MONTAN UNIVERSITÄT LEOBEN

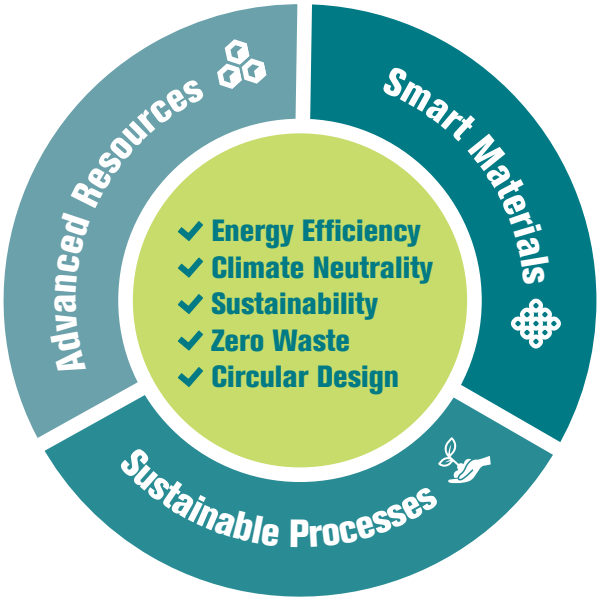
FACTS & FIGURES

2023

WHERE RESEARCH MEETS THE FUTURE

STRATEGIC ORIENTATION AND OBJECTIVES

The great social challenges in the areas of resource scarcity, climate, energy, and environment must be predominantly overcome with technical and scientific methods. Montanuniversität Leoben considers it its duty to make a significant contribution towards this through excellent science and first-rate education. Montanuniversität stands for peak performance in three areas of expertise: research, teaching, and innovation. Our actions are directed towards five core values, which form the DNA of what we have to offer and determine everything we do.



Area I: Advanced Resources

Mineral raw materials form the basis for economic development and prosperity. This is especially true in times of changing ecological and social frameworks, such as climate change and the energy transition. Research into the origin, extraction, and sustainable use of solid, liquid, and gaseous raw materials is therefore of the utmost social relevance amidst the rising demand on raw materials by humans and the increasing scarcity of resources.

Area II: Smart Materials

Materials have decisively influenced the social and economic development of mankind throughout history. Smart materials and material systems with new functionalities and improved performance, with minimized resource consumption and little environmental impact in the manufacture, as well as good disintegration and recyclability at the end of their service life, are considered to be a key technology by the EU.

Area III: Sustainable Processes

The core competences of Montanuniversität Leoben, which stretch along the entire value-added cycle from the raw material to the finished product and to recycling, allow technological challenges to be holistically addressed. Montanuniversität Leoben considers it a central task to establish the principles of sustainability in this value-added chain and to develop state-of-the-art manufacturing and production processes, which are energy-efficient, climate-neutral, and circular with regard to the material flow.

COLLABORATIONS

Montanuniversität has an extensive network of institutes, which conduct applied research or support the foundation of companies. These „satellite institutes" maintain regular close contact to the „mother institute", Alma Mater Leobiensis, but work completely independently from it and cooperate closely with companies and industry.

- Erich Schmid Institute of Materials Science of the Austrian Academy of Sciences
- TTZ: Technology Transfer Center
- CD-Labors: Christian Doppler Laboratories
- Center of Applied Technology
- ÖGI: Austrian Foundry Research Institute

Competence centres are characterised by their ambitious research programmes and therefore have particularly high risks when it comes to development and implementation. The federal competence centre programme „COMET" has the goal of enhancing cooperation between business and science and to advance the development of shared research expertise as well as their scientific and economic utilization. Montanuniversität is involved in the following competence centres: K2 centre „Materials Center Leoben" (MCL); K1 centre „Polymer Competence Center Leoben GmbH" (PCCL); K1 centre „Metallurgical Competence Center" (K1-MET); and K1 centre „LEC EvoLET".

The Resources Innovation Center Leoben (RIC) at Montanuniversität houses international interests of the university in the areas of sustainable research, education, and industrialisation. Montanuniversität is active here, particularly in the areas of Education, Sustainable Exploration & Mining, Technological Innovation, and Recycling. Equally significant is the membership in the EIT Climate-KIC.

UNDERGRADUATE STUDIES starting fall 2023

The first year of study is nearly identical for all students, so the field of study can be changed during this period without losing any time. The two first semesters convey the basic knowledge of chemistry, physics, mathematics, etc., required for a technical course of study. Young students will feel at ease and be accompanied even better with a new „onboarding" phase, e.g., in the framework of the new and innovative „Do-it Labs".
The courses of study are subdivided into the following areas of focus: Advanced Resources, Smart Materials, Sustainable Processing, and Responsible Consumption and Production.

Advanced Resources

- Applied Geosciences
- Mineral Resources Engineering
- Geoenergy Engineering
- Energy Technology

Smart Materials

- Materials Science and Technology
  - Major in Metals, Ceramics, and Functional Materials
  - Major in Polymer Science and Technology

Sustainable Processes

- Metallurgy and Metal Recycling
- Mechanical Engineering
- Industrial Logistics
- Industrial Data Science
- Environmental and Climate Protection Technology
- Recycling Technology

Responsible Consumption & Production

- Circular Engineering*
- EURECA-PRO Responsible Consumption and Production*

* in English.

GRADUATE STUDIES starting fall 2023

Responsible Consumption & Production

- Circular Engineering*
- EURECA-PRO Responsible Consumption and Production*

Raw Materials & Energy

- Applied Geosciences
- Geoenergy Engineering
- Mining and Tunnelling
- Raw Materials Engineering
- Int. Master of Science in Advanced Mineral Resources Development*
- Int. Master of Science in Building Materials and Ceramics*
- Int. Study Program in Petroleum Engineering*
- Energy Technology
- Industrial Management and Business Administration
- Int. Master of Science in Applied and Exploration Geophysics*
- Joint Int. Master Program in Petroleum Engineering*
- EM Joint Master in Sustainable Mineral and Metal Processing Engineering*

Materials

- Materials Science
- Polymer Engineering and Science
- Advanced Materials Science and Engineering*

Process & Product

- Metallurgy and Metal Recycling
- Mechanical Engineering
- Industrial Logistics
- Industrial Data Science
- Int. Master in Sustainable Materials*
- Safety and Disaster Management*

Recycling

- Environmental and Climate Protection Technology
- Recycling Technology

* in English

Further information: https://starter.unileoben.ac.at

UNIVERSITY COURSES

- Management
  - Life Cycle Management
- Nachhaltigkeit
  - Sustainability Management
  - Recycling
- Qualität
  - Quality Management
  - Quality assurance in the chemical laboratory
- Engineering
  - Corrosion Expert
  - NATM Engineering
  - Blasting Engineering
  - Mineral Processing
  - Rock Engineering for Deep Mines

BEGINNERS

Studienanfänger*innen	2020/21	2021/22	2022/23
Field of Study	Gesamt/Frauen	Gesamt/Frauen	Gesamt/Frauen
Mineral Resources Engineering (Undergraduate Study) Mining and Tunnelling / Raw Materials Engineering / Advanced Mineral Resources Development / Int. Master of Science in Building Materials and Ceramics (Graduate Study)	12/5 31/10	28/9 51/25	25/6 18/2
Int. Study Program in Petroleum Engineering (Undergraduate Study)** Int. Study Program in Petroleum Engineering / Industrial Management and Business Management (Graduate Study)	17/4 36/7	16/3 29/8	 27/4
Metallurgy (Undergraduate Study)*** Metallurgy / Int. Master in Sustainable Materials (Graduate Study)	24/6 17/1	18/7 17/2	10/2 39/16
Mechanical Engineering (Undergraduate Study) Mechanical Engineering (Graduate Study)	27/3 19/2	21/3 15/0	31/7 15/3
Materials Science and Technology (Undergraduate Study)***			88/26
Materials Science (Undergraduate Study)** Materials Science / AMASE (Graduate Study)	23/5 10/5	36/10 10/1	 26/9
Polymer Engineering and Science (Undergraduate Study)** Polymer Engineering and Science (Graduate Study)	37/15 8/2	40/12 12/5	 13/2
Applied Geosciences (Undergraduate Study) Applied Geosciences / Int. Master in Applied and Exploration Geophysics (Graduate Study)	14/10 17/12	11/2 8/4	14/6 11/2
Ind. Environmental Protection & Process Engineering (Undergraduate Study)** Ind. Environmental Protection and Process Engineering (Graduate Study)**	25/6 12/5	26/14 7/2	
Environmental and Climate Protection (Undergraduate Study)*** Environmental and Climate Protection (Graduate Study)***			13/3 10/7
Industrial Logistics (Undergraduate Study) Industrial Logistics (Graduate Study)	25/14 17/6	21/5 14/5	26/11 10/3
Industrial Energy Technology (Undergraduate Study)** Industrial Energy Technology (Graduate Study)**	32/7 14/3	28/8 10/2	
Energy Technology (Undergraduate Study)*** Energy Technology (Graduate Study)***			24/5 26/9
Recycling (Undergraduate Study) Recycling (Graduate Study)	15/7 2/1	15/7 2/0	11/5 6/0
Industrial Data Science (Undergraduate Study) Industrial Data Science (Graduate Study)	6/1	8/2	11/5 5/1
Responsible Consumption and Production (Undergraduate Study)*** Responsible Consumption and Production (Graduate Study) ***			4/1 1/1
Geoenergy Engineering (Undergraduate Study)*** Geoenergy Engineering (Graduate Study)***			9/0 4/0
Circular Engineering (Undergraduate Study)*** Circular Engineering (Graduate Study) ***			8/6 4/2
Doktoratsstudium (Dr.mont.)	37/10	98/43	58/18
GESAMT	477/147	541/179	548/161

** phased out

*** New studies start in 2022

GRADUATIONS

Graduations	2019/20	2020/21	2022/23
Field of Study	Total/Women	Total/Women	Total/Women
Mineral Resources Engineering (BSc) Mining and Tunnelling / Raw Materials Engineering (Dipl.-Ing.) / Advanced Mineral Resources Development / Int. Master of Science in Building Materials and Ceramics (MSc)	13/3 24/5	29/6 39/14	28/5 34/10
Int. Study Program in Petroleum Engineering (BSc) Int. Study Program in Petroleum Engineering (Dipl.-Ing.) / Industrial Management and Business Management (MSc)	29/3 56/10	23/3 50/12	16/1 38/6
Metallurgy (BSc) Metallurgy (Dipl.-Ing.) / Int. Master in Sustainable Materials (MSc)	22/7 17/2	30/3 29/5	22/5 19/4
Mechanical Engineering (BSc) Mechanical Engineering (Dipl.-Ing.)	42/3 32/2	50/5 37/3	32/3 32/5
Materials Science (BSc) Materials Science (Dipl.-Ing.) / AMASE (MSc)	34/9 26/4	40/12 38/5	38/9 29/8
Polymer Engineering and Science (BSc) Polymer Engineering and Science (Dipl.-Ing.)	20/6 17/4	25/10 11/3	15/4 11/4
Applied Geosciences (BSc) Applied Geosciences (Dipl.-Ing.) / IMAGE (MSc)	19/11 9/4	16/3 10/3	14/5 13/6
Industrial Environmental Protection and Process Engineering (BSc) Industrial Environmental Protection and Process Engineering (Dipl.-Ing.)	23/10 13/2	31/15 16/7	23/12 30/13
Industrial Logistics (BSc) Industrial Logistics (Dipl.-Ing.)	23/6 13/5	46/16 19/7	20/5 19/7
Industrial Energy Technology (BSc) Industrial Energy Technology (Dipl.-Ing.)	21/4 25/3	25/4 20/4	26/3 20/3
Recycling (BSc) Recycling (Dipl.-Ing.)	6/1 6/1	9/1 2/0	9/4 5/2
Doctorates (Dr.mont.)	72/17	93/29	48/11
TOTAL	562/122	688/170	541/135

TOTAL NUMBER OF STUDENTS

2020/2021	2021/2022	2022/2023
Total/Women	Total/Women	Total/Women
3,519/865	3,327/843	3,129/814

INTERNATIONAL STUDENTS

2020/2021	2021/2022	2022/2023
Total/Women	Total/Women	Total/Women
671/182	659/192	729/226

Most international students in 2022 came from the following countries:

Nationality	Number
Germany	102
China	92
Iran	67
Russian Federation	58
Croatia	31
Turkey	28

Nationality	Number
Italy (incl. South Tyrol)	25
Pakistan	21
India	20
Spain	17
Ukraine	17
Poland	12

Outgoing 2021/22: Exchange Programmes

Host Country			
	EU	Non-EU countries	Total
Erasmus - SMS	18	3	21
Erasmus - SMP	10	6	16
Univ. specific mobility programs	91	68	159
Others	0	0	0
TOTAL	**119**	**77**	**196**

Incoming 2021/22: Exchange Programmes

Nationality			
	EU	Non-EU countries	Total
Erasmus - SMS	36	18	54
Erasmus - SMP	7	4	11
Univ. specific mobility programs	14	107	121
Others	0	7	7
TOTAL	**57**	**136**	**193**

STAFF

(Reference date 31 December 2022, including external teaching and part-time employees, head count)

Academic Staff	1.017
Professors	53
Lecturers, Associated Professors	25
Scientific Staff, including → those funded by research projects	939 529
Non-Academic Staff	384
→ including those funded by research projects	63
TOTAL	1.391

BUDGET

Revenue	2021 in EUR	2022 in EUR
Basic federal budget	65.808.940,68	63.754.113,17
Tuition fees	927.827,25	868.444,52
Income from contractual work	36.733.204,55	38.958.188

CHRISTIAN DOPPLER LABORS

- Advanced Computational Design of Crystal Growth, Chair of Physical Metallurgy
- Knowledge-based Design of Advanced Steels, Chair of Physical Metallurgy
- Inclusion Metallurgy in Advanced Steelmaking, Chair of Metallurgy
- Selective Recovery for Minor Metals Using Innovative Process Concepts, Chair of Nonferrous Metallurgy
- Metallurgical Applications of Magneto-Hydro-Dynamics, Chair of Simulation and Modelling of Metallurgical Processes
- Advanced Aluminum Alloys, Chair of Nonferrous Metallurgy
- Advanced Coated Cutting Tools, Chair of Functional Materials and Materials Systems
- Manufacturing Process Based Component Design, Chair of Mechanical Engineering
- Extractive Metallurgy of Technological Metals, Chair of Nonferrous Metallurgy

Further information: https://www.unileoben.ac.at/forschung/cd-labors/

NEW EU-PROJECTS STARTED 2022 & 2023

S34I – Secure and sustainable Supply of Raw Materials for EU Industry
Chair of Mining Engineering and Mineral Economics
Horizon Europe-Project (RIA); Duration: 01.01.2023 – 30.06.2025; https://cordis.europa.eu/project/id/101091616

MaDiTraCe – Material and digital traceability for the certification of critical raw materials
Chair of Geology and Economic Geology & Chair of Mining Engineering and Mineral Economic
Horizon Europe-Project (RIA); Duration: 01.01.2023 – 31.12.2025; https://cordis.europa.eu/project/id/101091502

A-IQ Ready – Artificial Intelligence using Quantum measured Information for realtime distributed systems at the edge
Chair of Subsurface Engineering
Horizon Europe-Project (RIA); Duration: 01.01.2023 – 31.12.2025; https://cordis.europa.eu/project/id/101096658

MultiMiner – Multi-source and multi-scale Earth Observation and novel Machine Learning Methods for Mineral Exploration and Mine Site Monitoring
Chair of Resource Mineralogy
Horizon Europe-Project (RIA); Duration: 01.01.2023 – 30.06.2026; https://cordis.europa.eu/project/id/101091374

SME 5.0 – A Strategic Roadmap Towards the Next Level of Intelligent, Sustainable and Human-Centred SMEs
Chair of Industrial Logistics
Horizon Europe-Project (MSCA); Duration: 01.01.2023 – 31.12.2026; https://cordis.europa.eu/project/id/101086487

ESPERANTO – Enhancing the Sustainability of PhotopolymERs ANd phoToinduced prOcesses
Chair of Chemistry of Polymeric Materials
Horizon Europe-Project (MSCA); Duration: 01.02.2023 – 31.01.2027; https://cordis.europa.eu/project/id/101073432

EDIH innovATE – The European Digital Innovation Hub for Agrifood, Timber and Energy
Chair of Energy Network Technology
Duration: 01.02.2023 - 31.01.2026; https://www.dih-innovate.at/ueber-uns/

POL_2D_PHYSICS – Polarized 2D Materials Inspired by Naturally Occurring Phyllosilicates
Chair of Physics
Horizon Europe-Project (ERC Starting Grant); Duration: 01.05.2023 – 30.04.2028;
https://cordis.europa.eu/project/id/101075821

ReMFra – REcovering Metals and Mineral FRAction from steelmaking residues
Chair of Thermal Processing Technology
Horizon Europe-Project (IA); Duration: 01.12.2022 – 31.05.2026; https://cordis.europa.eu/project/id/101058362

CESAREF – Concerted European action on Sustainable Applications of REFractories
Chair of Ceramics
Horizon Europe-Project (MSCA); Duration: 01.10.2022 – 30.09.2026; https://cordis.europa.eu/project/id/101072625

MetroPOEM – Metrology for the harmonisation of measurements of environmental pollutants in Europe
Chair of General and Analytical Chemistry
Horizon 2020-Projekt/EURAMET/EMPIR; Duration: 01.10.2022 - 30.09.2025;
https://www.npl.co.uk/euramet/metropoem

Hy2Market – HYdrogen TO enter MARKets reducing carbon Emissions footprinT
Chair of Process Technology and Industrial Environmental Protection
Duration: 01.10.2022 - 30.09.2025; https://www.k1-met.com/non_comet/h2market

ROAD-SiM – Recycling-oriented alloy design for next-generation of sustainable metallic materials
Chair of Materials Physics
Horizon Europe-Project (MSCA); Duration: 01.09.2022 – 31.08.2024;
https://cordis.europa.eu/project/id/101062549

ET-PP – Preparatory Phase for the Einstein Telescope Gravitational Wave Observatory
Chair of Subsurface Engineering
Horizon Europe-Project; Duration: 01.09.2022 – 31.08.2026;
https://cordis.europa.eu/project/id/101079696

MultiScaleDesign – Characterization of Multiscale Interfaces of Hierarchical High-Entropy Alloys by Advanced Microscopy and Microanalysis
Chair of Physical Metallurgy
Horizon 2020-Project; Duration : 01.08.2022 – 31.07.2024;
https://cordis.europa.eu/project/id/897407/de

ReSoURCE – Refractory Sorting Using Revolutionizing Classification Equipment
Chair of Mineral Processing & Chair of Waste Processing Technology and Waste Management
Horizon Europe-Project (IA); Duration: 01.06.2022 – 30.11.2025;
https://www.project-resource.eu

TUCAS-CO2 – Perovskite Oxides for CO_2 Utilization – Industrial Applicability of Tailored reverse Water Gas Shift Catalysts
Chair of Physical Chemistry
Horizon Europe-Project (ERC); Duration: 01.05.2022 – 31.10.2023;
https://cordis.europa.eu/project/id/101068557

PROMISE- Erasmus Mundus Joint Master in Sustainable Mineral and Metal Processing Engineering
Univ.-Prof. Dipl.-Ing. Dr.mont. Helmut Flachberger
ERASMUS2027-EDU, Duration: 01.02.2022 – 31.01.2028;
https://www.master-promise.eu/

All current EU projects can be found at: www.unileoben.ac.at/forschung/eu-projekte/

RECTORATE

Univ.-Prof. Dr. Wilfried Eichlseder, Rector
Dr. Martha Mühlburger, Vice Rector for Financial Management and Infrastructure
Univ.-Prof. Dr. Peter Moser, Vice Rector for International Relations

UNIVERSITY COUNCIL

Dipl.-Ing. Stefan Pierer (Chair)
Univ.-Prof. DDr. Christiane Spiel (Deputy Chair)
Dipl.-Ing. Georg Feith, MBA
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Univ.-Prof. Dr. Barbara Sporn

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