

Vehicle Fitness, Maintenance and Inspection

For HSE Teams, Logistic/Transport Managers and Supervisors,

Why take this course with ADCR?

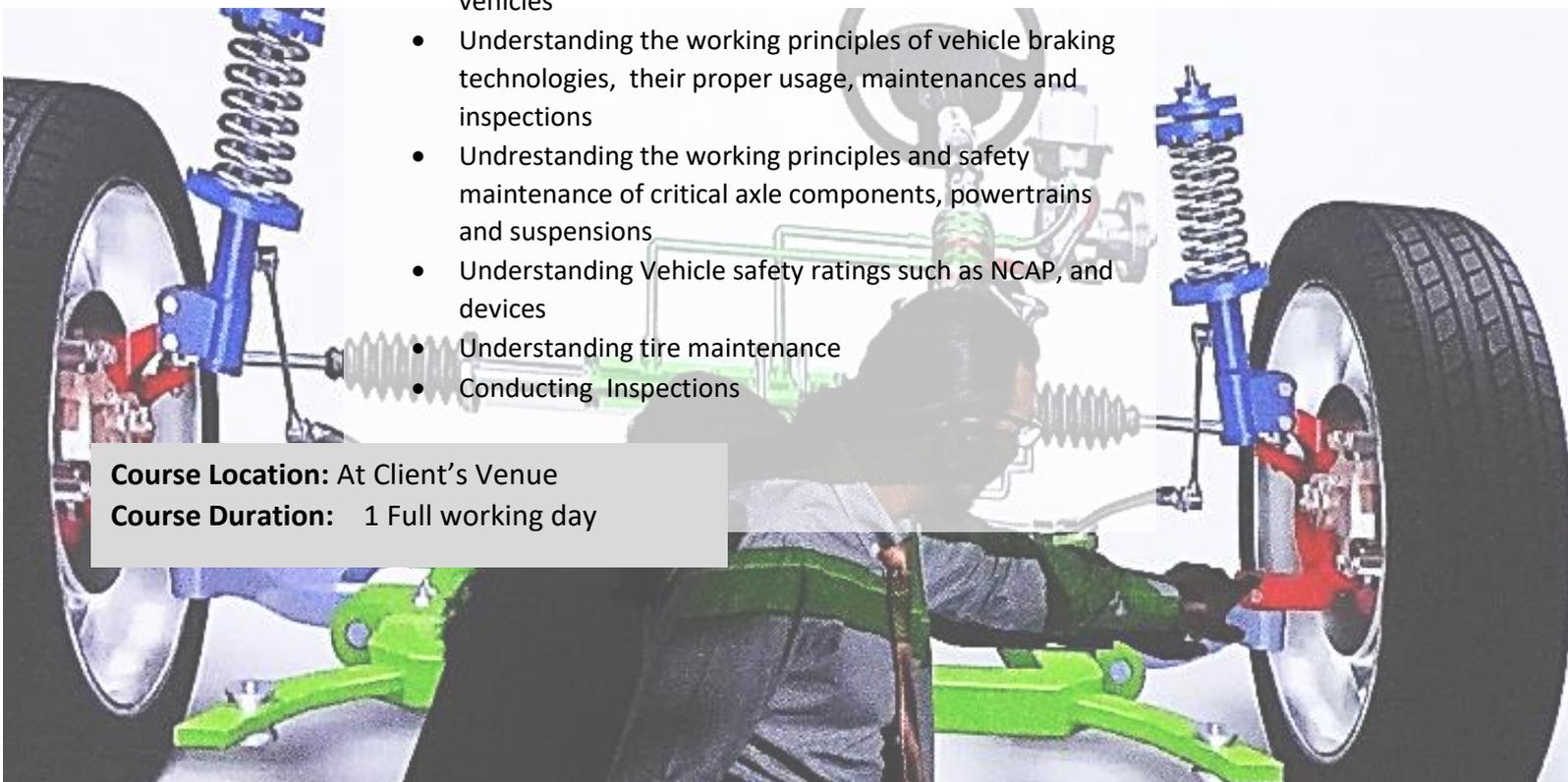
The course is designed to empower Fleet operators, Logistics/HSE managers, engineers, supervisors, with the knowledge and skills needed to keep vehicles in safe operating and loading conditions.

Throughout the day, we will delve into the key components that contribute to a vehicle's fitness, explore the importance of regular maintenance routines, and provide you with hands-on practical sessions that will enable you to apply what you learn in a real-world context.

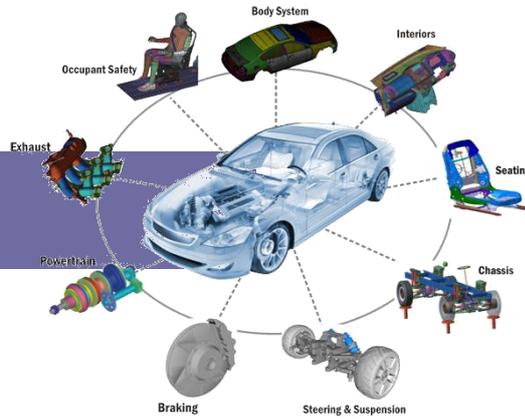
Course Learning outcomes

- Understanding the elements of vehicle safety, Haddon's Matrix, Passive and Active Safety in automotive design
- Undertaking Vehicle safety systems present in new vehicles
- Understanding the working principles of vehicle braking technologies, their proper usage, maintenance and inspections
- Understanding the working principles and safety maintenance of critical axle components, powertrains and suspensions
- Understanding Vehicle safety ratings such as NCAP, and devices
- Understanding tire maintenance
- Conducting Inspections

Course Location: At Client's Venue
Course Duration: 1 Full working day



Course Contents:



Introduction to Vehicle Safety Systems

Elements of Vehicle Safety, Haddons Matrix of Safety w.r.t. to road, vehicle and user interaction. Vehicle Safety, Fitness and Inspection Protocols, Global Standards.



Braking Systems

Type of brakes (Disk/Drum) and their pros and Cons, Pneumatic and Hydraulic Brakes, Dual Circuit, Single Circuit, Fail Safe braking Technology

ABS Brakes, Anti-Lock Brakes, Electronic Brake force Distribution (EBD) Load Adaptive Braking (LAB), Hill Assist, Brake Assist (BA), Traction Control, Collision avoidance and Collision Warning Systems. Brake Maintenance and Inspection

Selection, Inspection and Maintenance of Lubricants

Working of Lubrication system Types of lubricants in vehicles, reading lubricant grades and viscosity and selecting suitable lubricant grades for cars. Periodic maintenance and inspection of all lubricants



Tread Depth
Replace at
4/32"
Recommended

Maintenance
Rotate every
6000mi.



Tire Aging
Replace after
6 years
Recommended

Air Pressure
Check every
30days

Tire Inspection, Specifications, Fitness Criteria and Failure modes

Tire types and specifications, load rating, tire fitness inspections, common malpractices and tire tampering done in Pakistan. Tire failure modes and common causes

Critical Axle Components

Maintenance and repair precautions of Critical axle components such as suspension, shocks, axles, transmissions etc...



Trucks, Tankers, and LTV specific issues

Underrides, Cyclist Suck in, blindspots, kingpins, brake disbalance, sloss and surge, Brake inefficiencies, Diff lock, Cargo Securement, front bumper design

Vehicle Inspection & Maintenance

Inspection schedules, pre-trip checks, periodic inspection items and frequency





About

ADCR
Automotive Design and Crashworthiness Research

ADCR is widely recognized as the pioneering vehicle crashworthiness research lab in Pakistan.

ADCR works as **Crash investigators** for the Government in all major crash disasters in the country, Our **Fleet Management** and Route Hazard Assessment wing manages and ensures safety in the trickiest and most challenging of logistics movements.

Our **Training Wing** has trained over 3000 professionals from both the corporate private sector as well as government law enforcement personnel in Crash Investigations, Defensive Driver Vehicle Safety, Fleet Safety Management, Transportation Laws of Pakistan, OGRA-RT Technical Standards as well as a dedicated trainings on Oil Tanker Safety Issues.



We have always advocated that investing in safety is the best investments with the fastest return – and all our clients also agree. We work with our corporate clients in **Fleet Safety Management** and help them develop and systematically implement the best and safest methods of transportation, especially if they are transporting hazardous material! ADCR also audits the logistics operations as well as checks the health and crashworthiness of their fleet vehicles. We use our legal expertise gained from development of regulations and policies for the government to help our valuable clients verify that all their operations and vehicles are compliant with the laws of the land and relevant international transportation safety standards such as ADR and ECE.

ADCRs trusted Clients:

This has been a most interesting, productive, motivational, and valuable training session held over the last few days. It was a truly enlightening and invaluable experience which is highly appreciated. I would like to highlight that the overall course was extremely dynamic, interesting and well organized. It was directed with real efficiency in the space of a relatively short time. The energy and devotion of the trainer were quite impressive as well as captivating. His ideas, tactics, techniques and support added a unique dimension to the entire subject matter. And last but not the least, the positive environment relating to the venue plus the facilities, was exceptionally good setting the bar invariably high. Many many thanks for this brilliant five day session with an infinitely memorable approach

Shahzad ur Rehman. SME . PARCO



It was very useful, to the point, very impactful and will definitely help towards minimizing the loss of life and property due to accidents.

DVishanDas. Logistics. PSO



Audio and video information is the hallmark of the course. A very good learning experience, which will certainly help in improving due apt fleet under my command. This course will educate all the durs and will add in their knowledge and will certainly improve our working.

Major (R) Tahir Bashir. Pakistan Center of Excellence and Nuclear Security



Information material shared by the instructor was very informative and was delivered in a very efficient manner and it was quite a interactive session Haddon's matrix was the highlight for me, and I will implement it in my organization. This course will help us to improve transport safety and E-logistics. We will use these resources for our betterment.

Umair Ul Haq. Manager Logistics . Engro



Automotive Design and Crash Worthiness Research

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Instructor Profile:



Brief Profile

DR OMER M QURESHI

Dr. Omer Masood Qureshi is a Ph.D. in automotive crash safety from the University of Modena, Italy, with prior crashworthiness work experience in Ferrari MillieChilie Lab Italy.

In 2014 he founded Automotive Design and Crashworthiness Research (ADCR, www.adcr.com.pk). The only research facility in Pakistan specializing in the science of preventing road crashes through technology.

Dr. Omer is recently started working with **International Road Federation (IRF)** as a Trainer imparting trainings in Gulf and European Countries.

Additionally he is also training HSE & Logistics managers of Up-stream (MOL, MPCL) to OMCs (PSO, SHELL, TOTAL PARCO, HASCOL) on OGRA- RT Technical standards and Fleet safety management. He is also a crashworthiness (Crash science) consultant for several defense and government organizations including NH&MP, NHA, FWO, PMO and PAEC and The Ministry of Communications as well as international organizations such as **Asian Development Bank** and NTU International

He is the leading crash investigator in Pakistan and has been part of several national-level investigations for the Government of Pakistan. Some of his notable technical inquiries (nominated by the PM of Pakistan or parliamentary committee) include: the Ahmedpur Sharqia oil tanker tragedy 2017, The Theri bypass incident 2014, MNA Balighur Rehman's family's fatal crash in Gojra, Babusar top Bus crash 2019 (For GB. Govt.) CM Punjab's Armored vehicles fire incident (For Punjab Govt.) etc.

He has also been teaching the forensic science of Crash investigations, Fleet Safety management, and Transport Safety to enforcement personnel from strategic and law enforcement organizations and has also been a part of the development and training programs at the NH&MP. **He is also a master trainer at the NH&M Police College, Sheikhpura for crash investigation.**

Dr Omer has also authored **Pakistan National Highways & Motorways Dimensional Rules of Goods Transport Vehicles** under the **NHSO 2000**

