

**Master of Design program**  
**at School of Planning and Architecture Bhopal**  
Proposal for the 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 20 (twenty) 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

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## **MDES 101 Project 1**

**Subject Type: Compulsory Core Subject**

**Semester: 1**

### **Objective**

- The project intend to explore personal interest of the student at a basic level of design area, which may further be helpful to choose a specific area of design.

### **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.

### **Deliverables**

- The project will be delivered in the form of 2D or 3D media.



## **MDES 102 Design Methods**

**Subject Type: Compulsory Core Subject**

**Semester: 1**

### **Objective**

- The objective of this subject is to make the students aware of the transformation of the traditional concept of product design to a more user-centric design considering socio-economic, cultural, technical, ergonomic and artistic values. The development of Design Theory and Methodology is shaped by all the above aspects with an objective of optimising the methods, rules and criteria to be used for investigation, evaluation and improvement of design. In this subject, a detailed understanding of methodological and theoretical development will be explored from a historical perspective.

### **Content**

- Design and Methodology
  - Epistemological methods in design
  - Semiotics and design
  - Phenomenology and design
  - Hermeneutics and design
- Design and Theory
  - Communicative function of design
  - Formal aesthetic functions
  - Marking functions
  - Symbolic functions
  - From product language to product semantics
- Development in design methodology
  - Traditional methods
  - Review of new methods
  - Choosing strategies and methods

### **Methodology**

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

### **Deliverables**

- Presentation of case study through different media

### **References**

- Bernhard E. Burdek (2015) Design history, theory and practice of product design, Birkhauser Verlag
- John Chris Jones (1992) Design Methods, Van Nostrand Reinhold

## **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 Computer-aided Graphics**

**Subject Type: Specialization Subject**

**Semester: 1**

**Group: Visual Communication**

### **Objective**

- The subject objective is to learn specific software skills related to Graphic and Communication Design.

### **Contents**

- Ecosystem and components of CAG
- Creating and Editing images
- Composing Images
- Creating a basic Publication Design

### **Methodology**

- 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**

- Printed Project Explorations

### **References**

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

## **MDES 121 Product Function and Product Architecture**

**Subject Type: Specialization Subject**

**Semester: 1**

**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  
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

## **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 Product Representation Techniques**

**Subject Type: Specialization Subject**

**Semester: 1**

**Group: Product Design**

### **Objective**

- To subject intends to make the students equipped with manual and digital presentation skills in design.

### **Content**

- Two dimensional presentations  
Free Hand Drawing and treatment techniques by using different medium  
Representation drawings  
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**

- The facilitator will initiate the introduction, mediums and importance of product presentation skills
- In studios student will be learning the mediums used for two dimensional representations of drawings at various design stage
- In studios students will be learning digital medium for presenting product design in two dimensions.
- 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**

- 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



## **MDES 131 Human Behavior Mapping**

**Subject Type: Common Elective Subject**

**Semester: 1**

### **Objective**

- The subject intends to introduce human behavior mapping as a research technique to understand how users interact with product-service-environment. The course will help students to learn documentation techniques and make design inferences based on observable characteristics of human behavior.

### **Contents**

- Meaning of behaviour, the interrelationship of behavior with cognition and affect
- Introduction to behavior mapping as a research technique to study human behaviour and their interactions with product-service and environment
- Types of mapping: Place centered and Individual centered mapping process; mapping techniques
- Unobtrusive observations, coding process of observations, analysis of codes to develop inferences and interpret human behavior and their interactions
- A short real life study to apply the technique on a real life scenario

### **Methodology**

- Lecture on behaviour mapping meaning, types and ways to conduct research using this technique
- Discuss papers that have used the technique for design research
- A short field study by students to learn the application of the technique in design research

### **Deliverables**

- Presentation on research papers on Behaviour Mapping (Individual/ Group)
- A short paper and visual presentation on field research

### **References**

- Barker, Roger G (1968). *Ecological psychology: Concepts and methods for studying the environment of human behavior*. Palo Alto, CA: Stanford University Press.
- Francis, Mark. (1984). Mapping downtown activity. *Journal of Architectural and Planning Research* 1: 21–35.
- Hill, Michael R (1984). Stalking the urban pedestrian: A comparison of questionnaire and tracking methodologies for behavioral mapping in large-scale environments. *Environment and Behavior* 16, no. 5: 539–50.
- Ittelson, William H., Leanne G. Rivlin, and Harold M. Proshansky (1976). The use of behavioral maps in environmental psychology. In *Environmental psychology: Man and his physical setting*, ed. Harold M. Proshansky, William H. Ittelson, and Leanne G. Rivlin, 340-51. New York: Holt, Rinehart and Winston.

## **MDES 132 Creativity and Ideation**

**Subject Type: Common Elective 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 133 Photo Communication**

**Subject Type: Common Elective Subject**

**Semester: 1**

### **Objective**

- To learn the art of communication through the development of images and videos. This subject will also intend to give a new approach to students to document and communicate their ideas at commercial level.

### **Content**

- Exploring the power of communication
- Composition and digital processing
- Storyboarding
- Visual Storytelling
- Related digital tools and technologies
- Developing a Visual-narrative and presenting it

### **Methodology**

- Teaching will be done with different types of demonstration techniques and case study.

### **Deliverables**

- Different types of presentation techniques to show documents with required media
- Studio based co-learning through discussion.
- Students to pursue a theme/topic of choice to develop explorations around it.

### **References**

- John Hedgecoe, New book of photography
- John Berger, Ways of Seeing, London: Penguin
- Mark Brindle and Chris Jones, The Digital Filmmaking Handbook: The definitive guide to digital filmmaking

## MDES 134 Craft Design

**Subject Type: Common Elective Subject**

**Semester: 3**

### Objective

- The exposure involves brief overview of the various craft practices across India. To give exposure about rich craft heritage of India in various material fields such as hard materials (wood, metal and stone, bamboo); soft materials (textiles, leather, paper, natural fibre); fired materials (earthenware, stoneware, terracotta, porcelain).
- To record, analyse and interpret traditional craft practice, culture, rural / urban markets, context in which urban/ rural customers use a product and the meaning the product might hold in their lives, livelihood issues in craft sector and future prospects through participant observation method, through participant observation method
- Develop participatory approach to initiate collaboration of students with craftsmen to encourage innovation and creative thinking for well crafted quality products, synergizes traditional knowledge and skills with contemporary methodologies, efficient processes, comfortable work environments and strategies for building market linkages to support livelihoods of craft community.

### Contents

- Introduction on overview of different crafts practised in various regions India
- Ethnography method and its documentation style with examples
- Craft and design thinking : similarities/differences
- Participatory method and related Case studies

### Methodology

- Lecture on different crafts practised in India, craft design process-rootedness in environmental context (personal-social-cultural-natural- political-material), Craft markets, changing context of craft sector, livelihood issues.
- Lecture on ethnography
- Outdoor field study to document a craft practise in and around the region
- Lecture and tutorial on Participatory method and related Case studies

### Deliverables

- An ethnographic report documenting the craft practices, identification of challenges, limitations faced by the craft community in product development, work environments, building market linkages etc.
- Interventions can be expressed in any medium depending upon the level of interventions can be at the level of products, redesign of workspace, tools, services, market strategies as result of student-craftsmen collaboration

### References

- Tino, J. (2011). *Timeless traditions contemporary forms*. India: SCB Distributors.
- Ranjan, A., Ranjan, .P. (2007). *Handmade in India*. India: Council of Handicraft Development Corporations.
- Ghulam, Y. (2005). *Crafting Traditions: Documenting trades and crafts in early 19th century north India*. India. Indira Gandhi National Centre for the Arts
- Arts and crafts of Indus civilization prominal art by Nandagopal Choodama
- Udamale, S. (2003). *Architecture for Kutch: Reinterpreting the lifestyle, culture, crafts and architecture of Kutch region in new housing*. English Edition Publishers

# Semester 2

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## **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 202 Design Research Methods**

**Subject Type: Compulsory Core 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
- Apply any one research method 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 203 Design Studies**

**Subject Type: Compulsory Core 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

## **MDES 211 Cultural Communication Design**

**Subject Type: Specialization Subject**

**Semester: 2**

**Group: Visual Communication**

### **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 212 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 213 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 221 Ergonomics for Product Design**

**Subject Type: Specialization Subject**

**Semester: 2**

**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**

- 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)

## **MDES 222 Computer aided Product Design**

**Subject Type: Specialization Subject**

**Semester: 2**

**Group: Product Design**

### **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

## **MDES 223 Form Development and Product Detailing**

**Subject Type: Specialization Subject**

**Semester: 2**

**Group: Product Design**

### **Objective**

- The objective of the subject is to enable the students to develop 'Form Language' by interpreting emotion, character, attributes etc. as well as apply materials to the form to support the interpretation and to conceptualize the detailing of product based on visualization of functionality, manufacturability, assembly, usability aspects of product.

### **Content**

- Introduction of 'Form Language' (Colour, texture, material)
- Derive inspiration to develop 'Form Language'
- Form development processes
- Form transformation w.r.t functions
- Function detailing
- Essential aspect of detailing through simplicity and purity
- Design for manufacturing & assembly
- Case study of existing products

### **Methodology**

- Teaching will be done with different types of demonstration techniques and case study.

### **Deliverables**

- Different types of presentation techniques to show product form and detail drawings of product with different media

### **References**

- 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
- Warren Hammer, Blueprint reading basics
- Ejner Handberg, Shop Drawings of Shaker Furniture & Woodenware

## **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 Universal Design**

**Subject Type: Common Elective Subject**

**Semester: 2**

### **Objective**

- The objective of the subject is to introduce Universal Design as a design approach to cater needs of wide range of users.

### **Contents**

- Emergence of Universal Design Paradigm
- Meaning and Principles of Universal design with examples from various design spectrums: product-building-information-service
- Paradigm shift of Design - Barrier, accessible, transgenerational, inclusive, universal
- Universal Design in Indian political-social-design context
- Case studies of India and abroad to show process how research and universal design principles have been applied to understand needs of diverse user groups and design for them.

### **Methodology**

- Lecture on Universal Design- emergence, meaning, principles, design paradigm, Indian and global context
- Literature survey will be done by the students to understand how universal design thinking approach is used in design of products-services and environments.

### **Deliverables**

- Knowledge sharing session by student on review of master thesis, research papers, you tube, ted talk, podcast presentations etc. on application of universal design.

### **References**

- Wolfgang, F.E.P. (2011). Universal Design Handbook (2nd ed.). United States of America: The McGraw-Hill Companies, Inc.
- Keates, S. & Clarkson, J. (2004). Countering Design exclusion: An Introduction to inclusive design. Great Britain: Springer-Verlag London Limited.
- Lebbon, C., Clarkson, P.J., Coleman, R., Keates, S. (2003). Inclusive Design: Design for whole population. Great Britain: Springer-Verlag London Limited.
- Steinfeld, E., Maisel, J. (2012). Universal Design: Creating inclusive environments. United States of America: John Wiley & Sons, Inc., Hoboken New Jersey.
- Coleman R., Clarkson, J., Dong, H., Cassim, J. (2016). Design for Inclusivity: A practical guide to accessible, innovative and user centred design.

## **MDES 233 Product Semantics**

**Subject Type: Common Elective Subject**

**Semester: 2**

### **Objective**

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

### **Contents**

- Traditional Semiotics
- The Semantic Turn: Development of Product Semantics
- Designing for a culture

### **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
- Project Seminar Presentation
- Short Paper or Booklet

### **References**

- Balaram, S. "Product Symbolism of Gandhi and Its Connection with Indian Mythology," Design Issues: 5.2 (1989): 68-85.
- Krippendorff, Klaus, & Reinhart Butter. "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.
- Krippendorff, Klaus. The Semantic Turn: A New Foundation for Design. Boca Raton: CRC Press, 2006.
- Norman, Donald. Emotional Design. Basic Books



## **MDES 234 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
- Suguira, 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

# Semester 3

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## 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 303 Design Seminar**

**Subject Type: Compulsory Core Subject**

**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

## **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 Virtual Reality**

**Subject Type: Common Elective Subject**

**Semester: 1**

### **Objective**

- The objective of the subject is to introduce the emerging technology of Virtual Reality for further design applications.

### **Content**

- Theory and Components: Virtual World, Interaction, Hardware, Software, MR, AR
- Evolution of VR
- Applications of VR
  - Design and Architectural Visualization
  - Medical Applications
  - Training and Simulation
  - Tele Operation
  - Entertainment
  - Education
  - Performing Arts

### **Methodology**

- Lectures on Theory and Evolution.
- Demonstration with VR equipments.

### **Deliverables**

- Simulation Models.

### **References**

- E. A. Keshner, "Virtual reality and physical rehabilitation: a new toy or a new research and rehabilitation tool?," *J. Neuroeng. Rehabil.*, vol. 1, no. 1, p. 8, Dec. 2004.
- A. Goto, R. Inoue, T. Tezuka, and H. Yoshikawa, "A research on tele-operation using virtual reality," in *Proceedings 4th IEEE International Workshop on Robot and Human Communication*, pp. 147–152.
- F. Steinicke, "Being really virtual: Immersive natives and the future of virtual reality," in *Being Really Virtual: Immersive Natives and the Future of Virtual Reality*, 2016, pp. 1–166.
- W. R. Sherman and A. B. Craig, *Understanding virtual reality : interface, application, and design*. Morgan Kaufmann, 2003.
- T. Mazuryk and M. Gervautz, "Virtual Reality History , Applications , Technology and Future History," *Virtual Real.*, no. January, 1997.

## **MDES 334 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 335 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**

- 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
- 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,
- Hal W. Hendrick and Brian M. Kleiner, Macroergonomics, CRC Press

## **MDES 341 Design for Sustainability**

**Subject Type: Common Elective Subject**

**Semester: 3**

### **Objective**

- The course intends to introduce sustainability as an integral perspective in design by covering a variety of theoretical and practical approaches. It follows the emerging discourse of Design for Sustainability as a foundation.

### **Content**

- Historical and Theoretical Developments on Sustainability and Unsustainability
- Methods and Approaches
- Design Practices realizing the philosophy
- Future Directions for Design
- Design for Sustainability in the Indian Scenario

### **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**

- Boradkar, P. (2010) Designing Things. New York: Bloomsbury
- 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
- Walker, S (2006) Sustainable by Design: Explorations in Theory and Practice. London: Routledge
- Walker, S (2014) Designing sustainability: Making radical changes in a material world
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- Walker, S and Giard, J. (2012) The Handbook for Design for Sustainability. London: Bloomsbury

# Semester 4

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## 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