhopal

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1. Vision

The Master of Design Degree programme at School of Planning and Architecture, Bhopal offers a unique opportunity for learners to collaborate with the disciplines of Art, Architecture, Planning, Social Sciences and Technology with positioning themselves in the mutating field of Design. The programme looks towards innovative and sustainable design explorations for complex scenarios of production and consumption.

It offers an opportunity to relook at the postgraduate design education framework and provide a pragmatic platform for learners to pursue the discipline of Design from a user-centric systemic approach.

2. The Programme

The Master of Design Degree programme is offered for a duration of two years and consisting of four academic semesters with six to eight weeks of compulsory Industry internship between two years at School of Planning and Architecture, Bhopal.

2.1 Eligibility for admission

Candidates must possess an Undergraduate degree from one of the following category with a minimum of 60% marks in aggregate (or 6.5 CGPA) for General/ OBC and 55% marks in aggregate (or 6.0 CGPA) in case of SC/ST/PWD candidates in the qualifying examination:

- Bachelor of Design/Graduate Diploma (min. 4 years) in a stream of Design from a recognised institute/university like NID and NIFT
- Bachelor of Architecture from CoA recognised institute
- Bachelors of Engineering/Technology from an AICTE recognised institute
- B. F. A. from a UGC recognised institute with one year of work experience
- M. F. A. from a UGC recognised institute

2.2 Admission Process

Candidates will be selected through different levels of the screening process. Each level of the screening process will have different weight. The first level is qualifying CEED exam with a valid (qualified) CEED Score. The second level is the Design Aptitude test, and the third level is an interview with a portfolio.

** In the initial years, students without a CEED score will also be allowed to appear for the Design Aptitude Test. If they clear the aptitude test, they will be allowed to appear in the interview. This strategy is decided for an initial one year to invite interested applicants for the screening process, as M.Des programme in SPA Bhopal is at a nascent stage.

All students applying for M.Des programme should submit duly filled up Application Form.

2.3 Seats

There are 23 (twenty three) seats available including the recommended reservation by Ministry of Human Resource Development, Government of India.

2.4 Career Options after M. Des

Students may have the multiple career options after passing the M.Des programme. They can take the following roles based on their interest and expertise:

- Independent Designer or Design Entrepreneur
- Employment in Design consultancy firm, Manufacturing and Service Sectors, Design-led IT Organizations, NGOs, CSRs, and Government Agencies etc.
- Higher Education, Research and Academics.

3. Preamble

The Master of Design programme in design at School of Architecture and Planning, Bhopal offers user-centred design learning approach through various possible streams of design. In this approach, opportunities will be provided to explore and understand complex socio-cultural-environmental problems and design products and process that respond to core elements for the well-being of individuals and societies, like economic growth, social inclusion and environmental sustainability.

Design in the present society is a complex process and is no more just limited to the design of everyday objects. It is consistently breaking the boundaries of theoretical domains and combining different approaches to knowledge cultures to promote interdisciplinary studies, techniques and practices. In this perspective, subjects from different disciplines are structured along four semesters of this design programme with a part to the whole approach, where object-oriented design learning will come at the initial stages, and system-oriented design learning will come at the later stages. In this way, students can understand the essence of objects within a system and their relationships with others.

The interdisciplinary approach is employed, and subjects are distributed based on domains of knowledge, skill and application each semester. The subjects offered in this curriculum are broadly from the field of Product and Visual Communication Design. They are offered as three categories across four semesters as **i) Compulsory Core subjects, ii) Specialization subjects and iii) Common Electives subjects.**

- Compulsory Core subjects***, cover the common and necessary areas of all the design streams and approaches. Their credits must be earned by all the students to obtain the degree.
- Specialization subjects***, are divided into two streams: Product Design and Visual Communication Design. Students have to earn all the credits from the subjects offered in any of one the two sets of subjects. The specialisation group will allow the learner to explore the subjectivity as the subjects help students to gain knowledge about the specific design streams in early semesters.
- Common Elective subjects***, are the ones, where students have the option to choose any two/three/four subjects from the pool offered covering a wide area of interest and contemporary needs. Common elective subjects are flexible in nature and offers a bridge between the emerging needs and learner's own limitations. Experts will be regularly invited to offer new common elective subjects as per availability under the scope of 'Open Subjects'.

Further, in every semester students will work on a self-initiated design project guided by mentors based on the acquired knowledge until that stage. This design project will run parallel with the other subjects. The experience gathered from various design subjects will enrich student's understanding of the design process, tools and techniques to work on the design project in every semester.

In the first semester, the core subjects are intended to provide an understanding of the scope and spread of design through its presence in scientific and historical paradigms. With further sharpening the essential knowledge and skills of design, the specialisation groups offer a thread of subjectivity to be pursued. Perception and visualisation techniques of objects and human activities are to be pursued along through electives. The project, this semester, will be evolved around these basic understanding of design subjects.

In the second semester, after revisiting and exploring the base, the learners will be exposed to subjects which deal with creativity, technicality and advancement of the design domain. The subjects are evolved based on various aspects of human life, like, cognition, anthropometry, consumer culture, daily life activities, user experience and thinking. Different types of research methods to observe and understand user patterns are facilitated in this semester. A total process from understanding the user to design brief, ideation, conceptualisation and detailing of design deliverables are done in the project, in this semester.

In the third semester, the idea is to collect all the knowledge, those were acquired in the previous two semesters, and to counter the complex nature of problem spaces at a macro and micro levels interlinked to one another at different levels and create solutions at every stratum of the problem space. In this semester, the approach of learning is more combined in nature, so that students can do the assignments in collaboration with each other to understand and realise the role of various types of stakeholders in the creation of solutions.

The fourth semester is mostly dedicated to self-initiated design project or taking the third-semester project to an advanced level. Comparatively, higher credits are allotted to this project and students are expected to showcase equivalent rigour and details in the design deliverables.

The performance of the students in every subject is evaluated either in the form of seminar, jury or written format. Every subject carries credit system, and the number of credits may vary from subject to subject according to the content and methodological approach of dealing with that particular subject.

In each semester the student needs to earn a minimum of 26 credits and s/he can achieve a maximum of 30 credits through a combination of courses. Overall, a learner needs to earn a total of 104 credits to obtain the degree of Master of Design.

The project credits gradually increase every semester to repress the focus on the need to accommodate students choices. The complexity of the project will increase with the advancement of the semester. Each credit has an engagement of 15 periods or 12.5 hours. Hence, a week-long course would cover 2 credits through 30 periods of teaching-learning.

4. Syllabus Details

Syllabus Framework

Subject Nomenclature System: The Master of Design subjects are prefixed with MDES to denote the course followed by the numeral (x) representing its semester. The last two digits (y & z) represent the subject type and number.

MDES

x

y

z

Master of Design

Semester

Subject Type

Subject Number

1

0 Core

1 Project

2

1 VC

2, 3, 4 Subjects

3

2 PD

4

3 Elective

Further, each subject's syllabus has been detailed out using the following common structure:

- **Objective** of the subject
- **Content** of teaching
- **Methodology** of teaching
- **Deliverables** or the expected outcome from the students
- **Reference Material** used to teach the subject (Journal, Books and Articles)

Semester 1

MDES 101 Project 1 and Design Workshop

Subject Type: Compulsory Core Subject

Semester: 1

Objective

- The project intends to explore personal interest and skills of the student at a basic level related design area, which may further be helpful to choose a specific area of design.
- The subject intends to provide some basic skills related to design fields. These basic skills will help the students to improve and present their design ideas at any point of time.

Methodology

- It will be a self-initiated research and design project, proposed by the student and approved by a panel of faculties. The project can be pursued under a regular guidance of a design faculty member.
- Students will be taught some basic skills to understand and map the human behaviour in daily life and define the problem for design projects.
- Students will explore design solutions using their own skills.
- The lecture sessions are to be used by facilitators to explain different techniques.
- Studio explorations of different materials.
- Studio based co-learning through discussion.
- Tutorials to provide feedback to individual students.

Deliverables

- The project will be delivered in the form of 2D or 3D media.
The Design Workshop will deliver the following
- Hand-drawing
- Hand made models
- Exhibition of photography

MDES 102 Creativity and Ideation

Subject Type: Compulsory Core Subject

Semester: 1

Objective

- The subject intends to familiarize the students about role of creativity in idea generation as a basic design activity.

Content

- About Creativity and Ideation
The principles of ideation
Personal creative blocks
External blocks
- Breaking through to ideas
Breaking routine
Re-interpreting the problem
Lateral thinking
Challenging assumptions
Observation, curiosity and experience
Risk-taking
- Using creative tools to generate ideas
Mind maps
Consequences
Metaphors and similes
Checklists
Assumption reversals
The rephrasing technique
Random stimulus and free association
The second-guess technique
Morphological analysis
Group brainstorming

Methodology

- Teaching will be done with different types of demonstration and interaction methods through audio-visual media and case study.

Deliverables

- Different types of presentation techniques to show ideas with different media

References

- Edward De Bono, Creativity Workout: 62 exercises to unlock your most creative ideas
 - Edward De Bono, Lateral Thinking: creativity Step by Step
 - Ideation: An AVA Book, AVA publishing SA
- Edward De Bono, Six Thinking Hats

MDES 103 History and Culture of Design

Subject Type: Compulsory Core Subject

Semester: 1

Objective

- The subject intends to introduce Design History as a framework for knowing the history, philosophy and purpose of design. It will explore the position of various design disciplines and their interaction within design cultures. It further highlights the dialectics of Design & Culture and explores multiple emerging theoretical positions.

Contents

- History of Design History
- Themes, Frameworks, Varieties and Levels of Design History
- Design as a distinct field
- Design, People and Culture
- Designer in Society
- Production, Consumption and Mediation of Design
- Developing a thematic understanding of history and culture of design, such as:
 - Globalization/ Transnational Dissubject
 - Technology
 - Media
 - Social idea of design
 - Subaltern / Postcolonial
 - Environment / Sustainability

Methodology

- The lecture sessions are to be used by facilitators to introduce the essential and methodical aspects.
- Essential text to be covered through a reading set.
- A small field-trip to act as primary research.
- Studio based co-learning through discussions and exploration.
- Students to pursue a theme/topic of choice to develop a small research around it.
- Tutorials to provide feedback to students, individually.

Deliverables

- Project Seminar Presentation (in groups/individuals)
- Short Paper or Booklet

References

Journals

- Design and Culture, Taylor & Francis
- Journal of Design History, Oxford
- Design Issues, MIT Press
- The Design Journal, Taylor & Francis

Books

- Adamson, G., Riello, G., and Teasley, S., eds. (2011) Global Design History, Routledge.
- Fallan, K. (2010) Design History: Understanding Theory and Method, Berg
- Heskett, J., (2002) Design: A very short Introduction, Oxford University Press
- Julier G. (2013) The Culture of Design, Sage
- Lees-Maffei, G, and R. Houze, eds. (2010) The Design History Reader, Berg.
- Walker, John A (1990). Design History and the History of Design.

MDES 111 Basic Typography

Subject Type: Specialization Subject

Semester: 1

Group: Visual Communication

Objective

- The subject objective is to introduce Typography as method and a way of thinking in Visual Design. The subject is intended to study the art and science of the field through hands-on exploration.

Contents

- **Typography in Everyday Environment**
- **About:** History, Form, Classification, Elements
- **Expressive Typography**
- **Applications of Typography:** Logotypes, Posters, Newsletters, Signage etc.

Methodology

- The lecture sessions are to be used by facilitators to introduce the essential and methodical aspects.
- Studio explorations as primary research.
- Studio based co-learning through discussion.
- Students to pursue a theme/topic of choice to develop a explorations around it.
- Tutorials to provide feedback to individual students.

Deliverables

- Hand-drawn/Printed Project Explorations

References

- Aicher, Otl. Typographie, Wilhelm Ernst & Sohn Verlag fur Architektur und technische
- Bringhurst, Robert. The Elements of typographic Style. Hartley and Marks
- Dawson, Peter (2013) The Field Guide to Typography: Typefaces in the Urban Landscape, London: Thames and Hudson
- Elam, Kimberly. Expressive Typography. The word as image, John Wiley & Sons Inc.
- Hochuli, Jost. Detail In Typography, Hyphen
- Lupton, Ellen. Thinking with type : A critical guide for designers, writers, editors, and
- McLean, Ruari. Manual of typography. Thames and Hudson
- Ruder, Emil. Typography. A Manual of Design. Niggli Verlag
- Ruegg, Ruedi & Frohlich, Godi. Basic Typography, Academy Editions Ltd
- Spiekerman, Erik & Ginger, E.M. Stop Stealing Sheep & find out how type works. California: Adobe Press
- Unger, Gerard. While You're Reading, Mark Batty Publisher

MDES 112 Visual Language

Subject Type: Specialization Subject

Semester: 1

Group: Visual Communication

Objective

- To explore the language of visual communication design through its elements, composition, abstraction and narratives.

Contents

- **Principles:**
- **Abstraction**
- **Developing a narrative through exploring**
 - Characters
 - Structure of the story
 - Visual elements and grammar
 - Space, Object and meanings
 - Visual Features: Shape, Colour, Texture, Size, Orientation and Positions
 - Point of Views and Frames

Methodology

- The lecture sessions are to be used by facilitator to introduce the essential and methodical aspects.
- Studio explorations as primary research.
- Studio based co-learning through discussion.
- Students to pursue a theme/topic of choice to develop a explorations around it.
- Tutorials to provide feedback to individual students.

Deliverables

- A Communication Design Product

References

- Lupton, E. The Art of Looking Sideways
 - Lupton, E. Graphic design thinking : Beyond Brainstorming. Princeton Architectural Press, 2011.
 - Karl Gerstner, Visual Language, 2005
 - Jasper Morrison, A world without words. 1992, 1998
- Rebecca Silus, Visual Storytelling, Inspiring a New Visual Language 2011

MDES 113 Visual Graphics

Subject Type: Specialization Subject

Semester: 1

Group: Visual Communication

Objective

The subject objective is to learn the art of photography and specific software skills to communicate design ideas.

Contents

- **Aspects of Photography:** ISO, focus, shutter speed, exposure and contrast
- **Techniques of Photography:** Using Lens, Perspective, Light, Colour and Composition
- **Understanding Light:** Metering, exposure and useful equipment, Natural light, low-light and night photography, close-up and macro light, day light, artificial light and studio light

- **CAG-I:** Creating, editing, composing images through Adobe Photoshop
- **CAG-II:** Vector software, creating a basic publication design

Methodology

- Teaching will be done with different types of demonstration techniques and case study.
- The lecture sessions are to be used by facilitators to introduce the essential and methodical aspects.
- Hands-on experience with the required software
- Tutorials to provide feedback to individual students.

Deliverables

- Different types of presentation techniques to show documents with required media
- Printed Project Explorations

References

- Adobe Creative Suite
- Adobe Indesign
- Adobe Photoshop
- Adobe Flash
- An available 3D Modelling Tool

MDES 121 Form Studies

Subject Type: Specialization Subject

Semester: 1

Group: Product Design

Objective

- The objective of the subject is to enable the students to develop 'Form Language' by interpreting emotion, character, attributes etc. of the user.
- To apply materials to the form to support the interpretation of user aspects and to conceptualize the detailing of product based on visualization of functional interaction, manufacturability, assembly, usability aspects of product.
- To make the students equipped with manual presentation skills in product design.

Content

- Introduction of 'Form Language' (Colour theory, texture, material)
- Form development processes
- Derive inspiration to develop 'Form Language'
- Representation of different form and theme based styles on form
- Essential aspect of detailing through simplicity and purity
- Two dimensional presentations
Free Hand Drawing and treatment techniques by using different medium
Representation drawings like, Isometric, perspective and exploded views
Generation of quick renderings, concept renderings and detailed renderings drawings.
- Three dimensional representations
Model Making.
Material exploration and development of models through different techniques

Methodology

- Different methods will be demonstrated to develop form
- Application of materials and manufacturability will be taught through case studies
- Demonstration will be given on different the mediums used for two dimensional representations of drawings at various design stage
- In workshop students will given hands-on exposure by the facilitator to learn the model making techniques and mediums used for different design stages

Deliverables

- product form and detail drawings of product with different media
- Portfolio of two dimensional presentation drawings
- Stage models of design

References

- Koos Eissen and Roselien Steur , (2011) Sketching: The Basics
- Koos Eissen and Roselien Steur , (2014) Sketching - product design presentation
- Scott Robertson and Thomas Bertling, (2014) How to Render: the fundamentals of light, shadow and reflectivity
- Finn Juhl, (2017) Watercolours
- Brian Russel, (2016) Design and Make It!: Student Book : GCSE Product Design - Key Stage 4
- Bjarki Hallgrímsson, (2012) Prototyping and Modelmaking for Product Design
- Bruno Munari, Design as Art (2009)
- John Berger, Ways of seeing
- C Akner Koler, Expanding the boundaries of form theory
- Ulrike Rahe, Maral Babapour and Bjorn Rehammar, Creating novel product form based on formal aesthetics

MDES 122 Materials and Manufacturing

Subject Type: Specialization Subject

Semester: 1

Group: Product Design

Objective

- The subject intends to explore and apply the knowledge of materials and manufacturing techniques for production of a specific product.

Content

- Materials studies
Different types of materials and their properties
Selection of materials
- Manufacturing techniques
Different types of manufacturing techniques
Selection of manufacturing process

Methodology

- Teaching will be done with lectures and interaction methods through audio-visual media and case study.

Deliverables

- All the above modules will be evaluated in the form written format as well as of presentation with hardware and software media.

References

- Chris Lefteri (2007) Making it: manufacturing techniques for product design, Laurence King Publishing
- Ashby, M.F. (1992), Materials selection in Mechanical Design, Pergamon press
- Pattons, W.J. (1976) Plastics Technology, Theory, Design and Manufacturing, Lenton Publishing Co.
- Hudson, Jennifer (2008), Process: 50 product designs from concept to manufacture
- <http://www.windesigns.co.in>

MDES 123 Applied Ergonomics

Subject Type: Specialization Subject

Semester: 1

Group: Product Design

Objective

- The objective of the subject is to make students familiar with the understanding and importance of ergonomics with respect to Product Design. The subject intends to develop sensitivity towards the importance of human factors in design. This will help the students to equip themselves for better performance in different design domains those require the study of ergonomics.

Content

- Introduction to ergonomics and its application. Definition of three major areas: Physical ergonomics, Cognitive ergonomics and Environmental ergonomics
- Generating different tools to evaluate ergonomic data, measurements and information gathering, ergonomics standards, observational techniques, rating scales, questionnaires, use of models and simulation
- Documentation , synthesis and evaluation of ergonomic data, ergonomic assessments of data collection from user study with respect to ergonomics
- Design project involving ergonomic design research

Methodology

- With the help of tutorials the facilitator will introduce ergonomics and its components
- In studio students will be developing tools to measure and evaluate ergonomic data
- Through presentations and discussion students will be delivering the synthesis of ergonomic data
- In studio students will be delivering the ergonomic data for the product which students have designed in previous semester

Deliverables

- Group presentation of documentation and synthesis of ergonomic data

References

- Mark S. Sanders, & Ernest J. McCormick, Human factors in Engineering & Design, McGraw-Hill, Inc
- Alvin R. Tilley, Henry Dreyfuss Associates: The Measure of Man and Woman: Human Factors in Design, Revised Edition
- Bridger, RS: Introduction to Ergonomics, 2nd Edition, Taylor & Francis, 2003.
- E. Grandjean, Fitting the task to the man, Taylor and Francis, 1963.
- W.E. Woodson, Human Factor Design Handbook, McGraw Hill, New York, 1981
- Ken Parsons, Human thermal environment, 2nd Edi., Taylor and Francis, 2003
- Debkumar Chakrabarti, Indian Anthropometric Dimensions (For Ergonomic Design Practice)

Semester 2

MDES 201 Project 2

Subject Type: Core Subject
Semester: 2

Objective

- The project intends to make the students learn and practice the total design process through a project. This will help the students to deliver the design solution to a problem. The students will apply the knowledge, they have learned till this stage, in this project.

Methodology

- Understanding the problem through different techniques
- Data collection about the problem
- Formulation of design brief
- Conceptualization
- Evaluation and selection of concepts
- Simulation of prototype and finalization
- Validation

Deliverable

- Prototype in the form of 2D and/ or 3D media will be presented as part of design deliverables

MDES 211 Advance Typography

Subject Type: Specialization Subject

Semester: 2

Group: Visual Communication

Objective

- The objective of the subject is to explore advance forms of typography as method of Visual Design. The subject may also explore the experimental typography.

Contents

- Postmodern Developments in Typography
- Basel School: Icons and philosophy
- The Great Masters of Asia
- Experimental Typography
- Storytelling through Typography

Methodology

- The lecture sessions are to be used by facilitator to introduce the essential and methodical aspects.
- Studio explorations as primary research.
- Studio based co-learning through discussion.
- Students to pursue a theme/topic of choice to develop a explorations around it.
- Tutorials to provide feedback to individual students.

Deliverables

- Hand-drawn/Printed Project Explorations as a typographic product

References

- Aicher, Otl. *Typographie*, Wilhelm Ernst & Sohn Verlag fur Architektur und technische
- Bringhurst, Robert. *The Elements of typographic Style*. Hartley and Marks
- Elam, Kimberly. *Expressive Typography. The word as image*, John Wiley & Sons Inc (1
- Hochuli, Jost. *Detail In Typography, Hyphen*
- Lupton, Ellen. *Thinking with type : a critical guide for designers, writers, editors, and*
- McLean, Ruari. *Manual of typography*. Thames and Hudson
- Ruder, Emil. *Typography. A Manual of Design*. Niggli Verlag
- Ruegg, Ruedi & Frohlich, Godi. *Basic Typography*, Academy Editions Ltd (a division of
- Sugaira, Kohei. *Books, Letterforms and Design in Asia* (Translated by Kirti Trivedi) Mumbai: ADARG
- Unger, Gerard. *While You're Reading*, Mark Batty Publisher
- Brownie, Barbara (2014) *Transforming Type: New Directions in Kinetic Typography*, London: Bloomsbury
- Clarke, Michael (2007) *Verbalising the Visual: Translating art and design into words*, London: Fairchild

MDES 212 Communication and Cognition

Subject Type: Specialization Subject

Semester: 2

Group: Visual Communication

Objective

- The objective of the subject is to revisit the scientific paradigms of communication design and explore them through/in design.

Contents

- Scientific advances in Communication Design
- Cognitive Science and Communication
- Human and Communication: Chunking Theory
- Gestalt Principles
- Order in Communication
- Visual Ergonomics
- Readability and Legibility Study

Methodology

- The lecture sessions are to be used by facilitator to introduce the essential and methodical aspects.
- Studio explorations as primary research.
- Studio based co-learning through discussion.
- Students to pursue a theme/topic of choice to develop a explorations around it.
- Tutorials to provide feedback to individual students.

Deliverables

- Digital/Printed Project Explorations as a typographic product

References

- Lupton, E. Graphic design thinking : Beyond Brainstorming. Princeton Architectural Press, 2011
- Rane, Mandar. Visual Order. Mumbai: Mandar Rane
- Mole, A; Information theory and aesthetic perception, University of Illinois, 1969
- Wertheimer, M; Principles of perceptual organization. In "Readings in perception" ed. D. Beardslee and M. Wertheimer, Van Nostrand, 1966, PP 115-135
- Willows, D M, Houghton, H A; The Psychology of Illustration, Vol.1 & 2, New York: Springer-Verlag, 1989
- Lee Lefever; The art of explanation, Wiley; 2012
- Woodson Wesley E, Human Factors Design Handbook, McGraw-Hill Education; 1992
- Norman, Donald: A Design of Everyday Things, Basic Books, 2002
- Nielsen, Jakob, Usability Engineering, Morgan Kaufmann; 1993
- Deborah J. Mayhew, The Usability Engineering Lifecycle: A Practitioner's Handbook for User Interface Design, Morgan Kaufmann; 1993
- Marie , Anne; Barry Seward; Visual Intelligence: Perception, Image, and Manipulation in Visual Communication, State University of New York Press ,1997
- Davis, Meredith and Hunt, Jamer (2017) Visual Communication Design: An Introduction to Design Concepts in Everyday Experience, Sydney: Bloomsbury

MDES 213 Print Design

Subject Type: Specialization Subject

Semester: 2

Group: Visual Communication

Objective

- The objective of the subject is to explore and develop the pragmatic and professional context of communication design.

Contents

- Analogue Methods
- Illustrations
- Abstraction of Visual Forms
- Digital Methods of Representation
- Spatial and Medium understanding
- Tools and Technological aspects
- Contextual aspects of a print design
- Printing processes: Screen, Offset and Digital
- Designing a product of different scales and purpose like Stationery design: Visiting cards, Envelope and Letterhead design.

Methodology

- The lecture sessions are to be used by facilitator to introduce the essential and methodical aspects.
- Studio explorations as primary research.
- Studio based co-learning through discussion.
- Students to pursue a theme/topic of choice to develop a explorations around it.
- Tutorials to provide feedback to individual students.

Deliverables

- Hand-drawn/Printed Project Explorations as a typographic product

References

- Ambrose, Gavin and Harris, Paul (2018) Layout for Graphic Designers: An Introduction, Sydney: Bloomsbury
- Lupton, E. The Art of Looking Sideways, Phaidon
- Lupton, E. Graphic design thinking : Beyond Brainstorming. Princeton Architectural Press, 2011
- Paul Rand, A Designer's Art, 1968
- Ellen Lupton, Thinking with Type, 2004
- Jens Muller, R. Roger Remington, Logo Modernism, 2015
- Charles Conover, Designing for Print, 2003
- Sherin, Aaris (2017) Introduction to Graphic Design: A Guide to Thinking, Process & Style, Sydney: Bloomsbury

MDES 221 Product Function and Architecture

Subject Type: Specialization Subject

Semester: 2

Group: Product Design

Objective

- The subject intends to explore the design of mechanisms and product architecture to offer specific functions for physical interaction with user.

Content

- Observation of user's activity
Visualization of future user-product interaction
- Design of mechanism for specific product functions
Application of Mechatronical aspects for physical system
Introduction to Sensors & Transducers, Actuating devices
Function-Task-Interaction method
Product architecture and product platform
Product architecture typology
Architecting process
Case study from different product segments
- Product affordance
Product performance and user experience

Methodology

- Teaching will be done with lectures, different types of demonstration and interaction methods through audio-visual media and case study and workshop activities.

Deliverables

- Product architecture with a bundle of different types of product functions will be visualized in the form of prototype with soft and hard media in this subject.

References

- George N. Sandor and Arthur G. Erdman, Advanced Mechanism Design, Vol I & II, Prentice Hall of India Ltd, New Delhi
- Ivan I Artobolevsky, Mechanism in modern engineering design, Vol I - IV, Mir Publishers, Moscow
- Karl T. Ulrich, The role of product architecture in the manufacturing firm, MIT press
- W. Bolton, Mechatronics: Electronic control systems in mechanical and electrical engineering (Law Express)
- Devdas Shetty & Richard A. Kolk, Mechatronics System Design

MDES 222 Product Semantics and User Experience

Subject Type: Specialization Subject

Semester: 2

Group: Product Design

Objective

- The subject intends to introduce Product Semantics as a conscious method of Design Research. The subject is intended to methodically look into form and product detailing process with respect to a context and culture of user-group.

Contents

- Historical development of Product Semantics
- Meaning of Artifacts in use and context
- Human-centered design methods
- Visceral, Behavioural and Reflective design
- Four pleasure: physio, socio, psycho, ideo
- Sensory design with alternative media

Methodology

- The lecture sessions are to be used by facilitator to introduce the essential and methodical aspects.
- Studio explorations with product and context
- Exploration of different techniques of sensitization and expression for product detailing

Deliverables

- Product prototyping with detailing
- Seminar Presentation on analytical issues

References

- Krippendorff, Klaus. *The Semantic Turn: A New Foundation for Design*. Boca Raton: CRC Press, 2006.
- Lupton, Ellen & Lipps, Andrea. *The Senses: Design Beyond Vision*. Princeton Architectural Press, 2018.
- Patrick W. Jordan, *Designing pleasurable products*, Taylor & Francis, 2000
- Krippendorff, Klaus, & Butter, Reinhart. "Product semantics: Exploring the symbolic qualities of form," *Innovation*: 3.2 (1984): 4-9.
- Krippendorff, Klaus. "On the Essential Contexts of Artifacts or on the Proposition that Design Is Making Sense (of Things)," *Design Issues* 5.2 (1989): 9-39.
- Krippendorff, Klaus. *Product semantics: A triangulation and four design theories*. In *Product Semantic '89*. Ed. S. Väkevä. Helsinki: University of Industrial Arts, 1990.
- Norman, Donald. *Emotional Design*. Basic Books
- Balaram, S. "Product Symbolism of Gandhi and Its Connection with Indian Mythology," *Design Issues*: 5.2 (1989): 68-85.

MDES 223 Product Design Methods

Subject Type: Specialization Subject

Semester: 2

Group: Product Design

Objective

- The subject intends to introduce different steps and processes of product design methods considering market trends, environmental, manufacturing aspects. The subject is intended to methodically look into form design process with respect to a culture and user-group.

Contents

- Total process: Looking, Learning, Asking, Making, Testing, Evaluation & Selection, Communicating
- Product Planning and Product strategy
- User need analysis
- QFD Analysis, SWOT Analysis, Kano model, Gemba analysis
- Functional Specification, Product Specification, IPR search
- Types of Design process: Sequential Design, Concurrent Design,
- Value Engineering
- Design for Manufacturing and Assembly
- Product Life-cycle Management and Product Data Management
- Evaluation and Selection
- Communicating design

Methodology

- The lecture sessions are to be used by facilitator to introduce the essential and methodical aspects.
- Studio explorations as primary research.
- Students to pursue a consumption activity of choice to develop a product around it.
- Exploration of design phase and post design phases of product development.

Deliverables

- Exploration of market and possibility of product
- Conceptual formation of product
- Analysis of product life-cycle and services

References

- Karl Ulrich. & Steven Eppinger, Product Design and Development, McGraw-Hill
- Alex Milton & Paul Rodgers, Research methods for product design, Laurence King Publishing Ltd, 2013

MDES 231 User Interaction & Experience Design

Subject Type: Common Elective Subject

Semester: 2

Objective

- The subject will guide the students through User Experience (UX) design of products, the UX Design process including, user research, defining the research outcomes and Information Design & Data Visualization, Interaction Design.

Content

- Introduction to UXD - User Interaction of products and user experience
- Understanding the process of User experience Design- Research methods and tools. Understanding the User Needs and Goals
- Ideation and Design- Interaction Design, Information Architecture, Wireframing & Storyboarding
- Development and testing of prototype- Introduction and Usability Testing, Introduction of prototyping tools and ways of conducting Usability Test
- Iterate the prototype

Methodology

- Through tutorials the facilitator will explain user interaction and experience in product design domain.
- In studios students will be learning the process of designing user interface of a particular products by using the elementary knowledge of UI.

Deliverables

- Presentation on interface design

References

- The Elements of User Experience: User-Centred Design for the Web by Jesse James
- Observing the User Experience: A Practitioner's Guide to User Research by Mike Kuniavsky
- Sketching User Experiences: Getting the Design Right and the Right Design Book by Bill Buxton
- Handbook of Usability Testing: How to Plan, Design, and Conduct Effective Tests (Paperback) by Jeffrey Rubin.
- Shneiderman, Ben; Designing the User Interface: Strategies for Effective Human-Computer Interaction. 1997

MDES 232 Cultural Communication Design

Subject Type: Common Elective Subject

Semester: 2

Objective

- The objective of the subject is to study the relations of culture and Communication Design. The subject is intended to methodically look into everyday visual communication environments and establish the cultural logic of its making. Through a small design project, it will attempt to contribute towards resolving a complex cultural situation.

Contents

- Everyday Visual Communication
- Communication and Culture
- Visual Ethnography
- Visual Communication Mediums within a cultural context

Methodology

- The lecture sessions are to be used by facilitator to introduce the essential and methodical aspects.
- Field-work as primary research.
- Studio based co-learning through discussion.
- Students to pursue a theme/topic of choice to develop a explorations around it.
- Tutorials to provide feedback to individual students.

Deliverables

- A Communication Design Exploration Project

References

- Lupton, E. The Art of Looking Sideways
- Lupton, E. Graphic design thinking : Beyond Brainstorming. Princeton Architectural Press, 2011
- Rane, Mandar. Visual Order. Mumbai: Mandar Rane Publications
- John R. Baldwin, Alberto González, Robin R. Means Coleman, Suchitra Shenoy-Packer, Intercultural Communication for Everyday Life, 2014
- Davis, Meredith and Hunt, Jamer (2017) Visual Communication Design: An Introduction to Design Concepts in Everyday Experience, Sydney: Bloomsbury
- Harland, Robert (2016) Graphic Design in Urban Environments, New York: Bloomsbury

MDES 233 Computer-aided Product Design

Subject Type: Common Elective Subject

Semester: 2

Objective

- The objective of the subject is to learn product design related software and to design a model of a product. The functional details as well as overall form related to the product can be done with the help of the software.

Content

- Modeling of curves
- Surfaces and solid manipulation of CAD models
- Parametric modeling
- Project in re-engineering a product using computer tools for reverse engineering geometry
- Design evaluation
- Modification and prototyping
- Introduction to Virtual Reality and Augmented reality

Methodology

- The teaching can be done by demonstration and interaction with audio visual media.

Deliverables

- A virtual prototype can be delivered in this subject

References

- Software Manuals
- Zeid, I., CAD/CAM, McGraw Hill
- Software: CATIA/ Pro-Engineer/ Solid Works/ Alias Wavefront (Design Studio)/ Rhino

References

- Software Manuals
- Zeid, I., CAD/CAM, McGraw Hill
- Software: CATIA/ Pro-Engineer/ Solid Works/ Alias Wavefront (Design Studio)/ Rhino

MDES 234 Design Research Methods

Subject Type: Common Elective Subject

Semester: 2

Objective

- To introduce design students about the methods and techniques to collect user centered research data. The methods and techniques selected for this subject at this stage will help students to learn how to explore, plan, scope and define design project parameters. They will also be characterized by introduction to immersive design ethnographic research methods. The subject will prepare students to learn how to formulate design brief and plan overall research methodology.

Contents

- Importance of research in design through examples
- Research methods: focus groups, evidence based design, customer experience audit, design ethnography, interviewing, surveying, participatory action research
- Few essential Quantitative research methods for design
- Apply the research methods to study a design problem (provided by the facilitator or selected by students)

Methodology

- Lecture on importance of research in design and introduction to various design research methods
- A short field study to collect data based on one design research method, develop a design brief and overall research methodology

Deliverables

- Group presentations on one design research method (introduced in the class) used by an example research material from literature.
- Short Paper and visual presentation on field study that includes data collection, analysis and inferences on research conducted.

References

- Hanington, F.E.P. (2011). *Universal Methods of Design: 100 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions*. United States of America: The McGraw-Hill Companies, Inc.
- Milton, A. & Rodgers, P. (2013). *Research Methods for Product Design*
- Maxwell, J. A. (2012). *Qualitative Research Design: An Interactive Approach: 41 (Applied Social Research Methods)*
- Curedale, R.A. (2013). *Design Research Methods: 150 Ways to Inform Design*: Design Community College Incorporated.
- Krippendorff, Klaus. (2006). *The Semantic Turn: A New Foundation for Design*. Boca Raton: CRC Press.
- Crouch, C. & Pierce, J.E. (2012). *Doing Research in Design*. Oxford: Berg
- Cross, N. (2006). *Designerly Ways of Knowing*. Springer. 2006

MDES 235 Design Studies

Subject Type: Common Elective Subject
Semester: 2

Objective

- To introduce Design Studies as a framework of understanding purpose and complex roles of Design as process, product, function, symbol and use. The subject will further critically attempt to enquire and theorise the current and emerging discourse of design.

Contents

- Introduction to the field of Design Studies
- Development of Design Studies as a field of study through revisiting the various explorations of Design Studies, such as:
 - Sustainability
 - Science and Technology
 - Material Culture
 - Labour and Industrialisation
 - Globalisation at large
- Delving into contemporary themes of study, such as:
 - Design Futures
 - Decolonizing Design
 - Gender and Design
 - Design Anthropology

Methodology

- The lecture sessions are to be used by facilitators to introduce the essential and methodical aspects.
- Essential text to be covered through a reading list.
- Studio based co-learning through discussion and exploration.
- Students to pursue a theme/topic of choice to develop a research around it, with an optional fieldwork.
- Tutorials to provide feedback to individual students.

Deliverables

- Project Seminar Presentation
- Short Paper

References

Journals

- Design Philosophy Papers, Taylor & Francis
- Design Issues, MIT Press
- Design and Culture, Taylor & Francis
- The Design Journal, Taylor & Francis
- She Ji, Elsevier
- Design Studies, Elsevier

Books

- Boradkar, Prasad (2010) *Designing Things: A Critical Introduction to the Culture of Objects*, New York: Berg.
- Clark, H. and Brody, D. eds. (2010) *Design Studies: A reader*, New York: Berg.
- Clarke, Alison J. (2011) *Design Anthropology*. Vienna: Springer
- Gunn, Wendy and Jared Donovan (2012) *Design and Anthropology*. Farnham: Ashgate
- Heskett, J., (2002) *Design: A very short Introduction*, Oxford: Oxford University Press
- Julier G. (2013) *The Culture of Design*, London: Sage
- Julier G. (2017) *The Economy of Design*, London: Sage
- Papanek, Victor (2000) *Design for the Real World: Human Ecology and Social Change*

Semester 3

MDES 301 Project 3

Subject Type: Compulsory Core Subject
Semester: 3

Objective

- The project intends to look at the problems interconnected both at micro and macro levels. The students will apply the knowledge, they have learned till this stage along with the industry exposure of the internship.
- The student can do a project, where sufficient amount of work of the project equivalent to the credits allotted in Semester 3 will be completed.
- If the student wants to continue the project for two semesters and projects demands that time duration, he can do so by producing sufficient amount of work to justify the credits allocated in 3 Semester and the continue the rest in next semester responding to the credits of 4 Semester.
- In the case of two Semester sponsored project the student have to stay in campus and complete the 1st phase of project to justify the credits allocated for project in that Semester along with other courses. Remaining 2nd Phase of the project can be done staying outside the SPA Bhopal Campus.

Methodology

- Self-initiated research and design project to be proposed by the student and approved by a faculty panel.
- The project must be pursued under the guidance of a design faculty member.
- The project and the report will be evaluated by a panel. If the student takes a bigger size project and wants to continue it in Semester 4, the content of work done by the student in Semester 3 equivalent to the credits allotted for project 3 will be evaluated in that case.

Deliverables

- Prototype and report will be evaluated

MDES 302 Summer Internship

Subject Type: Compulsory Core Subject

Semester: 3

Objective

- The subject intends to acquire exposure about industrial practice with a minimum of six to eight weeks of industrial internship sandwiched b/w second and third semester.

Deliverables

- Project report and presentation about the assignments done

Evaluation

- Viva on Summer Internship report

MDES 331 Design Management and Entrepreneurship

Subject Type: Common Elective Subject

Semester: 3

Objective

- The objective of the subject is to familiarise the students about the role of design management to create opportunity and value of products and maintain the image of corporate and brand identity through different types of design strategies.

Content

- Fundamentals of Design Management
Design Entrepreneurship and Design Firm
Business performance
Design Management
- Creating Brand Value of Design
Differentiate
Collaborate
Innovate
Validate
Cultivate
- Introduction to Blue Ocean strategy
Creating Blue Ocean
Formulating Blue Ocean Strategy
Executing Blue Ocean Strategy
- Design Entrepreneurship for startups
- Intellectual Property Rights and Copyrights
- Project Management
- Professional Practice
- Business value of Design

Methodology

- Teaching will be done with lectures and case study methods.

Deliverables

- All the above modules will be evaluated with case study presentation techniques.

References

- Brigitte Borja De Mozota, Design Management, Allworth Press
- Marty Neumeier, Brand Gap, New Riders Publishing
- W. Chan Kim and Renee Mauborgne, Blue Ocean Strategy, Harvard Business School Press
- DMI Journals

MDES 332 Product-Service Systems Design Methods

Subject Type: Common Elective Subject

Semester: 3

Objective

- The objective of this subject is to bring the students into a different perspective of consumption-production pattern and user experience. The interdisciplinary and multi-channel approach of service design, also called as Product-Service Systems (PSS), has the potentiality to create network solutions with the help of different kinds of stakeholders who will be responsible for the production and consumption activities through system approach. In this subject, students will learn different methods and tools of service design to approach to different problem spaces and create system solutions and network operations for different user experiences.

Content

- Scope of Services:
Service as new economy
Characteristics and types of Services
Service concept and role design in tailored service
- Interaction in Service concept:
Client as co-producer
Technology, tools and setting
Image of service
- Design Methods of Services:
Study of problem space and problem identification
Design specifications
Concept design and evaluation
Detailing of concept and prototyping
- Managing Services:
Implementation and performance measurement
Assessing customer satisfaction and improvement

Methodology

- Teaching will be done with lectures, different types of demonstration and interaction methods through audio-visual media and case study, field survey etc.

Deliverables

- The prototype will be developed in the form of tangible and intangible format with different media.

References

- Richard Norman, Service Management, John Wiley & Sons, Ltd
- Rohit Ramaswamy, Design and management of service processes, Addison-Wesley Publishing Company, Inc
- Robert Curedale, Service Design Process & Methods, Design Community College Inc
- Ezio Manzini and Carlo Vezzoli, Product-Service Systems and Sustainability
- Robert Curedale, Mapping Methods 2

MDES 333 Speculative Design

Subject Type: Common Elective Subject

Semester: 3

Objective

- The objective of the subject is to visualize the future consumption scenario. This kind of prediction can be done with experimentation and may intend to discussion, debate about the kind of future people may adapt or reject. Also this kind of work may suggest future group of products and services to work for. In this subject, students will be acquainted with salient arguments and terms in discussions of psychoanalysis, consumerism and civil society as these intersect with theories of culture.

Content

- Social relations and social imaginaries
- Imagining the unreal
- Relooking at the barriers to future
- Physical fictions
- Aesthetics of unreality
- Meeting the impossible

Methodology

- The teaching methods will be combination of lectures, discussion, case study.

Deliverables

- Seminar on a specific topic, discussion etc.

References

- Benedict Anderson, Imagined Communities, Verso
- Arjun Appadurai, Modernity at Large, University of Minnesota Press
- Cornelius Castoriadis, The imaginary Institution of Society, MIT University Press
- Charles Taylor, Modern Social Imaginaries, Duke University Press
- Michael Warner, Publics and Counterpublics, Zone Books
- Amartya Sen, Development as freedom
- Ezio Manzini, Sustainable Everyday
- Anthony Dunne and Fiona Raby, Speculative Everything: Design, Fiction and Social Dreaming, MIT Press

MDES 334 Human-Activity Systems Integration

Subject Type: Common Elective Subject

Semester: 3

Objective

- The objective of this subject is to explore and understand the multi-modal interaction between contexts and human being in a problem space and to visualize the interconnectedness among different types of human activities at different levels in those contexts. The emphasis will be to develop an integrated systems approach to explore new possibilities of human-product-environment interaction through prototyping.

Content

- Concept of life: system view of life
- Theoretical aspects of human-environment interaction
Human interaction with digital media and physical world
- Different methods for research into context, like, ethnographic observation, qualitative interviewing etc.
Identification of bigger scale problem space and various influencing vectors
Understanding of the problems at different levels of interaction and narration
- Interaction Methods like, process flow, scenario building and storytelling, role play, wireframes, paper mockup to narrate system solutions at different levels
Conceptualization of physical interaction model in the form of artifacts, solution scenarios at different levels and prototypes

Methodology

- Teaching will be done with different types of lecture, demonstration and interaction methods through audio-visual media, case study, Field survey etc.

Deliverables

- All the above modules will be evaluated in the form of verbal presentation of design work, write up material, photography and hardware and software model.

References

- Victor Kaptelinin and Bonnie A. Nardi, Acting with Technology, MIT Press
- Firtjof Capra, Systems view of life
- Hal W. Hendrick and Brian M. Kleiner, Macroergonomics, CRC Press
- Bela H. Banathy, Designing social systems in a changing world
- Celia Lury and Nina Wakeford, Inventive methods: the happening of the social, Routledge
- Springerlars skyttner, General systems theory
- Peter Checkland, Systems Thinking, Systems Practice
- Béla H. Bánáthy, Guided Evolution of Society
- Ludwig von Bertalanffy, General system theory
- Anthony Dunne and Fiona Raby, Speculative Everything: Design, Fiction and Social Dreaming, MIT Press
- Robert Curedale, Design Thinking Process & Methods,

MDES 341 Design Seminar

Subject Type: Common Institute Elective
Semester: 3

Objective

- The objective of the subject is to select one topic related to design in consultation with a panel of faculty members and study and prepare one presentation for seminar.

Methodology

- The study will be done with secondary as well as primary data collection

Deliverables

- The seminar will be presented in a soft copy and audio-visual media

Semester 4

MDES 401 Project 4

Nature: Compulsory Core Subject

Semester: 4

Objective

- The project intends to look at the problems interconnected both at micro and macro levels. The students will apply the knowledge, they have learned till this stage and the industry exposure of the internship, in this project.
- The student can do a project, where sufficient amount of work of the project equivalent to the credits allotted in Semester 4 will be completed.
- Students can do Industry sponsored project in Semester 4 and may stay outside of SPA Bhopal to complete the project work, if required.
- If the student takes a bigger size project and wants to continue the project from the Semester 3 also, in that case, the student can complete sufficient amount of work of the project in Semester 4 equivalent to the credits allotted in Semester 4.
- If the student wants to do Industry sponsored project in continuation from Semester 3, in that case, the student can complete adequate work of the project to justify the credits allocated for project in Semester 4, staying outside of SPA Bhopal, if required.

Methodology

- Self-initiated research and design project to be proposed by the student and approved by a faculty panel.
- The project must be pursued under the guidance of a design faculty member.
- The project and the report will be evaluated by a panel. If the student takes a bigger size project in Semester 3 and wants to continue it in Semester 4, the content of work done by the student in Semester 4 equivalent to the credits allotted for project 4 will be evaluated in that case.

Deliverables

- The prototype and project report will be presented by the students

MDES 402 Exhibition Design

Nature: Compulsory Core Subject

Semester: 4

Objective

- The objective of the subject is to examine the role that exhibition design plays in communicating knowledge and exploration of display methods within the language of exhibits. The subject intend to deal with conceptualize exhibits for a variety of purposes. By approaching the design with the manner of theme, student will gain a sense of own agency as arts administrators.

Content

- Introduction to exhibition design, development and installation.
- Framework of exhibition design and management in exhibition design.
- Documentation of cases studies analysis it with reference of relevance to their final project.
- Design ideation – Exhibition planning, display, graphics, services planning, installation
- Final exhibition proposal and execution.

Methodology

- Through tutorials facilitator will introduce exhibition design and different design discipline involve in exhibition design.
- In studios groups of students will be working towards design proposal for design degree show as per their area of interest.
- On site execution of design proposals by students in groups

Deliverables

- Designing, Management and Execution of Design Degree Show

Reference

- Brian O'Doherty, Inside the White Cube: The Ideology of the Gallery Space (University of California Press: Berkeley, Los Angeles, London) 1976
- Bill Moggridge, Designing Interactions (MIT: Cambridge) 2007
- Leonard Koren, Arranging Things: A Rhetoric of Object Placement (Stone Bridge Press:Berkeley) 2003
- Hodgetts + Fung: Scenarios and Spaces, "Experience and Scenario," (Rizzoli) 1997
- Material World 2: Innovative Materials for Architecture and Design (Birkhäuser: Basel, Boston, Berlin) 2

MDES 403 Portfolio Design

Nature: Compulsory Core Subject

Semester: 4

Objective

- The subject intends to consolidate the projects, subjects and exploration outcomes in a presentable form.

Content

- Types and styles of portfolio making
- Different tools and techniques for presentation
- Emergent forms of portfolio

Deliverables

- A physical and digital portfolio