



UNIVERSITAS
GADJAH MADA

MASTER DEGREE PROGRAM 2026

GEOLOGICAL ENGINEERING DEPARTMENT
UNIVERSITAS GADJAH MADA

TRUST & PROUDNESS

Welcome.



UNIVERSITAS GADJAH MADA
FAKULTAS TEKNIK
DEPARTEMEN
TEKNIK GEOLOGI

PRODI SARJANA
PRODI MAGISTER
PRODI DOKTOR

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Join Us

About Us.

The Master's Program in Geological Engineering is designed as an advanced postgraduate program aimed at developing professionals capable of generating and advancing geological engineering solutions for the benefit of society and environmental sustainability.

The current academic activities are conducted under the curriculum, which is structured based on the University's General Policy, encompassing ethics, philosophy of science, Pancasila, and the core values of Universitas Gadjah Mada as the foundation of education and learning.

This program has an **international recognition** since 2003 as a host institution for geological engineering education in ASEAN. The Master's Program in Geological Engineering at the Faculty of Engineering, Universitas Gadjah Mada has **successfully graduated 663 students**, including **135 international graduates**, predominantly from Southeast Asia, reflecting its strong regional reputation and global academic appeal.

Course delivery is supported by leading lecturers, modern facilities, advanced equipments, and cutting-edge laboratories, including the **GetIn-CICERO**, ensuring a high-quality and industry-relevant learning experience.



*Link to
GetIn-CICERO*



Our Program at Glance.

The curriculum offers **specialization subjects**, reflecting the Department of Geological Engineering's capability to address the latest developments in geoscience while responding to evolving industry demands.

The specializations are:

1. Engineering Geology and Tunneling – Underground Space
2. Groundwater Engineering
3. Urban and Environmental Geology
4. Petroleum Geoscience
5. Coal Geology
6. Geothermal Geotechnology
7. Mineral Resource Geology
8. Geodynamics and Geological Hazards
9. Climate Change and Marine Geology

Graduates of the Master's Program in Geological Engineering, Faculty of Engineering, Universitas Gadjah Mada, are awarded the **Master of Engineering (M.Eng.) degree**.

Students also have the opportunity to participate in a **Double Degree program in collaboration with Kyushu University, Japan**. This program requires students to complete one year of study at Universitas Gadjah Mada and one year at the partner university, leading to the award of dual master's degrees.



Master by Course.

Designed for Fresh Graduates



The **coursework-based learning approach** is designed to provide maximum academic flexibility through a wide range of elective courses. Rather than being confined to a rigid specialization structure, students are empowered to shape their own learning pathway by selecting courses that best support their research focus and professional aspirations.

This flexible and student-centered approach encourages interdisciplinary exploration and ensures that each graduate develops expertise tailored to their unique interests and career goals.

Dominated by coursework, this pathway features approximately **one year of lecture-based classes** followed by **up to one year of research**, allowing students to complete the program within **1.5 to 2 years**.

Master by Research.

Tailored for Professionals



The **research-based learning pathway** is designed for students seeking a focused and intensive academic experience, supported by a structured curriculum with limited flexibility for cross-specialization courses. Students are expected to concentrate on a defined field of study and research interest from the outset, with learning primarily driven by research and complemented by specialized coursework.

This pathway is intended for experienced graduates with at least two years of professional experience who are currently engaged in industry or institutions, bringing valuable practical insight to their academic and research development.

Lectures are delivered only in the first semester through a **hybrid system** (online and offline), followed by a **research-focused phase** for the remaining period, enabling **completion within 1.5 years**.

Curriculum Offers.

Course Distribution Overview – Master’s Program in Geological Engineering (Curriculum 2022)

| Sem. | Course Category | Geotechnical Engineering and Underground Space Credits | Groundwater Engineering Credits | Urban and Environmental Geology Credits | Petroleum and Coal Geology Credits | Geothermal Geotechnology Credits | Mineral Resource Geology Credits | Geodynamics and Geological Hazards Credits | Climate Change and Marine Geology Credits | | | | | | | | |
|------|--------------------|--|---------------------------------|---|------------------------------------|---|----------------------------------|--|---|--|---|---|---|---|---|---------------------------------------|---|
| I | Compulsory Courses | Collaboration and Networking (2) | | | | | | | | | | | | | | | |
| | | Geology for Sustainable Development (2) | | | | | | | | | | | | | | | |
| | | Applied Geology and Geological Data Analysis (4) | | | | | | | | | | | | | | | |
| | | Research Methods (2) | | | | | | | | | | | | | | | |
| | Elective Courses* | Advanced Engineering Geology | 2 | Applied Hydrogeology | 2 | Urban Geology | 2 | Petroleum Geology and Hydrocarbon Geochemistry | 2 | Advanced Geothermal Geology | 2 | Applied Petrology | 2 | Remote Sensing and Information Systems in Geology | 2 | Climate Change Reconstruction | 2 |
| | | Advanced Rock and Soil Mechanics | 2 | Groundwater Flow Modeling | 2 | Geoheritage and Geoparks | 2 | Coal Geology | 2 | Advanced Geothermal Geochemistry | 2 | Advanced Ore Deposit Geology | 2 | Geological Disaster Mitigation | 2 | Quaternary Geology and Climate Change | 2 |
| | | Advanced Rock and Soil Mechanics Practicum | 1 | Groundwater Geochemistry | 2 | Remote Sensing and Information Systems in Geology | 2 | Unconventional Petroleum Geology | 2 | Advanced Geothermal Geophysics | 2 | Advanced Industrial Mineral Geology | 2 | Geological Disaster Risk Management | 2 | Marine Geology and Paleoclimatology | 2 |
| | | Underground Construction Geotechnics | 2 | Water Treatment Engineering | 2 | Medical Geology | 2 | Reservoir Characterization | 2 | Geothermal By-products | 2 | Remote Sensing and Information Systems in Geology | 2 | Geological Hazard Engineering | 2 | Quaternary Stratigraphy | 2 |
| | | Tunnel Construction Methods and Design | 2 | Groundwater Exploration Techniques | 2 | Geological Disaster Mitigation | 2 | Basin Analysis | 2 | Geothermal for Sustainable Development | 2 | Mineral Exploration Techniques | 2 | Earthquake Dynamics | 2 | Geoheritage and Geoparks | 2 |
| | | | | Hydrogeology of Indonesia | 2 | Geoarchaeology and Paleoanthropology | 2 | | | | | Metallogeny | 2 | Earthquake Hazard Mitigation | 2 | | |
| II | Compulsory Courses | Ethics and Scientific Writing Techniques (2) | | | | | | | | | | | | | | | |
| | | Geographic Information Systems and Multi-Criteria Analysis (2) | | | | | | | | | | | | | | | |
| | | AI and Machine Learning for Geological Modeling (4) | | | | | | | | | | | | | | | |
| | | Proposal Seminar (3) | | | | | | | | | | | | | | | |
| | | Volcano Monitoring Technology | | | | | | | | | | | | | | | |

*And many more in the following semester

Join Us.

*For a better knowledge, innovation,
and international achievements*

Admission

9 - 30 June

Announcement

13 July

Payment Deadlines*

22 - 31 July

Test

6 - 8 July

Registration

14 - 21 July

Starting Period

18 August

Admission
Procedure




Application
Requirements



Prospective students have the opportunity to **receive financial support through a range of **scholarships** from leading national and international institutions.*

For more information, please contact:

 +62-811-2654-480 *(Whatsapp Chat Only)*



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Master by Course

Master by Research

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Collaborative
education
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geology

