# DERMOSCOPY BOOTCAMP

Course Outline

DermEX

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# Introduction

Dermoscopy has transformed the early detection and management of skin cancer by revealing diagnostic clues invisible to the naked eye. This live, interactive lecture series is designed to build a clear, step-by-step understanding of dermoscopy- from optical foundations to real-world clinical decision-making- so that participants gain both confidence and accuracy in everyday practice.

We begin with the **principles and physics of dermoscopy**, exploring how non-polarised, polarised, and ultraviolet light reveal subsurface skin structures and how each modality contributes complementary information. Building on this foundation, we introduce a **practical diagnostic framework**, centred on the revised two-step algorithm and pattern recognition strategies that prioritise patient safety and help clinicians avoid missing melanoma.

Next, we connect dermoscopic appearances with what lies beneath the surface through **histopathology correlations**, clarifying how specific colours and structures reflect biologic changes in the skin. We then expand into the "**universe of nevi**," integrating dermoscopic morphology with genetics, lesion evolution, and anatomic context to support risk stratification and management. Focused sessions on **intradermal nevi and dermatofibromas** develop confidence in distinguishing common benign lesions from important mimickers such as basal cell carcinoma and melanoma.

The course continues with systematic coverage of **lentigines and seborrheic keratoses, basal cell carcinoma, squamous cell carcinoma, and melanoma**, emphasizing high yield dermoscopic clues, pitfalls, and practical triage strategies throughout. Across all sessions, participants will see how combining optical principles, structured algorithms, pattern analysis, and clinical context lead to more precise diagnoses and more thoughtful biopsy decisions.

Through live discussion, real case examples, and progressive learning design, this series aims to make dermoscopy intuitive, approachable, and clinically impactful- equipping participants with tools they can apply immediately to improve patient care.

# Course Lectures

## 1a. Introduction to Dermoscopy (30mins)

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|  | ***Friday 27 February at 7PM EST (New York) / Saturday 28 February at 10AM AEST (Brisbane) / Saturday 28 February at 11AM AEDT (Melbourne/Sydney) / Saturday 28 February at 1PM NZDT (New Zealand*** |

**Synopsis**

This introductory session provides a foundation in dermoscopy, focusing on the principles, physics, and clinical relevance of different dermoscopic modalities. Participants will learn how non-polarised, polarised, and ultraviolet dermoscopy influences the visualisation of superficial and deeper skin structures, including pigment networks, vessels, milia-like cysts, shiny white structures, and blue-white veil. Through conceptual explanations and clinical examples, the course emphasises how combining dermoscopic techniques enhances diagnostic sensitivity and specificity, particularly in the evaluation of melanoma and other pigmented lesions.

**Learning Objectives**

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

1. **Explain the fundamental principles of dermoscopy**, including how non-polarised, polarised, and UV light interact with skin to reveal subsurface structures.
2. **Differentiate key dermoscopic features** visualised with non-polarised versus polarised dermoscopy and understand how these modalities provide complementary diagnostic information.
3. **Apply basic dermoscopic techniques and optical principles** to improve diagnostic accuracy for common benign and malignant skin lesions.

## 1b. Fundamentals and Framework (30mins)

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|  | ***Friday 27 February at 7PM EST (New York) / Saturday 28 February at 10AM AEST (Brisbane) / Saturday 28 February at 11AM AEDT (Melbourne/Sydney) / Saturday 28 February at 1PM NZDT (New Zealand)*** |

**Synopsis**

This session presents a practical framework for dermoscopic diagnosis centred on the revised classic two-step algorithm and its modern adaptations. Emphasis is placed on pattern recognition, particularly the distinction between organised and disorganised lesions, and on the concept of "melanocytic" lesions as any lesion that enters the differential diagnosis of melanoma. Participants will learn how to triage uncertain lesions using high-yield dermoscopic features, polarised dermoscopy, and contextual clues such as patient age, anatomic location, and comparative morphology. The course integrates traditional algorithms with newer triage approaches to improve sensitivity for skin cancer while maintaining diagnostic efficiency in everyday clinical practice.

**Learning Objectives**

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

1. **Apply the revised two-step dermoscopic algorithm** to systematically classify skin lesions as melanocytic or non-melanocytic with the primary goal of not missing melanoma.
2. **Recognise organised versus disorganised dermoscopic patterns** and understand how architectural disorder serves as a powerful discriminator of malignancy.
3. **Integrate pattern analysis, key dermoscopic structures, and clinical context** to triage equivocal lesions and guide management decisions.

## 2. Histopathology Correlations (60mins)

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|  | ***Friday 3 April at 7PM EDT (New York) / Saturday 4 April at 9AM AEST (Brisbane) / Saturday 4 April at 10AM AEDT (Melbourne/Sydney) / Saturday 4 April at 12PM NZDT (New Zealand)*** |

**Synopsis**

This session explores the biologic basis of dermoscopic findings by linking surface colours and structures to their underlying histopathologic correlates. Emphasis is placed on understanding how chromophores such as melanin, haemoglobin, collagen, and keratin generate dermoscopic colours, and how specific patterns, such as pigment network, negative network, streaks, globules, blue-white veil, regression, and shiny white structures, reflect architectural and cellular changes within the skin. By integrating dermoscopy with histopathology, participants gain a deeper appreciation of dermoscopy as a bridge between clinical morphology and microscopic diagnosis, enhancing diagnostic accuracy and biopsy precision.

**Learning Objectives**

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

1. **Correlate common dermoscopic structures and colours with their histopathologic substrates**, including pigment network, dots, globules, streaks, regression structures, and shiny white structures.
2. **Explain how dermoscopy provides a horizontal, en face view of lesions** and how this perspective complements vertical histopathologic sections in clinical diagnosis.
3. **Apply dermoscopy–histopathology correlations** to improve diagnostic confidence and refine biopsy decisions in pigmented and non-pigmented lesions.

## 3. Universe of Nevi (60mins)

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|  | ***Friday 1 May at 7PM EDT (New York) / Saturday 2 May at 9AM AEST (Brisbane) / Saturday 2 May at 9AM AEST (Melbourne/Sydney) / Saturday 2 May 2 at 11AM NZST (New Zealand)*** |

**Synopsis**

This session explores the full "nevus universe," integrating dermoscopic morphology with embryologic origin, anatomic location, and emerging biologic insights. Participants will review the spectrum of congenital and acquired nevi, including common nevi, dysplastic nevi, intradermal nevi, Spitz/Reed nevi, blue and combined nevi, melanocytomas, and BAP1-inactivated nevi. Emphasis is placed on recognising organised versus disorganised patterns, understanding melanoma mimickers, and appreciating the limitations of dermoscopy in deep lesions. By contextualising dermoscopic patterns within patient age, location, evolution, and genetic background, this session provides a structured approach to nevus assessment, surveillance, and management.

**Learning Objectives**

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

1. **Classify congenital and acquired nevi** using dermoscopic patterns, anatomic location, and clinical context to support risk stratification.
2. **Recognise organised versus disorganised nevus patterns**, including melanoma simulators, and identify features that warrant closer monitoring or biopsy.
3. **Integrate dermoscopic morphology with biologic and genetic insights** (e.g., driver mutations, nevus evolution, and special nevus subtypes) to improve clinical decision-making.

## 4. Universe of Intradermal Nevi & Dermatofibroma (60mins)

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|  | ***Friday 15 May at 7PM EDT (New York) / Saturday 16 May at 9AM AEST (Brisbane) / Saturday 16 at 9AM AEST (Melbourne/Sydney) / Saturday 16 May at 11AM NZST (New Zealand)*** |

**Synopsis**

This session focuses on the dermoscopic recognition of intradermal nevi and dermatofibromas-two common benign lesions that frequently mimic skin cancer. Participants will review the characteristic patterns of IDN (Unna's and Miescher's types) and DF, with emphasis on pigment distribution, vascular morphology, preserved skin markings, and the presence or absence of shiny white structures. The course highlights how light source, contact technique, skin type, and lesion subtype influence dermoscopic appearance, and demonstrates practical strategies for distinguishing these lesions from basal cell carcinoma, Spitz nevi, and melanoma. Through pattern-based reasoning and clinical context, this session strengthens diagnostic confidence and helps avoid unnecessary biopsies.

**Learning Objectives**

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

1. **Identify the hallmark dermoscopic patterns of intradermal nevi and dermatofibromas**, including vascular, pigmentary, and white structure features.
2. **Differentiate IDN and DF from their key mimickers**, particularly basal cell carcinoma, Spitz nevi, and melanoma, using pattern recognition and contextual clues.
3. **Apply dermoscopic techniques (non-polarised vs polarised, contact vs non-contact) to optimise visualisation** of vessels, shiny white structures, and background blush.

## 5. Universe of Solar Lentigo & Seborrheic Keratosis (60mins)

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|  | ***Friday 5 June at 7PM EST (New York) / Saturday 6 June at 9AM AEST (Brisbane) / Saturday 6 June at 9AM AEST (Melbourne/Sydney) / Saturday 6 June at 11AM NZST (New Zealand)*** |

**Synopsis**

This session provides an in-depth exploration of the "universe" of seborrheic keratosis, highlighting the remarkable clinical and dermoscopic diversity of this common benign tumour. Participants will review classic diagnostic features- such as milia-like cysts, comedo-like openings, gyri and sulci, and hairpin vessels with whitish halos- as well as challenging variants including irritated SK, lichen planus–like keratosis, clonal SK, and feature-poor lesions. Emphasis is placed on clinical–dermoscopic correlation, optimal use of non-polarised dermoscopy, and recognition of red-flag features that may signal melanoma or squamous cell carcinoma arising in or mimicking SK. The session aims to strengthen diagnostic confidence while minimising unnecessary biopsies and avoiding anchoring bias.

**Learning Objectives**

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

1. **Recognise the full spectrum of dermoscopic features** of seborrheic keratosis, including classic, irritated, regressing, and feature-poor variants.

2. **Differentiate seborrheic keratosis from melanoma and other malignancies** by identifying reliable benign anchors and warning signs that mandate biopsy.

3. **Apply practical dermoscopic techniques and adjunctive tests** (e.g., non-polarised light, wobble test, ink test, side lighting) to avoid anchoring bias and diagnostic error.

## 6. Universe of Basal Cell Carcinoma (60mins)

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|  | ***Friday 3 July at 7PM EDT (New York) / Saturday 4 July at 9AM AEST (Brisbane) / Saturday 4 July at 9AM AEST (Melbourne/Sydney) / Saturday 4 July at 11AM NZST (New Zealand)*** |

**Synopsis**

This session provides a comprehensive overview of the dermoscopic "universe" of basal cell carcinoma, emphasising both classic and newly described diagnostic features. Participants will review hallmark structures such as arborising vessels, blue-grey ovoid nests, leaf-like and spoke-wheel areas, ulceration, and shiny white blotches and strands, as well as newer predictors including multiple aggregated yellowish–whitish (MAY) globules. The course highlights important variations by anatomic site, pigment status, and tumour subtype, with particular attention to superficial, nodular, and high-risk infiltrative BCCs. Through clinical–dermoscopic correlation and real-world cases, the session demonstrates how dermoscopy can enhance early detection, improve diagnostic accuracy, and guide management decisions while avoiding common pitfalls and mimickers.

**Learning Objectives**

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

1. **Identify classic and emerging dermoscopic features of basal cell carcinoma**, including pigmented and non-pigmented variants.

2. **Differentiate BCC from melanoma, squamous cell carcinoma, and benign mimickers** by recognising high-yield positive and negative diagnostic features.

3. **Use dermoscopy to predict BCC subtype and biologic behaviour**, thereby informing biopsy technique, treatment selection, and surgical margin planning.

## 7. Universe of Squamous Cell Carcinoma (60mins)

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|  | ***Friday 17 July at 7PM EDT (New York) / Saturday 18 July at 9AM AEST (Brisbane) / Saturday 18 July at 9AM AEST (Melbourne/Sydney) / Saturday 18July at 11AM NZST (New Zealand)*** |

**Synopsis**

This session reviews the dermoscopic "universe" of squamous cell carcinoma, spanning actinic keratosis, SCC in situ (Bowen's disease), and invasive SCC. Participants will learn to recognise hallmark features such as dotted, coiled, and hairpin vessels; white circles and structureless white areas related to keratinisation; haemorrhagic scale; and rosettes. The lecture emphasises how dermoscopic colour and vascular patterns reflect tumour differentiation, with well-differentiated SCCs appearing predominantly white/yellow and poorly differentiated tumours appearing red. Challenging scenarios- including pigmented SCC in situ, lesions mimicking seborrheic keratosis or lentigo, and early SCC versus actinic keratosis- are highlighted to refine diagnostic judgment and guide management.

**Learning Objectives**

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

1. **Identify key dermoscopic features of squamous cell carcinoma**, including in situ and invasive forms, with emphasis on vascular patterns, keratin-associated structures, and colour cues.

2. **Differentiate SCC from seborrheic keratosis, actinic keratosis, and other mimickers** by recognising high-yield positive and negative dermoscopic predictors.

3. **Correlate dermoscopic morphology with tumour differentiation and progression**, supporting appropriate biopsy and management decisions.

## 8. Universe of Melanoma Specific Structures (60mins)

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|  | ***Friday 14 August at 7PM EDT (New York) / Saturday 15 August at 9AM AEST (Brisbane) / Saturday 15 August at 9AM AEST (Melbourne/Sydney) / Saturday 15 August at 11AM NZST (New Zealand)*** |

**Synopsis**

This session provides a comprehensive review of melanoma-specific dermoscopic criteria for lesions arising on non-glabrous skin. Emphasis is placed on understanding the diagnostic significance of key structures- such as atypical pigment network, angulated lines, irregular streaks, negative network, shiny white structures, blotches, blue-white veil, regression features, and polymorphous vascular patterns- and how their distribution, symmetry, and

context signal malignancy. The lecture highlights correlations between dermoscopic morphology and tumour growth phase, depth, and biologic behaviour, underscoring the value of dermoscopy in detecting early and micromelanomas that lack classic clinical warning signs.

**Learning Objectives**

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

1. **Identify melanoma-specific dermoscopic structures on non-glabrous skin**, including atypical network, angulated lines, streaks, negative network, blotches, blue-white veil, regression, and atypical vascular patterns.
2. **Distinguish benign from malignant patterns** by recognising asymmetry, architectural disorder, and context-dependent atypia in dots, globules, networks, and structureless areas.
3. **Correlate dermoscopic features with melanoma biology and depth**, improving recognition of in situ, thin, and invasive melanoma, including lesions lacking classic clinical ABCD criteria.

# Assessments

## 1. Lecture Based Quiz

Monthly lecture-based quizzes are provided to support knowledge acquisition and consolidation throughout the Dermoscopy Bootcamp. The quizzes are carefully aligned with the topics taught each month, promoting continuous learning, assessment, and improved uptake of dermoscopic concepts.

## 2. Case Studies

Participants must complete and submit **five (5) case studies**, each including:

1. Clinical history
2. Images: Survey, Macro and Dermoscopy (Polarised and Non-Polarised)
3. Differential diagnosis
4. Reasoning process, including annotation of dermoscopic features
5. Final management decision and follow-up

Cases must be drawn from the participant's clinical practice (where appropriate and de-identified).

## 3. End-of-Course Exam

The Dermoscopy Bootcamp concludes with a comprehensive 60-question multiple-choice examination designed to assess knowledge acquisition, diagnostic reasoning, and practical application of dermoscopic principles covered throughout the course. The examination is lecture-based and closely aligned with the monthly curriculum, including dermoscopic fundamentals, diagnostic frameworks, histopathologic correlations, and the full spectrum of benign and malignant lesions discussed.

Questions integrate high-yield concepts from all sessions, including optical principles, pattern analysis, organised versus disorganised lesions, nevus subtypes, seborrheic keratosis, basal cell carcinoma, squamous cell carcinoma, and melanoma-specific structures. Clinical vignettes and dermoscopic image–based scenarios are used to evaluate the participant's ability to interpret dermoscopic features, recognise malignancy, identify mimickers, and make appropriate management decisions.

The examination emphasises diagnostic accuracy, avoidance of missed melanoma, and real-world clinical reasoning rather than rote memorisation. Successful completion supports consolidation of learning outcomes and demonstrates competency in foundational and intermediate dermoscopy skills consistent with the objectives of the Dermoscopy Bootcamp.

# Personal Training Sessions (PT) – Optional

Participants may elect to undertake one-on-one personal training sessions with leading dermoscopy experts for an additional fee. These 30-minute sessions focus on in-depth discussion of individual case studies and clinical outcomes. Each session includes structured, documented feedback provided after the consultation to support reflective learning, skill refinement, and clinical confidence.

## Course Completion & Certification

Participants who:

- Attend all modules
- Successfully complete the **5 required case studies**, and
- Pass the final competency Exam

Will receive a **Certificate of Dermoscopy** acknowledging successful completion of the course.