



MASTERING ECONOMIC GEOLOGY

...AND YOUR FUTURE

Would you like to broaden your knowledge of mineral deposit geology while adding the world's most comprehensive postgraduate mineral exploration and mining geology degree to your CV? If so, then the Master of Economic Geology (MEconGeol) degree at the University of Tasmania could be just what you are looking for.

The MEconGeol is designed for working geoscientists and provides a thorough update on the latest developments in economic geology and mineral exploration. The program is delivered by a team of highly qualified national and international experts from both industry and academia. Through a series of short courses (predominately two-week intensive), the program emphasises practical content, and includes research opportunities and field excursions to diverse locations – including Indonesia, the Andes (Chile, Ecuador and Peru) and New Zealand*.

* COVID-19 travel restrictions may impact the running of units with field components

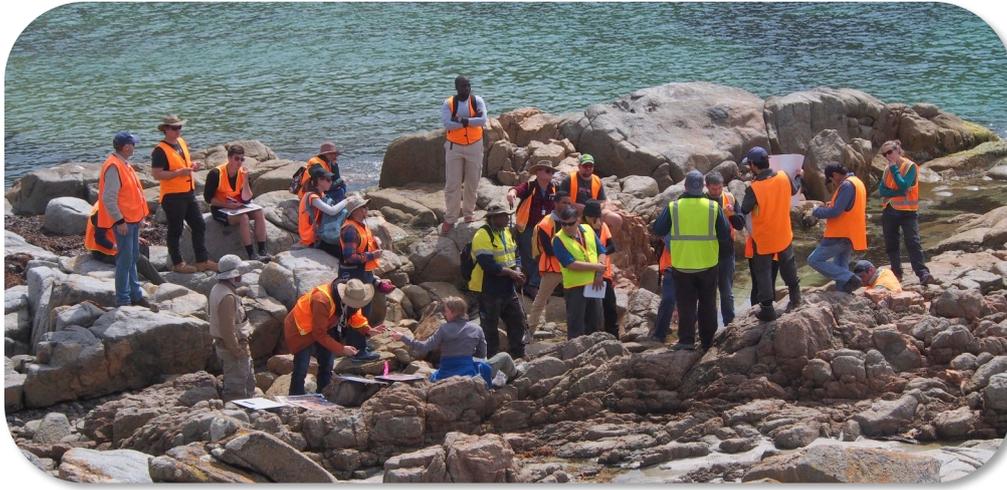


ENTRY REQUIREMENTS

A BSc (Hons), or a BSc (majoring in geoscience) with at least two years' industry experience.

Students from non-English speaking countries must meet University of Tasmania requirements for English language proficiency. Further information can be found at: utas.edu.au/international/applying/entry-requirements

International students who undertake the degree on a part-time basis do not need a Student Visa to enter Australia to attend coursework units.



ABOUT THE PROGRAM

The coursework based Master of Economic Geology degree at the University of Tasmania (UTAS) forms part of the national Minerals Geoscience Masters (MGM) program. The UTAS program is run by the Centre for Ore Deposit and Earth Sciences (CODES). Our partner institutions in the MGM are the University of Western Australia (UWA) and Curtin University. In total, 19 coursework units are offered, either annually or biennially, between the three universities.

There are minor differences in the structure and entry requirements of the MGM programs at UTAS and UWA. CODES requires its students to complete the equivalent of eight coursework units, at least four of which must be at UTAS. Remaining units can be completed at the other partner institutions.

The degree is equivalent to two years' full-time study, but is designed with working geologists in mind – allowing you to pursue your career while studying. The degree can be completed in as little as 18 months, but most part-time MEconGeol students complete the degree in three to five years.

FLEXIBLE COMPLETION OPTIONS – IDEAL FOR INDUSTRY PARTICIPANTS

Participating universities offer up to six units annually. UTAS offer 3 units annually with the remainder offered on a biennial basis. Most units are delivered in intensive two-week short course format, with non-field component units being delivered online.

There are two options for completing the degree at UTAS:

Option 1 requires the completion of six coursework units (worth 75% of total credit points) and a research thesis (worth 25%). Four of the units must be completed at CODES, while the remainder may be completed at other participating universities. Duration: 18–24 months full-time; up to 36 months part-time (flexible in recognition of industry participants).

Option 2 requires the completion of eight units of coursework, at least four of which must be undertaken at CODES. Duration: up to 36 months part-time (but flexible in recognition of other constraints on industry participants).

If you want to see what the courses are like before committing to further study, then you can attend as a non-enrolled industry participant. All our short courses are open to not-for-degree participants and count as continuing professional development. You can attend the whole short course or just the modules that most interest you. If you attend as a not-for-degree participant, but complete all the assessment tasks, we will keep your final results on file and, if you subsequently enrol in the Masters program, we will credit that unit to your degree. It is a way of trying before you buy.



UNITS OFFERED BY CODES

ABOUT CODES

Based at the University of Tasmania in Australia, CODES is the Centre for Ore Deposit and Earth Sciences. Formed in 1989, it has developed a reputation as a world leader in ore deposit research, with a track record for excellence in postgraduate training. It has over 59 major research projects spread across 28 countries, and more than 125 postgraduate students. It has been successfully running its Master of Economic Geology program for over 30 years.

ORES IN MAGMATIC ARCS (KEA707) *

November–December 2021 and March 2023

Delivery mode/location: 2 week intensive face-to-face, Tasmania & New South Wales (Australia)

An exciting two-week field-based unit, which is held in Australia, Indonesia or South America. In November 2021, the unit will be delivered in Australia, and in March 2023, it will be in Indonesia. The unit in 2021 includes visits to world-class porphyry, epithermal, VHMS and granite related Sn-base metal deposits, studies of the regional and local geology of the districts visited, and detailed evaluations of ore deposit characteristics, mineralisation styles and genetic models. Exploration techniques for magmatic-hydrothermal deposits are comprehensively discussed, and real-world geological and geochemical data sets are evaluated in terms of the various genetic models for these types of deposits. Major IOCG deposits are also visited when this course is held in South America.

VOLCANOLOGY AND MINERALISATION IN VOLCANIC TERRAINS (KEA708) *

November 2022 and March 2024

Delivery mode/location: 2 week intensive face-to-face, New Zealand (North Island) & Australia (Tasmania)

This unit provides an introduction to the processes and products of different eruption styles, contrasts in scale and structure of volcanoes, identification of key volcanic facies associations and interpretation of facies variations. Mineralisation and alteration processes related to hydrothermal systems in subaerial and submarine volcanic environments and implications for mineral exploration are included. This is a field-based unit with trips to the North Island of New Zealand to examine modern volcanic systems, plus a trip to the west coast of Tasmania to examine altered and mineralised volcanic rocks of the Cambrian Mt Read Volcanics.

ORE DEPOSIT GEOCHEMISTRY, HYDROLOGY AND GEOCHRONOLOGY (KEA709)

June–July 2023 and June–July 2025

Delivery mode/location: 2 x 1 week intensive and online

This unit covers a variety of geochemical and geochronological techniques used to interpret environments of ore formation and processes of ore genesis, and discusses the implications of these data sets for mineral exploration. Topics include hydrothermal geochemistry, whole rock and trace element chemistry of igneous rocks, Ar-Ar, U-Pb and Re-Os geochronology, sulfide trace element chemistry, stable and radiogenic isotopes, and fluid inclusions.

EXPLORATION IN BROWNFIELD TERRAINS (KEA710)

October 2022 and October 2024

Delivery mode/location: 2 week intensive and online

The compilation and analysis of large data sets typical in areas of significant previous exploration can present a challenge for any geologist. This unit looks at exploration in data-rich environments in and around mine sites. The unit covers GIS applications, and the interpretation of geochemical and geophysical data at various scales. Theory is enhanced by practical exercises involving the integration of data sets from several world-class mineralised districts.



UNITS OFFERED BY CODES cont.

GEOMETALLURGY (KEA711)

October–November 2021 and October 2023

Delivery mode/location: 2 x 1 week intensive and online

Geometallurgy involves a quantified and comprehensive approach to ore characterisation in terms of critical processing attributes: including blasting, crushing, grinding, liberation, recovery and environmental management. Key outcomes of increased geometallurgical knowledge are better forecasting, reduced technical risk, enhanced economic optimisation of mineral production, and improved sustainability. The unit introduces a range of techniques for 'early-stage' (e.g. exploration, pre-feasibility) collection of geological information that is relevant to mining engineers and metallurgists. The program involves lectures, practical exercises, and includes a range of computer-based modelling exercises.

ORE DEPOSIT MODELS AND EXPLORATION STRATEGIES (KEA712)

June–July 2022 and June–July 2024

Delivery mode/location: 2 x 1 week intensive and online

This unit provides an up-to-date review of key ore deposit types and their characteristics and is presented by a range of Australian and international experts. Most deposit type receives a full day of lectures and practical exercises, addressing their characteristics, location and tectonic setting, genesis and exploration strategies. Deposit types typically covered include porphyry, epithermal and skarn; volcanic-hosted massive sulfide and seafloor hydrothermal; SEDEX Zn-Pb-Ag; sediment-hosted Cu; Fe-oxide Cu-Au; orogenic, palaeoplacer and Carlin-type Au; Broken Hill-type Pb-Zn-Ag; and roll-front and unconformity U.

GEODATA ANALYTICS (KEA713)

Annually August–October (from 2022)

Delivery mode/location: Online via a combination of pre-recorded content, 'live' lectures and discussion forums

This unit will provide industry-based geoscientists with an understanding of the fundamental concepts of database handling and manipulation, statistical analyses, pattern recognition and machine learning for the processing, analysis and modelling of large volumes of multivariate geoscience data. Students will gain skills in rigorous and repeatable methods for extracting and visualising meaningful information from geochemical, geophysical and geological information.

Case study examples of applications in mineral exploration; ore extraction and processing; and waste management will be provided. The communication of resultant models to aid interpretation and facilitate decision making, to both geoscientists and non-geoscientists, is an important aspect of computer-assisted analysis of data and will be covered using a range of delivery modes.

FUNDAMENTALS OF ECONOMIC GEOLOGY (KEA716)

September–October 2021 and January–February 2022

Delivery mode/location: 2 x 1 week intensive and online

This unit teaches the fundamental skills needed by all economic geologists. Concepts of key geological concepts, mineralogy, paragenesis, geochemistry and geophysical characteristics of ore-forming environments, and the impact of these data sets of ore genesis and exploration are taught. The unit focusses on identifying and using key tools to recognise the sequence of events that have impacted ore-forming environments, and how these tools can be best used in an exploration context to solve exploration, mineral processing and environmental problems.

ADVANCED FIELD SKILLS IN ECONOMIC GEOLOGY (KEA718) *

Annually in February

Delivery mode/location: 2 week intensive face-to-face, Tasmania (Australia)

A field-based unit run in Tasmania that teaches fundamental and advanced mapping and field skills suitable for use in the minerals industry, including field-based rock and mineral identification, fact and form surface mapping, "Anaconda-style" mapping, structural measurement and graphic logging techniques, and the use of spectral, geochemical and remote sensing data sets in making and interpreting geological maps.

* COVID-19 travel restrictions may impact the running &/or itinerary of these units





UNITS OFFERED BY OTHER UNIVERSITIES IN THE MGM PROGRAM

The University of Western Australia

- Advanced Ore Deposits
- Ore Deposit Field Excursion
- Applied Structural Geology
- Multiscale Tectonic Systems
- Isotopes to Petrogenesis
- Geophysical Exploration for Mineral Systems

For further information contact:

Email: Nicolas.Thebaud@uwa.edu.au

Tel: +61 8 6488 7139

Curtin University

- Natural Resource Economics
- Mineral Finance and Project Evaluation
- Resource Cost and Capital Investment
- Resource Sector Finance

For further information contact:

Email: r.mcginley@curtin.edu.au

Tel: +61 8 9266 1393

COURSE COSTS

The total cost of the degree varies depending on which units are taken. For UTAS campus-based and online short courses, students only pay the university tuition fee, which is \$1,987 per unit for domestic students (Commonwealth supported 2021 rate), and \$8,636 per unit for international students (2021 rate). Please consult the UTAS website for more information on fees (www.utas.edu.au/courses/cse/courses/s7w-master-of-economic-geology). The field-based courses have additional costs to cover travel and accommodation. As a guide, Ores in Magmatic Arcs (Indonesia) had an additional fee of \$4,000 in March 2019, and in 2018 the Volcanology and Mineralisation in Volcanic Terrains short course cost an extra \$4,600 on top of the tuition fee. Please note that the cost of travel to the various partner institutions and/or to overseas venues must also be paid by the student (not included in fees).

TAKING THE NEXT STEP – ENROLMENT

Students can choose either CODES or UWA as their home institution. The choice should be based on whichever institution offers the greatest number of units you wish to take, or is best equipped to supervise your research thesis (if applicable). Please note Curtin University also offers short courses that may be taken for credit towards the Minerals Geoscience Masters, but students cannot enrol in the program through Curtin.

For domestic students (including New Zealand citizens) online applications for admission to the Master of Economic Geology (UTAS) can be made here: utas.edu.au/admissions

The course code for the Master of Economic Geology is S7W.

For international students (excluding New Zealand citizens) online applications for admission can be made here: utas.edu.au/international

FOR FURTHER INFORMATION CONTACT:

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Tel: +61 3 6226 2786

utas.edu.au/codes/masters-short-courses

CRICOS Provider Code: 00586B

CODES

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