

AUTOMOTIVE TECHNICAL ACADEMY (ATA)

ATA-IM100

Infotainment, Multimedia & Connected Vehicle Systems Technology

Curriculum Framework (Version 1.0)

Programme Status: Proposed for Approval

Programme Information

Programme Code:

ATA-IM100

Programme Title:

Infotainment, Multimedia & Connected Vehicle Systems Technology

Qualification Level:

Professional Diploma

Duration:

48 Weeks

Training Days:

5 Days Per Week

Hours Per Day:

8 Hours

Total Contact Hours:

1,920 Hours

Teaching Philosophy

- **70% Practical = 1,344 Hours**
- **30% Theory = 576 Hours**

The programme is delivered using competency-based education with extensive laboratory practice, real-vehicle installations, diagnostics, software configuration, calibration, and system integration.

Entry Requirement

Successful completion of:

ATA-E000 – Automotive Electrical & Electronics Foundation

or

Recognition of Prior Learning (RPL) in accordance with ATA admission policy.

Programme Goal

To produce highly competent technicians capable of installing, configuring, diagnosing, repairing, updating, and integrating modern automotive infotainment, multimedia, navigation, communication, and connected vehicle systems for passenger vehicles, commercial vehicles, and fleet applications.

Graduate Competency Profile

Graduates will be able to:

- Install and configure OEM and aftermarket infotainment systems.
 - Diagnose multimedia and communication faults.
 - Install premium automotive audio systems.
 - Configure Android Auto and Apple CarPlay.
 - Install and calibrate navigation systems.
 - Diagnose instrument clusters and digital displays.
 - Install reverse cameras, 360° camera systems, and parking assistance technologies.
 - Configure Bluetooth, Wi-Fi, USB, NFC, and smartphone connectivity.
 - Understand connected vehicle services and telematics integration.
 - Perform software updates and system calibration using OEM-informed procedures.
 - Complete quality assurance inspections and customer documentation.
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Programme Structure

Module	Title	Weeks	Hours
IM100-01	Infotainment Workshop Safety, Professional Practice & Installation Equipment	3	120
IM100-02	Automotive Audio, Multimedia & Entertainment Systems	6	240
IM100-03	Navigation, Smartphone Integration & Connected Services	7	280
IM100-04	Instrument Clusters, Digital Displays & Human–Machine Interface (HMI) Systems	6	240

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Module	Title	Weeks	Hours
IM100-05	Cameras, Parking Assistance & Driver Information Systems	6	240
IM100-06	Vehicle Connectivity, In-Vehicle Networks & Software Configuration	7	280
IM100-07	Diagnostics, Calibration, Performance Verification & System Integration	5	200
IM100-08	Workshop Management, Customer Support & Quality Assurance	2	80
IM100-09	Integrated Infotainment & Connected Vehicle Projects	4	160
IM100-10	Industrial Attachment, Capstone Project & Final Assessment	2	80
TOTAL		48 Weeks	1,920 Hours

Module 1

Infotainment Workshop Safety, Professional Practice & Installation Equipment

Duration: 3 Weeks

Topics

- Workshop safety
- Electrical protection
- Trim removal procedures
- ESD precautions
- Battery isolation procedures
- Vehicle interior protection
- Professional ethics
- Documentation
- Tool care

Practical Competencies

Students will:

- Prepare vehicles for multimedia installation.

- Protect vehicle interiors and electronic systems.
 - Use installation equipment safely.
 - Complete professional service documentation.
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Module 2

Automotive Audio, Multimedia & Entertainment Systems

Duration: 6 Weeks

Topics

- OEM audio systems
- Aftermarket head units
- Amplifiers
- Speakers
- Subwoofers
- Signal processors (DSP)
- Audio wiring
- Noise suppression
- Audio tuning
- Multimedia playback systems

Practical Competencies

Students will:

- Install complete audio systems.
 - Diagnose sound quality issues.
 - Configure amplifiers and DSP units.
 - Test multimedia performance.
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Module 3

Navigation, Smartphone Integration & Connected Services

Duration: 7 Weeks

Topics

- GPS navigation systems
- Digital mapping
- Android Auto
- Apple CarPlay
- Bluetooth pairing

- USB connectivity
- Wi-Fi integration
- NFC concepts
- Voice control systems
- Connected vehicle services overview

Practical Competencies

Students will:

- Configure smartphone integration.
 - Install navigation systems.
 - Diagnose connectivity issues.
 - Verify communication functions.
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Module 4

Instrument Clusters, Digital Displays & Human–Machine Interface (HMI) Systems

Duration: 6 Weeks

Topics

- Analog and digital instrument clusters
- TFT displays
- Touchscreen systems
- HMI principles
- Display diagnostics
- Steering wheel controls
- User interface configuration
- Display calibration

Practical Competencies

Students will:

- Diagnose display faults.
 - Configure instrument clusters.
 - Test steering wheel multimedia controls.
 - Validate HMI operation.
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Module 5

Cameras, Parking Assistance & Driver Information Systems

Duration: 6 Weeks

Topics

- Reverse cameras
- 360° camera systems
- Parking sensors
- Parking assistance modules
- Display integration
- Camera calibration concepts
- Driver information displays
- Warning systems

Practical Competencies

Students will:

- Install reverse cameras.
 - Configure parking sensors.
 - Integrate camera systems with displays.
 - Verify parking assistance performance.
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Module 6

Vehicle Connectivity, In-Vehicle Networks & Software Configuration

Duration: 7 Weeks

Topics

- CAN Bus applications
- LIN Bus applications
- Ethernet (automotive overview)
- Multimedia communication
- OTA update concepts
- Software configuration
- Module coding awareness
- System synchronization
- Connected vehicle diagnostics

Practical Competencies

Students will:

- Diagnose multimedia communication faults.
- Configure infotainment software.
- Perform supported software updates.

- Validate network communication.
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Module 7

Diagnostics, Calibration, Performance Verification & System Integration

Duration: 5 Weeks

Topics

- Scan tool diagnostics
- Oscilloscope applications
- Functional testing
- Audio analysis
- Camera verification
- Display calibration
- Software validation
- Customer acceptance testing

Practical Competencies

Students will:

- Diagnose infotainment faults.
 - Calibrate supported systems.
 - Verify complete system functionality.
 - Deliver customer-ready installations.
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Module 8

Workshop Management, Customer Support & Quality Assurance

Duration: 2 Weeks

Topics

- Job estimation
- Customer consultation
- Documentation
- Warranty procedures
- Service reports
- Quality inspection
- Entrepreneurship
- Professional communication

Practical Competencies

Students will:

- Prepare quotations.
 - Complete customer documentation.
 - Conduct quality assurance inspections.
 - Manage infotainment service operations.
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Module 9

Integrated Infotainment & Connected Vehicle Projects

Duration: 4 Weeks

Students complete comprehensive practical projects including:

- OEM multimedia installation
 - Premium audio system upgrade
 - Android Auto and Apple CarPlay configuration
 - Reverse camera installation
 - Parking sensor installation
 - Navigation system setup
 - Display diagnostics
 - Final system verification and customer handover
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Module 10

Industrial Attachment, Capstone Project & Final Assessment

Duration: 2 Weeks

Students complete:

- Supervised industrial attachment
 - Complete infotainment system integration project
 - Practical trade test
 - Written examination
 - Technical presentation
 - Portfolio assessment
 - Exit competency assessment
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Required Laboratories & Workshops

- Automotive Infotainment Installation Workshop
- Premium Audio Systems Laboratory

- Navigation & Connected Vehicle Laboratory
 - Digital Display & Instrument Cluster Laboratory
 - Camera & Parking Assistance Laboratory
 - Vehicle Network & Software Configuration Laboratory
 - Quality Inspection & Commissioning Centre
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Essential Training Equipment

Students should train with:

- OEM and aftermarket multimedia head units
 - Automotive audio analyzers
 - Amplifiers and DSP processors
 - Speaker testing systems
 - Reverse and 360° camera training kits
 - Parking sensor training boards
 - Instrument cluster simulators
 - Automotive diagnostic scan tools
 - Automotive oscilloscopes
 - CAN/LIN/Ethernet network simulators
 - Software configuration platforms
 - GPS navigation demonstration units
 - Trim removal tool kits
 - Wiring harness training boards
 - Digital multimeters
 - Professional PPE
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Assessment Structure

Assessment	Weight
Continuous Practical Assessment	35%
Practical Trade Tests	30%
Written Examination	15%
Capstone Infotainment Integration Project	15%
Professional Conduct & Industrial Attachment	5%

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Assessment	Weight
TOTAL	100%

Career Opportunities

Graduates may work as:

- Automotive Infotainment Technician
- Multimedia Systems Technician
- Automotive Audio Installation Specialist
- Connected Vehicle Systems Technician
- Navigation Systems Technician
- Instrument Cluster & Display Technician
- Dealership Multimedia Technician
- Vehicle Electronics Integration Specialist
- Technical Instructor
- Independent Automotive Infotainment Business Owner