

# EV Battery Management System for Underwriter and Actuary

**PROGRAMME DATE:**

Level 1: 6 – 8 April 2026 (3 days)

Level 2: 11 – 13 May 2026 (3 days)

**EXAMINATION DATE:**

Level 1: 9 May 2026

Level 2: 6 June 2026

**VENUES:**

Kuala Lumpur

**TOTAL CPD HOURS:**

42 Hours

**PROFICIENCY LEVEL:**

Intermediate & Proficient



26 Prime Skills  
8 Power Skills



Training Programme no:  
10001592094

# PROGRAMME STRUCTURE



## **PROGRAMME DATE:**

**Level 1:** 6 – 8 April 2026 (3 days)

**Level 2:** 11 – 13 May 2026 (3 days)



## **EXAM DATE:**

**Level 1:** 9 May 2026

**Level 2:** 6 June 2026



## **TRAINING VENUE & DELIVERY MODE:**

**Level 1:** Kuala Lumpur (Classroom)

**Level 2:** Kuala Lumpur (On-Site Learning)



## **CPD HOURS (TOTAL 42):**

**Level 1:** 21 Hours

**Level 2:** 21 Hours

### **Important Notice on Content Usage:**

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Your cooperation ensures a secure and respectful learning environment for all.

# PROGRAMME OVERVIEW

As the automotive industry undergoes a transformative shift towards sustainability, understanding electric vehicles (EVs) has become increasingly vital for professionals in underwriting and actuarial roles.

To address this need, **The Asian Institute of Insurance (Aii) and Beijiao Asia Tech (Beijing) Energy Technology CO. LTD**, the implementation and delivery arm for Beijing Jiaotong University School of Electrical Engineering New Energy Institute, renowned for its extensive expertise in EV battery research and training, have developed insightful programme tailored specifically for the Malaysian and Asian markets.

This specialised training programme is designed to **equip underwriters and actuaries** with a comprehensive knowledge base and practical skills tailored to the unique challenges associated with insuring and assessing risks in the rapidly evolving EV market.

## **Key Learning Areas:**

- Understanding the internal structure and key components of electric vehicles.
- Exploring insurance policies relevant to EVs within China's regulatory framework.
- Identifying and detecting insurance fraud specific to the EV sector.

**Skill Development:** The training will focus on risk assessment techniques and the calculation of insurance premiums specific to EVs, equipping attendees for effective underwriting and estimation tasks.

**Empowerment for Future Challenges:** This programme empowers participants to excel in the dynamic field of electric vehicles and to effectively address emerging risks in the insurance landscape.

# PROGRAMME OBJECTIVE

This programme is structured into two levels and will be **conducted entirely in English**. Upon successful completion of all levels, participants will receive a certification issued by the **Asian Institute of Insurance (Aii). Beijiao Asia Tech (Beijing) Energy Technology Co. Ltd.** is our official learning partner responsible for delivering this certification programme.

By the end of the programme, you will be equipped with below knowledge and skills.

## **Knowledge Acquisition:**

1. Structure of Electric Vehicles: Understand the internal structure of electric vehicles and be familiar with the functions and collaborative operation principles of various components.
2. Knowledge of the Three Electric Systems: Understand the working mechanisms and technical characteristics of the battery, motor, and electric control system.
3. Insurance Knowledge for Electric Vehicles: Study various terms and policies of electric vehicle insurance in China.
4. Anti-Fraud Identification Techniques in Insurance: Gain a deep understanding of common means and characteristics of insurance fraud and learn to accurately identify insurance fraud scenarios using professional techniques and methods.

## **Skill Enhancement:**

1. In-depth Learning Based on Mainstream Models: The course focuses on mainstream models such as BYD and Tesla, enabling students to combine real cases to gain a deeper understanding of electric vehicle knowledge.
2. Risk Assessment Capability: Use the acquired knowledge to accurately analyse risk factors associated with electric vehicles, providing risk assessment support for subsequent work.
3. Calculation of Electric Vehicles Insurance Premiums: With a grasp of electric vehicle insurance knowledge and anti-fraud techniques, this in-depth programme provides professional technical support for underwriting and estimation work, effectively carrying out related business.

# PROGRAMME CONTENT

## Level 1

### : EV Battery Management System for Underwriter and Actuary

Date : 6 – 8 April 2026 (3 days)  
 Time : 9:00 am – 5:00 pm  
 Venue : Aii Training Room, Level 2, AICB Building, KL  
 Training Hour : 21 hours

### Programme Outline:

1. Understand basic knowledge of electric vehicles and be able to distinguish between the structural differences of pure electric vehicles and hybrid vehicles.
2. Master the main structure of electric vehicle battery packs.
3. Understand the differences between electric vehicle insurance products in China and the comprehensive commercial vehicle insurance.
4. Grasp the cost structure and risk factors of electric vehicles.

| Day   | Topic Level 1    | Topic Level 2                                                   | Topic Level 3                                               | Mode     | Hour |
|-------|------------------|-----------------------------------------------------------------|-------------------------------------------------------------|----------|------|
| Day 1 | 1. Basics of EVs | 1.1 The Current Status and Development Trends of the EVs Market | 1.1.1 The current situation of the Electric Vehicles market | In Class | 1    |
|       |                  |                                                                 | 1.1.2 Development trends of Electric Vehicles               |          | 1    |
|       |                  | 1.2 Classification of EVs                                       | 1.2.1 Battery Electric Vehicles                             | In Class | 2    |
|       |                  |                                                                 | 1.2.2 Hybrid Electric Vehicles                              |          |      |
|       |                  |                                                                 | 1.2.3 Fuel cell Electric Vehicles                           |          |      |
|       |                  |                                                                 | 1.2.4 Other types of Electric Vehicles                      |          |      |
|       |                  | 1.3 Structure and Working Principle of Pure EVs                 | 1.3.1 The structure of Battery Electric Vehicles            | In Class | 2    |
|       |                  |                                                                 | 1.3.2 The working principle of Battery Electric Vehicles    |          |      |
|       |                  | 1.4 Structure and Working Principle of HEVs                     | 1.4.1 The structure of Hybrid Electric Vehicles             | In Class | 2    |
|       |                  |                                                                 | 1.4.2 The working principle of Hybrid Electric Vehicles     |          |      |

Continue...

# PROGRAMME CONTENT

## Level 1

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Date : 6 – 8 April 2026 (3 days)  
 Time : 9:00 am – 5:00 pm  
 Venue : Aii Training Room, Level 2, AICB Building, KL  
 Training Hour : 21 hours

| Day       | Topic Level 1                             | Topic Level 2                                            | Topic Level 3                                                                                                                      | Mode                    | Hour                                      |
|-----------|-------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------|
| Day 2     | 2. Introduction to Power Batteries of EVs | 2.1 Introduction to the Structure of Power Battery Packs | 2.1.1 Power battery module (Battery PACK)                                                                                          | In Class                | 2                                         |
|           |                                           |                                                          | 2.1.2 Battery Management System (BMS)                                                                                              |                         |                                           |
|           |                                           |                                                          | 2.1.3 Auxiliary components of power batteries                                                                                      |                         |                                           |
|           |                                           |                                                          | 2.1.4 Power battery box                                                                                                            |                         |                                           |
| Day 3     | 3. EVs Insurance                          | 3.1 Commercial Insurance for EVs                         | 3.1.1 Introduction to commercial insurance products for Electric Vehicles                                                          | In Class                | 2                                         |
|           |                                           |                                                          | 3.1.2 The differences between commercial insurance for Electric Vehicles and comprehensive commercial insurance for motor vehicles |                         | 2                                         |
|           |                                           |                                                          | 3.1.3 Insurance - purchasing recommendations for Electric Vehicles                                                                 |                         | 2                                         |
|           |                                           |                                                          | 3.1.4 Insurance application process for Electric Vehicles                                                                          |                         | 2                                         |
|           |                                           |                                                          | 3.1.5 Risk management – pre-health check for Electric Vehicles                                                                     |                         | 2                                         |
|           |                                           |                                                          | 3.2 Analysis of the Cost Structure and Risk Factors of EVs                                                                         |                         | 3.2.1 Cost structure of Electric Vehicles |
|           |                                           | 3.2.2 Analysis of risk factors for Electric Vehicles     |                                                                                                                                    | 1                       |                                           |
|           |                                           | In 1 month                                               | Q&A                                                                                                                                | Q&A Online (Chat Group) |                                           |
| Exam Date |                                           | 9 May 2026                                               |                                                                                                                                    |                         |                                           |

- End -

# PROGRAMME CONTENT

## Level 2

### : EV Battery Management System for Underwriter and Actuary

Date : 11 – 13 May 2026 (3 days)  
Time : 9:00 am – 5:00 pm  
Venue : On-site Learning, TBA  
Training Hour : 21 hours

#### Programme Outline:

1. Understand cutting-edge technologies for electric vehicle batteries, motors, and charging.
2. Master the main parameters of electric vehicle power batteries and the causes of battery degradation and solutions.
3. Learn about insurance for charging piles and external power grid failure loss insurance in China.
4. Master the identification methods for anti-fraud in electric vehicle insurance.

| Day   | Topic Level 1                | Topic Level 2                                            | Topic Level 3                                               | Mode     | Hour |
|-------|------------------------------|----------------------------------------------------------|-------------------------------------------------------------|----------|------|
| Day 1 | 1. Advanced Knowledge of EVs | 1.1 Introduction to the Cutting-edge Technologies of EVs | 1.1.1 Battery technology                                    | In Class | 2    |
|       |                              |                                                          | 1.1.2 Charging technology                                   |          |      |
|       |                              |                                                          | 1.1.3 Intelligent driving technology                        |          |      |
|       |                              |                                                          | 1.1.4 Electric drive system technology                      |          |      |
|       |                              |                                                          | 1.1.5 Intelligent cockpit and vehicle networking technology |          |      |
|       | 2. Power Batteries of EVs    | 2.1 Types of Power Batteries for EVs                     | 2.1.1 Types of power batteries                              | In Class | 2    |
|       |                              |                                                          | 2.1.2 Main parameters of power batteries                    |          |      |
|       |                              | 2.2 The Internal Structure of the Power Battery          | 2.2.1 Positive electrode of the battery                     | In Class | 2    |
|       |                              |                                                          | 2.2.2 Negative electrode of the battery                     |          |      |
|       |                              |                                                          | 2.2.3 Electrolyte solution of the battery                   |          |      |
|       |                              |                                                          | 2.2.4 Battery case                                          |          |      |
|       |                              | 2.3 Battery Degradation and User Usage Recommendations   | 2.3.1 Causes of battery degradation                         | In Class | 2    |
|       |                              |                                                          | 2.3.2 User usage suggestion (Battery balancing)             |          |      |

Continue...

# PROGRAMME CONTENT

## Level 2

### : EV Battery Management System for Underwriter and Actuary

Date : **11 – 13 May 2026 (3 days)**  
 Time : 9:00 am – 5:00 pm  
 Venue : On-site Learning, TBA  
 Training Hour : 21 hours

| Day                                                                                                                                  | Topic Level 1                                                               | Topic Level 2                                                                  | Topic Level 3                                                                         | Mode                                         | Hour     |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------|----------|
| Day 2                                                                                                                                | 3. EVs Insurance                                                            | 3.1 Analysis of the Current Situation of the Electric Vehicle Insurance Market | 3.1.1 Analysis of the current situation of the new Electric Vehicles insurance market | In Class                                     | 2        |
|                                                                                                                                      |                                                                             | 3.2 Charging Infrastructure insurance                                          | 3.2.1 Loss insurance for self-used charging infrastructure                            | In Class                                     | 1        |
|                                                                                                                                      |                                                                             |                                                                                | 3.2.2 Liability insurance for self-used charging infrastructure                       | In Class                                     | 1        |
|                                                                                                                                      |                                                                             | 3.3 External Power Grid Failure Loss Insurance                                 | 3.3.1 External power grid failure loss insurance                                      | In Class                                     | 1        |
|                                                                                                                                      |                                                                             | Day 3                                                                          | 3.4 Application of Insurance Anti-fraud Identification Technologies                   | 3.4.1 Methods of identifying insurance fraud | In Class |
| 3.4.2 Pre-underwriting inspection - Introduction to the detection of Electric Vehicles power batteries before insurance underwriting | In Class                                                                    |                                                                                |                                                                                       | 2                                            |          |
| 3.4.3 Introduction to the development of insurance anti-fraud identification                                                         | In Class                                                                    |                                                                                |                                                                                       | 2                                            |          |
| 3.5 Big Data Anti-Fraud Applications in EVs                                                                                          | 3.5.1 Technical specifications for the remote service and management system |                                                                                | In Class                                                                              | 1                                            |          |
|                                                                                                                                      | 3.5.2 New energy data and Anti-fraud scenarios                              |                                                                                | In Class                                                                              | 1                                            |          |
|                                                                                                                                      | Examination                                                                 |                                                                                | Online Examination                                                                    |                                              |          |
| In 1 month                                                                                                                           | Q&A                                                                         | Q&A Online (Chat Group)                                                        |                                                                                       |                                              |          |
| Exam Date                                                                                                                            |                                                                             | 6 June 2026                                                                    |                                                                                       |                                              |          |

- End -



# TARGET AUDIENCE

- Underwriter, actuary and product development team of insurance and reinsurance company.
- Professional who wants to pursue the knowledge and skills in this sector.

## PROGRAMME FEE

|                                                                 | Aii Member | Non-Member |
|-----------------------------------------------------------------|------------|------------|
| <b>Registration Fee</b><br><i>(Closing Date: 31 March 2026)</i> | RM 7,500   | RM 8,250   |
|                                                                 | USD 1,800  | USD 2,000  |

**The fee is inclusive of :**

- ✓ 2 levels of programme (Including exam fee).
- ✓ Including SST.

## ASSESSMENT STRUCTURE

| Level          | Format                         | Passing Rate | Grade         |
|----------------|--------------------------------|--------------|---------------|
| <b>Level 1</b> | 100% Multiple Choice Questions | 50%          | Pass/Non-Pass |
| <b>Level 2</b> | 100% Multiple Choice Questions | 50%          | Pass/Non-Pass |

# SPEAKER PROFILE



**Chew Hock Teong**

**Key Facilitator for Level 1 and Level 2 in Malaysia**

Denzel serves as the key facilitator for the Electric Vehicle (EV) training programme, bringing with him over 20 years of extensive experience in workshops, coaching, training, and business presentations.

His passion for helping individuals grow and organisations prosper has made him an invaluable resource throughout the three-level programme in collaboration with stakeholders from China.

With a rich background in conducting training across multiple countries and cultures, that included Malaysia, China, Singapore, Indonesia, Thailand, Brunei, and Vietnam, Denzel has developed a deep understanding of diverse workplaces and business practices. His international exposures allow him to align the programme's objectives with the unique goals of participating corporations.

Denzel's professional experiences include:

- **Consultative Leadership:** Collaborating with senior management to maximise performance, improve productivity, and increase profitability.
- **Organisational Assessment:** Conducting diagnostic evaluations to develop corporate-wide key performance indicators aimed at enhancing productivity.
- **Coaching & Mentoring:** Supporting the professional growth and development of sales teams in areas such as motivation, training, skills development, and sales management.
- **Holistic Development:** Guiding non-sales teams in management, administration, and operations across various business units and departments.
- **Inspiring Growth:** Facilitating the professional and personal development of learners, helping them realise their aspirations, dreams, and potential.

# SPEAKER PROFILE



**Li Gang**  
**Key Trainer**

Li Gang was the Team Leader of the EV Claim Innovation Department at PICC Finance Service Co. Ltd, where he has been instrumental in driving innovations and business development in the electric vehicle insurance sector since December 2019.

Li spearheads various EV innovation projects that utilise big data analysis for effective claim risk management. With a proven track record of achievements in 2023 and 2024, Li has made significant contributions to the field, including:

**Development of Guidelines for Inspection and Damage Assessment:** He established a seminar with the Insurance Association of China and leading battery manufacturers to publish comprehensive guidelines for inspecting and assessing damage to power batteries in EV insurance claims.

**Flood Damage Assessment:** Li led technical support initiatives for examining residual value and repair costs for flood-damaged EVs, resulting in improved efficiency and cost savings for PICC branches.

**NEV Workshop Audit Guidelines:** As the primary leader, he coordinated efforts with the China Certification & Accreditation Association to create guidelines that enhance service and capacity audits for EV workshops.

**Training Initiatives:** He collaborated with industry leaders to develop a robust EV training system, ensuring that industry professionals are updated on best practices and technical knowledge.

**Online Diagnostic Models:** Li has worked with BINEI to develop an online diagnostic model for damaged power batteries, offering innovative inspection services that improve customer support.

**Anti-Fraud Research:** Leveraging big data, he played a crucial role in developing an anti-fraud model for NEVs that utilises advanced analytics to identify fraudulent claims.

With over 20 years of experience in the automotive and insurance industries, including significant roles at Volvo Truck Group Asia, Li brings a wealth of expertise to the EV programme. His leadership in innovation and commitment to enhancing industry standards positions him as a key player in shaping the future of EV insurance.

# ALIGNMENT TO THE FUTURE SKILLS FRAMEWORK

26 Prime Skills  
8 Power Skills  
**Proficiency Level:**  
Intermediate & Proficient



| Skills Developed by Attending this Programme        |                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prime Skills                                        |                                                                                                                                                                                                                                                                               |
| Customer Experience Management                      | <div>1. Customer Experience Design</div> <div>2. Customer Profiling</div>                                                                                                                                                                                                     |
| Digital & Data Integration                          | <div>3. Big Data Analytics</div> <div>4. Data Collection and Analytics</div> <div>5. Predictive Modelling</div>                                                                                                                                                               |
| Financial Products & Services                       | <div>6. Demand &amp; Supply Analysis</div> <div>7. Pricing Strategy</div> <div>8. Product Advisory</div> <div>9. Product Design &amp; Development</div> <div>10. Product Performance Management</div> <div>11. Quality Assurance</div> <div>12. Underwriting Management</div> |
| Growth & Partnerships                               | <div>13. Continuous Improvement and Process Re-Engineering</div> <div>14. Global Perspectives</div> <div>15. Market Profiling</div> <div>16. Scenario Planning &amp; Analysis</div>                                                                                           |
| Investments & Financial Management                  | <div>17. Behavioural Finance</div> <div>18. Financial Analysis &amp; Modelling</div> <div>19. Internal Control</div>                                                                                                                                                          |
| Risk Management, Governance & Regulatory Compliance | <div>20. Fraud Risk Management</div> <div>21. Internal Governance</div> <div>22. Operational Risk Management</div> <div>23. Regulatory Compliance</div> <div>24. Risk Governance</div> <div>25. Risk Management</div>                                                         |
| Sustainable Finance & Insurance                     | <div>26. Sustainable Insurance and Reinsurance Solutions and Applications</div>                                                                                                                                                                                               |
| Power Skills                                        |                                                                                                                                                                                                                                                                               |
| Innovation & Delivery                               | <div>1. Adaptability and Resiliency</div> <div>2. Business Acumen</div> <div>3. Critical Thinking</div> <div>4. Digital Fluency</div> <div>5. Innovative Thinking</div> <div>6. Learning Agility</div> <div>7. Problem Solving</div> <div>8. Sustainability Awareness</div>   |

# HRD Claim Application

Asian Institute of Insurance (Aii) courses have been granted the status of Approved Training Programme (ATP) under the Human Resources Development Act 1992. Based on Training Providers Circular No. 3/2021, PSMB has imposed a requirement that training providers need to register their training programme under the HRD Corp Claimable Course Scheme to offer training to the employers who are registered under the Human Resource Development Corporation (HRD Corp).

## 1. What is HRD Corp Claimable Courses?

HRD Corp Claimable Courses formerly known as SBL Khas is a scheme to assist registered employers, especially those with limited resources to train and upskill their employees in line with their operational and business requirements. Under this scheme, HRD Corp will pay the course fee (subjected to 4% service fee from 1st April 2021) directly to the training providers by deducting the amount from the employers' levy account. HRD Corp will also pay other claimable allowances to the employer.

## 2. How are Training Providers or Employers to submit for HRD Corp Claimable Courses?

Asian Institute of Insurance (Aii) will submit their Courses registration via the HRDC e-Tris system. Once course is approved as Claimable Course (previously known as SBL Khas course), the approved course will appear in the HRDC e-Tris system.

Employers will need to access the e-Tris system to select the course and submit to HRDC for grant approval. The total claimable amount is subject to the approval of each Employer individual grant application, Once HRDC approves Employer grant, the company must provide the approved grant code to Asian Institute of Insurance (Aii).

After the training is conducted, Employers are required to complete HRDC Attendance Reports eg. JD14 and submit necessary documents to ensure HRDC settlement of Asian Institute of Insurance (Aii) invoice.

Asian Institute of Insurance (Aii) will submit the invoice directly to HRDC with the approved grant code for each participant or Employer.

## 3. How to submit the grant application?

Please click on link for information on training grants application: <https://hrdcorp.gov.my/employer-guidelines/>

## 4. What are the supporting documents required?

Please click on link for information on training grants application:

[https://hrdcorp.gov.my/wp-content/uploads/2022/07/HRD-Corp\\_SBL\\_Grant-Helper.pdf](https://hrdcorp.gov.my/wp-content/uploads/2022/07/HRD-Corp_SBL_Grant-Helper.pdf)

## Important Notice

- Effective **1st August 2019**, training programmes must commence within six (6) months from the date of training grant applications are made and training claim submissions must be made not more than six (6) months from the date the training programmes are completed.
- Application must be submitted by employers before training date commencement.
- The company shall bear full responsibility for the programme fee balance if the HRDC claim is not approved or claimable for any reason.

For more information and updates on HRDC, please refer to its official webpage at [www.hrdcorp.gov.my](http://www.hrdcorp.gov.my). Should you have any problem in accessing your e-Tris account, kindly forward the issue to HRDC IT Help Desk at [ithelpdesk@hrdcorp.gov.my](mailto:ithelpdesk@hrdcorp.gov.my)

## Application Process

**01**

**Application  
via e-TRIS**

Documents Required:

- Quotation / Invoice
- Training Schedule / Course Content
- Trainer Profile

**02**

**Approval**

Documents Required:

- To share Grant ID to Training Provider

**01**

**Claim**

Documents Required:

- Itinerary (airfare) - if any
- Receipt & Invoice (transportation) - if any



# REGISTER NOW



## Asian Institute of Insurance

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