Achieve confidence in autonomous vehicle safety with UL 4600

Autonomy safety training for engineers developing self-driving technology

Course overview

This 2.5-day training course is heavily focused on UL 4600, the Standard for Safety for the Evaluation of Autonomous Products. Discussion topics include safety principles, tools, techniques, and life cycle processes for building and evaluating the safety of fully autonomous vehicles. Throughout the course, participants will learn how to build a safety framework for autonomous products starting with autonomous vehicles (AVs), autonomous robotics, off-road and fleet vehicles, as well as other areas where AV safety is paramount.

Training topics

- Introduction to AVs and the associated technology
- Introduction to AV safety frameworks
- The UL 4600 approach for autonomous vehicle safety

- UL 4600 scope and definitions
- Why safety is critical to success
- Risk assessment
- Interaction with humans and road users
- Autonomy functions and support
- Software and system engineering processes
- Dependability
- Data and networking
- Verification, validation and test
- Tool qualification, commercial off-the-shelf (COTS) and legacy components
- Life cycle concerns
- Maintenance
- Metrics and safety performance indicators (SPIs)
- Safety assessment
- Other relevant AV safety standards
- Wrap-up and discussion topics

Optional UL Certified Autonomy Safety Professional Exam

Participants who complete all 2.5-days of training are eligible to take a two-hour certification exam in the afternoon of the third day. Those who pass the exam are individually certified as a *UL Certified Autonomy Safety Professional (UL-CASP)* in UL 4600.

Upon the successful completion of the *UL-CASP* exam, participants will receive a certificate and badge that they can use to demonstrate their competence in the UL 4600 AV safety Standard. The certification is good for three years, after which individuals may recertify.

Objectives

Upon successful completion of this workshop, you will be able to:

- Understand safety case frameworks
- Gain familiarity with AV development considerations for safety
- Develop an understanding for effective techniques to overcome common pitfalls

Target audience
- AV hardware and software developers
- Simulation engineers working with advanced driver assistance systems (ADAS) and AV verification
- Test and validation engineers
- Project and product leaders
- Compliance engineers

Why choose UL?

From materials testing to supply chain management, new energy options to security and interoperability solutions, leverage our expertise and insights to navigate the global regulatory landscape and bring your products to market.

Our global network of technical experts and state-of-the-art facilities, along with our longstanding relationships with regulatory authorities, partner laboratories and industry technical leaders, helps manufacturers gain the compliance credentials they need to compete in a more complex global supply chain.

Knowledge you can trust – Our experienced staff will support you from the initial design stage of product development through testing and production. Our experts can assist you in understanding the certification requirements for your specific markets.

Speed and efficiency – Our cost-effective systems and state-of-the-art facilities cut through the red tape and help accelerate your time to market.

Single-source provider – We can meet your compliance needs and — by bundling safety, performance and interoperability services — help save you time and money.

Global reach and access – Our global network of expert engineers helps you understand the various national and global requirements for your specific market application.

For more information, call 1.864.630.5373, email: kvasales@UL.com or visit kvausa.com.

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