Wearable Technologies in Construction Training Course

Professional Development Training Course Outline

Category	Construction Institute	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The construction industry is rapidly embracing Wearable Technologies as part of the digital transformation driven by Construction 4.0, Artificial Intelligence (AI), Internet of Things (IoT), Building Information Modeling (BIM), Digital Twins, and Smart Safety Systems. Wearable devices such as smart helmets, augmented reality (AR) glasses, exoskeletons, smart vests, biometric sensors, GPS-enabled trackers, and connected PPE are transforming how construction projects are planned, monitored, and executed. These technologies significantly improve worker safety, productivity, collaboration, and real-time decision-making while reducing accidents, fatigue, and operational risks. Organizations worldwide are increasingly investing in wearable technologies to comply with modern safety standards and improve workforce performance.

Wearable Technologies in Construction Training Course equips construction professionals with practical knowledge and implementation strategies for deploying wearable technologies across construction projects. Participants will explore emerging innovations, cybersecurity considerations, predictive analytics, AI-powered safety monitoring, workforce health management, and digital construction ecosystems. Through interactive discussions, industry case studies, demonstrations, and implementation frameworks, attendees will gain the skills needed to evaluate, integrate, and manage wearable technology solutions that support sustainable, efficient, and intelligent construction operations.

Programme Curriculum

Wearable Technologies in Construction Training Course

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Course Objectives

By the end of this course, participants will be able to:

1. Understand the latest trends in Wearable Technologies for Smart Construction.
2. Evaluate AI-powered wearable solutions for construction safety and productivity.
3. Implement IoT-enabled connected worker technologies on construction sites.
4. Integrate wearable devices with Building Information Modeling (BIM) platforms.
5. Apply Predictive Safety Analytics using wearable-generated data.
6. Utilize Augmented Reality (AR) and Mixed Reality (MR) wearables for field operations.
7. Assess Smart PPE technologies for hazard prevention and compliance.
8. Design digital workflows using Construction 4.0 technologies.
9. Improve workforce wellbeing through Biometric Monitoring Systems.
10. Develop cybersecurity strategies for Connected Construction Devices.
11. Evaluate ROI and business value of wearable technology investments.
12. Create implementation roadmaps for Digital Construction Transformation.
13. Analyze global best practices through real-world wearable technology case studies.

Target Audience

- Construction Project Managers
- Site Engineers and Supervisors
- Health, Safety and Environment (HSE) Professionals
- Civil and Structural Engineers
- BIM Managers and Digital Construction Specialists
- Facility and Infrastructure Managers
- Contractors, Consultants and Developers
- Government Regulators, Researchers and Construction Technology Professionals

Course Modules

Module 1: Introduction to Wearable Technologies in Construction

- Evolution of wearable technology

- Construction 4.0 ecosystem
- Types of wearable devices
- Digital transformation in construction
- Global market trends
- **Case Study:** Implementation of smart helmets and connected PPE on a large commercial construction project.

Module 2: Smart Personal Protective Equipment (Smart PPE)

- Smart helmets
- Smart safety vests
- Connected footwear
- Environmental monitoring wearables
- Compliance monitoring systems
- **Case Study:** Reducing workplace injuries using intelligent PPE across multiple construction sites.

Module 3: IoT and Connected Worker Technologies

- IoT architecture
- GPS workforce tracking
- Environmental sensors
- Cloud-connected wearables
- Real-time worker monitoring
- **Case Study:** Connected worker platform improving operational visibility on infrastructure projects.

Module 4: AI, Data Analytics and Predictive Safety

- AI-powered risk prediction
- Machine learning applications
- Fatigue detection systems
- Biometric analytics
- Predictive incident prevention
- **Case Study:** AI-driven wearable analytics reducing safety incidents through predictive alerts.

Module 5: Augmented Reality (AR), Virtual Reality (VR) and Mixed Reality (MR)

- AR smart glasses
- Remote expert assistance
- Digital work instructions
- BIM visualization
- Immersive safety training
- **Case Study:** AR-enabled inspections reducing project delays and rework.

Module 6: Exoskeletons and Human Performance Enhancement

- Industrial exoskeleton technologies
- Ergonomic improvements
- Musculoskeletal injury prevention
- Worker productivity enhancement
- Human augmentation
- **Case Study:** Deployment of passive exoskeletons for repetitive lifting activities.

Module 7: Wearable Technology Implementation Strategy

- Technology selection
- Change management
- Workforce adoption
- Cybersecurity and privacy
- Return on investment (ROI)
- **Case Study:** Enterprise-wide wearable technology implementation roadmap for a multinational contractor.

Module 8: Future Trends and Emerging Innovations

- Digital twins
- Edge computing
- AI-powered autonomous construction
- Sustainable smart construction
- Future wearable innovations
- **Case Study:** Integration of wearables, BIM, drones, and digital twins in smart infrastructure development.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
21 Sep 2026	25 Sep 2026	Online	$1,000
21 Sep 2026	25 Sep 2026	Physical	$1,500
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

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