About the Course

Reverse engineering is the process of discovering the technological principles of a device, object, or system through analysis of its structure, function, and operation. Reverse engineering is widely practiced in the industry today. There are many applications for Reverse engineering. This course focuses on the application of reverse engineering technology for domain knowledge building.

Note: Participants should bring a calculator for in class vehicles & systems exercises future comfort & fun of driving as other elements for good Handling

Who should attend?

- Engineering graduate students of Mechanical, Automobile Engineering branch
- Aspirant Participants of SAEINDIA Baja, SAEINDIA ETWDC etc.

Subject Experts

Mr. S. Shanmugam

Mr. S. Shanmugam – Managing Director Design Desk (India) Pvt Ltd. He is currently the managing director of Design Desk (India) Private Limited, a 21 year old Small and Medium enterprise based in Chennai. He has been a technical instructor, engineer, consultant and researcher in Reverse engineering for more than 22 years. He taught at IRTT Erode and Dr. MGR University, Chennai. He is currently a visiting faculty in AU FRG Centre for CAD/CAM of Anna University for their ME Product Design Course. He has received much recognition from various industries for his work on Reverse engineering. He presented lectures at numerous seminars and conferences. Active with professional societies, he is the Chairman of SAEINDIA Southern section for the term 2018 - 2020. He has a B.E. automobile engineering from Institute of Road and Transport Technology, Erode, a M.E. Automobile engineering from Madras Institute of Technology, Chennai.

Dr. K. Annamalai

Dr. K. Annamalai is a Professor in the School of Mechanical and Building Sciences VIT, Chennai over 23 years of experience in teaching and research and has published over 40 research papers in internationally reputed peer reviewed journals in the area of Product Life-cycle Management and New Product Development. He had successfully completed two funded projects granted by Aeronautical Research and Development Board and Department of Science Technology-Machine Tool R&D and also two consultancy Projects given by Indian Machine tool Manufacturer’s Association and Defense Research Development Laboratories. He had delivered corporate training programmes to industries like Sundaram Fasteners, L&T, FISmidth and Valeo India Pvt Ltd. He has participated as Jury panel member in selection of the best innovative project proposals given by L&T Technology centre companies and government institutions as adviser in design and development of engineering components and resource person for training programs. He has been associated with consultancy works of DRDL, Hyderabad, SAME DUTZ, Tractor Unit, Ranipet, Tamil Nadu, VIJAY Home Appliances, Chennai and he has guided various students projects work for industries.

Dr. K. Janardhan Reddy

Dr. Janardhan Reddy, K. is a Professor of Mechanical and Building Sciences VIT, Chennai over 23 years of experience in teaching and research and has published over 40 research papers in internationally reputed peer reviewed journals in the area of Product Life-cycle Management and New Product Development. He had successfully completed two funded projects granted by Aeronautical Research and Development Board and Department of Science Technology-Machine Tool R&D and also two consultancy Projects given by Indian Machine tool Manufacturer’s Association and Defense Research Development Laboratories. He had delivered corporate training programmes to industries like Sundaram Fasteners, L&T, FISmidth and Valeo India Pvt Ltd. He has participated as Jury panel member in selection of the best innovative project proposals given by L&T Technology centre

Course Content

Day 1

- Reverse Engineering Introduction
- Reverse Engineering Stages
- Reverse Engineering Case Study
- Team formation

- Step-1
  1. Disassembly
  2. Product Structure
  3. Photograph and Video
  4. Review-1

- Step-2
  1. Sketch
  2. Measure
  3. Review-2
  - Need for complete part definition and clarification

- Step-3
  1. Develop Liaison diagram
  2. Liaison / Mates Table
  3. Review-3
  - Reducing degrees of freedom clarification
  - Reverse engineering process and tools - demonstration using 3D scanner
Day 2

- Step-4
  1. Concept generation methods
  2. Reassembly with video
  3. Physics-Geometry/Material/ Function Introduction
  4. Subtract and Operate Procedure
  5. Material and Process Identification
  6. Review-4
     - Assembly choreography – capturing assembly entry features
- Step-5
  1. Function Identification
  2. Geometry Definition
  3. Material and Process Selection
  4. Review-5
     - Check Linkages
- Step-6
  1. Detail Drawings – part and assembly
  2. Review-6
     - Linkage of details to functions

Account Details
Demand Draft / Cheque in favor of “SAEINDIA Southern Section”, payable at Chennai.

Account Name: SAEINDIA SOUTHERN SECTION
Account Number : 38517580801
Bank Name & Branch : State Bank of India, Kottur
MICR Number : 600002023
IFSC Code : SBIN0001669
PAN No : AABAS2734H

Venue
Academic Block - 2, Smart Classroom
Vellore Institute of Technology, Chennai Campus,
Vandalur – Kelambakkam Road,
Rajan Nagar, Chennai – 600127

Eligibility
Any SAEINDIA Student Member with valid membership

Course Fee
Course Fee : Rs. 1770/- Inclusive of 18% GST
Accommodation for outstation participants: RS. 100/- per day.
Payment Mode: DD/Cheque/ NEFT
Interested student members may register on or before 11th February 2020 10PM at:
http://onlineregistration.saeiss.org/event_register.php

Student Knowledge Improvement Program on Reverse Engineering Technology for Domain Knowledge Building
14th & 15th Feb 2020 at Chennai
We confirm the following will attend the above Program :

Name : ..........................................................
Designation: ..................................................
Company: ....................................................
Address: .....................................................
Email: ........................................................

Signature:

Please email/post the registration form duly filled, on or before three days prior to:

Programme Executive
SAEINDIA Southern Section
Block-1, Modules: 29 & 30, SIDCO Electronic Complex, Thiru-Vi-Ka Industrial Estate, Guindy, Chennai - 600032
Phone: 044-42188651-52
Email: manager@saeiss.org

Coordinators from VIT Chennai
Dr. D. Davidson Jebaseelan & Dr. K. Annamalai
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