

# Future Tails

## Graduate Certificate in Tailings Management



THE UNIVERSITY OF  
**WESTERN  
AUSTRALIA**

Upskill and sharpen your knowledge of tailings management and engineering solutions with industry-focused, online, on-demand learning. The Graduate Certificate in Tailings Management is delivered by Future Tails, a five-year initiative funded by sponsors Rio Tinto and BHP, to facilitate industry understanding of best practice mine tailings management and engineering.

With the current acute shortage of suitably trained and qualified tailings management engineers and personnel, a formally recognised qualification in tailings management and engineering will improve your employability and future career outcomes.

Our academically credited micro-credentials (MCs) are short, professional qualifications in different aspects of tailings management and engineering that demonstrate your skills, knowledge and experience in the field. These focused, affordable modules are online, so you can easily fit them in to your schedule.

You can complete one or two to enhance your knowledge and skills in a specific area of tailings, or complete the series of 12 and stack them towards the Graduate Certificate in Tailings Management.\*

Whether you're looking to break into this field with a new employer, progress your career, gain PD points or just keep up to date with technology advances and the Global Industry Standard on Tailings Management, these courses can enhance your existing experience with the latest knowledge and skills.

You can study and upskill in tailings testing and geotechnics, water management strategies, risk evaluation and appropriate governance structures.

### Micro-credentials course content

INTRODUCTION TO TAILINGS MANAGEMENT	TAILINGS OPERATIONS AND WATER MANAGEMENT	TAILINGS RISK EVALUATION	TAILINGS GOVERNANCE
<b>MINEM501: Preparation, Transport &amp; Deposition of Tailings</b>  Introduction to tailings engineering; variability based on particle size distribution Methods of construction and operation of TSFs	<b>MINEM521: Operations</b>  Deposition strategies: layer thickness, maintaining freeboard, decant systems	<b>MINEM531: Risk Evaluation</b>  Basics of risk evaluation Methods of risk evaluation: FEMA, bowtie, MCA	<b>MINEM541: Compliance</b>  Primary guidelines (ANCOLD, CDA, ICOLD, GISTM, ICMM) Concept of Consequence Category Integrated Knowledge Base
<b>MINEM502: Basics Of Tailings Geotechnics</b>  Particle size distributions Phase diagrams Effective stress	<b>MINEM522: Water Balance</b>  Quantifying inputs, design events, extreme events Applied hydrology	<b>MINEM532: Monitoring</b>  Modes of failure: introduction to monitoring ALARP; TARPs Controls and control effectiveness	<b>MINEM542: Roles And Responsibilities</b>  Accountable Executive, Engineer of Record, Responsible Tailings Facility Person Training programmes, procurement, ensuring adequate resourcing
<b>MINEM503: Tailings Testing – An Introduction</b>  Seepage Consolidation Strength testing	<b>MINEM523: Dewatering Technologies</b>  Paste & thickened tailings In-line flocculation Filtered tailings	<b>MINEM533: Case Studies of Failures</b>  Mount Polley, Cadia, Fundao, Feijao	<b>MINEM543: Tailings Management Plans</b>  Integrating closure Operating manuals

\* In order to apply for the Graduate Certificate award you must have a Bachelor of Engineering degree or a degree in a related field and have met UWA's English language competency requirements.

## Course structure

You can apply for the Graduate Certificate in Tailings Management after successfully completing all 12 micro-credentials and associated assessments.\*

- Each micro-credential (MC) will be offered online over an 8-week period.
- You may only take a micro-credential (MC) in a colour sequence once you have taken the preceding MC in that colour sequence. For example, you may only enrol in MINEM503 once you have successfully completed MINEM501 and MINEM502.
- You can enrol in MCs in different colour bands concurrently. For example, you can enrol in MINEM501 and MINEM542 at the same time in Q1 2023.

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## Estimated completion time

Our micro-credentials have been designed so you can conveniently balance your work and study.

Students commencing in 2023 will be able to complete in a minimum time of 18 months, if micro-credentials are taken concurrently. Alternatively, you have the flexibility to take the micro-credentials individually over a 36-month period.

## Calendar of Micro-credentials in Tailings Management

	2022		2023			2024				2025			
	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sep	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sep	Oct to Dec	Jan to Mar	Apr to Jun	Jul to Sep	Oct to Dec
INTRODUCTION TO TAILINGS MANAGEMENT		MINEM501				MINEM501				MINEM501			
			MINEM502				MINEM502				MINEM502		
				MINEM503				MINEM503				MINEM503	
TAILINGS OPERATIONS AND WATER MANAGEMENT	MINEM521				MINEM521				MINEM521				MINEM521
		MINEM522				MINEM522				MINEM522			
	MINEM523		MINEM523				MINEM523				MINEM523		
TAILINGS RISK EVALUATION				MINEM531				MINEM531				MINEM531	
					MINEM532				MINEM532				MINEM532
						MINEM533				MINEM533			
TAILINGS GOVERNANCE	MINEM541						MINEM541				MINEM541		
		MINEM542						MINEM542				MINEM542	
			MINEM543						MINEM543				MINEM543

[uwa.edu.au/study/courses/graduate-certificate-in-tailings-management](http://uwa.edu.au/study/courses/graduate-certificate-in-tailings-management)