



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

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COURSE BROCHURE

Robotics for Bomb Disposal Operations

Law, Military Science and Security / Safety in Society

Unit Standard 257277 · NQF Level 5 · 10 Credits · 7 Days

COURSE OVERVIEW

This course equips learners with the competencies to safely and effectively apply robotics in bomb disposal operations. It covers the selection, setup, and operation of robotic systems for explosive ordnance disposal (EOD), enabling learners to minimize risk to personnel and the public.

Category	Law, Military Science and Security
Subfield	Safety in Society
Unit Standard	257277
Accreditation	SAQA Accredited · NQF Level 5 · 10 Credits
Duration	7 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply principles of robotics to bomb disposal tasks.
- Operate robotic systems to inspect, manipulate, and disrupt explosive devices.
- Evaluate situational factors to select appropriate robotic equipment.
- Demonstrate safe handling and maintenance of robotic bomb disposal tools.
- Analyze operational risks and implement mitigation strategies.
- Conduct post-mission debriefing and documentation of robotic operations.

WHO SHOULD ATTEND

- This course is designed for bomb disposal technicians, EOD operators, military and police personnel, and security professionals involved in explosive threat management.

COURSE OUTLINE

Day 1: Introduction to Robotics for Bomb Disposal

- Overview of bomb disposal and EOD operations
- History and evolution of EOD robotics
- Types of bomb disposal robots (tracked, wheeled, aerial)
- Key subsystems: manipulator arm, cameras, sensors, mobility platforms
- Safety procedures and risk assessment
- Introduction to remote control systems
- Legal framework and rules of engagement
- Case studies of robot-assisted EOD missions

Day 2: Robot Systems and Components

- Detailed breakdown of manipulator arms and grippers
- Drive systems: tracks, wheels, and suspension
- Power sources: batteries, fuel cells, and charging protocols
- Communication systems: radio frequency, line-of-sight, and relay
- Sensor integration: cameras, IR, X-ray, CBRNE detectors
- Control interfaces: joystick, tablet, and wearable controllers
- Maintenance and pre-mission inspection
- Troubleshooting common faults

Day 3: Teleoperation and Control Systems

- Teleoperation fundamentals: latency, bandwidth, and feedback
- Control modes: direct, semi-autonomous, and supervised
- Driving techniques: turning, climbing, and traversing terrain
- Manipulator control: pick-and-place, cutting, and gripping
- Camera views and multi-screen display management
- Emergency procedures: lost link, battery low, mechanical failure
- Practice scenarios: navigating through obstacles
- Debrief and performance assessment

Day 4: Sensor Integration and Threat Assessment

- Sensor types: visual, thermal, acoustic, vibration
- X-ray systems: operation and image interpretation
- CBRNE sensors: chemical sniffers, radiation detectors, biological samplers
- Data fusion and display integration
- Threat assessment protocols and decision matrices
- Communication of findings to command team
- Record-keeping and evidence preservation
- Practical exercises: sensor calibration and data collection

Day 5: Advanced Manipulation and Tools

- Overview of EOD tools: disruptors, cutters, grabs, and hooks
- Mounting and operating a water disrupter cannon
- Using hook-and-line to open containers or move objects
- Precision cutting and drilling with robotic arm
- Handling suspicious packages and evidence

- Techniques for rendering safe IEDs remotely
- Safety considerations with disruptors and explosives
- Practical drills: disruptor placement and activation

Day 6: Mission Planning and Tactical Integration

- Mission planning process: reconnaissance, objectives, routes
- Risk assessment matrices and mitigation strategies
- Integration with human EOD teams: roles and communication
- Contingency planning: failure modes and emergency responses
- Simulated mission scenarios: building clearance, vehicle inspection
- Command and control protocols
- After-action review and lessons learned
- Team coordination exercises

Day 7: Final Assessment and Certification

- Review of key concepts and skills
- Written knowledge assessment
- Practical skills test: navigation, manipulation, sensor use
- Final mission scenario: multi-threat environment
- Evaluation of decision-making and teamwork
- Feedback session and individual coaching
- Certification criteria and next steps
- Course closure and resources

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **10 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 29,600.00	R 29,600.00
1	In-House	R 38,500.00	R 38,500.00
1	On-Campus (Pretoria)	R 44,400.00	R 44,400.00

UPCOMING SESSIONS

Start	End	Method	Venue
10 Aug 2026	18 Aug 2026	On-Campus	Pretoria, South Africa
11 Aug 2026	19 Aug 2026	On-Campus	Abu Dhabi, UAE
12 Aug 2026	20 Aug 2026	On-Campus	Durban, South Africa
12 Aug 2026	20 Aug 2026	On-Campus	Mauritius
13 Aug 2026	21 Aug 2026	On-Campus	Cape Town, South Africa
14 Aug 2026	24 Aug 2026	On-Campus	Dubai, UAE
17 Aug 2026	25 Aug 2026	On-Campus	Abu Dhabi, UAE
18 Aug 2026	26 Aug 2026	On-Campus	Durban, South Africa

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 257277) and click **Get A Quote / Apply**. Select your training method and number of delegates – your quotation is generated immediately and emailed to you with the course brochure attached.
2. **Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za – our team will reply with a formal quotation.
3. **Apply by phone or WhatsApp:** call **+27 12 004 8389** or WhatsApp **+27 65 077 6310** and we will prepare your quotation and reserve your seats.
4. **Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically – the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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