

# Automotive Electrics And Sensor Technology – Principles, Service and Diagnosis

## Course Outline

- Fundamentals of electricity
- Automotive common electrical components
- Automotive sensors, actuators and control units
- Automotive electrical circuits
- Automotive network communications
- Automotive electrical accessories
- Usage of diagnostic tools
- Common electrical components trouble-shooting
- Sensors and actuators trouble-shooting
- Electrical circuit trouble-shooting
- CAN Bus trouble-shooting
- Computerized system diagnosis

## Trainer's Profile

Steven Xu is a Senior Lecturer of School of Engineering at the Ngee Ann Polytechnic and the module leader of Automotive Technology and Motorsports (ATMS), a specialization offered under the Polytechnic's Diploma in Mechanical Engineering. He teaches both full time and part time in the following areas: Automotive Technology, Electrical Technology, Electronics Technology, System Design, Mechanical Design and Product Design and Manufacturing Process.

He has a Masters Degree from NTU and 20 years working experience in automotive after-sales service industries.

He works very closely with the industries, especially in upgrading the staff technical competence and reducing the vehicle maintenance cost, rectifying the technical problems.

Currently he is working with Singapore Standards Council (Appointed by SPRING), Singapore Motor Workshop Association (SMWA), and other ten over members from different industries and organizations to develop a Singapore Standard on Motor Workshop, he is in charge of the competency of workshop personnel.

He is also in the Technical Expert Panel for Certification for Technical Specialist (Bus) organized by LTA and IES, working with ten over members from different industries and organizations on certifying the bus technicians.

He has conducted different type of automotive courses, both customized courses and public courses.

Currently 4 popular modules he is conducting are:

1. Automotive Engine Technology
2. Automotive Electrics and Sensor Technology
3. Automotive Powertrain and Chassis Technology
4. Guide on Car Maintenance