



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

Anatomy and Physiology for Polygraph Examinations

Law, Military Science and Security / Safety in Society

Unit Standard 252163 · NQF Level 5 · 12 Credits · 9 Days

COURSE OVERVIEW

This course provides polygraph examiners with a foundational understanding of human anatomy and physiology relevant to psychophysiological detection of deception. Learners will explore the biological systems that underpin polygraph measurements, including cardiovascular, respiratory, and electrodermal responses, enabling accurate interpretation of polygraph charts and enhanced professional credibility.

Category	Law, Military Science and Security
Subfield	Safety in Society
Unit Standard	252163
Accreditation	SAQA Accredited · NQF Level 5 · 12 Credits
Duration	9 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply knowledge of the cardiovascular, respiratory, and electrodermal systems to polygraph examination procedures.
- Analyze physiological responses recorded during polygraph tests to differentiate between deception-related and non-deception-related reactions.
- Evaluate the impact of individual physiological variations on polygraph data interpretation.
- Demonstrate understanding of the anatomical structures and physiological processes underlying common polygraph measurements.
- Implement protocols to account for physiological artifacts and ensure data integrity during polygraph examinations.

WHO SHOULD ATTEND

- This course is designed for practicing polygraph examiners, trainees in the field of forensic psychophysiology, and professionals seeking SAQA-aligned training in anatomy and physiology for polygraph applications.

COURSE OUTLINE

Day 1: Introduction to Anatomy and Physiology for Polygraphy

- Overview of the human body: cells, tissues, organs, systems.
- Homeostasis and negative/positive feedback.
- Introduction to the nervous system and endocrine system.
- Relevance of physiological responses to deception detection.

Day 2: The Nervous System: Structure and Function

- Neuron anatomy and types.
- Central nervous system: brain and spinal cord.
- Peripheral nervous system: somatic and autonomic divisions.
- Autonomic nervous system: sympathetic and parasympathetic branches.
- Neurotransmitters relevant to polygraphy (e.g., adrenaline, noradrenaline).

Day 3: The Cardiovascular System: Heart and Blood Vessels

- Heart structure: chambers, valves, conduction system.
- Blood vessels: arteries, veins, capillaries.
- Cardiac cycle and heart sounds.
- Blood pressure regulation and measurement.
- Cardiovascular responses to stress and lying.

Day 4: The Respiratory System: Breathing and Gas Exchange

- Upper and lower respiratory tract anatomy.
- Lungs, pleura, and diaphragm.
- Mechanism of ventilation: inspiration and expiration.
- Gas exchange and transport.
- Respiratory patterns and polygraph tracings.

Day 5: The Skin and Electrodermal Activity

- Layers of the skin: epidermis, dermis, hypodermis.
- Sweat glands: eccrine and apocrine.
- Electrodermal activity: skin conductance and resistance.
- Factors affecting electrodermal responses.
- Interpretation of galvanic skin response in polygraphy.

Day 6: The Endocrine System: Hormones and Stress

- Endocrine glands: pituitary, thyroid, adrenal, etc.
- Hormone action and feedback loops.
- Stress response: cortisol and catecholamines.
- Effects of hormones on cardiovascular and respiratory systems.
- Relevance to polygraph testing.

Day 7: Integration of Physiological Systems in Polygraphy

- Interplay between autonomic nervous system and target organs.
- Physiological changes during deception vs. non-deception.
- Common artifacts: movement, breathing irregularities, medication effects.
- Baseline establishment and normalization.
- Case studies of integrated responses.

Day 8: Practical Application: Polygraph Instrumentation and Data Collection

- Polygraph components: sensors, amplifiers, recording devices.
- Sensor placement and calibration.
- Conducting a mock polygraph examination.
- Identifying signal quality and troubleshooting.
- Data collection protocols.

Day 9: Interpretation and Report Writing

- Chart analysis: identification of relevant responses.
- Scoring systems: numerical, qualitative.
- Integrating physiological knowledge into interpretation.
- Report structure and content.
- Ethical considerations and limitations.

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 **12 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 25,600.00	R 25,600.00
1	In-House	R 33,300.00	R 33,300.00
1	On-Campus (Pretoria)	R 38,400.00	R 38,400.00

UPCOMING SESSIONS

Start	End	Method	Venue
18 Aug 2026	28 Aug 2026	On-Campus	Harare, Zimbabwe
18 Aug 2026	28 Aug 2026	On-Campus	Dubai, UAE
19 Aug 2026	31 Aug 2026	On-Campus	Pretoria, South Africa
20 Aug 2026	01 Sep 2026	On-Campus	Abu Dhabi, UAE
21 Aug 2026	02 Sep 2026	On-Campus	Durban, South Africa
24 Aug 2026	03 Sep 2026	On-Campus	Harare, Zimbabwe
25 Aug 2026	04 Sep 2026	On-Campus	Bangkok, Thailand
26 Aug 2026	07 Sep 2026	On-Campus	Victoria Falls, Zimbabwe

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 252163) 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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