

Sustainable Mobility - A Creative Challenge



Excellence in Education...
The Drive Continues...

AUTOMOTIVE DESIGN AND STYLING

5 Day Proficiency Improvement Programme
at

ARAI / MIT Institute of Design, Pune

from 13th to 17th September 2011

Jointly organized by

MAEER's
MIT INSTITUTE OF DESIGN



ARAI
Progress through Research



BACKGROUND AND OBJECTIVES

Design is probably one of the fastest growing sectors in the Indian economy and we are witnessing an exponential economic opportunity especially in the field of Automotive Technology.

The challenges to the automotive industry present tremendous opportunities for automotive designers. The automotive scenario has changed a lot today. An automobile is perceived as an object of desire representing a lifestyle or as someone has said "a car is the largest garment one can wear". In today's fiercely competitive market, it becomes imperative to have differentiation in products and this is where designers come in. Styling is one powerful approach in creating this differentiation for different market segments.

In this 5 days certified training course, the speakers are leaders from ARAI, MIT Institute of Design & Automotive Industry. Hear from them the science & art of designing & styling vehicles with hands-on exercises. This is open to industry professionals, faculty and students for whom the word "Automobiles" means "Passion".

INTENDED LEARNING OUTCOMES

On completion of the module, the delegates should be able to:

- Understand Design methodology/process
- Understand Automotive styling trends
- Learn Vehicle sketching and modelling
- Understand Techniques of developing styling concepts
- Understand quality, color & trim
- Understand Design research techniques
- Understand Aerodynamics
- Understand Structural analysis of body
- Understand Vehicle safety & ergonomics
- Understand Vehicle norms and standards
- Understand Automotive materials
- Understand Validation techniques
- Lead multi-disciplinary teams.
- Demonstrate independent learning ability necessary for conducting professional development.
- Become self-disciplined & self-motivated, demonstrating personal responsibility in the pursuit of studies and professional practice.



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PROGRAMME

Day One:

- 08.30 - Registration
- 09.00 - Inauguration & Welcome Address
- 10.00 - Vehicle Engineering Design Process
- 11.00 - Tea break
- 11.15 - Ground Vehicle Aerodynamics
- 12.00 - Structural Analysis of Vehicle Body
- 13.00 - Lunch
- 14.00 - Automotive Safety and Anthropometry
- 15.00 - Tea break
- 15.15 - Composites in Automotive Sector
- 16.00 - Virtual Validation for Commercial Vehicle Cab and Bus Body
- 17.00 - Conclusion

Day Two:

- 09.00 - Introduction to Design
- 11.00 - Tea break
- 11.15 - Case Study from Futuring Design
- 12.00 - Introduction to Design Process
- 13.00 - Lunch
- 14.00 - Simple Product Design (Assignment)
- 15.00 - Tea break
- 15.15 - Assignment continues...
- 17.00 - Conclusion

Day Three:

- 09.00 - Styling Trends
- 10.00 - Styling of Off Highway Vehicles
- 11.00 - Tea break
- 11.15 - Case Study from Tata Motors Design
- 12.00 - Introduction to Design Research and Case Study
- 13.00 - Lunch
- 14.00 - Vehicle Sketching - As a Tool of Ideation
- 15.00 - Tea break
- 15.15 - Vehicle Sketching Assignments
- 17.00 - Conclusion

Day Four:

- 09.00 - Design Programme Management
Automotive Colour & Trim Design
Perceived Quality
- 11.00 - Tea break
- 11.15 - Introduction to Speed Forms
- 12.00 - Sketching of Speed Forms
- 13.00 - Lunch
- 14.00 - Introduction to Vehicle Packaging and Ergonomics
- 15.00 - Tea break
- 15.15 - Mini Project on Vehicle Packaging and Ergonomics
- 17.00 - Conclusion

Day Five:

- 09.00 - Automotive Case Studies from Mahindra
- 10.00 - CAS and Clay modeling
- 11.00 - Tea break
- 11.15 - Design of a small car for the future (Project)
- 13.00 - Lunch
- 14.00 - Project Presentation and Discussion
- 15.00 - Tea break
- 15.15 - Project Presentation and Discussion
- 16.00 - Valedictory Function
- 17.00 - Conclusion

WHO SHOULD ATTEND?

- Organizations involved in Automotive R&D and Testing
- Vehicle Manufacturers
- Senior Manager, Consultants, Technical Managers, Design & Test Engineers
- Styling Studio Personnel
- Industrial Designers
- Engineering /Consulting Companies
- Professors / engineering college students
- Engineers interested in pursuing further studies on part time or full time basis

REGISTRATION FEES:

Category	Registration Fees (Rs.)	Total Fees including Tax of 10.3% (Rs.)
Engineers & Professionals	25000.00	27575.00
Teaching Faculty	15000.00	16545.00
Engineering Students	10000.00	11030.00

Registration fees include:

- Breakfast
- Lunch
- Delegate kit
- Certificate (Subject to 100% attendance)

MODE OF PAYMENT

At Par/Multicity cheque or demand draft in favour of
"The Automotive Research Association of India" payable at Pune

ARAI, over four decades, has provided its design and development expertise to the Indian automotive industry, focusing on the testing and evaluation of components and systems to meet national and international standards. ARAI strives to achieve international recognition in these areas. In keeping with the globalization of economy and business, ARAI continues to enlarge its scope of services to meet the requirements of automotive industries around the world.

In addition to utilizing state-of-the-art technology, laboratories and highly-trained personnel, ARAI recognizes the need to develop a new generation of engineers to meet the demands of the automotive industry, not just in India but across the globe.

ARAI ACADEMY is classified into three divisions:

LEARNING CENTRE has embarked upon a programme of building up human resources by commencing educational programme (Graduate & Post Graduate) with specialization in Automotive Engineering. It has tied up with VIT University (Vellore), Veltech University (Chennai), College of Engineering(Pune), University of Alabama (USA), Loughborough University (UK) and Braunschweig University (Germany).

KNOWLEDGE CENTRE has collection of around 12,000 books & standards, 50,000 technical papers and numerous journals, technical reports and seminar / conference proceedings. It publishes monthly magazine "Automotive Abstracts" and supplies CDs of CMVR Type Approval Handbook and Automotive Industry Standards (AIS).

TRAINING CENTRE has devised various Domain Training Programmes (DTPs) & Proficiency Improvement Programmes (PIPs). It gives engineers, faculty and students knowledge and technical expertise in a wide range of automotive disciplines. It helps in understanding systems view point for automotive design and manufacture, with specific skills in formulating automotive engineering solution in terms of their function and performance, through optional modules.

MIT INSTITUTE OF DESIGN aims to create a design community which will not only cater to the big industry but also to the small scale and rural industries and handicrafts. It has a social goal of developing, encouraging rural design and products for the needy and the large disadvantaged population in India.

The institute will be dedicated to research as a part of its training in the indigenous design idiom: which visualizes and uses training in Industrial Design and visual communication as a tool of change in order to maintain design as a tool for sustainable competitive advantage.

The institute aims at leveraging India's heritage, design capabilities, aesthetics and creative genius to become a "Design Hub". This design enablement would help the country to move away from cost and price based competition to value based competitive advantage.

The institutes approach to design education will reflect the emergence of knowledge economy and convergence of media, communication, entertainment and information. This school can be a big umbrella under which designers and design managers of tomorrow's India can be groomed.

The learners of **TRANSPORTATION DESIGN** experience that the courses of study exclusively explore an inborn human need of mobility. Beginning with the concept of transporting people and commodities using a variety of means, its emphasis moves on creating sustainable systems for Transportation Design. It is not only limited to Automobile Design and car design but to design systems which enhance mobility for humans and commodities. Learners' innovative ability is challenged further when the scope of a transport vehicle is extended from land & water to air & space.

Transportation design courses at MIT ID equip the learners with the required knowledge and skills to be professional Transportation designer. With the rapid growth in the Automobile sector, Transportation design courses in India have become very popular in recent times.



Dr. K. C. Vora,
Dy. Director & Head,
ARAI Academy, ARAI



Mr. A. V. Mannikar,
Head - PSL & SHL,
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Mr. A. R. Joshi,
Dy. Director & Head,
CAE Laboratory,
ARAI



Mr. Saurabh Singh,
Group Head - Design Studio,
Maruti Suzuki India



Mr. Nachiket Thakur,
Head - Innovation Center,
GM-Product Design & Development,
Mahindra Composites



Mr. Satish Komaragiri,
Head – Design,
Automotif



Mr. Sandeep Shetty,
Technology Specialist ,
Ansys



Prof. Dhimant Panchal,
Head - Pre Design Foundation,
Director-Design Center,
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Prof. Gaurang Shah,
Head - Transportation Design Dept.,
MIT ID



Mr. R. Donshong Koren,
Faculty-Transportation Design,
MIT-ID



Mr. Sandeep Varma,
Faculty-Transportation Design,
MIT-ID



Mr. Anil Saini,
Director- Design Studio,
General Motors-India



Mr. Sandeep Karyakarte
Head (Passenger Car Design)
Tata Motors



Mr. Ripul Kumar,
Director,
User Research & Innovation
Kern Communications Pvt. Ltd

Besides, we expect speakers from Mahindra & Mahindra and Futuring Design Pvt. Ltd.

5 Day Proficiency Improvement Programme on
Automotive Design and Styling
from 13th to 17th September 2011 at ARAI / MIT Institute of Design, Pune

REGISTRATION FORM

Name, Designation, Dept., Contact Number & Email ID :

Delegate-1

Delegate-2

Delegate-3

Organization Name & Address

Co-ordinator's Name, Designation,
Contact No. & Email ID

100% Advance Payment Details

Please fax / email / post duly filled-in registration form on or before 9th September 2011 to:

Dr. K. C. Vora, Head, ARAI Academy, ARAI Post Box 832, Pune 411004 / S.No.102, Vetal Hill, Off Paud Road, Kothrud, Pune 411 038.

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