

# Introduction to Airport Pavement Materials and Design

Presented by the Department of Civil Engineering, University of Pretoria

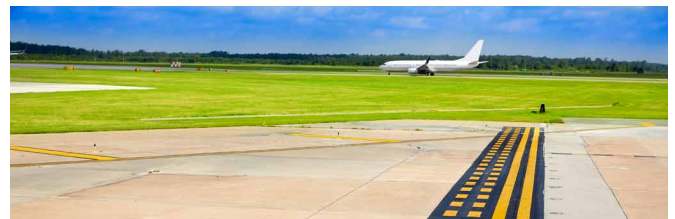
5 ECSA CPD Points

## Brief Description

This course offers a comprehensive introduction to pavement engineering principles tailored for airport authorities and companies, specifically targeting civil engineering technicians and engineers. It combines theoretical knowledge with practical applications and equips delegates with basic knowledge of pavement design, material testing, drainage, and construction techniques for airfield pavements. The course emphasises current best practices and regulatory standards in airport pavement engineering, ensuring delegates gain the knowledge and skills necessary to demonstrate competence in the fundamentals of airport pavement engineering.

## The following key areas will be covered in the course

- Overview of commonly used materials such as soils and gravels, stabilized materials, concrete, and bituminous materials, with an emphasis on their properties and applications in airport pavements.
- Introduction to standard testing methods for different materials, interpretation of test results and their application in pavement design.
- Comprehensive coverage of various classification systems and their practical use.
- Introduction to various design methods, including those by the International Civil Aviation Organisation (ICAO), Federal Aviation Administration (FAA), as well as CBR and DCP methods, highlighting their strengths and limitations.
- Practical knowledge of ensuring compliance with QC/QA standards during materials selection and construction.
- Basic principles of drainage design for airfield pavements and the benefits of well-designed drainage systems.



## Course content

Introduction to pavement engineering Aircraft loading and pavement interaction. Overview of materials used in airport pavements including soils, gravels, stabilized, asphalt, and concrete.

Materials testing and quality control Practical demonstrations of laboratory and field testing.

Pavement design for airports Airport pavement construction and quality control.

Drainage design for airport pavements Course Evaluation and Assessment.

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## Learning Outcomes

Upon completing this course, delegates will gain a comprehensive understanding of the fundamental principles of airport pavement materials and design. The course focuses on key areas, including selecting, testing, and applying materials suitable for airfield pavements, structural design of airport pavements, construction techniques for airport pavements, designing effective drainage systems for airfield pavements, and practical knowledge in QC/QA procedures to ensure materials and construction meet required standards.

## Course delivery mode options

Contact sessions in Pretoria

## Who should enrol?

Transport planners, engineers, airport operations and technical staff and managers, regulators and inspectors, project managers.

## Entry Requirements

A relevant educational background in engineering, civil engineering, aviation, or a related field may be required. This could include a diploma, a bachelor's degree or equivalent. A minimum level of professional experience in the engineering or aviation industry.



## Course date

26 - 30 May 2025



## Programme fees

### R16 000.00 per delegate

Course fees include all course material, refreshments and lunch during contact days.

Course fees must be paid in full 14 days prior to course start dates. Proof of payment can be submitted to [enrolments@enterprises.up.ac.za](mailto:enrolments@enterprises.up.ac.za)

## Accreditation and certification

Enterprises University of Pretoria (Pty) Ltd is wholly owned by the University of Pretoria. As a public higher education institution, the University of Pretoria functions in accordance with the Higher Education Act 101 of 1997. Enterprises University of Pretoria offers short courses on behalf of the University and these short courses are not credit-bearing, and do not lead to formal qualifications on the National Qualifications Framework (NQF) – unless otherwise. Delegates who successfully complete a short course and comply with the related assessment criteria (where applicable) are awarded certificates of successful completion and/or attendance by the University of Pretoria.



## Registration and enquiries

### Client Information Centre

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## Course leader

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