



SKILL PROGRAMS CATALOG 2024

Your 'ACCESS' To Future Mobility Knowledge

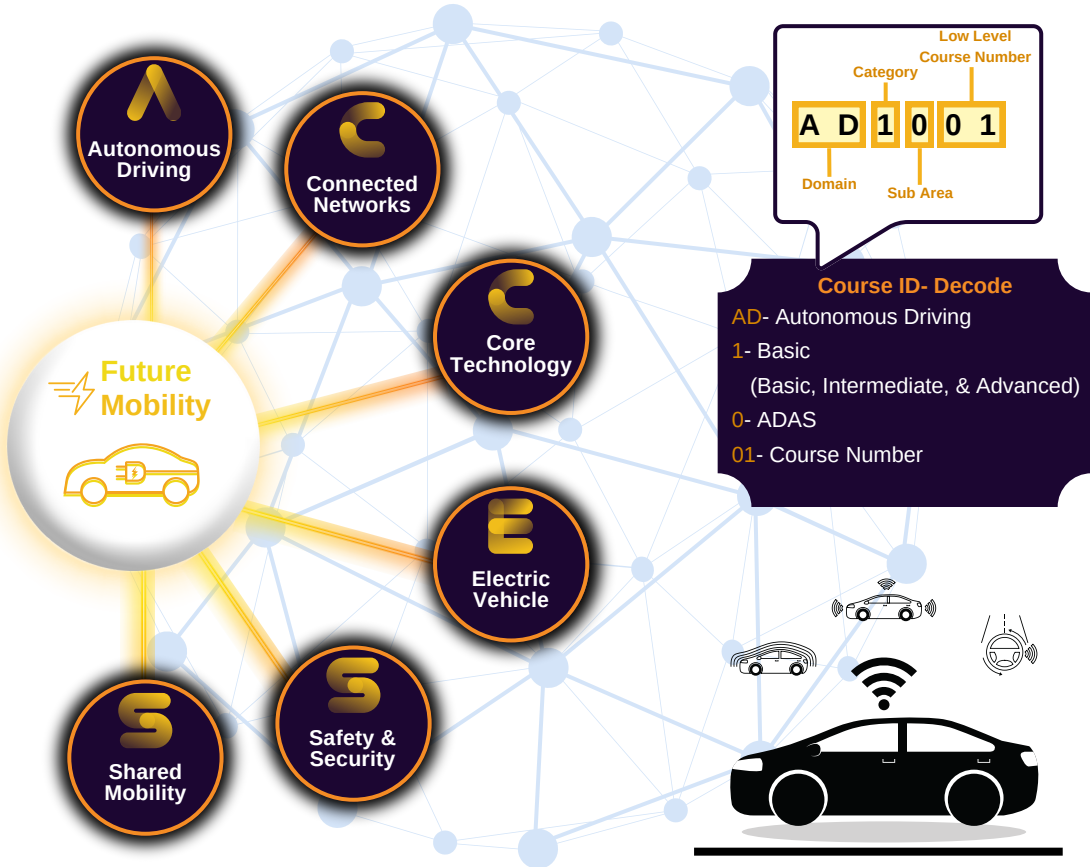
www.gyaniki.com (Click to Register)

A- Autonomous
C- Connected
C- Core
E- Electrified
S- Safe
S- Shared



devise

EMERGE





INTRODUCTION

gyaniki provides a 360 degree knowledge ACCESS for industry professionals and academia members.

- Our online portal serves as a knowledge hub
- Our techno-commercial research covers manufacturers, suppliers, technologies and ecosystem players in mobility including **Autonomous, Connected, Core Skills, Electric, Safety and Shared vehicles**
- We also host 'Tech Talk' and 'Tech Walk' session with Industry experts to provides insight on the evolving market
- Leveraging on our B2B technical training experience we are now launching training programs across domains and locations

**10K Training Hours
across 22 Locations**

**20K Trainees across
85 Companies**



**800 Courses delivered
by 18 Trainers**

**108 Catalog Courses
across 6 Domains**

As a registered learner with 'gyaniki' you have multiple benefits:

- Structured Courses for Basic, Intermediate and Advanced
- Case Studies, Assessments and Certifications
- Access to gyaniki database for continuous knowledge enrichment
- Access to Tech Talks & Tech Walks

'gyaniki' is one of the special initiatives by [Devise Electronics Pvt. Ltd.](#)



AUTONOMOUS



ACCESS

ADAS • AUTONOMOUS • AMRs

Description

- Autonomous vehicles (AV) are self-driving cars equipped with advanced sensors, cameras and artificial intelligence algorithms that enable them to navigate and operate without human intervention.
- These vehicles use a combination of technologies including machine learning and computer vision, to perceive their environment and make real-time decisions to navigate safely.
- The development of AV holds the potential to revolutionize mobility by improving road safety, reducing traffic congestion and increasing opportunities for individuals who may be unable to drive.





AUTONOMOUS



ACCESS

ADAS • AUTONOMOUS • AMRs

Key Skills

- Automotive Sensors and Actuators
- Vehicle Function Analysis
- Programming Skills (C++; Python)
- Gateway Controllers in Automotive
- Data Handling Manipulation



Job Roles

- Vehicle Integration Engineer
- Software Developer
- Sensor Fusion Engineer
- Data Science Engineer
- Vehicle Test Engineer



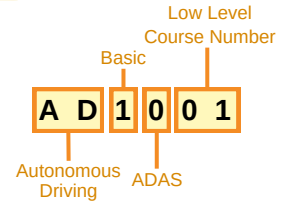


AUTONOMOUS



ACCESS

ADAS • AUTONOMOUS • AMRs



Course List

Course ID	Topic	Course Duration
AD1001	Introduction to ADAS	6 Hrs.
AD1002	ADAS Sensors - Localization and Perception	6 Hrs.
AD1003	ADAS Sensors and Integration	6 Hrs.
AD1004	ADAS Algorithms	6 Hrs.
AD1011	Market Overview ADAS	6 Hrs.
AD1012	Understanding Tesla Auto Pilot and GM Cruise	6 Hrs.
AD1101	Introduction to Autonomous Vehicles	6 Hrs.
AD1201	Introduction to AMRs	6 Hrs.
AD1202	AMR Architecture	6 Hrs.
AD2001	Selection Criteria for Radar	12 Hrs.
AD2002	Variants of Forward Facing Vehicle L1 and L2 ADAS Features	12 Hrs.



CONNECTED



WIRELESS COMMUNICATION • IoT • CVT • EDGE • 5G • CLOUD

Description

- Transportation ecosystem which includes vehicles, infrastructure and users are seamlessly interconnected through advanced communication technologies. (Cellular, Wifi, RAN)
- Multiple levels of connectivity like vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I) communication, vehicle-to-cloud (V2C) and vehicle-to-everything (V2X) are enabling real-time data exchange to enhance traffic flow, safety and efficiency.
- Connected mobility also encompasses features like smart navigation, predictive maintenance and in-car connectivity, fostering a more integrated and intelligent transportation system.
- This interconnected approach aims to optimize the overall mobility experience, reduce congestion, and pave the way for the future of smart and efficient transportation.





CONNECTED



WIRELESS COMMUNICATION • IoT • CVT • EDGE • 5G • CLOUD

Key Skills

- Automotive Sensors and Actuators
- Vehicle Function Analysis
- Embedded Systems
- Telecommunication protocols (5G, RAN, 3GPP..)
- FuSa and Cybersecurity



Job Roles

- Software Engineer
- IoT (Internet of Things) Developer
- Data Scientist/Analyst
- Safety Engineer
- Vehicle Test Engineer



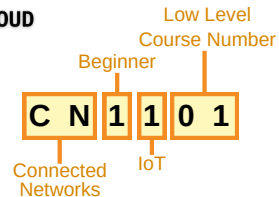


CONNECTED

ACCESS

WIRELESS COMMUNICATION • IoT • CVT • EDGE • 5G • CLOUD

Course List



Course ID	Topic	Course Duration
CN1001	Introduction to Wireless Networks	6 Hrs.
CN1002	Bluetooth 5.0	6 Hrs.
CN1003	LoraWAN	6 Hrs.
CN1101	Introduction to IoT and Telematics	6 Hrs.
CN1201	Intro to Connected Vehicles	6 Hrs.
CN1202	C-V2X Architecture	6 Hrs.
CN1203	DSRC Architecture	6 Hrs.
CN1301	Intro to Automotive 5G	6 Hrs.
CN1401	Intro to Edge Computing	6 Hrs.
CN1501	Intro to Cloud Computing	6 Hrs.
CN2301	Network Slicing in 5G	12 Hrs.



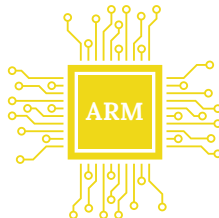
CORE



AUTO ELECTRONICS • IVN • EMBEDDED SYSTEMS • SOFTWARE
• DIAGNOSTICS • DATA HANDLING • DIGITAL TWIN • ICE

Description

- Auto product and services companies across the globe are facing an uphill task to develop and sustain technical teams as the automotive industry is evolving by drifting away from a traditional mechanical oriented system.
- With the influx of electronics, transition to electric mobility and increasingly complex software features are catching pace to for launch in production system.
- Companies need the talent to stay relevant in the 'future mobility' areas and they need it now.
- The challenge of bridging the gap with infusion/upskilling of talents with core skills in the organization is the Key to future opportunities.





CORE



ACCESS

AUTO ELECTRONICS • IVN • EMBEDDED SYSTEMS • SOFTWARE
• DIAGNOSTICS • DATA HANDLING • DIGITAL TWIN • ICE

Key Skills

- Upskilling experience
- Vehicle Function Analysis
- New technology awareness
- Key Markets Analysis
- Benchmarking and Costing



Job Roles

- Learning and Development Chief
- Lead Trainer
- Future mobility Consultant
- Data Analyst
- Market Research Analyst





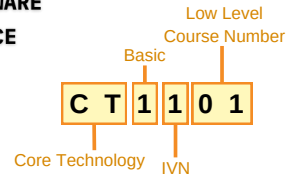
CORE



ACCESS

AUTO ELECTRONICS • IVN • EMBEDDED SYSTEMS • SOFTWARE
• DIAGNOSTICS • DATA HANDLING • DIGITAL TWIN • ICE

Course List



Course ID	Topic	Course Duration
CT1001	Intro to Automotive Electronics	6 Hrs.
CT1002	Automotive Sensors and Actuators	6 Hrs.
CT1003	Automotive Wiring Harness	6 Hrs.
CT1101	In Vehicle Networking Basics - CAN, LIN, Automotive Ethernet	6 Hrs.
CT1102	Introduction to CAN	6 Hrs.
CT1103	Introduction to LIN	6 Hrs.
CT1104	Introduction to Flexray	6 Hrs.
CT1105	Introduction to Automotive Ethernet	6 Hrs.
CT1201	Embedded System Development Process	6 Hrs.
CT1302	Software Development Life Cycle	6 Hrs.
CT1303	Misra C	6 Hrs.



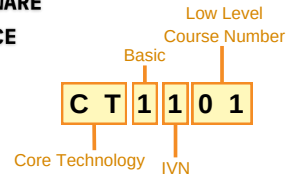
CORE



ACCESS

AUTO ELECTRONICS • IVN • EMBEDDED SYSTEMS • SOFTWARE
• DIAGNOSTICS • DATA HANDLING • DIGITAL TWIN • ICE

Course List



Course ID	Topic	Course Duration
CT1304	Model Based Software Development	6 Hrs.
CT1305	Autosar Based Architecture	6 Hrs.
CT1306	Software Testing	6 Hrs.
CT1307	Intro to ASPICE	6 Hrs.
CT1401	Introduction to Diagnostics	6 Hrs.
CT1402	On Board Diagnostics	6 Hrs.
CT1403	UDS Diagnostics on CAN	6 Hrs.
CT1404	Diagnostics on Internet Protocol	6 Hrs.
CT1501	Introduction to Data Handling, AI and ML	6 Hrs.
CT1502	Python Programming	6 Hrs.
CT1503	SQL Programming	6 Hrs.



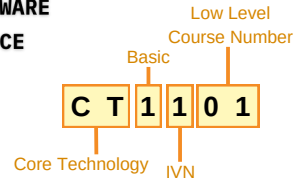
CORE



ACCESS

AUTO ELECTRONICS • IVN • EMBEDDED SYSTEMS • SOFTWARE
• DIAGNOSTICS • DATA HANDLING • DIGITAL TWIN • ICE

Course List



Course ID	Topic	Course Duration
CT1504	Mathematics for Machine Learning	6 Hrs.
CT1506	Basic Statistics for Machine Learning	6 Hrs.
CT1511	Case Studies - Automotive Hand Handling (CAN, Camera, Market Sentiment)	6 Hrs.
CT1701	Digital Twin	6 Hrs.
CT1901	ICE Engine Emission Control Systems	6 Hrs.
CT2001	Vehicle E/E Architecture	12 Hrs.
CT2102	CAN Based Network Architecture	12 Hrs.
CT2103	SAE J1939 Based Vehicle Architecture	12 Hrs.
CT2104	CAN FD	12 Hrs.
CT2105	CAN Message Filtering	6 Hrs.
CT2106	Troubleshooting CAN related field issues	12 Hrs.



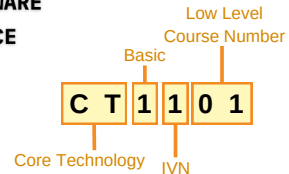
CORE



ACCESS

**AUTO ELECTRONICS • IVN • EMBEDDED SYSTEMS • SOFTWARE
• DIAGNOSTICS • DATA HANDLING • DIGITAL TWIN • ICE**

Course List



Course ID	Topic	Course Duration
CT2111	Ethernet Based Vehicle Architecture	12 Hrs.
CT2302	Software FMEA	12 Hrs.
CT2303	ASPICE Evaluation	12 Hrs.
CT2502	Data Science using Python	12 Hrs.
CT2503	Data Visualization using Power BI	12 Hrs.
CT2504	Advanced Mathematics for Machine Learning	12 Hrs.
CT2505	Data Monetization in Automotive	12 Hrs.
CT3502	Deep Learning Using Python	12 Hrs.
CT3503	Building Machine Learning Models	12 Hrs.



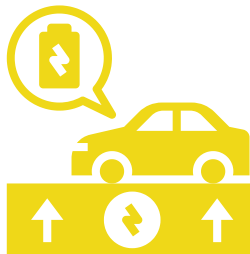
ELECTRIFIED

ACCESS

EV BASICS • BATTERY • MOTOR & DRIVES • CHARGER
• EV REGULATIONS • CONTROL SYSTEM • HV ARCHITECTURE • EV DEVELOPMENT

Description

- Electric mobility involves the use of electric batteries or fuel cells, reducing or eliminating reliance on traditional internal combustion engines.
- This sustainable mode of transportation aims to mitigate environmental impact by lowering carbon emissions and dependence on fossil fuels.
- The growing popularity of electric mobility contributes to a cleaner and greener transportation sector, with advancements in battery technology enhancing vehicle range and charging infrastructure expanding to support widespread adoption.





ELECTRIFIED

ACCESS

- EV BASICS • BATTERY • MOTOR & DRIVES • CHARGER
- EV REGULATIONS • CONTROL SYSTEM • HV ARCHITECTURE • EV DEVELOPMENT

Key Skills

- Battery chemistry, Electrical systems
- Electric powertrain design
- Motor control algorithms
- EV charging standards, Protocols
- Programming Skills (C++; Python)



Job Roles

- Battery Systems Engineer
- Powertrain Engineer
- Charging Infrastructure Engineer
- EV Software Developer
- EV Test Engineer



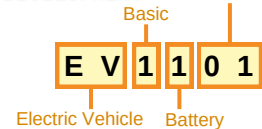


ELECTRIFIED

ACCESS

EV BASICS • BATTERY • MOTOR & DRIVES • CHARGER
• EV REGULATIONS • CONTROL SYSTEM • HV ARCHITECTURE • EV DEVELOPMENT

Low Level
Course Number



Course List

Course ID	Topics	Course Duration
EV1001	EV Sprint Class	6 Hrs.
EV1002	Hybrid and Electric Powertrains	6 Hrs.
EV1005	Range and Power of Electric Two Wheeler	6 Hrs.
EV1006	Range and Power for Four Wheeler Cargo	6 Hrs.
EV1101	Regulatory and Certification Requirements for EV	6 Hrs.
EV1201	Energy Storage System Basics	6 Hrs.
EV1202	Battery Pack Design	6 Hrs.
EV1203	Battery Management System	6 Hrs.
EV1301	Motor Architectures and Choice for EV	6 Hrs.
EV1302	Motor and Controller Hands-on	6 Hrs.
EV1303	Simulation of Motors	6 Hrs.



ELECTRIFIED

ACCESS

EV BASICS • BATTERY • MOTOR & DRIVES • CHARGER
• EV REGULATIONS • CONTROL SYSTEM • HV ARCHITECTURE • EV DEVELOPMENT

Low Level
Course Number

Basic

E V 1 1 0 1

Electric Vehicle

Battery

Course List

Course ID	Topics	Course Duration
EV1304	Motor Control Techniques	6 Hrs.
EV1401	Chargers and Charging Infrastructure	6 Hrs.
EV1501	EV Vehicle Controls	6 Hrs.
EV1502	EV Software Features	6 Hrs.
EV1601	HV Wiring and Power Distribution	6 Hrs.
EV1602	Power Electronics for EV	6 Hrs.
EV1901	EV Product Development Challenges	6 Hrs.
EV2202	Thermal Management of Batteries	12 Hrs.
EV2203	EU Battery Regulation	6 Hrs.
EV2204	SoC and SoH Calculation Methods	12 Hrs.
EV2301	Design and Development of Hub Motor	12 Hrs.

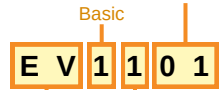


ELECTRIFIED

ACCESS

EV BASICS • BATTERY • MOTOR & DRIVES • CHARGER
• EV REGULATIONS • CONTROL SYSTEM • HV ARCHITECTURE • EV DEVELOPMENT

Low Level
Course Number



Course List

Electric Vehicle Battery

Course ID	Topics	Course Duration
EV2302	Design and Development of Mid Drive Motor	12 Hrs.
EV2303	Design and Development of Inverter (< 8 kw)	12 Hrs.
EV2401	ISO 15118 Plug and Charge	6 Hrs.
EV2402	CCS Charging Protocol	12 Hrs.
EV2403	Charging Station - Operations and Maintenance	6 Hrs.





SAFE



ACCESS

FuSA • HV Safety • OTA • Cyber Security

Description

- Safe mobility focuses on implementing measures and technologies to reduce accidents and injuries in transportation.
- ADAS “Advance Driver Assist System” features include collision avoidance systems through intelligent assist systems as well as improvements in infrastructure design and traffic management.
- The goal is to create a secure and reliable transportation environment, promoting the well-being of road users and pedestrians while minimizing the impact of accidents through proactive safety measures and innovative technologies.



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SAFE



ACCESS

FuSA • HV Safety • OTA • Cyber Security

Key Skills

- Automotive Sensors and Actuators
- Computing Systems and S/w stacks for ADAS
- ADAS Feature Development
- Gateway Controllers in Automotive
- FuSa and Cybersecurity



Job Roles

- Vehicle Integration Engineer
- Software Developer
- Sensor Fusion Engineer
- Safety Engineer
- Vehicle Test Engineer



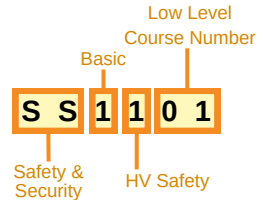


SAFE



ACCESS

FuSA • HV Safety • OTA • Cyber Security



Course List

Course ID	Topics	Course Duration
SS1001	Introduction to Functional Safety	6 Hrs.
SS1101	High Voltage Safety	6 Hrs.
SS1201	Introduction to OTA and FOTA	6 Hrs.
SS1301	Introduction to Automotive Cyber Security	6 Hrs.
SS2301	Cybersecurity - Threats & Vulnerabilities	6 Hrs.
SS3002	HARA	12 Hrs.
SS3302	TARA	12 Hrs.





SHARED



ACCESS



Shared • Smart • Last Mile • Transport

Description

- We are witnessing transportation models where individuals share vehicles rather than owning them exclusively. This includes ridesharing services, ride-hailing services, carpooling, bike-sharing programs and other collaborative transportation solutions transforming Mobility as a Service (MaaS)
- Shared mobility aims to optimize resource utilization, reduce congestion and minimize environmental impact by fostering a more efficient and flexible approach to transportation, often facilitated through digital platforms and mobile applications.





SHARED



ACCESS



Shared • Smart • Last Mile • Transport

Key Skills

- Software development(Python, Java, Java Script)
- UX/UI design tools.
- Market trends and Research
- API integration, Data interoperability
- Project management and Service Delivery



Job Roles

- MaaS Platform Developer
- User Experience (UX) Designer
- Business Analyst
- Integration Specialist
- Operations Manager





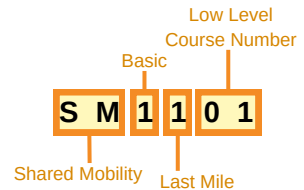
SHARED



ACCESS



Shared • Smart • Last Mile • Transport



Course List

Course ID	Topics	Course Duration
SM1001	Introduction to Shared Mobility	6 Hrs.
SM1101	Last Mile Mobility	6 Hrs.
SM1201	Smart Mobility	6 Hrs.
SM1201	Intelligent Transportation Systems	6 Hrs.
SM2001	Business Opportunities in Urban Shared Mobility	6 Hrs.
SM2101	Last Mile Fleet Management and Operations	6 Hrs.





2024 CALENDAR



Our Upcoming Courses

February, March, & April 2024



PUNE



BENGALURU



COIMBATORE

Also checkout our **Online** course



www.gyaniki.com



2024 CALENDAR

Upcoming Courses in 2024

Date	Location	Course ID	Topic
17. Feb	Pune	EV1005	Range and Power of Electric Two Wheeler
24. Feb	Pune	CT1501	Introduction to Data Handling, AI and ML
2. Mar	Pune	EV1006	Range and Power for Four Wheeler Cargo
16. Mar	Pune	EV1202	Battery Pack Design
23. Mar	Pune	CT1701	Digital Twin
30-Mar	Pune	CT1511	Case Studies - Automotive Hand Handling
6-Apr	Pune	CT2301	Cybersecurity - Threats & Vulnerabilities
13. Apr	Pune	EV1302	Motor and Controller Hands-on
27. Apr	Pune	AD1003	ADAS Sensors and Integration
21-23. Feb	Online	EV1001	EV Sprint Class
24. Feb	Online	SS1301	Introduction to Automotive Cyber Security
12-14 Mar	Online	CT1102	Introduction to CAN
20-22. Mar	Online	EV1001	EV Sprint Class
17-19. Apr	Online	EV1001	EV Sprint Class



2024 CALENDAR

Upcoming Courses in 2024

Date	Location	Course ID	Topic
24. Feb	Bengaluru	EV1901	EV Product Development Challenges
9. Mar	Bengaluru	CT1101	In Vehicle Networking Basics - CAN, LIN, Automotive Ethernet
16. Mar	Bengaluru	EV1401	Chargers and Charging Infrastructure
6. Apr	Bengaluru	AD1002	ADAS Sensors - Localization and Perception
13. Apr	Bengaluru	AD1004	ADAS Algorithms
20. Apr	Bengaluru	EV1502	EV Software Features
24. Feb	Coimbatore	EV1401	Chargers and Charging Infrastructure
16. Mar	Coimbatore	EV1303	Simulation of Motors
23. Mar	Coimbatore	EV1302	Motor and Controller Hands-on
13. Apr	Coimbatore	EV1501	EV Vehicle Controls
20. Apr	Coimbatore	AD1002	ADAS Sensors - Localization and Perception

Note: More Catalog Courses to be launched in May 2024.





gyaniki MEMBERSHIP

SCAN



Register yourself by scanning the
QR Code or
Visit- www.gyaniki.com

Upskill For



Start Today

Hands-on
Experience
& Industry
insights

