Training Course on Wearable Technology for Worker Safety Monitoring

Professional Development Training Course Outline

Category	Occupational Health	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today's rapidly evolving industrial landscape, worker safety is more critical than ever. As occupational hazards and workplace injuries continue to challenge productivity and compliance, wearable technology offers an innovative solution. From smart helmets and biometric sensors to location-tracking devices, these technologies are transforming how companies monitor, assess, and enhance safety protocols. Training Course on Wearable Technology for Worker Safety Monitoring is designed to empower professionals with the knowledge and tools to leverage wearable tech for real-time worker safety monitoring, ensuring compliance with safety standards and improving operational efficiency.

This course delves into the integration of IoT-enabled devices, data-driven safety management, and predictive analytics for proactive incident prevention. Participants will explore how AI-driven insights, cloud-based dashboards, and real-time alerts enhance occupational health and safety systems. Through case studies, simulations, and strategic planning, learners will acquire the skills to deploy, manage, and optimize wearable technology systems tailored to high-risk industries.

Programme Curriculum

Training Course on Wearable Technology for Worker Safety Monitoring

Introduction

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Course Objectives

1. Understand the fundamentals of wearable safety technology and IoT integration.
2. Analyze real-time data for incident prediction and prevention.
3. Explore types of wearable devices for hazardous environments.
4. Apply predictive analytics to enhance workplace safety strategies.
5. Develop a plan for safety data visualization and reporting.
6. Evaluate compliance with OSHA and international standards using wearables.
7. Investigate biometric monitoring for fatigue and stress detection.
8. Implement AI-powered safety solutions in high-risk industries.
9. Examine cloud-based safety dashboards for incident tracking.
10. Compare case studies on successful wearable deployments.
11. Design a customized worker safety monitoring system using wearable tech.
12. Explore privacy and ethical considerations in biometric data collection.
13. Measure ROI and effectiveness of wearable safety programs.

Target Audience

1. Health and Safety Officers
2. Occupational Health Professionals
3. Manufacturing Supervisors
4. Construction Project Managers
5. Human Resources and Compliance Officers
6. Industrial Engineers
7. Emergency Response Coordinators
8. Government and Regulatory Officials

Course Duration: 10 days

Course Modules

Module 1: Introduction to Wearable Technology

- Definition and evolution of wearable safety tech
- Key features and functionalities
- Categories of wearable devices (helmets, vests, bands)
- Overview of industry use cases
- Benefits in accident prevention
- **Case Study: Smart Helmets in Oil & Gas**

Module 2: IoT and Real-Time Monitoring

- IoT architecture and wearable integration
- Connectivity protocols (Bluetooth, LoRa, Wi-Fi)
- Sensor data capture and transmission
- Real-time alerts for safety violations
- Use of GPS and geofencing
- **Case Study: IoT-Powered Safety in Construction Sites**

Module 3: Biometric Monitoring for Worker Health

- Heart rate, temperature, and fatigue tracking
- Wearable ECG and stress sensors
- Analyzing biometric data for anomalies
- Detecting dehydration and overexertion
- Worker feedback loop integration
- **Case Study: Wearables in Mining Industry**

Module 4: Predictive Analytics and Safety

- Collecting and organizing safety data
- Risk assessment using AI
- Algorithms for incident prediction
- Preventive maintenance alerts
- Decision-making dashboards
- **Case Study: Predictive Safety in Manufacturing Plants**

Module 5: Legal, Privacy, and Ethical Issues

- Regulatory landscape for wearables
- GDPR and data protection laws
- Employee consent and transparency
- Mitigating misuse of biometric data
- Legal case precedents and policies
- **Case Study: Ethical Review in Healthcare Sector**

Module 6: OSHA Compliance and Safety Standards

- Key OSHA regulations related to wearables
- ISO and ANSI safety standard integration
- Reporting compliance breaches
- Documentation and digital audits
- Automating compliance reporting
- **Case Study: OSHA Compliance in Construction**

Module 7: Device Management and Maintenance

- Choosing the right devices
- Battery life and durability considerations
- Firmware updates and compatibility
- Troubleshooting and replacements
- Vendor management best practices
- **Case Study: Device Lifecycle in Manufacturing**

Module 8: Environmental Monitoring

- Air quality, temperature, and gas detection
- Fire hazard and toxic exposure alerts
- Using wearables in extreme conditions
- Real-time environmental feedback
- Integration with hazard mapping
- **Case Study: Smart Wearables in Chemical Plants**

Module 9: Emergency Response and Wearables

- Panic button functionality
- Real-time location during evacuation

- Communication via wearables
- Incident logs and SOS alerts
- Integration with emergency teams
- **Case Study: Response Enhancement in Factories**

Module 10: Data Security in Wearable Systems

- Encryption techniques and protocols
- Securing wearable networks
- Authentication and access control
- Preventing data leaks and hacks
- Backup and data redundancy
- **Case Study: Security Breach Prevention in Smart PPE**

Module 11: Integration with Existing Systems

- ERP and safety software compatibility
- Cloud and API integration methods
- Unified safety data platforms
- Custom dashboards and reports
- Mobile and remote access
- **Case Study: Cross-Platform Integration in Utilities**

Module 12: Return on Investment (ROI) Analysis

- Cost-benefit of wearable implementation
- Reducing workplace injuries and downtime
- Productivity gains and workforce efficiency
- Insurance and liability reduction
- Reporting KPIs and ROI metrics
- **Case Study: ROI Evaluation in Energy Sector**

Module 13: Training Workers on Wearables

- Creating digital onboarding programs
- Training manuals and simulations
- Language and accessibility considerations
- Role-based safety scenarios
- Feedback and retraining cycles
- **Case Study: Worker Adoption in Transport Sector**

Module 14: Trends and Future of Wearable Tech

- AI and ML innovations
- Edge computing and latency improvements
- Exoskeletons and advanced robotics
- Industry 4.0 and smart factory impact
- Emerging global standards
- **Case Study: Futuristic PPE in Aerospace**

Module 15: Capstone Project

- Team-based wearable system design
- Data collection and analysis exercises
- Strategy presentations and critique
- Implementation challenges and solutions

- Final assessment and feedback
- **Case Study: Capstone Simulation for a High-Risk Site**

Training Methodology

- Interactive instructor-led sessions with real-time Q&A
- Hands-on demonstrations of wearable safety tech
- Case study analysis from various industries
- Group activities for problem-solving and planning
- Capstone project with live feedback and coaching
- Digital resource kits with guides and toolkits

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
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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

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