



Virtual Reality Training

Crescent Safety Services offers an innovative and immersive Virtual Reality (VR) training that allows the worker to be trained and evaluated in a similar work environment without ever being in a precarious/hazardous position. Humans are intensely visual creatures. 90% of all the information that is sent to our brains is visual in nature, and 93% of all our communication is visual, too. With VR, training becomes more visual as the subject matter is presented in a visually stunning, 3D format that most people will find far more appealing than regular old text.

Training Objectives:

- Provide current training including regulatory requirements and best industry practices.
- Teach techniques that identify hazards and effective mitigation strategies.
- Provide guidance on safety equipment options and usage.
- Teach employees how to work safely.

Course Lecture and VR Training:

- Crescent has compiled training programs that are highly effective in conveying regulatory requirements as well as applying the necessary skills testing to demonstrate proficiency and understanding of the material.
- Instructors provide initial classroom based formal lectures to deliver the knowledge required to work safely. Students then take a knowledge test to demonstrate understanding of the course material.
- The final step is to allow the student to become immersed in a virtual life like experience which allows them to understand their equipment, physically inspect and function the gear, and to experience the feeling and visual aspects of the environment they will be working in.

CSS offers Virtual Reality training in the following courses:

1. Incipient Fire Fighting
2. Defensive Driving
3. Hazard Identification
4. Fall Protection
5. Crane Operations

Incipient Fire Fighting:

- The Incipient Fire Fighting course will familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage firefighting.
- Students will be placed in an environment where they will use an actual fire extinguisher to put out fires in troughs and drums.
- The PASS technique is demonstrated and required to be used by each student.

Defensive Driving:

- The VR Drive Training system can be easily operated by CSS trainers or client in-house trainers. The system is fun to learn on, utilizing customized hardware and VR Motion software, which combines immersive, graphically rich, realistic 3-D experiences to mimic a breadth of driving conditions unavailable at any given time in most real-world training environments. The simulator can reproduce diverse weather, road, and traffic conditions, blind spots, and sensory distractions.
- The VR Motion system accurately predicts how drivers will react in the real world and what their safety performance is likely to be. Critical data is summarized for immediate comparative analysis, enabling driving trainers and educators to assess both risk and performance capacity and improvement

Crane Operations:

- VR simulation provides a true crane experience that includes responsive realistic physics, crane operations, lifting environments and data management.
- With our built in VR scenarios, we provide the ability to add multiple obstacles and components to customize the environment.
- Operator skills addressed in the simulation include:
 - Proper Load Positioning,
 - Pre-Operational Check of Controls
 - How to Control Swing
 - Check Safety Systems
 - Hazard Recognition
 - Hazard Abatement
 - Specific Process Training

Fall Protection:

- Fall protection was the most frequently cited OSHA violation in 2017, and falls accounted for 38 percent of all construction deaths in 2016. The benefits of virtual reality training include realistic exercises when hands-on experiences aren't feasible; reduced cost of training workforces of any size; and consistent training for each worker regardless of the location or trainer.
- The app provides an immersive 3- to 5-minute experience in which users wear a headset and enter a virtual environment to learn how to operate safely when working above ground. They navigate the roof of a two-story building and identify common fall hazards.
- After users identify fall hazards such as a skylight or a rooftop fan detached from its base, they build a fall protection system for a coworker. Users choose between four anchor points, three harnesses and three lanyards, selecting and inspecting the equipment that provides the safest level of fall protection for the job at hand. After building the fall protection system, users get to see it in action on their coworker, learning about the anchorage strength, equipment limitations and fall clearance. Once done, each user's performance is assessed.

Hazard Identification:

- The Hazard Identification Course is based on a drilling rig with common hazards that would be encountered while working. These include:
 - Hotwork
 - Fire Prevention
 - Slip/Trip Hazards
 - Chemical Safety
 - Lifting Hazards, etc.
- The student simply teleports themselves around the location and they highlight the hazards with laser and correct them. The software can be customized to any situation or environment and any hazards can be placed into the scenarios.