Inaugural Session:

The Summer Internship on “Automotive Design & Development” by Elite Techno Groups in association with Christ University was inaugurated by Dr. Iven Jose, Associate Dean, Faculty of Engineering on 21st April 2016 at 9.30am.

Figure 1. Dr. Iven Jose addressing the student participants

The session began with the introductory speech from the Faculty Coordinator Mr. Ram Kumar which was followed by an inspirational talk from Dr. Iven Jose and the session was concluded by Dr. G. S. Hebbar on a positive note. The trainers from Elite Techno Groups Rahul Ranjan, Pushpinder Singh and the Faculty Coordinator Vivek K S attended the inaugural session along with the student participants.

Training Session

The training session commenced at 10:00am with a stunning session from Rahul Ranjan till 4.30pm.
Topics Covered for the Day:

1. Introduction to Automotive Engineering.
   a. Brief on the automotive history
   b. Latest updates on the Automotive market
   c. Upcoming technologies
2. Chassis and Frame
   a. Basics
   b. Various types
   c. Comparison
3. Braking System
   a. Disc
   b. Drum
4. Steering System.
   a. Ackerman
   b. Reverse Ackerman
   c. Parallel Ackerman
   d. Condition for perfect steering
5. Suspension System.
   a. Types of suspension system
   b. Application and significance of each system
Topics Covered for the Day:
- Tires and tread design
- Vehicle Dynamics
- Steering Dynamics
- Braking Dynamics
- Aerodynamics of an automobile

DAY-3 23-04-2016

Mr. Rahul Ranjan giving lecture on Design of Chassis

Topics Covered for the Day:
- Design of Automotive components
- Wheel rim
- Tyre
- Disc
- Chassis

Students working on SOLIDWORKS
Topics Covered for the Day:
Chassis Design in SOLIDWORKS
Activity for the Day:

- Structural analysis of the chassis frame was carried out in SOLIDWORKS
- The students were divided into 3 teams of 8 in each group.
- Each team was given tasks of drawing various components of the Chassis frame
Topics Covered for the day:
- Introduction to tools
- Cutting Machine – Understanding & Operation
- Grinding Machine – Understanding & Operation
- Welding Machine – Understanding & Operation
- Bending Machine – Understanding & Operation

Activity:
- Fabrication of the vehicle chassis commenced

Each team working on their assigned Engineering drawing of the framework
Activity:
- Fabrication of the vehicle chassis was completed
Final Chassis frame completed at the end of the day
Activity:
- Fabrication and mounting of the vehicle suspension
Activity:
- Fixing brake, clutch and accelerator pedal assembly

Vehicle after fixture of all the drive control units heading for its first test drive on road
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DEPARTMENT OF MECHANICAL ENGINEERING
INTERNSHIP PROGRAM ON AUTOMOTIVE DESIGN AND DEVELOPMENT
Activity:

- Fixing body panels and painting works

Vehicle ready for rigorous testing on road and on mud
Activity:
- Vehicle testing on road and on mud
DAY-15
05-05-2016

Activity
- Concluding session by Rahul
- Assigning tasks for next 15 days

DAY-16 to 20
06-05-2016 to 10-05-2016

Activity
- SOLIDWORKS Modelling and Assembly
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Activity

- Testing of the F3 vehicle
- Failure of the rear shaft assembly
- Fixing the rear shaft assembly
Activity

- Fixing the clutch assembly of the ATV

- Failure of rear shaft assembly again which was repaired using welding, turning and grinding operations
Activity

- Go-kart repair
- Formula 3 testing

- Front nose of F3 vehicle being fixed
Go-kart after repair

The final Formula 3 after the front nose being fixed