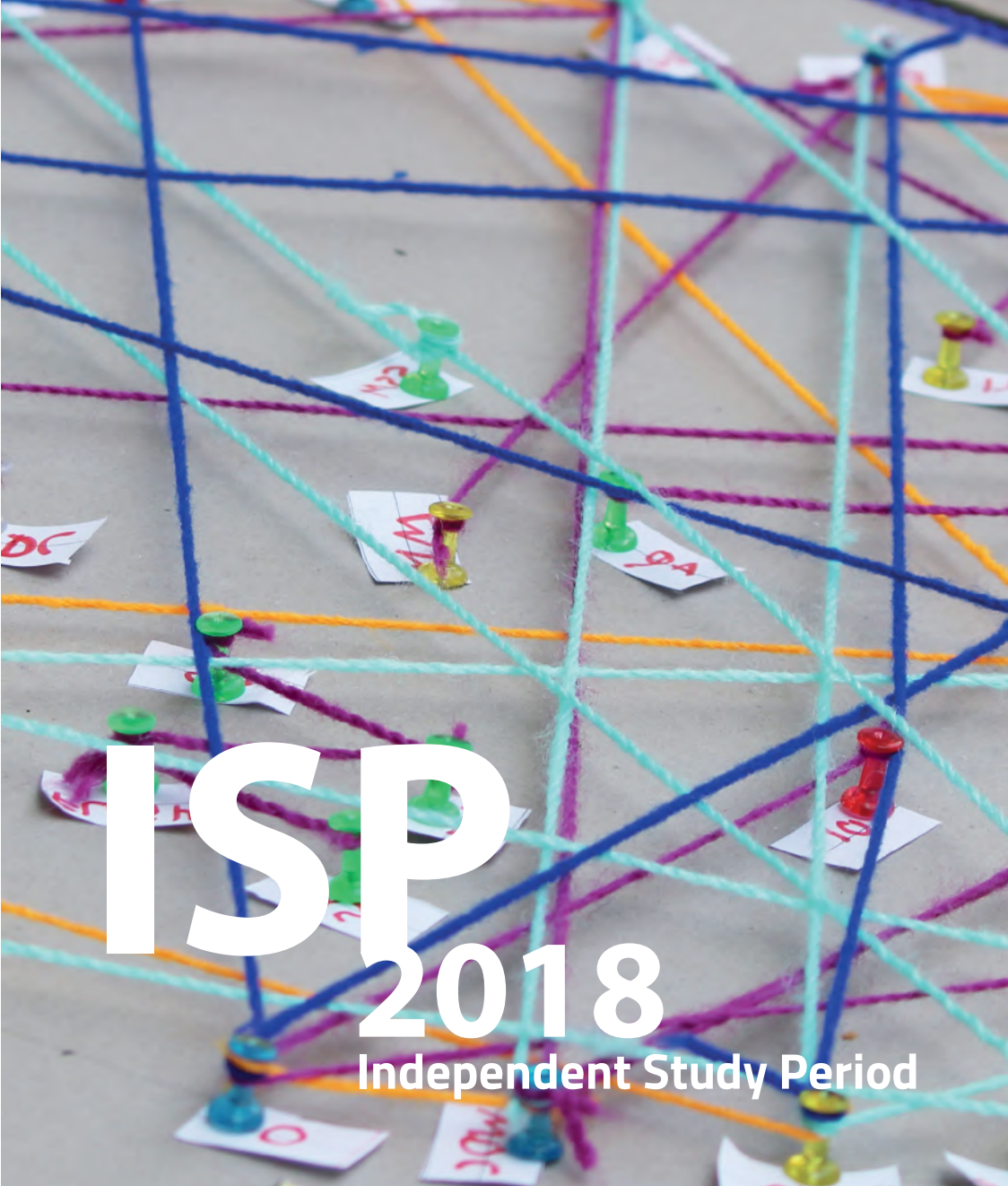




AHMEDABAD  
UNIVERSITY



# ISP 2018

Independent Study Period



Students bring together knowledge from music, physics, biology, material science, and the craft of woodworking. During the course, students draw on all of these disciplines and attempted to construct and play musical instruments of their own design.





## INDEPENDENT STUDY PERIOD

Students often have diverse passions but no means to explore them, especially when those passions are not related to their academic specialisation. The Independent Study Period at Ahmedabad University offers a chance to explore their interests and go beyond the classroom, making their academic learning truly interdisciplinary – and their conceptual understanding more experiential. All this is made possible through consistent collaboration with peers in a project-based environment.

Independent Study Period 2016 & 2017 were unique learning experiences. Spanning two weeks, with over 60 unique courses that ranged from “Design Thinking” to “The Art of Science”, our courses became a crucial tool for students to experiment with new ideas and methods of learning. It advanced our belief in experiential learning through intimate studio workshop and advanced field / laboratory work.

# INDEPENDENT STUDY PERIOD 2018

Independent Study Period 2018 courses are rooted in disciplines like Literature, Sociology, Design, Science, Technology, Heritage, Humanities & Languages, and more – but they cut across areas and specialisations. Rather than following the regular curricular period format, these courses are offered in an 8-hour day format on 15 consecutive days, enabling concentrated learning for students through block courses, studio-inspired experiential courses, perspective, skill building and field courses and innovative experiments in learning.

Every Independent Study Period course must help achieve the following objectives -

- Help ignite a passion or interest in the students.
- Help them surpass disciplinary boundaries. The course shouldn't just appeal to one set of students since the University offers a variety of specialisations in business, engineering, life sciences and computer science and all courses are open for students from all disciplines.
- Help develop a better understanding of theory. Independent Study Period makes sure that learning is not trivialised and academic rigour remains uncompromised.
- Help promote learning-by-doing methodology. All courses follow a hands-on approach and classroom teaching is minimised.
- Help produce tangible physical outputs that can be showcased during the Independent Study Period exhibition. A public exhibition inviting parents, the University community and people from the city at large, will be organised at the end of the Independent Study Period to showcase the work done by our students and faculty. The outcome may be in the form of posters, pictures, products etc.

Course	Instructors	Code	Page
#WethePeople: Democracy and Justice in a Changing World	Aparajita Basu Ashwin Kumar Anurag Laxhlani Karthik Rao-Cavale Noopur Thakur Mary Ann Chacko	ISP060	01
Alice comes to Ahmedabad: Navigating Urban Neighbourhoods	Kaiwan Mehta	ISP061	03
Aravali Exploration: The Future of Gujarat	Mihir Bhardwaj Mackenzie Shreve	ISP062	05
Arts, Engineering and Mechatronics	Ravi Sinha Gaurav Yadav Pankaj Godara	ISP063	07
Biomimicry: Nature Inspired Design Thinking	Prashant Dhawan Seema Anand	ISP064	09
Birds, Birds, Birds	Punit Lalbhai	ISP065	11
City & Human Forms: Paper Pulp Art	Snehal Kashikar	ISP066	13
Clues - The Truth-Finder: Solving the Crime	Ritesh Shukla	ISP067	15
Computational Thinking	Aditya Patel Hiral Vegda	ISP068	17
Creative Writing in English, Hindi and Gujarati	Sanjay Chaudhary Chirag Trivedi Kirit Dhoodhat Harshad Trivedi Ramesh Dave Bindu Bhatt	ISP069	19
Cyber Security	Kuntal Patel	ISP070	21
Design Thinking, Designing Thinking	Aditya Bharadwaj Anand Saboo	ISP071	23
Digital Fabrication with 3D Printing	Prem Sagar	ISP072	25
Drone Development Programme	Ezenith Experts	ISP073	27
Electric Vehicle Development Programme	Ezenith Experts	ISP074	28
Machines, Mechanisms, Automatons	Manish Jain Neeraj Sharma	ISP075	29
Make an Impactful Short Film in Two Weeks	Tanmay Shah	ISP076	31

Course	Instructors	Code	Page
Networks and Behaviour through Themes of Fictional Art Works	Siddhartha Saxena	ISP077	33
Ocean Explorers: She Sells Sea Shells	Shefali Naik Janki Teli	ISP078	35
One Planet: Sustainability Challenges and Solutions	PR Shukla Minal Pathak Subhash Rajpurohit Ashwin Pande Tana Trivedi Arijit Ganguli	ISP079	37
Pop Culture Synthesis: Electronic Music, Engineering, and the Indian Imagination	Janak Rana Ghose	ISP080	39
Scenes from the History of Science	Anupam Arunachalam Aprajith Ramnath	ISP081	41
Secret Lives of Everyday Objects and How to Change Them	Dinesh Korjan	ISP082	43
Shadow Liberation: Participatory Shadow Theatre for Dialogue	Evan Hastings	ISP083	45
Signals, Programming, and Statistical Experiments through Music	Ashok Ranade Vivek Bhatt	ISP084	47
Sociology of Bazaars	Abrar Ali Saiyed	ISP085	49
The Politics of Food	Purvi Vyas	ISP086	51
The Science of Musical Instruments	Srijan Deshpande	ISP087	53
Tinkering with Paper Circuits 2.0	Prem Sagar	ISP088	55
Understanding Neighbourhood: From Local to Global	Sudhir Pandey Jeemol Unni Neel Kamal Chapagain Manish Datt Ajay Karakoti Heena Timani	ISP089	57
WWW: Window to the World of Water	Ashutosh Kumar Saptam Patel Sara Ahmed Siddhartha Saxena Snighda Khuntia Srikrishnan Divakaran	ISP090	59



## Abstract

What is a democracy? And what is its relationship to justice? What do we want democracies to be like in the 21st century? In this course students will formulate answers to these questions using an interdisciplinary and hands on approach to theoretical concepts. For three action-packed weeks, they will explore a wide range of debates, exploring topics like consent, representation and rights. They will also examine how and by who knowledge is formulated, and what procedures have to be in place for democratic decisions to be upheld. Perhaps most importantly, they will take on the challenge of determining how to develop democratic thinking or the idea of searching for overlapping consensus, particularly in contexts where people have divergent views.

## Methodology

This course will employ a learning-by-doing methodology. Class time will compose of faculty led introductions to concepts, followed by student work (in groups or individually) for 5-6 hours every day.

## Outcome

Students will organise a class election. They will design the promotional campaigns for a number of imaginary parties, factoring in their stated official positions on a number of critical issues. At the end of the course, the audio-visual material for these campaigns will be exhibited, alongside the results of the election.

## Requisites

Students who are interested in history, politics, communication management with respect to the issues in a deocracy.

## Class Strength

60



## Instructors



**Anurag Lakhani** completed his Bachelor of Engineering from L.D. College of Engineering, Ahmedabad, and Master of Science in Electrical Engineering from The University of Texas at Arlington, USA. He worked in Silicon Valley, California, USA, with a premier electronics company for about four years. At the School of Engineering and Applied Science he teaches courses in BTech and MTech. He is Chair of MTech Programme in CSE.



**Aparajita Basu** is an Assistant Professor in the Humanities and Languages division of the School of Arts and Sciences. Her research is broadly focused on the intellectual and cultural history of the subcontinent in the nineteenth and twentieth centuries.



**Ashwin Kumar** has 10 years experience in teaching and research in Cultural Studies. He has worked in Higher Education grant design and policy review, alongside being a literary and academic translator. He has PhD in Cultural Studies and has worked at the Higher Education Cell at Centre for the Study of Culture and Society, Bangalore.



**Karthik Rao-Cavale** has joined the School of Arts and Science, Ahmedabad University, in July 2018. He was a doctoral candidate at the Department of Urban Studies and Planning at the Massachusetts Institute of Technology.



**Mary Ann Chacko** is an Assistant Professor in the School of Arts and Sciences. She has a doctorate in Education and her research interests include critical childhood studies, citizenship education, police training in schools and gender issues in education.



**Noopur Thakur** obtained her PhD from the Department of Animal Development and Genetics, Uppsala University, Sweden. Her research work is focused on TGF-beta-signaling. She explores its role in cancer, as well as in maintaining the epigenetic state of the cells. She has a patent for her work and more than ten publications in premier journals. She received the prestigious 'Swedish Cancer Fonden Grant' for her work in cancer cell metastasis.

## **Abstract**

Based on the book Alice in Bhuleshwar, the studio will develop ways to see and understand urban spaces and situations. The city is imagined as a complex network of neighbourhoods - and these neighbourhoods are composed of built spaces, architectural ideas, social relations, cultural networks, migration histories, memory and events. The neighbourhood reflects in many ways the way we live within families, people around us and ultimately the world at large; the neighbourhood is a cosmos of a kind. The studio will work towards a comprehension of neighbourhoods and the sense of a city at large.

## **Methodology**

Reading and seminar classes, Walking through different urban areas, Recording and noting observations and Learning and exploring representation techniques

## **Outcome**

Graphic diary, Photo-books, Object-books, Story Boxes

## **Requisites**

Students of varying interests and capacities; however, working with hands and some experience of craftwork may help.

## **Class Strength**

30

## Instructor



**Kaiwan Mehta** is a theorist and critic in the fields of visual culture, architecture, and city studies. He authored *Alice in Bhuleshwar: Navigating a Mumbai Neighbourhood* (Yoda Press, New Delhi, 2009) and *The Architecture of I M Kadri* (Niyogi, New Delhi, 2016). Since March 2012 he has been the Managing Editor of *Domus India* (Spenta Multimedia) - the India-edition of the international *Domus* magazine on Art, Design, Architecture and City Studies; and writes prolifically on architecture, aesthetics, and cities. He is also Professor (adjunct) and coordinator of the Doctoral Programme at the Faculty of Architecture, CEPT, Ahmedabad since 2017.





## Abstract

Trek, camp, reflect and engage. Stretching from Delhi in the northeast across Rajasthan, until it fans out and dissipates in Northern Gujarat, the Aravali Range has played a critical role in local geographical development, remarkably blocking the great Afro-Asian desert from entering the heartland of India, and continues to play a crucial role in the healthy economy and ecology of its bordering states. How a mountain range can form history, economics, culture and development can only be understood by experience and exploration. Thus, the students will explore the Aravalis, deep into tribal lands, by camping and trekking to engage in historical perspectives on culture, geography and anthropology which lend insights into natural design, human development, modern development and designs of harmony.

## Methodology

Students experience trekking in the forest and simple living in a village. A main aspect of our method of facilitating learning is to engage the students in a space and activities away from the city and their normal lives with careful facilitation and reflection.

## Outcome

Posters visually explaining the importance of the Aravali. Creative display based on the research conducted.

## Requisites

All faculties and students interested in moving out of their comfort zones.

## Class Strength

25

## Course Fee

Rs. 10,000 (Includes travel to Aravalli for 10 days)



## Instructors



**Mihir Bhardwaj** has widespread experience in fields such as education, wildlife, adventure sports, youth programming, professional training, cultural exchange and outdoor adventure cum sensitisation activities for groups of all sizes and backgrounds. He has over 20 years of experience working with tribal communities towards sustainable solutions.



**Mackenzie Shreve** has a BA in Theology with a minor in Leadership from Loyola University, Chicago, USA, after which she traveled to India to understand social justice in relation to the global agriculture industry. After settling in India, she has continued to build her understanding of local culture, food systems and government to support sustainable agricultural practices and marketing that supports small farmers.



## Abstract

Students will have hands-on experience of working with electronic circuits, sensors, actuators, gears etc. to understand the logic and underlying mechanisms. They will learn the scientific principles behind the new and upcoming technologies without going into the theoretical complexities. The focus of the course will be more on application building. This will help them in visualising and innovating new product ideas for day-to-day applications. In the process, they will learn methods of problem-solving. This would be a great way to expose students to interdisciplinary domain.

## Methodology

Hands on enquiry based pedagogy, Flipped classroom model.

## Outcome

Making of working models - A robot doing Aarti, A robotic Frog, A working model which mimics real life JCB, A car which draws various kinds of wave forms - sine wave, triangular wave etc.

## Requisites

Anyone with a desire to learn and work hard with enthusiasm.

## Class Strength

20

## Course Fee

Rs. 2000



## Instructors



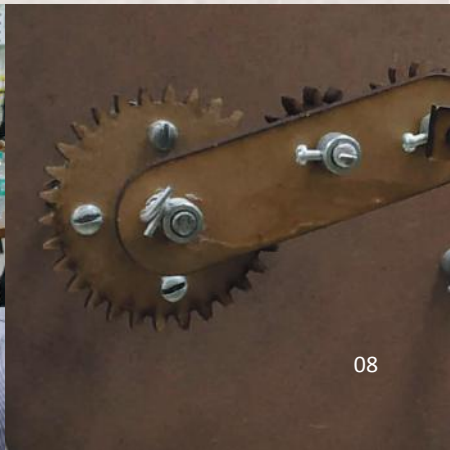
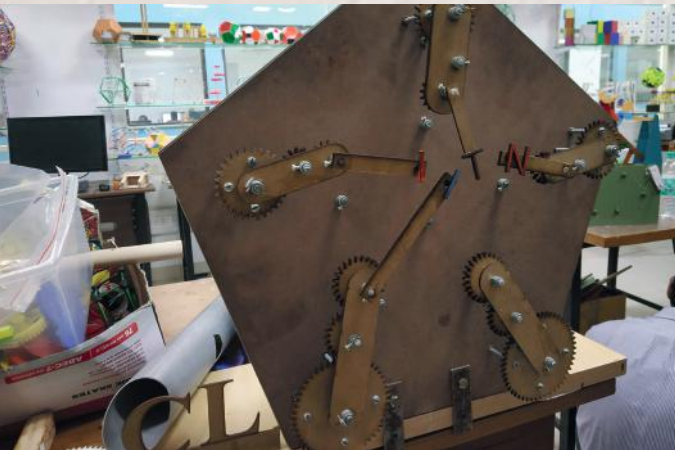
**Ravi Sinha** completed his undergraduate from IIT Delhi and MA in Education from TISS Mumbai. He is currently Co-Founder of CCL at IITGN and is passionate about designing experiences which can make learning more meaningful and joyous for children. He is working in ed-tech space for the last 5 years wearing various hats.



**Gaurav Yadav** completed his undergraduate degree in Chemical Engineering from IIT Bombay in 2015. After working for over a year in Reliance, he realised it was not something he wanted to do his entire life. Since then, he is working in the field of education, working with teachers, students and professors to make engineering, science and math education interesting and relevant to modern times.



**Pankaj Godara** completed his undergraduate degree in Electrical Engineering from MIT Bikaner. He loves to make science and mathematics concepts easier for children and teachers, using simple demonstrations. He has been working for the last 4 years, inspired (mentored) by Dr H P Vyas (Former Director of DRDO), towards making experiential learning accessible to children.



## **Abstract**

This course will provide an introduction to biomimicry, a new discipline that looks at nature as a source of ideas and solutions to help solve human challenges. Each day during the course, students get to see and learn something new about the amazing patterns, designs and solutions in nature. They will also get to play learning games and go outside to explore nature. The course teaches about biomimicry tools and methodology that students can apply as a group project to develop a nature inspired innovation/solution to a human challenge.

## **Methodology**

The course will be taught through lectures and presentation sessions interwoven with learning games and exercises (to help students understand the biomimicry concepts). The students shall go on field trips to observe, reconnect and identify patterns in nature. They shall also have In-class discussions and student presentations (peer learning).

## **Outcome**

Physical model/models of explorations of biology in terms of function (looking at nature functionally). Design explorations (in various media including a short movie): the group projects of the participants –

- Design challenge - Integrating Biology in Design (or)
- Biophilia

## **Requisites**

All students, preferably those who are interested/inspired by nature and have a spirit of inquiry and innovation.

## **Class Strength**

25



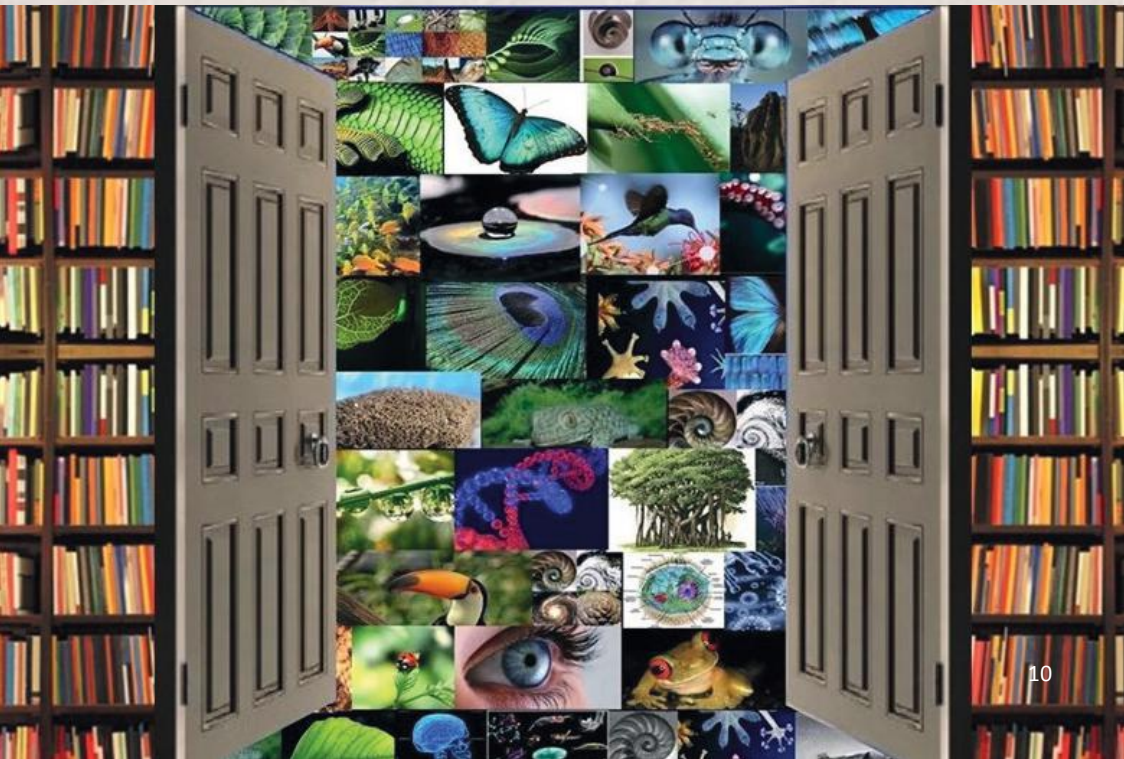
## Instructors



**Prashant Dhawan** is the co-founder of Biomimicry India. He holds a Master of Science degree in Biomimicry from the Arizona State University and Biomimicry Professional Certification from Biomimicry 3.8, USA. He also holds a degree in Architecture from SPA Delhi, and an PGDM from ISB Hyderabad. A TEDx speaker, he has conducted workshops and talks in many institutions including ISRO, Rolls Royce, NID & IIT.



**Seema Anand** is a Biomimicry Specialist (Biomimicry 3.8 Institute, USA, 2011) a practicing Architect in Bangalore. She is a visiting faculty in RV College of Architecture, Bangalore, India. She is the co-founder of “Biomimicry India Network” and also the co-founder of “Biomimicry India Lab and Studio”, a company which consults and undertakes research in the field of biomimicry.



## Abstract

This course will have you become wildlife biologists (ornithologist) for 10 days. There are three main components: Become a birder and bird-lover in 3 days flat: Learn about birds, their ecology, habitats and behavior. This is also your preparation to become effective in the field. For instance: How do you identify birds with your eyes closed? What are the resources available to enrich your birding experience? What are the dynamics of bird flight? How do birds get their colors? Why do birds behave the way they do? Explore Kutch as your laboratory: A great deal of learning (especially about behaviour, community dynamics, habitat associations) will happen in the field. We will have almost a daily field component.

## Methodology

The bulk of the learning is through field observations, and doing independent (but guided) research that deepens the learning obtained in the field.

## Outcome

Coffee table book on birds.

## Requisites

Anyone with a sense of wonder about birds, beautiful landscapes and an interest in ornithology.

## Class Strength

15

## Course Fee

Rs. 10,000 (Includes travel to Polo Forest and Kutch for 6-7 days)

## Instructor



**Punit Lalbhai's** fascination with birds started when he was 3. He has a bachelor's degree in conservation biology from University of California, Davis, and a Masters in Environmental Science from Yale University, both of which enabled him to study birds and bird communities across North America, Africa and India. Punit then went on to get an MBA from INSEAD, France, and now works for Arvind Ltd on developing business models that function at the intersection of sustainability, material science, engineering and conservation.





## Abstract

The course engages students in combination of arts practice and humanities studies area. It encourages students to observe and record human life in a city landscape. To capture everyday life in marketplaces, that are crowded, paced and temporary in nature. Examining people through photography with various theme and topic related to their postures, moods, actions and ethos. They will develop a new perspective or story based on field photography and interviews. This individual interpretation will be visualised through the medium of paper pulp art. Paper pulp is a beginner's modelling material that offers great opportunity to explore one's creative talents.

## Methodology

Document, draw, write based on observations of everyday experience. Introduction to tools, materials and techniques through demonstration. Hands-on experience of making through guided individual projects. Group discussion, Individual feedback and critique on final work.

## Outcome

Hand painted and detailed forms in paper pulp.

## Requisites

Anyone with interest in arts, crafts, photography, writing, blogging, story telling.

## Class Strength

20



## Instructor



**Snehal Kashikar** is an Ahmedabad based ceramic artist, instructor and practices from her ceramic arts studio. She has received Diploma in Textile Design (2002) from VJTI, Mumbai. Her journey as a ceramics artist begun while pursuing a Diploma in Ceramics & Pottery (2007) at LS Raheja Institute, Mumbai. She has keen interest in hand built forms in clay, form appreciation and glaze development in terracotta clay and earthenware ceramics.



## Abstract

Crime investigation is the crucial step in solving the mystery behind a crime. In this investigation process, clues play a significant role as a truthfinder that helps to solve the crime. There are various scientific methods available that can help detect and identify the clues. These scientific approaches also reconstruct the crime event and establish the link among clues, crime and the suspect or victim. In this course, students will learn to recognise, detect and identify the different types of clues (Fingerprint, Foot/shoeprint, forged documents, blood pattern etc) which are usually found at the crime scene and establish its link with the crime scene, suspect or victim.

## Methodology

Problem/Case based learning, Mock crime scene, Observation and Experimental based Learning.

## Outcome

In the expo, students from this course will display a model of a crime scene investigation process.

## Requisites

Students who like solving mysteries and are fascinated by the science behind forensics.

## Class Strength

20

## Course Fee

Rs. 2500 (Includes crime scene kits)

## Instructor



**Ritesh Kumar Shukla** is working as Assistant Professor in Biological and Life Sciences, School of Arts and Sciences, Ahmedabad University. He completed his masters in Forensic Science and PhD in Toxicology. He is a trained fingerprint expert from DFS Forensic Science Laboratory, Gandhinagar, Gujarat. He is also serving Tata Consultancy Services (TCS) as a Subject Matter Expert in the field of Forensic Biology. At Ahmedabad University, his research interest is focused on Forensic Biotechnology (developing Biosensing platform) and Food Forensics.





## Abstract

Computational Thinking is an approach to problem solving which can be applied in different disciplines. Computational thinking refers to the thought processes involved in expressing solutions as computational steps or algorithms that can be carried out by a computer. Computational Thinking describes the processes and approaches we draw on when thinking about how a computer can help us solve complex problems and create systems. We often draw on logical reasoning, algorithms, decomposition, abstraction, and patterns and generalisation when thinking computationally. It is essential to the development of computer applications, but it can also be used to support problem solving across all disciplines, including the management, engineering, arts and science.

## Methodology

The course will have activities and demonstrations to explain different techniques of computational thinking. For classroom engagement, problem based learning pedagogy will be used. The course will also have interactive and hands-on learning in studio/lab type environment.

## Outcome

Prototypes and computer demos of projects/solutions created by student groups while working on different problems of their interest.

## Requisites

Anyone with a penchant for problem solving and programming.

## Class Strength

25



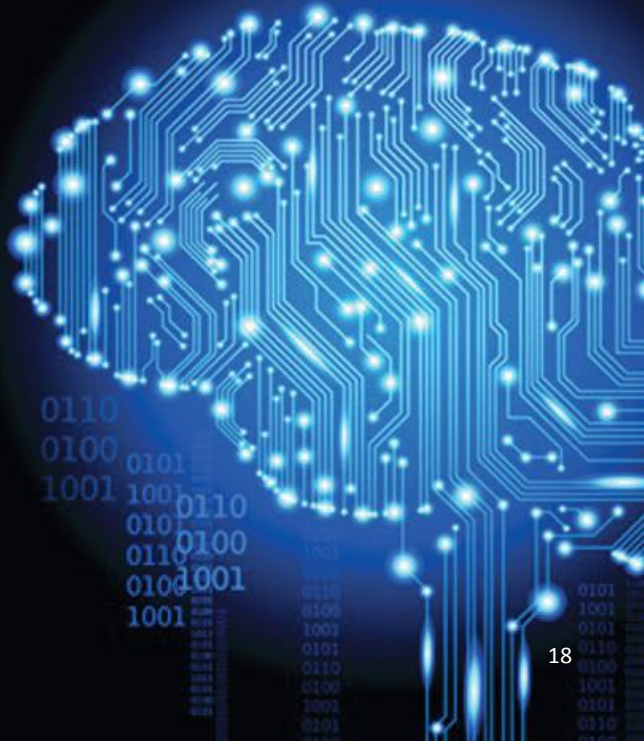
## Instructors



**Aditya Patel** is Assistant Professor and Programme Chair (Integrated MCA) at School of Computer Studies, Ahmedabad University. He holds a PhD in Computer Science with more than 15 years of academic, research and industry/consulting experience in the field of computer science and its applications.



**Hiral Vegda** is a lecturer at School of Computer Studies, Ahmedabad University. She is a faculty sponsor of Association of Computing Machinery-Women student branch committee. She has more than 12 years of academic and research experience in Computer Science and its applications.



## Abstract

The course will introduce to course-participants, various approaches to creative writing. By reading celebrated pieces of literature and through discussions on genres, techniques, language and feedback on their creative attempts, the course will enable participants to create a portfolio of their rough, as well as finished pieces of prose and poetic expressions.

## Methodology

Talks, discussions, simulations reading and writing sessions and discussions with known creative writers.

## Outcome

A printed book and/or individual portfolios of creative expressions - working ones, finished pieces and also creative expressions initiated.

## Requisites

Those who take interest in writing poems, stories, blogs; who have been trying a hand at these.

## Class Strength

25

## Instructors



**Sanjay Chaudhary** is working as a Professor and Associate Dean at School of Engineering and Applied Science, Ahmedabad University. Earlier, he worked as a Professor as well as Dean (Academic Programs) at Dhirubhai Ambani Institute of Information and Communication Technology (DA-IICT), Gandhinagar, India. Gujarat Sahitya Academy has awarded second prize to his book on 'Girnar' under 'Essays and Travelogue' category for the year 2009. He loves literature, music, travel and wildlife.



**Chirag Trivedi** is a Faculty in Communication Area at Ahmedabad University, India. He is pursuing PhD on Reflections of Elitism in Gujarati literature. His interests lie in Identity politics in literature, Partition Literature, Dalit Literature and Culture Studies. He is presently involved in teaching courses on Literature, Culture Studies, Business Communication and Gender Sensitisation. He fondly takes to creative writing and translation of literary texts.



**Kirit Dhoodhat** is a retired IAS officer and winner of several awards in literature like Gujarat Sahitya Akademi award, Gujarat Sahitya Parishad award etc.



**Harshad Trivedi** has written poems, short stories and novels. He was the editor of 'Shabda Shrushti' magazine published by Gujarat Sahitya Academy.



**Ramesh Dave** was the Director of K L Swadhyay Mandir, Gujarati Sahitya Parishad. He has written novels, short stories, and several edited volumes. He was the editor of 'Parab', a magazine published by Gujarati Sahitya Parishad



**Bindu Bhatt** is a Gujarati language novelist, short story writer, critic and translator from Gujarat, India. Her novel Akhepatar (1999) have awarded the SahityaAkademi Award for the year 2003.



## Abstract

Use of the Internet has become more central in our daily life. Cyber-attacks are easier due to high Internet penetration and poor awareness about Cyber Security. Recent Cyber awareness survey indicates that many users of digital devices have little awareness about the fundamentals of Cyber security. Hence, data stored on digital devices are more susceptible to cyber-attacks. This course helps students to understand the fundamentals of Cyber security and make their surfing and digital transactions safe over the Internet. The students will also understand how malicious codes (like virus, ransomware etc.) work and learn about prevention mechanisms to protect digital resources from such attacks.

## Methodology

The course will be delivered through classroom discussion, demonstration of security tools, case study and laboratory practices.

## Outcome

Students will be able to exhibit Posters (with live demonstration) during an Expo related to: cyber-attacks and their prevention mechanisms. Performing safe financial transactions over Internet, securing personal data on digital devices, detecting fake websites and forged images, email forensics - detecting source/location of email sender, e-commerce security and computer/mobile forensics.

## Requisites

Anyone keen on learning about cyber security and their solutions.

## Class Strength

25

## Instructor



**Kuntal Patel** is currently working as an Assistant Professor at the School of Computer Studies, Ahmedabad University. He is a certified Cyber Security Professional. He has published more than 25 research papers at International and National Journals and Conferences.



## Abstract

Design enables beneficial change to happen on its own. Design Thinking enables design to happen on its own. There are a lot of methods for ideation, creativity, representation, mockups and prototyping and so on, available today. However, if the designer is not in the right frame of being (in mind and body), all these techniques do not prove very useful. This is what we observe in daily life, and this observation brings about some interesting questions.

'Design Thinking, Designing Thinking' as a course brings together the knowledge from design, modern sciences, even fiction like Sherlock Holmes, as well as ancient sciences of our Vedic scriptures to bring the best wisdom about design thinking for all students.

## Methodology

The course methodology will be based on a daily mix of theory, on-the-spot assignments and homework. Every day, students will be introduced to some concepts, which will build up into a fuller understanding of design thinking. During or after this, they will be given in-class or around campus assignments.

## Outcome

Students will be making tangible charts, and probable mockups for give their ideas a physical form.

## Requisites

Students with an open mind, willingness to learn, read and reflect, willingness to try new things and an eagerness to ask questions and seek answers.

## Class Strength

30





## Abstract

Opening multiple avenues of exploration, 3D printing helps you realise all your ideas into tangible products. 3D printing -- also known as additive manufacturing -- turns digital 3D models into solid objects by building them up in layers. It is one of the most amazing rapid prototyping techniques ever conceived. 3D printing has so many multi-disciplinary applications in the fields of Education, Design, Architecture, Manufacturing to name a few. This workshop is meant for students, hobbyists, designers, engineers and every creative person who hasn't explored 3D printing yet.

## Methodology

The course will follow a complete hands-on approach wherein students will be learning to take their ideas from a mere thought to digital design and then a physical prototype. The students will be learning CAD design softwares to bring alive their ideas and how-to (hands-on) use a 3D printer & 3D pen to print them in 3D. During the course, we will have multiple team-based projects enabling peer learning and collaboration.

## Outcome

Students will be creating their ideas and CAD designs into physical prototypes using a 3D printer.

## Requisites

Anyone with interest in exploring new technologies and fabrication. Prior exposure to modeling, designing or architecture will be a plus point.

## Class Strength

35

## Course Fee

Rs. 3000 (Includes certificates)

## Instructor



**Prem Sagar**, Founder & CEO, Banaao - A Makers' Playground, Visiting Faculty, Pearl Academy, BE, Instrumentation & Control Engineering, NSIT (Delhi University). An Engineer by qualification, he is an avid geek and is always keen to solve problems by using hardware technologies. He is a full-time 'Maker & Manager' and is the founder of Gurugram's first Makerspace, Banaao- A Makers' Playground, which is a multi-disciplinary innovation lab for people of all ages.





## Abstract

This course aims to make the students well trained in terms of understanding the elements involved in Drone building and functioning. The course also aims in getting the students participate in the training sessions more proactively, to get a better understanding of the industrial expectations and get real time industrial experience.

## Methodology

The programme comprises mainly of practical and technical know how, supported with theoretical knowledge for better understanding. Experts from the industry shall be visiting to give the participating students an insight of the industrial functionalities by providing hands on experience through their expertise.

## Outcome

The participating students shall be learning to construct their own individual Drones.

## Requisites

The participating students shall be learning to construct their own individual Drones.

## Class Strength

40

## Course Fee

Rs. 5000

## Instructors

**Ezenith Education** works closely with many industries and businesses to provide professional and academic training. The lead instructors of this course would be Ezenith experts who have several years of experience in drone engineering and development, including mentoring of similar projects for the Indian Army.

## Abstract

In this course the students would be taught everything about electric vehicles right from the basics to the advance technologies. They would be given training on motors, batteries, battery management system and powertrains.

## Methodology

Each programme comprises mainly of practical and technical know how, supported with theoretical knowledge for better understanding. Experts from the industry shall be visiting to give the participating students an insight of the industrial functionalities by providing hands on experience through their expertise.

## Outcome

Student build an e-bike

## Requisites

Anyone interested in building electric vehicles, automobile enthusiasts. No prior knowledge of engineering necessary.

## Class Strength

40

## Course Fee

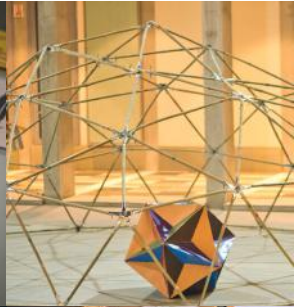
Rs. 5000

## Instructors

**Ezenith Education** works closely with many industries and businesses to provide professional and academic training. The lead instructors of this course would be Ezenith experts who have several years of experience in working on hybrid and electric vehicles, in automobile companies like L&T.







## Abstract

In this course, we will uncover concepts behind various interesting real life motions. We will design and build working prototypes of different kinds of automata. These automata are also used by animation studios like Disney to make animated films. 3D CAD software will be used to understand, design and create the mechanisms which will be used to fabricate the machines. The fabrication will be done using a laser cutter. Example of automata are coin picker, man pushing a wall, spider walker and our latest Pentapod.

## Methodology

Hands on enquiry based pedagogy, flipped classroom model.

## Outcome

Coin picker machine, man pushing wall, walking Bot.

## Requisites

Anyone with a desire to learn and work hard with enthusiasm.

## Class Strength

20

## Course Fee

Rs. 2000



## Instructors



**Manish Jain** is an IIT Kanpur Alumnus who worked in the area of Chip Design in the US. When he returned to IIT Kanpur after 25 years, a chance meeting with Padmashree Arvind Gupta triggered him to dive into the space of popular science education full time. Manish currently heads the Center for Creative Learning (CCL) at IIT Gandhinagar which aims to provide an ideal space and environment to learn and understand engineering and science concepts joyously.



**Neeraj Sharma** completed his undergraduate degree in mechanical engineering from MDU Delhi. He started working in Eureka Forbes and later shifted to take a role of product designer in the toy manufacturing company Topsun. He is a maker at heart and spends most of his time in lab tinkering, coming up with new ideas and converting them in to product form.





## Abstract

The course work will introduce students to basic film-making process. The three major building blocks of films- Pre-Production, Production and Post-Production will be taught. It will teach them to conceptualise and write executable scripts and screenplays. The logic and techniques of writing a gripping and engaging short film will be taught. It will also be an introduction to the following, but not limited to, film-production, shoot scheduling, shot divisions, art direction, light arrangement and sound recording. The basic cameras, light equipment and sound recorders functioning will be demonstrated. Set design and art direction basics will also be taught besides film editing.

## Methodology

The entire course-work will be a Learning-by-Doing exercise of each stage of film-making. The entire process will help students convert their presentations or reports into videos for their future projects.

## Outcome

A short film.

## Requisites

Anyone with an interest in story-telling, script writing or film making. Film enthusiasts are also welcome.

## Class Strength

25

## Instructor



**Tanmay Shah**, Founder & CEO at FridayFictionFilms is a former Research Associate at IIT-Bombay. He holds a Limca Book of Record, India Book of Record, Asia Book of Record and Golden Book of World Record for making 52 short films in 52 weeks in 2015. His short documentary- Pinch of Salt has won 15 international film festival awards and has been screened in more than 10 countries.



## Abstract

Matrix trilogy, Harry Potter series, Game of Thrones series, Lord of the Rings (LOTR) are some of the most successful literature and motion art works. Utilising them for various purposes of learning have also experimented successfully. Learning through unconventional sources like movies, fiction literature and television series increases the engagement, involvement, and interest among the students. This course is based on the similar experiment of teaching with an objective to introduce ego-networks and behavioral dynamics to participants. The inclusion of alternative study material aims at multiple learning outcomes like strong network interactions among the different characters and a lot of strategy, game theory coming into the picture to look at the outcomes.

## Methodology

Classroom discussions and exercises will be conducted. Participants will engage in classroom simulation to understand the ego-networks and social networks. Software packages NODEXL and GRAPHI will be introduced to the students.

## Outcome

1. Ego-Network diagrams of various fiction literature, movies, and television/web series
2. Network diagrams of one social application interaction
3. Games indicating innovation and strategy

## Requisites

Anyone ready to learn by doing.

## Class Strength

24

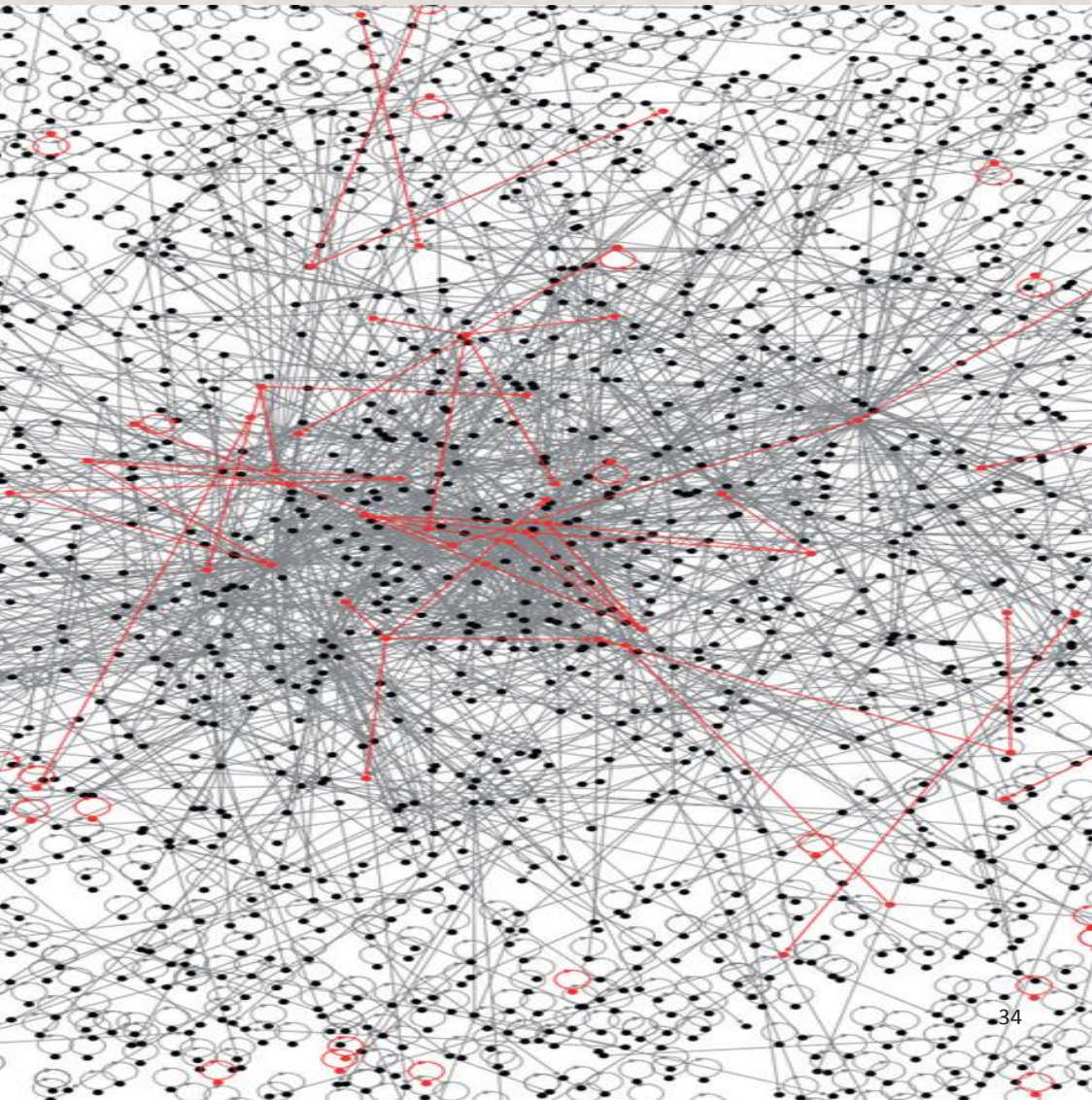


## Instructor



**Siddhartha Saxena** is a faculty in Management and Organisation. His area of interest is network theory. He is interested in movies and travelling, which have also been inspirations for the course.

### Network diagram for #metoo in India (in first 30 minutes)



## Abstract

Of the 70% water covering the Earth, more than 90% is actually marine water or salt water in oceans. Seas forming a complex web of ecosystems are holistically known as Marine Ecosystems. There is more life in these ecosystems than anywhere on the land, and a lot of them are unique, unexplored and unknown. The oceans are a significant source of oxygen for our planet and are instrumental in the storage of carbon dioxide. They are not only home to the animals but also innumerable plant species. This course is designed to give a glimpse of these exclusive and exceptional ecosystems and how they are important for the survival of mankind.

## Methodology

One of the most important method of learning in this course is experiential learning and hands on learning through a field visit to the coastal area, where students explore, discover and learn. The other method that will be employed is usage of hands-on activities, informative movies and documentaries, along with group discussions. The students will learn the basics of GIS through GIS application like Quantum GIS.

## Outcome

GIS based maps, short documentary on different aspects of marine ecosystems, algal cards for preservation and identification of marine algae, photographic posters with key messages of conservation.

## Requisites

Anyone who has interest in nature and marine life.

## Class Strength

15

## Course Fee

Rs. 4500 (Includes travel to Jamnagar for 3 days)



## Instructors



**Shefali Naik** is an Assistant Professor at the School of Computer Studies, Ahmedabad University. She is an author of the book Concepts of Database Management System. She has presented and published papers in national and international conferences and journals. She has a deep interest in Wildlife and Bird Watching.



**Janki Teli** is a naturalist working in the field of wildlife research, conservation and education for the last 15 years. She has a passion for interacting with students and spreading the message of nature conservation.





## **Abstract**

Human activities have overwhelmed the planet. From depleting resources, climate extremes, land degradation, food insecurity, unsustainable consumption, unequal access, pollution, ecosystem degradation and extinction of species- the challenges of sustainability span spatial and temporal scales. On the other hand, an increasing interest has emerged in the solutions space. This poses multiple questions: What are the key sustainability challenges facing the humanity? How do we measure environmental footprints? How do we assess uncertainties and risks? Who bears the burden of costs and risks? Can we make our consumption behavior sustainable? Is technology a panacea for addressing such questions? How do we create, replicate and upscale innovative ideas? How do we evolve a just governance system to share costs and benefits equitably? In what conditions should we transfer the planet to our future generations?

## **Methodology**

The course will be taught in the studio format, in groups. The emphasis will be on learning by doing - simulation games, mapping and surveys, calculations, model making, negotiation and consensus building (mock-UN climate negotiations), simple outdoor environment activities.

## **Outcome**

Survey reports, maps, models, posters, skits, videos and presentations.

## **Requisites**

Anyone with an interest in sustainability and problem solving.

## **Class Strength**

60

## Instructors



**PR Shukla** holds the position of Co-Chair, IPCC Working Group III (Mitigation) since October 2015. He is the Chair of the Global Centre for Environment and Energy at Ahmedabad University. He has a doctoral degree from Stanford University and have been a Professor at the Indian Institute of Management Ahmedabad since 1979.



**Minal Pathak** is a Senior Scientist with the Technical Support Unit of the Mitigation Working Group III of the UN Intergovernmental Panel on Climate Change. She coordinates activities at the Global Centre for Environment and Energy, Ahmedabad University. Professor Pathak holds a PhD in Environmental Science and she is a Visiting Researcher at Imperial College London.



**Subhash Rajpurohit** is an Assistant Professor in Biological & Life Sciences, at the School of Arts and Sciences, Ahmedabad University. His laboratory currently focuses on 'organismal responses to climate change' and projecting Indian drosophilids as a natural laboratory for evolutionary biology.



**Ashwin Pande** is an Assistant Professor of Mathematics in the School of Arts and Sciences, Ahmedabad University. Apart from teaching, he conducts research into subjects of his interest. Presently, his research work is in two main fields: Topological T-duality, a relatively new branch of Topology and Geometry inspired by the T-duality symmetry of String Theory.



**Tana Trivedi** is a lecturer of English Literature and Communication at Ahmedabad University, Gujarat, India since May 2015. A graduate and postgraduate in English Literature from St. Xavier's College, Ahmedabad, she completed her M.Litt. in Postcolonial Diaspora from University of Stirling, UK.



**Arijit Ganguli** received his PhD from the Institute of Chemical Technology, Mumbai. He has more than eight years of experience in the chemical industry and has worked across the breadth of the domain, with projects spanning computational fluid dynamics of multiphase flows, process modelling.

## Abstract

How can young Indians take charge of the kind of musical culture India is known for globally? This course will give students an insight into how, with a focus on “indie” music in the country. We will provide some history on what has been happening in “indie” music since 2010, where we are now with regards to this new culture, but more crucially, how students can put up their own events. The goal is to help them create their own future of what Indian pop culture can be, and to present an inspired vision that can foster real change.

## Methodology

The module is guided by a participatory action research framework to ensure students are not merely listening to instructions, but actually gaining new skills and perspectives by engaging with new ideas, disciplines, and contexts.

## Outcome

A musical showcase at the end of the process that can

1. Utilise an interesting space in the city,
2. Present an outcome showcasing the technical expertise of the engineering students, and
3. Bring a novel means of engaging with partners to generate revenue streams.

## Requisites

Students with a love for music.

## Class Strength

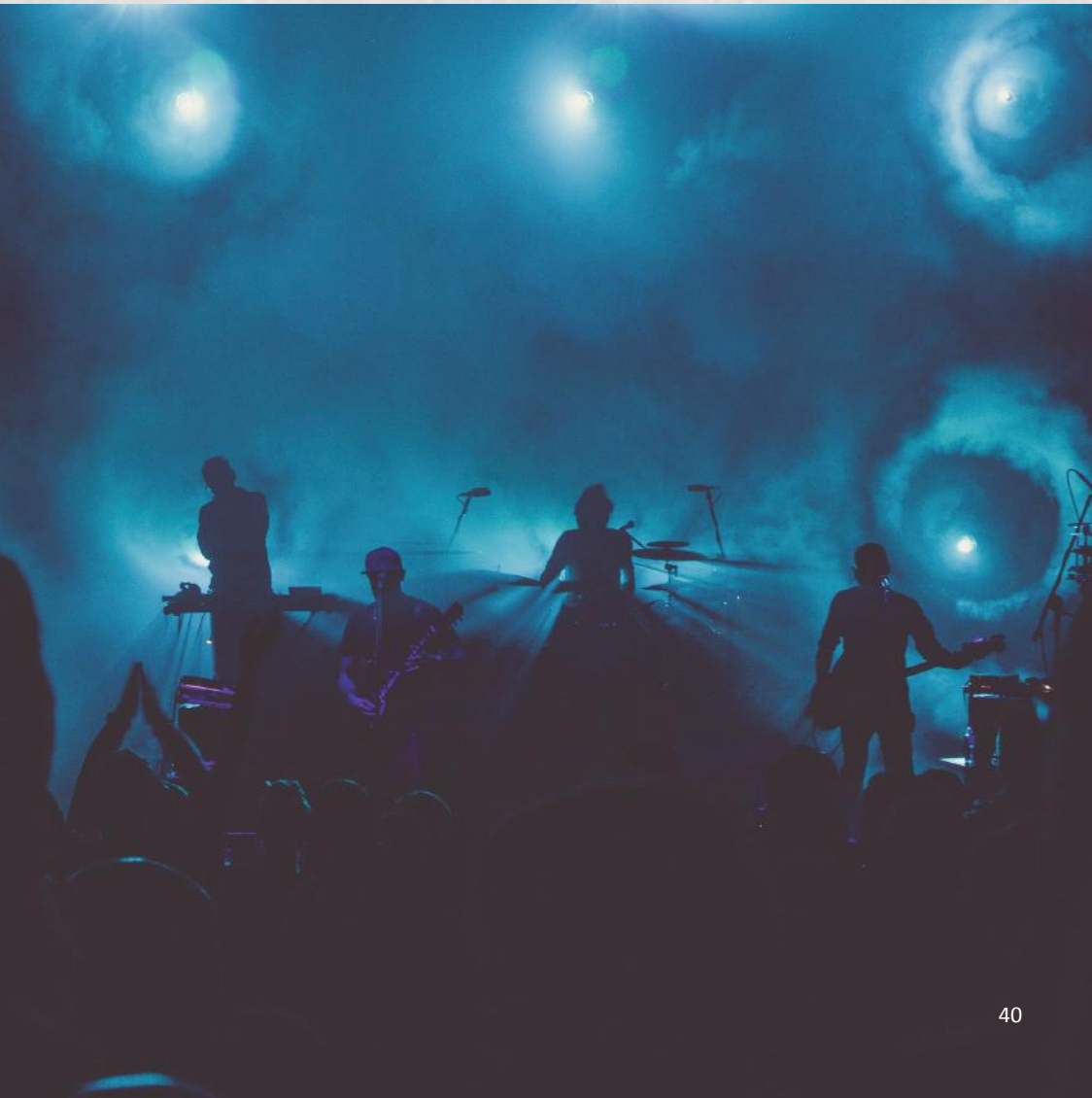
20



## Instructor



**Jank Rana Ghose** steers REProduce collective, an artist and event incubator. His current focus is REProduce Listening Room, a series of interventions in non traditional spaces that engage with music and video in modular, sequential plays - taking advantage of the aesthetics of spaces as varied as former mills, bakeries, and hotels, and producing them into five hour embedded experiences. His doctoral research was on risk constructions in a regulatory context and the underlying dynamics of how we explore uncertainty.



## Abstract

Some of the most popular ideas in the layman's imagination of science come with a strong visual component. Whether it's Archimedes jumping out of his bathtub crying "Eureka!" or the apple falling on Newton's head, dramatic visuals help us understand and retain facts and concepts. But are these incidents -- flashes of insight arising from an apple or a bathtub -- actually true? How does one determine whether an account that has been passed down over generations is historically accurate? How does one go about knowing how scientific ideas really came about? In scenes from the History of Science, students learn to think historically about science, and also about how to use the dynamic artform of comics to communicate our understanding in a simple manner. Please note that amazing drawing skills aren't essential to make great comics.

## Methodology

The initial few sessions shall be on the basics of historical thinking and understanding how comics work. This is followed by 2-3 classes on basic figure drawing, perspective and composition. Subsequent to this the teaching will shift to a workshop mode. Students will choose an episode or theme from the history of science, research the subject and explain it through sequential art.

## Outcome

Comics based on a topic chosen from the history of science.

## Requisites

Students with an interest in exploring the artform of comics as a way to understand and communicate scientific and historical ideas. Those who like reading intensively, thinking analytically and expressing themselves artistically, would find it a fun and useful course.

## Class Strength

25

## Instructors



**Anupam Arunachalam** is a writer, illustrator and comic book artist. He has worked with Tinkle Magazine, Amar Chitra Katha, Mint, Forbes Life India, Kokaachi, Medecins sans Frontieres, Johnson and Johnson, Wildlife Trust of India and several other corporations, NGOs and Publishers. His book, *Tooth and Nail, Fur and Scale* - an illustrated collection of original short stories starring fantastic creatures from Indian myth and legend, came out from Penguin Random House India in 2017.



**Aparajith Ramnath** is Assistant Professor at Ahmedabad University, where he is a part of the School of Arts and Sciences, as well as the Amrut Mody School of Management. He is a historian of science, technology and business. His first book, *The Birth of an Indian Profession* (a history of engineers in pre-Independence India) was published in 2017 by Oxford University Press. He also writes on the history of science and technology for *The Wire* ([thewire.in](http://thewire.in)).





## Abstract

From the moment we wake up to the moment we go to sleep and even during sleep, all our interactions with the world are actually encounters with our own constructed reality. Whether it is the bed that we sleep on, the water that we drink, the food that we eat, the clothes that we wear, the objects that we use, our means of transportation, our working environment, our sources of entertainment and whatever else that we can imagine, we are interacting with an entirely man made universe. The quality of our life is determined by the quality of this constructed universe. This course is about transforming the quality of our lives through transformation of our constructed reality.

## Methodology

Games, short assignments, lectures, discussions, case studies and project work.  
Academic Concept: Introduction to product design and its implications on the quality of life.

## Outcome

Re-designed prototypes / models of everyday objects.

## Requisites

Anybody with an open mind, curiosity and enthusiasm for design.

## Class Strength

20

## Instructor



**Dinesh Korjan**, Founder Partner of Studio Korjan, Ahmedabad is one of the pioneers of Product Design practice in India. He complements his practice with active engagement in academics and teaches at many leading design schools including Indian Institute of Technology (IIT) Bombay, National Institute of Design (NID) Ahmedabad, Faculty of Design, CEPT University Ahmedabad, Social Design Program at Ambedkar University Delhi, Srishti School of Art Design & Technology Bangalore, Ahmedabad University, IICD Jaipur. He has also been conducting design workshops in India and abroad.



## Abstract

The shadows of oppression stain the fabric of society. As we get to know more of our world and seek to find meaning of the frightening levels of gender violence, how do we respond? In this course, students will use the the language of theatre, shadows, dance and music to subvert dominant narratives around gender and gender violence. In these post-nirbhaya times when the trending of #MeToo extends conversations about sexual assault into public discourse, this course will aim to engage in a dialogue towards a socio-cultural change. In constructing interactive shadow theatre, students will engage with live audiences to invite embodied critical participation in dialogue. This course will culminate in a live Shadow Liberation performance.

## Methodology

Every session will involve movement, improvisation and group work. All techniques presented honour multiple ways of knowing and learning while putting forth an integrated arts based approach to a creative group work. Experiential activities will be intertwined with theoretical framing and discussion of the method.

## Outcome

Students will creatively craft performance pieces based on their experiences, reflections and research. The original performance that results from the intensive workshop will invite a live audience to interrupt the injustice of gender violence. In the tradition of Augusto Boal's Forum Theatre, audience members are invited on stage to offer improvisational interventions into scenes depicting oppression.

## Requisites

Students who enjoy collaboration, creativity, self-reflection and performance. Students who aspire for a safe, just and sustainable world will love this course.

## Class Strength

16



## Instructor



**Evan Hastings** is a US born artist with a passion for turning pain into medicine through theatre. His work illuminates the intersection of Drama Therapy and Theatre of the Oppressed, creating performative engagements that raise urgent issues in aesthetic dialogue. Evan has an MA in Counseling Psychology/Drama Therapy from the California Institute of Integral Studies, San Francisco, CA, USA and a BA in Performance Education from the Evergreen State College, Olympia, WA, USA. As an educator, Evan has taught at Project Zero in Harvard, Lesley University, The Evergreen State College and Srishti Institute of Art, Design and Technology. He founded Shadow Liberation, a participatory shadow theatre initiative that has engaged diverse audiences in dialogue across 17 countries in Asia, Europe, the Middle East & North America.



## Abstract

Introduction to signals will be given and the students will be taught to write simple computer programmes . Musical notes are basically signals, so introduction to signals is required. Learning programming through composition of music is interesting because even non musicians can compose melodies when they know a bit of programming and the maths of music! Melodies can be composed automatically through computer programmes. The course needs no prior knowledge of music and programming. All the basic concepts in both will be taught. The objective of this part of the course is to give a free hand to students to learn to use music to conduct experiments, and learn statistical analytical methods to process data collected with that experiment.

## Methodology

The course shall be taught in 2 parts. Part 1 shall feature short lectures followed by hands on exercises which are mainly exploring techniques and writing programmes. In Part 2, all activities are hands on like designing experiments, searching for psychometric tests, conducting experiments, and analysing data.

## Outcome

In Part 1, the students will demonstrate generation of melodies through computer programs. In Part 2, the students will come up with a complete experiment ‘to assess impact of music on human behavioural traits’.

## Requisites

Students with an interest in music composition.

## Class Strength

30

## Instructors



**Ashok Ranade** is working as a Professor at the School of Engineering and Applied Science. With over 50 years of teaching experience, he has provided consultancy in microprocessor based instrumentation. Has scripted and presented 25 educational programmes which have been telecast on national network.



**Vivek Bhatt** is engaged as a Faculty Member for Quantitative Techniques and has over 15 years of academic experience. Vivek has been actively involved in designing computerised simulations. His professional horizon holds teaching decision sciences and research methods related courses and guiding postgraduate and undergraduate students.



## Abstract

Sociology of Bazaars investigates the intersection of market economy and socio-cultural set-up of old city markets in Ahmedabad. The main emphasis is on the understanding of Old City Markets as distinct cultural, social and economic spaces.

## Methodology

Project based method with mix of field visits and interactive classroom sessions. In the classroom sessions after the field visits, the students will discuss their observations, experiences, interactions with fellow classmates and the instructor. They will jointly develop working hypothesis and inferences which will be tested and validated in their next field visits.

## Outcome

Coffee Table book on photo stories of the bazaars.

## Requisites

Students who are interested in exploring, studying, and knowing Bazaars. The students who like to study trade from a sociological and anthropological perspective.

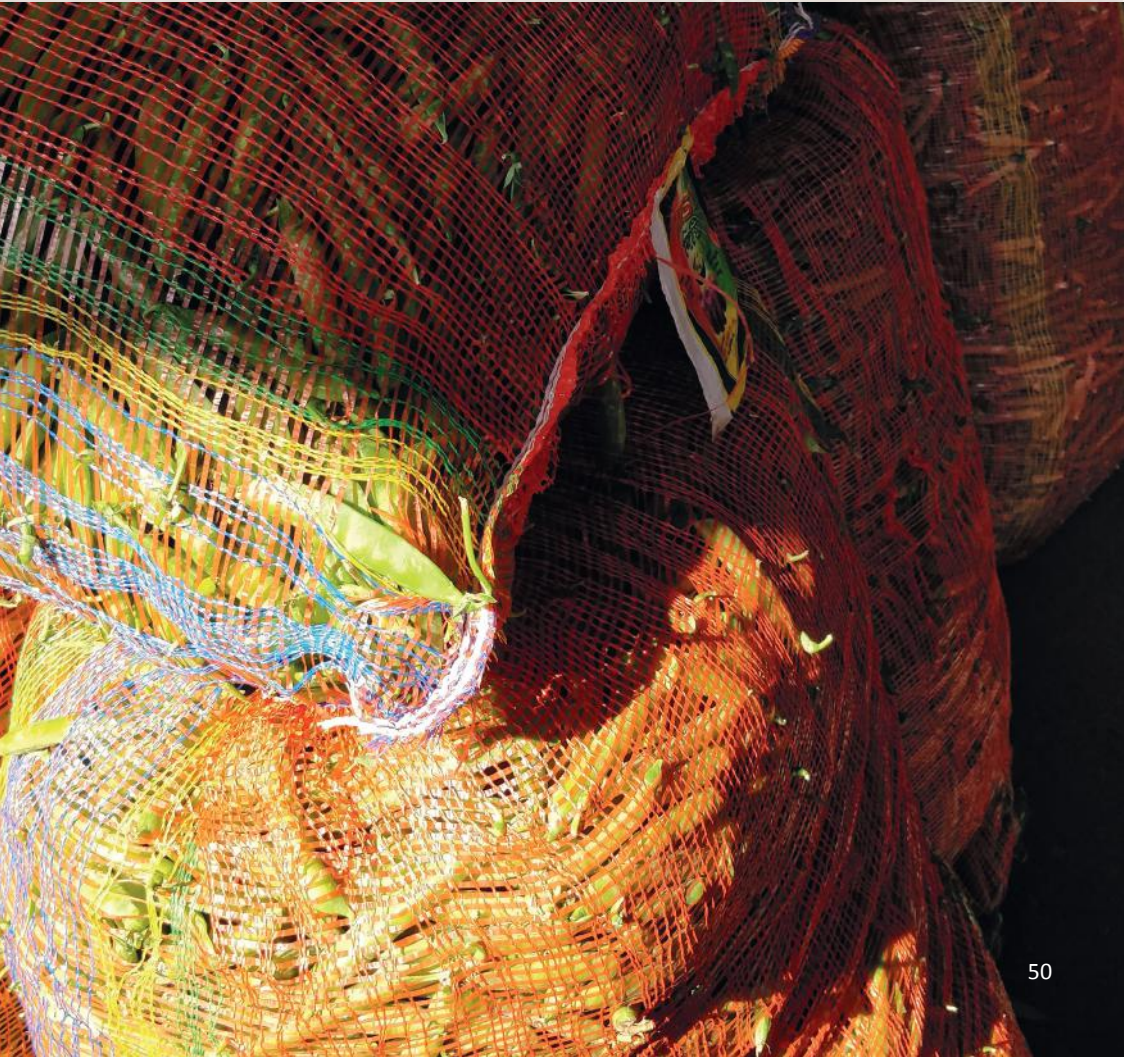
## Class Strength

30

## Instructor



**Abrar Ali Saiyed** earned his Fellowship in Management from Indian Institute of Management, Ahmedabad (IIMA). His specialisation is in entrepreneurship and international business. He has 12 years of teaching experience in reputed Government and Private business schools and education institutes in Gujarat State. He has been a consultant for many government and private organisations and firms in the last 8 years.



## Abstract

Over the last hundred years, our food systems have undergone drastic change. Food, from that basic, life-igniting, community-building element, has become a completely outsourced, processed, industrialised and bland commodity. Worse, animals are distorted and abused beyond recognition to produce it. Given this scenario, how aware are we about the rapidly changing landscape of food production, about the origins of the food we eat and its impact on the world around us? The course looks at all the aspects of food, from the perspective of self, society and the environment. It talks about the possibilities available to eat sustainably, for a better world.

## Methodology

Each thematic course will be taught through classroom Socratic discussions, movie screening, case study analysis, role-play, debates and other such activities. It will include hands-on experiential learning, research and a field trip. These activities will allow the students to directly observe the concepts studied in the classroom and analyse issues surrounding Indian and global food culture from varied approaches and perspectives.

## Outcome

Food Citizen Action Project: Students will identify a food system problem and design an intervention to address it.

Community Vegetable Garden: The students will develop a community vegetable garden as an integral part of the programme.

## Requisites

Everybody who eats! Students who are interested in taking charge of their wellness and health.

## Class Strength

25



## Instructor



**Purvi Vyas** is an Organic Farmer, Food Politics Professor and Environment Consultant.. She has a masters in Environmental Management from the University of Western Sydney. She is associated with various NGOs working on sustainable development. She lives on her organic farm in Matar, which is 80% self-sustainable. She teaches everything about food - the food system, the politics behind our food choices defined by the market and impact of these choices on the earth at universities in Ahmedabad. Currently, Ms Vyas is working towards transforming more than five to six villages with over 2,000 farmers, into adopting sustainable farming models.



## Abstract

This course will introduce students to the wonders of musical acoustics. We will build several working musical instruments in the workshop while attempting to understand how they work and why they produce the sounds they do. We will also attempt to understand the functioning of the human singing voice through various (often weird) experiments. Be ready for a lot of science, a lot of math and long hours of construction work, all leading, hopefully, towards music.

## Methodology

This will be a hands-on course where knowledge will be generated by constructing a musical instrument in the workshop. The students will work in groups with complementary skills. Each group will spend most of the course constructing and studying two or more instruments including chordophones, idiophones, membranophones and aerophones (including the human voice through model construction).

## Outcome

Musical instruments of the students' own design and construction.

## Requisites

Students must have some prior experience with music and should have learnt at least some basic singing or an instrument. Students should be prepared to spend long hours in the construction workshop and also to learn and apply concepts from physics and mathematics.

## Class Strength

30

## Course Fee

Rs. 2500

## Instructor



**Srijan Deshpande** is a performer, teacher and student of music. He is an acoustics geek and enjoys hacking his own voice and his musical instruments to get the sounds and mechanics he wants out of them. He also works to preserve and disseminate rare forms of music at two important archives.





## Abstract

Have you ever wondered how to embed electronics on paper? How to make flexible circuits yourself? Wondering how to brighten up your origami creations or make interactive greeting cards, flyers and everything around you? At the intersection of Art, Design and Technology, a novel piece of technology, Paper Circuits, enable us to embed electronics anywhere & everywhere into simple things around us and make them interactive.

## Methodology

The course will follow an complete hands-on approach wherein students will be making multiple creations everyday using LEDs , batteries and conductive tape after having a thorough understanding of the scientific principles involved. We follow design thinking approach which gives students enough room for exploration, creativity and embracing failures.

## Outcome

Each student will make multiple physical and interactive paper circuits in each class which includes LED greeting card, business card torchlight, interactive doormat, interactive flyer, art & tech installations, products-based on paper circuits

## Requisites

The course will excite students who are starting to learn electronics and related subjects. Also, students with a creative bent of mind and interest in art, design & technology will get a chance to experience all at once.

## Class Strength

30

## Course Fee

Rs. 1500 (Includes certificates)

## Instructor



**Prem Sagar** Founder & CEO, Banaao - A Makers' Playground, Visiting Faculty, Pearl Academy, BE, Instrumentation & Control Engineering, NSIT (Delhi University). An Engineer by qualification, he is an avid geek and is always keen to solve problems by using hardware technologies. He is a full-time Maker & Manager and is the founder of Gurugram's first Makerspace, Banaao- A Makers' Playground, which is a multi-disciplinary innovation lab for people of all ages. His keen interest lies in democratising the access to technology.



## Abstract

This course will dwell upon the idea of the neighbourhood in both local and global geographic sense; as well as a virtual group of people. The course will explore ways of understanding the neighbourhood in geographic, historical, cultural, governance, biodiversity, lifestyle and health profile, economic and social characteristics, and physical attributes among other aspects. It will anchor hands-on learning activities in the contexts of a few local neighbourhoods where students will engage in documenting, interacting, interviewing, surveying with semi-structured instruments as a way to collect data on the above themes. Secondary data from population census and CMIE economic outlook will help further the understanding of the concept of the neighbourhood to a more macro level. Students will then engage in analysing the data to understand the neighbourhood.

## Methodology

Mixed pedagogy including lectures, discussions, case studies/discussion, fieldwork including surveying, physical mapping, participant observations, interviews, historical research and small-scale problem-solving exercises.

## Outcome

A series of poster, video and 3D Models sharing the fieldwork and learning about the given neighbourhoods, and its parallel implications for understanding a regional as well as global and virtual neighbourhoods.

## Requisites

Anyone interested in learning about neighbourhood in various contexts.

## Class Strength

60



## Instructors



**Ajay Karakoti** has an interdisciplinary educational background with BSc and MSc in Chemistry (Delhi University) and MTech (IIT Bombay) and PhD in Materials Science. Ajay received his PhD (2010) from University Central Florida (UCF), Orlando, USA in the area of nanoscale science and technology.



**Heena Timani** is a faculty member at School of Computer Studies, Ahmedabad University and an educator in the field of computer related mathematics, statistics, business analytics, data mining and intelligence system.



**Jeemol Unni** is Professor of Economics at Amrut Mody School of Management, Ahmedabad University, Ahmedabad. Currently, she is Chair of the Master of Arts in Economics Programme. Before joining Ahmedabad University she was the Director of the Institute of Rural Management, Anand (IRMA) and RBI Chair Professor of Economics at IRMA.



**Manish Datt** is an Assistant Professor at Division of Biological and Life Sciences, Ahmedabad University since April 2015. He has broad training in life sciences, bioinformatics and computational biophysics. He has extensive experience in simulating dynamics of macromolecules and their complexes using all-atom molecular mechanic force-fields.



**Neel Kamal Chapagain** joined Centre for Heritage Management, Ahmedabad University in 2013 to develop the masters programme in Heritage Management, which eventually was launched in 2015. Previously he taught at University of Wisconsin-Stevens Point (USA) as full time teaching faculty and at University of Wisconsin-Milwaukee as a Doctoral Teaching Assistant.



**Sudhir Pandey** is a faculty member in Communication Area, Amrut Mody School of Management, Ahmedabad University, Ahmedabad. He specialises in Executive Business Communication, Cross-Cultural Communication and Urban Culture. He obtained PhD in Cultural Studies from University of Lucknow and has worked in Communication Area, Indian Institute of Management, Ahmedabad (2011-1014).

## Abstract

The two extreme points from where we look at water could be “Water is life, and clean water means health” - Audrey Hepburn or extremely scary e.g., “World War III will be fought over water” – SBS (Aug 17, 2017). Both highlight the urgency to act - as citizens and as scientists. However, how much do we think of water? How much do we know of this resource apart from what we have read in our school textbooks? Is the water crisis real? Are we taking the right decisions today to secure a better future for the coming generations? How can I, as an individual and as a community participate in the process? Also, as the driver for all forms of life on earth, water must be an excellent solvent. However, this excellent solvent characteristic when combined with its flow makes it a potent carrier of pollutants and pathogenic microorganisms that are often harmful to health.

## Methodology

Interactive lectures, field visits, lab-based experiments, data analysis and enquiry, guided reading, participatory exercises.

## Outcome

Prototype, models, posters.

## Requisites

Anyone with a sense of wonder.

## Class Strength

60

## Instructors



**Ashutosh Kumar**, Assistant Professor at the Biological and Life Science Division of the School of Arts and Sciences at Ahmedabad University. His area of research is multidisciplinary in nature as he has been working on DNA biochips and sensors for water pathogen and contaminant detection, nanoemulsions for food fortification and environmental nanotechnology.



**Saptam Patel** has been teaching courses on Business Communication, Art of Persuasion and Gender since seventeen years at Ahmedabad University. Her area of research is multidisciplinary in nature as she has been working on Literature in English, Gender, Fine Arts and Women's Writing and she has published/presented and participated in various international and national conferences and seminars.



**Sara Ahmed** is an Adjunct Professor at Ahmedabad University. She has been actively engaged in teaching and mentoring young development professionals, managing large and complex research portfolios on water, food security and climate change, and advising a range of development organisations and networks, both national and global, as a board member and in other leadership capacities.



**Siddhartha Saxena** is a faculty in Management and Organisation. His area of interest is network theory. He is interested in movies and travelling, which have also been inspirations for the course.



**Snigdha Khuntia** is working as Assistant Professor at School of Engineering and Applied Science (SEAS), Ahmedabad University. She has done her BTech in Chemical Engineering from IGIT Sarang, BPUT Orissa. Snigdha has done her MTech and PhD in Chemical Engineering from Indian Institute of Technology Guwahati (IITG).



**Srikrishnan Divakaran** completed his PhD in Computer Science in 2002 from Rutgers University, New Brunswick, USA. He has nearly 20 years of research and over 15 years of teaching experience and over five years industry experience at leading multi-national companies in computing and finance.



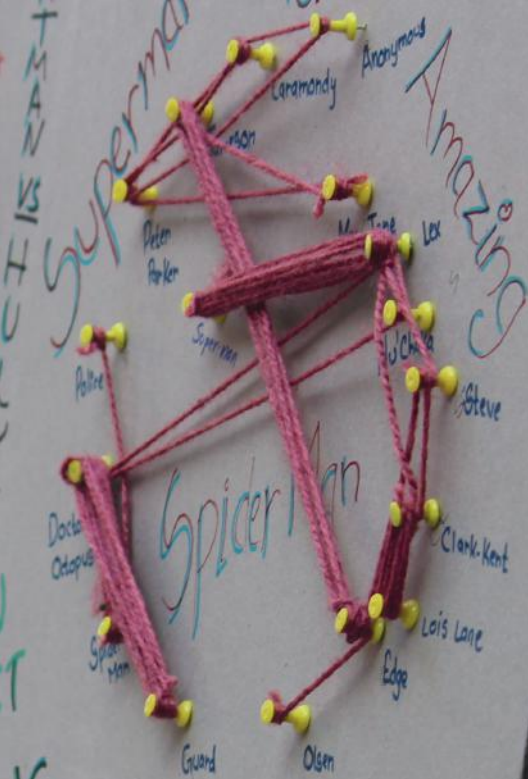


LAXMAN  
DHWAN  
CHIRAG

A1: Arany  
A2: Arany  
L1: Lady-1  
S1: Super G  
L2: Lady-2  
L3: Lady-3



SPIDERMAN  
GALIPATI



**HARLEY QUINN**

- Chikha
- Chisom
- Shubb Jack

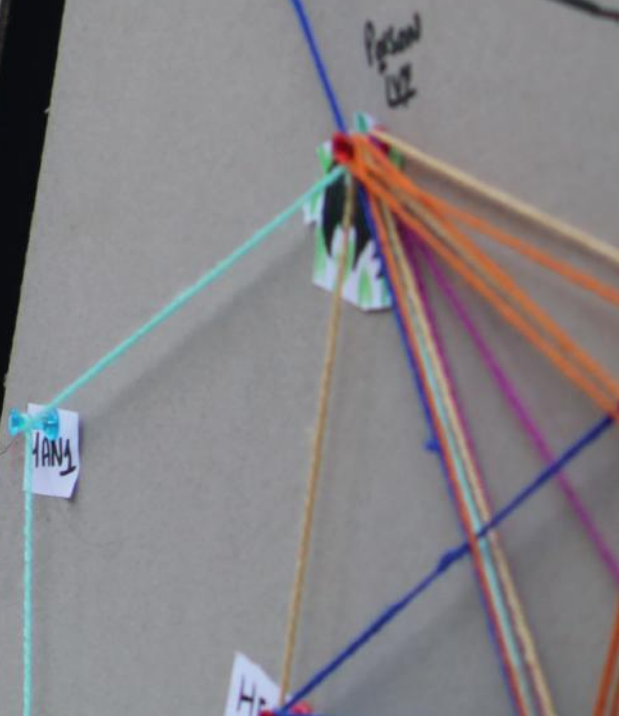
**(BATTERED)**

GREEN MAN

HANA

Passion

H



Independent Study Period embodies how we at Ahmedabad University envision education: interdisciplinary, hands on, learner oriented, fun yet deeply rooted in theory. Classrooms turn into studios and thinking out of the box is replaced with reimagining the box altogether. ISP is one of the happiest and most creative periods on campus.



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