



Accredited Africa Training Institute for Capacity Development

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

Tel: +27 12 004 8389 · Mobile: +27 65 077 6310

Email: apply@aaticd.co.za · Website: www.aaticd.co.za

COURSE BROCHURE

Urban Micro-Climate Analysis for Built Environments

Physical, Mathematical, Computer and Life Sciences / Environmental Sciences

Unit Standard 246540 · NQF Level 5 · 6 Credits · 3 Days

COURSE OVERVIEW

This course equips built environment professionals with the skills to analyse urban micro-climates and their impact on human comfort, building performance, and environmental sustainability. Learners will understand how to assess factors such as temperature, humidity, wind patterns, and solar radiation within urban settings, enabling them to design more resilient and comfortable spaces.

Category	Physical, Mathematical, Computer and Life Sciences
Subfield	Environmental Sciences
Unit Standard	246540
Accreditation	SAQA Accredited · NQF Level 5 · 6 Credits
Duration	3 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Analyse the key climatic variables (temperature, humidity, wind, solar radiation) that define an urban micro-climate.
- Evaluate the influence of urban morphology (building density, height, orientation) on local micro-climatic conditions.
- Apply appropriate measurement techniques and tools to collect micro-climatic data in urban areas.
- Interpret micro-climatic data to assess its impact on human thermal comfort and building energy performance.
- Recommend design interventions to mitigate adverse micro-climatic effects and enhance environmental sustainability.
- Demonstrate the ability to compile a micro-climate analysis report for a specific urban site.

WHO SHOULD ATTEND

- This course is designed for urban planners, architects, environmental consultants, and civil engineers involved in the design, assessment, or management of built environments.

COURSE OUTLINE

Day 1: Fundamentals of Urban Micro-Climate

- Introduction to micro-climate vs. macro-climate.
- Urban heat island effect: causes and consequences.
- Surface energy balance and albedo.
- Wind patterns in urban canyons.
- Role of vegetation and water bodies.
- Basic instrumentation for micro-climate monitoring.
- Case studies: local examples of urban micro-climate variation.
- Overview of relevant SAQA standards and regulations.

Day 2: Analysis Methods and Tools

- Field measurement protocols: temperature, humidity, wind speed.
- Introduction to ENVI-met and RayMan software.
- GIS-based micro-climate mapping.
- Thermal comfort indices and standards.
- Green infrastructure and cool materials as mitigation.
- Building orientation and shading analysis.
- Hands-on software exercise: basic simulation.
- Data quality assurance and uncertainty.

Day 3: Application and Design Integration

- Design guidelines for climate-sensitive urban spaces.
- Policy frameworks: SANS 10400 and green building ratings.
- Stakeholder engagement and reporting.
- Case study: retrofitting existing precincts.
- Cost-benefit analysis of interventions.
- Final project: micro-climate assessment for a local site.
- Peer review and feedback session.
- Course wrap-up and assessment.

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 **6 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 18,800.00	R 18,800.00
1	In-House	R 24,500.00	R 24,500.00
1	On-Campus (Pretoria)	R 28,100.00	R 28,100.00

UPCOMING SESSIONS

Start	End	Method	Venue
05 Aug 2026	07 Aug 2026	On-Campus	Pretoria, South Africa
05 Aug 2026	07 Aug 2026	On-Campus	Cape Town, South Africa
05 Aug 2026	07 Aug 2026	On-Campus	Johannesburg, South Africa
10 Aug 2026	12 Aug 2026	On-Campus	Durban, South Africa
10 Aug 2026	12 Aug 2026	On-Campus	Pretoria, South Africa
10 Aug 2026	12 Aug 2026	On-Campus	Cape Town, South Africa
11 Aug 2026	13 Aug 2026	On-Campus	Mauritius
11 Aug 2026	13 Aug 2026	On-Campus	Dubai, UAE

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 246540) 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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