



**MASTER OF ECONOMIC GEOLOGY UNIT**

# Ores in Magmatic Arcs - South America

**11 – 25 October 2025**



CODES, Centre for Ore Deposit and Earth Sciences, University of Tasmania

CRICOS Provider Code 00586B

*The Andean margin of South America contains several of the world's major mineral provinces. The magmatic arcs of the Andes are the source of most of the world's copper and molybdenum from porphyry-style deposits. They are also major sources of gold and silver, primarily from epithermal deposits. Other deposit styles developed through the Andes include IOCGs, skarns, VHMS and orogenic gold deposits. As this region is one of the major areas globally for mineral exploration and mining, there is a pressing need for relevant training on research and exploration skills applicable to ores formed in these magmatic arc environments, focussing on the specific geological, tectonic and environmental characteristics of this region. CODES is therefore proud to offer our two-week field-based unit, Ores in Magmatic Arcs – South America.*

*This unit has a strong focus on field observations and hands-on practical skills, supported by an understanding of theoretical aspects. The full spectrum of deposits (e.g., porphyry, high sulfidation, low sulfidation) developed in magmatic arc settings will be covered. The unit presenters have detailed knowledge of the areas and deposits visited and are uniquely equipped to deliver the skills and insights needed by participants.*

*Registration fees include all accommodation and field transport, course notes, field guide, and breakfasts and lunches. Travel to and from South America, and all internal flights within South America, dinners and alcohol, are not included in the fee and are the responsibility of each participant. A valid passport is required for entry into Chile and Peru, and it is the responsibility of each participant to determine whether they require a visa for each country visited, and to obtain that visa before travel.*

## UNIT PRESENTERS

**David Cooke** is Professor of Geochemistry, and Director of CODES. He has extensive research expertise in hydrothermal fluid chemistry and ore-forming systems, specialising in porphyry and epithermal deposits.

**Yamila Cajal** is a Postdoctoral Research Fellow in Critical Minerals Characterisation at CODES. She has over a decade of research and industry experience in magmatic-hydrothermal deposits, specialising in magma fertility and porphyry systems.

**José Tomás Ovalle** is a postdoctoral researcher at the Universidad Austral de Chile. His work focuses on Andean mineral systems, with experience in iron oxide–apatite and porphyry deposits. He completed a PhD at the University of Chile and a postdoctoral fellowship at the University of Michigan.

**Victor Torres** is a Regional Senior Geologist for Anglo American and has experience in copper, gold, silver, and gem exploration in the Americas and Africa. He has an Engineering degree, a Master of Economic Geology, and is currently undertaking a PhD at CODES.

**Jose Piquer** is Associate Professor at Universidad Austral de Chile, and Director of the Institute of Earth Sciences. He has over 18 years of research and industry experience in economic geology, including a PhD at CODES and 8 years working in mineral exploration. His research is focused on understanding the structural controls on magmatic-hydrothermal systems at various

scales, and the use of whole-rock and mineral chemistry to detect fertility signals and develop vectoring tools.

## TRAVEL AND CLOTHING

All participants must carry their own PPE (steel-capped boots, long-sleeved shirts, long sturdy trousers, hard hats, reflective vests, safety glasses, gloves and hearing protection). You will need sun cream, lip balm and moisturisers (particularly in Chile), and cold and wet weather gear.

All participants are required to have a medical assessment for fitness to work at high altitude prior to the trip. Several days of the trip will be at locations in excess of 3,500m in elevation.

## REGISTRATION FEE INCLUSIONS

- Accommodation October 10–24 inclusive (most student accommodation will be shared)
- Ground transport
- Course notes and field guide
- Breakfasts, lunches and some group dinners

## EXCLUSIONS

- Travel to and from South America (e.g. international flights, accommodation in transit, visa fees etc.)
- Flights within and between Chile and Peru
- Most dinners
- Alcohol

## PARTICIPATION via KEA724

The field excursion is also available for any students enrolled in KEA724 who previously completed KEA707 (Indonesia). Please contact the unit coordinator of KEA724 (Dr Robert Scott) to confirm that you can participate in the field excursion as a KEA724 student and to discuss the assessment requirements for the unit.





**Ores in Magmatic Arcs**  
*is offered as a unit in the national Minerals Geoscience Masters program.*

## MASTER OF ECONOMIC GEOLOGY

### THE MOST COMPREHENSIVE MASTER DEGREE IN MINERAL EXPLORATION AND MINING GEOLOGY ANYWHERE IN THE WORLD

This course work-based Masters program is aimed at geoscientists who want to gain a thorough up-date on advances across the spectrum of economic geology applied to mineral exploration. The Master of Economic Geology at UTAS is part of the national Minerals Geoscience Masters program, jointly offered by the University of Tasmania and the University of Western Australia, in conjunction with Curtin Business School at Curtin University.

#### Course structure

The Masters course can be completed in either of two ways:

**Option 1 (research pathway):** requires the completion of six coursework units (worth 75% of total credit points) and a minor research thesis (worth 25%). Five of the units must be completed at CODES including thesis units KEA724 and KEA725, core units KEA712, KEA716 and at least one field-based unit, while the remainder may be completed at other participating universities. Duration: 18–24 months full-time; up to 60 months part-time (flexible in recognition of industry participants).

**Option 2 (professional pathway):** requires the completion of eight units of coursework, at least five of which must be undertaken at CODES including core units KEA712, KEA716 and at least one field-based unit. Duration: up to 60 months part-time (flexible in recognition of constraints on industry participants).

Participating universities offer up to seven units annually or in rotation over a two-year period. Most units are of two weeks duration.

#### Fees

UTAS tuition fees are approximately \$2,328 per unit (8 in total) for domestic students (2025 rate for Commonwealth Supported Places) and \$10,063 (AUD) per unit for full-fee paying overseas students (FFPOS) (2025 rate). Field-based units have additional costs. Costs will vary for units taught by other MGM partner institutions.

#### Entry Requirements

BSc (Hons), or a BSc (majoring in geoscience) with at least two years industry experience, or a Graduate Certificate in Economic Geology (K5F). International students should be aware that English language proficiency requirements also apply.

#### Masters units offered by CODES

- 4 August–31 October 2025 (Intensive Part 2: 15–19 September):  
KEA713 Geodata Analytics \*
- 11 – 25 October 2025:  
KEA707 Ores in Magmatic Arcs (South America) ^
- 27 October – 1 November & 24 – 28 November 2025:  
KEA711 Geometallurgy \*
- February 2026:  
KEA718 Advanced Field Skills in Economic Geology ^
- March 2026:  
KEA708 Volcanology and Mineralisation in Volcanic Terrains (New Zealand, western Tasmania) ^
- April – May 2026:  
KEA716 Fundamentals of Economic Geology \*
- June – July 2026:  
KEA712 Ore Deposit Models and Exploration Strategies #
- October – November 2026:  
KEA710 Exploration in Brownfield Terrains #
- March 2027:  
KEA707 Ores in Magmatic Arcs (Indonesia) ^
- June – July 2027:  
KEA709 Ore Deposit Geochemistry, Hydrology and Geochronology #

\* online delivery

# blended delivery (face to face and online)

^ face to face delivery

#### For further information contact:

Dr Robert Scott  
Masters Coordinator, CODES  
Private Bag 79, Hobart 7001, Australia  
Tel: +61 3 6226 2786  
Email: [CODES.Info@utas.edu.au](mailto:CODES.Info@utas.edu.au)  
[Robert.Scott@utas.edu.au](mailto:Robert.Scott@utas.edu.au)  
Website: [utas.edu.au/codes/masters-short-courses](https://utas.edu.au/codes/masters-short-courses)

## PRELIMINARY PROGRAM

LEADERS: DAVID COOKE, YAMILA CAJAL, VICTOR TORRES

|                                      |                                                           |                       |
|--------------------------------------|-----------------------------------------------------------|-----------------------|
| <b>Friday-Saturday October 10-11</b> | Arrive in Santiago, Chile                                 | Las Condes (Santiago) |
| <b>Sunday October 12</b>             | Rio Maipo transect                                        | Las Condes (Santiago) |
| <b>Monday October 13</b>             | El Teniente                                               | Las Condes (Santiago) |
| <b>Tuesday October 14</b>            | Rio Blanco                                                | Las Condes (Santiago) |
| <b>Wednesday October 15</b>          | Fly to Calama; drive to Chuquicamata (TBC)                | Calama                |
| <b>Thursday October 16</b>           | Radomiro Tomic                                            | Calama                |
| <b>Friday October 17</b>             | El Abra                                                   | San Pedro de Atacama  |
| <b>Saturday October 18</b>           | El Laco                                                   | Calama                |
| <b>Sunday October 19</b>             | AM: Fly to Lima via Santiago<br>PM: Student presentations | Miraflores (Lima)     |
| <b>Monday October 20</b>             | AM: Medical exams<br>PM: Drive to Chinchá                 | Chinchá               |
| <b>Tuesday October 21</b>            | Cerro Lindo                                               | Lima airport          |
| <b>Wednesday October 22</b>          | Fly to Cajamarca; Antakori                                | Cajamarca             |
| <b>Thursday October 23</b>           | Cerro Corona                                              | Cajamarca             |
| <b>Friday October 24</b>             | Tantahuatay and La Zanja drill core                       | Cajamarca             |
| <b>Saturday October 25</b>           | Fly to Lima; end of trip                                  |                       |



# REGISTRATION FORM

## Ores in Magmatic Arcs—South America

11 – 25 October 2025

Please complete and return to:

CODES

University of Tasmania, Private Bag 79

Hobart, Tasmania, Australia 7001

Ph: +61 3 6226 2472

Email: CODES.Info@utas.edu.au

### PERSONAL DETAILS

Title—Please highlight ( Prof / Dr / Mr / Mrs / Ms / Miss )

First Name: ..... Last Name: (surname / family name): .....

Preferred Name (for use on name tag): .....

Position: .....

Company / University: .....

Address: .....

City: ..... State: ..... Postcode: ..... Country: .....

Email: ..... Phone (mobile / cell): .....

Dietary requirements / allergies / other health issues: .....

Emergency contact (name and email/phone contact): .....

Passport (Nationality/number/expiry): .....

### REGISTRATION FEES

All fees are in Australia dollars (AUD). Fees do not include tuition costs for enrolled students or airfares.

Please indicate ☒

#### MGM Masters Students:

Total field fee \$5,500\* (twin share)

☐ Deposit (GST free): \$2,000

☐ Balance (GST free): \$3,500

Total field fee \$7,000\* (single where available)

☐ Deposit (GST free): \$3,500

☐ Balance (GST free): \$3,500

#### Industry Participants:

Total registration fee \$14,000

☐ Deposit (GST free): \$6,000^

☐ Balance (GST free): \$8,000

\*this price is the maximum field fee cost and may be reduced for students pending finalisation of ground transportation and accommodation costs.

^non-refundable for cancellation

### PAYMENT

Registrations and deposit payments are due by 10<sup>th</sup> of August, 2025. Full payment must be received by 7<sup>th</sup> of September, 2025.

Preferred payment method. Please indicate ☒

☐ Credit Card

Upon receipt of your registration form and confirmation of your place, you will be provided with a payment reference number and web address for online payments. Please note: Credit card details cannot be accepted by email.

☐ Invoice (payment can be made by credit card or bank transfer)

Invoice to (name/company): .....

Attention to (optional): .....

Reference (e.g. order number (optional)): .....

Address: .....

Email address: .....

#NB due to the high level of interest in this field-based unit, and the limit on group size, places are not secured until deposit payments have been received.

**Please retain a copy of this form from your records and email or post original to CODES (contact details above).**

**MGM STUDENTS: THIS FORM DOES NOT CONSTITUTE AN OFFICIAL UNIVERSITY ENROLMENT—YOU MUST ALSO ENROL VIA ESTUDENT AND ENSURE TUITION FEES ARE PAID BY THE PAYMENT DEADLINE.**