

# MORE TO MINING: Learning

Australian Mining

May 2020

Investing in future capabilities for the modern minerals sector



*“ I am proud to share these exciting developments to strengthen learning pathways, student experiences and outcomes for our world-leading minerals sector. I call on leaders across the industry to get involved and to work actively with our education partners to ensure we can rely on a future flow of diverse and engaged talent. As we navigate the challenge of COVID-19 across our industry, we have an important opportunity to demonstrate our continued investment in our people and the capabilities vital for our future. ”*

**Chris Salisbury, Chair – Workforce and Innovation Committee, Minerals Council of Australia (MCA), Chief executive, Rio Tinto Iron Ore**



*“ Australian mining needs to do more to spark the interest and imagination of the future pipeline of talent to show our commitment to creating the best possible future minerals workforce. The new learning and capability pilots overseen by the MCA’s Workforce and Innovation Committee with broad member company input will be crucial to align the needs of industry with the broadest possible talent pool for a world-leading industry. ”*

**Tania Constable, Chief Executive Officer - MCA**

## Opportunity through partnership

The needs of industry, current and future employee expectations, technology, education delivery, job and workplace design, are all changing rapidly. We know that effective, collaborative partnerships across industry, educators, government and community are essential to reinvigorate learning pathways, student experiences and outcomes which will attract and engage diverse talent.

## Curricula Pilots

Following extensive industry engagement and a formal expression of interest process involving many of Australia’s leading technical educational institutions, we are pleased to confirm the following curricula pilots have been initiated:

1

### Mining Engineering Degree



2

### Associate Degree of Engineering



3

### Micro-credential for Modern Mining



## Overview of pilots

These pilots reflect industry needs to reinvigorate and strengthen learning outcomes across a spectrum of career stages. As a model to build on into the future, the pilots are focused on accelerating the development of innovative learning solutions, and importantly, bringing industry and educators closer together.



1

### Mining Engineering Degree



Curtin University

*Curtin has undertaken a comprehensive review and is progressing the renewal of the curriculum for its undergraduate Mining Engineering Degree. The MCA pilot will play a key enabling role in implementing the new curriculum.*

#### What's new

- Updated content and learning experiences, reflecting our changing industry, with focus on our increasingly digitally enabled environment
- A greater focus on sustainability issues as they relate to our industry, with particular focus on Indigenous and community partnerships
- Innovative teaching methods incorporating industry and community immersion with a greater range of subject choices

#### Timing

Build underway, rollout of new curriculum to commence in 2020

*“ The renewed Mining Engineering curriculum will ensure a steady supply of well-prepared graduates for the modern mining industry. Central to this is a quality Work Integrated Learning (WIL) program that provides students with real-world, authentic experiences reflecting the current workplace (and in the process developing student employability). ”*

**Sabina Shugg AM, Director – Kalgoorlie Campus, WA School of Mines, Curtin University**

2

### Associate Degree of Engineering

UNIVERSITY  
OF SOUTHERN  
QUEENSLAND

*A collaboration between CQU and USQ as a pathway to a professional engineering career for trade qualified paraprofessionals, this pilot will have a specific focus on mining and engineering geology majors.*

#### What's new

- Incorporates social licence to operate focus areas including sustainability, environment, Indigenous and community relationships
- Progressive, future focused content across areas of automation, sensory technology and data, bringing to life case study experiences
- Introduces resource sector focus into civil, electrical, instrumentation, automation and mechanical disciplines, to raise awareness and attraction to the sector

#### Timing

Evaluating revised units with students from mid 2020, finalised by Jan 2021

*“ The refreshed Associate Degree of Engineering (ADEng) mining curriculum at CQU and USQ incorporates contemporary technological trends in the resources industry. This work will produce learning modules across automation, sensors, sustainability and Indigenous perspectives, to modernise the curricula and meet industry needs. ”*

**Dr Aruna Jayasuriya – Head of Course Undergraduate Engineering, CQ University**  
**Professor Steve Hall – Dean – School of Engineering & Technology, CQ University**



3

### Micro-credential for Modern Mining



Curtin University



THE UNIVERSITY OF QUEENSLAND

*Curtin and UQ are collaborating on a foundations modern mining micro-credential pathway to complement the traditional technical suite of skills in the sector enabling learning to be tailored to suit both those new to industry and those looking to broaden experience across contemporary issues.*

#### What's new

- Online micro-credential pathway delivered through the edX platform
- Students can attain a Professional Certificate in the Foundations of Modern Mining
- Six courses focused on the changing face of the minerals sector including digital transformation, leadership and diversity, sustainability, health safety and wellness in mining as well as fundamentals and technical foundations of mining

#### Timing

Build  
underway,  
progressively  
released from  
August 2020  
to February  
2021

“ The micro-credential is marketable to new tertiary graduates from all disciplines including transitioning VET students and high school graduates seeking a better understanding of the mining industry. Importantly, the package also provides a pathway to higher education at Curtin or UQ enabling learners to progress their careers through further study. ”

**Professor Chris Rawson, Dean – Learning & Teaching - Science & Engineering, Curtin University**

## What is in it for:



### Our current workforce

Demonstrating continued investment in the diverse, dedicated, and highly capable people that make up the Australian minerals industry workforce. Not only providing opportunities to upskill, but also for our people to play an active role in content design and delivery.



### Our future workforce

For those considering their careers, these pilots represent exciting, modern pathways for learning that encompass key themes of social responsibility and sustainability, which we know to be vital in competing for diverse talent.



### Our broader industry

Learning beyond traditional technical domains and enabling skills portability across sectors helps encourage the flow of skills across Australia, with the resulting diversity of thought and experience strengthening our standing as a world leader in the minerals sector.



## Key messages to share within your organisations

- Our world of work is changing and so too is the way we learn – this is a great opportunity for the minerals sector to demonstrate its innovation and ingenuity to make for compelling learning and growth options across broader, diverse talent pools
- As an industry, a focus on sustainability, engagement, wellbeing, and an inclusive workplace, are more important than ever as our underpinning technical capabilities – we need to fully integrate these important themes into our learning pathways
- Industry is actively strengthening learning pathways for our sector, moving the conversation beyond demand and supply to the quality of the learning experience while demonstrating our investment in future capabilities for the modern minerals sector

## Ways to get involved

Each curriculum pilot has an Industry Advisory Group with representation from MCA members.

There are frequent connections and established channels through forums, and content review opportunities for interested representatives from your organisation to get involved and contribute.

The curricula pilots will benefit from case study input, industry examples, participation in design and delivery elements and progressive evaluation. This presents an excellent opportunity for our existing workforce to participate in improving the learning outcomes of those embarking on a career in our industry and to share our story of progress.



**MORE TO  
MINING:** *Learning*

To find out more about these exciting curricula pilots, please contact:  
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