



ERGONOMICS IN AUTOMOTIVE DESIGN

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IIT Guwahati

TYPE OF COURSE : New | Core | UG**COURSE DURATION** : 4 weeks (29 Jul'19 - 23 Aug'19)**EXAM DATE** : 29 Sep 2019**PRE-REQUISITES** : Basic understanding of 'Applied Ergonomics'**INTENDED AUDIENCE** : UG and PG students of Industrial Engineering**INDUSTRIES APPLICABLE TO** : Industries associated with Automotive Design and Engineering**COURSE OUTLINE :**

Knowledge of 'Ergonomics/Human Factors Engineering' is of utmost necessity for automotive design and engineering to achieve optimal compatibility between occupants and vehicle components in terms of Physical, Cognitive and Environmental aspects. Although good number of Design and Engineering Schools in India are offering courses on Automobile Design, Transportation Design and Automobile Engineering, focus on Automotive Ergonomics is less due to lack of resources and trained faculty members. The current course would not only help the students and teachers involved in Automobile Design and Engineering to overcome the aforesaid limitations but also would be beneficial for the engineers and designers engaged in Automotive sectors.

ABOUT INSTRUCTOR :

Prof. Sougata Karmakar is presently working as Associate Professor at Department of Design in Indian Institute of Technology, Guwahati, India. He received PhD degree for his work in the field of 'Virtual ergonomics using digital human modelling' from the Bharathiar University, India in Sept' 2009. He also received P.G. Diploma in Management (Specialization-Human Resource Management) from Pondicherry University, India. He gained research expertise in the field of ergonomics from Defence Institute of Physiology and Allied Sciences (DIPAS), Defence Research and Development Organization (DRDO), Delhi (Nov' 2004-Nov'2009). He is associated with well-equipped 'Ergonomics Laboratory' at department of Design, IIT Guwahati and continues his research work in the field of Ergonomics/Human Factors. Five research scholars have been awarded PhD degree under him and another five are pursuing their doctoral research under his guidance.

COURSE PLAN :**Week 1:** Introduction to Automotive Ergonomics

Anthropometric and biomechanical data in automotive design

Week 2: Occupant Packaging,

Automobile control and displays,

In vehicle and external visibility of the driver

Week 3: Entry and exit by drivers and passengers,

Driver distraction and driving performance measurement,

Driver Workload Measurement

Week 4: Virtual Ergonomics evaluation technique and its application in automotive design,

Automotive craftsmanship