

MINING, MINERALS AND ENVIRONMENTAL ENGINEERING – EUROPEAN MINING COURSE



- Study mining and minerals engineering in a joint programme arranged by three valued European universities
- Exiting two years studying, living and travelling within a multi-cultural environment
- This programme is sponsored by the leading companies in the business
- Excellent start of your career in the global mineral industry

A career with global possibilities

The safe, environmentally sustainable and cost-efficient supply of raw materials is essential for a prosperous global society. A modern world without minerals extracted from the earth would not be possible. As the mining industry has progressed into the twenty-first century, it is producing raw materials for high value products that enable continued economic development and a responsible and sustainable utilization of natural resources.

The mining and mineral processing industry is a high-tech industry where research and development have a high priority. The need of professionals and future leaders with international experience is increasing as the demand of mineral based raw materials are continually growing.

Finland is an important part of the global mining and minerals industry with advanced research and technology. Several Finnish companies are international leaders in developing and manufacturing equipment which are used all over the world.

The students graduating from the EMMEP-EMC programme have great career opportunities. Past graduates are currently employed in industry, government organisations, scientific institutions and research institutes. They hold key positions ranging from research, teaching and consultancy, to management, design, project engineering and control.



What is the EMMEP-EMC?

EMMEP-EMC is a joint program, under the European Mining, Minerals and Environmental Program (**EMMEP**). It offers an opportunity to study mining engineering and mineral processing at three universities. The partner universities are Aalto University in Finland, RWTH Aachen in Germany, and TU Delft in the Netherlands. Students fulfilling the studies will be awarded a graduation certificate from all partner universities and a joint diploma supplement issued by TU Delft. The program consists of 120 ECTS, and the courses are given in English.

The EMMEP-EMC program was established in 1996 as an 1-year exchange program and today it is a full, 2-year master program. The students will get an in depth understanding of the combined engineering- and managing aspects of the mineral industry, aiming to educate future engineers and decision makers for the raw material sector.

The partner universities have a well-established research and educational background in mining and mineral processing and long-standing connections with industry and many research / educational institutes. In addition to the partner universities, EMMEP-EMC is organized together with a group of about 35 multinational companies thru the Federation of European Mineral Programs (**FEMP**). FEMP has proven to be one of the most important factors behind the success of the program. FEMP offers a selection of internships and job opportunities for EMMEP-EMC students. About 650 students have graduated since 1996, forming a strong group of alumni supporting the activities of FEMP.

Locations for studies 2016-2018:

1st year		2nd year	
Semester 1	Semester 2	Semester 3	Semester 4
Aalto University, Espoo, Finland	RWTH Aachen, Germany	TU Delft, the Netherlands	Thesis

Courses offered in the academic year 2016-2018

University	ECTS	Course
Aalto	5	Fundamentals of minerals engineering and recycling
Aalto	10	Materials processing & synthesis
Aalto	5	Economic Geology & mineral economics
Aalto	5	Rock Mechanics
Aalto	5	Field Experience and Project in Hard Rock Mining
Aachen	5	Feasibility Studies and Financial Modeling
Aachen	4	Reserve Modelling and Estimation
Aachen	4	Underground Mine Design
Aachen	4	Surface Mine design
Aachen	6	Mine Ventilation
Aachen	7	Case Study
Delft	5	Mineral Resource Definition
Delft	5	Legal, Health and Safety
Delft	5	Financial Engineering and investment scenarios
Delft	5	Mine Operational Management
Delft	5	Business and Quality Management
Delft	5	Project Execution/Implementation Plan
Any	30	Final Thesis

The courses in the program

The courses in the EMMEP-EMC programme are selected in order to give the students a broad education in mining and mineral industry sector. Aside from lectures, many excursions and visits are arranged in cooperation with industry partners. Assignments and case studies are based on real data and projects from the industry. The programme offers a unique curriculum consisting of courses in mining, mineral processing, recycling and environmental disciplines in a combination which cannot be found in a one single European country or institution.

The study plans comprises four semesters under 2 years, which are reserved to form a joint curriculum at the different universities. The students spend half a year at each of the partner universities, studying together as a group and finalizing their Master's thesis at one of the universities within the program.

The studies are intensive and demanding. Aside from the academic knowledge, being a part of EMMEP-EMC group also develops good social skills such as flexibility, teamwork ability, and interpersonal relationships. About 25 % of mining engineering graduates will work abroad. Students with experience from working with foreigners and in a multicultural environment are very attractive recruits for international companies.

Degree, diploma ceremony and reunion

The successful student will receive a diploma from each of the partnering universities (triple degree). The program ends with a jointly organized diploma ceremony, at the university which organizes the annual reunion in late August. Alumni, industry and academic partners of the EMMEP, as well as the new students starting at that particular university are invited to join the ceremony.



Personal impressions



Anu Seppälä; Aalto University

"The EMC year was awesome; excursions, interesting courses which I never could have taken in Aalto University, 4 different countries and a huge amount of other great things. In addition to courses and excursions, during the EMC year I got to live with people from different cultures. We had some arguments during the year but overall the group spirit was something i've never experienced before. The EMC year has probably been one of the best years during my academic education and I recommend it to everyone."

Markus Marttiini; Aalto University

"This course gives a unique opportunity to study in a very international group in four different locations in Europe. The studies are intensive and high quality, covering the whole spectrum of the mineral processing and recycling. The courses start from the basic unit operations and too deep prerequisites are not needed. Studies include lot of lab and group working, which gives a change to work with people with very different backgrounds. Excursions play a big role in this course. You will get the opportunity to see different mines, concentrations and recycling plants around Europe. Even the year is intensive in terms of studies you have some time to travel around the Europe. Those universities are in good locations, which makes the traveling easy. This year gives great knowledge and also friends of a life time."



When to apply?

The deadline for complete applications for studies starting in September 2016, is **March 1st, 2016.**

All applicants apply via TU Delft on line application system and upload the required documents into the system. More information: <http://www.emmep.org/> > Admission

There are about 20 seats for the EMMEP-EMC program. Students can apply during their Bachelor's program but the completed Bachelor's degree is a condition for acceptance, so the degree must be completed latest in the summer of 2016 (at Aalto, June 2016). Minimum academic study performance requirement from Aalto University students is a cumulative grade point average of 2,50 out of 5,00.

English language requirements

TOEFL minimum score 92 with writing score 22. All other scores min 21.

IELTS overall band score of 6,5, writing band score 5,5. Separate band scores min 6,0.

CAE/CPA: grade A, B or C.

Fees

The participation contribution to be paid to TU Delft:

- Students with EU/EFTA nationality: 1 984,- Euro/year
- Students with non-EU/EFTA nationality: 15 000,- Euro/year

There might be extra fees, such as social contribution or student union fee.

Scholarships

All students who have been admitted to EMMEP can apply for Erasmus+ Study Grants for the first year of their studies. The grants vary between €150 and €250 per month. Furthermore, FEMP is also giving financial assistance to qualifying students through loans or scholarships. For Finnish students the Erasmus+ Study Grants and the FEMP scholarship have in the previous years roughly covered the additional fees and cost for studying abroad.



Application information

If the necessary information is not available in the webpage, do not hesitate to contact TU Delft:

Ms Qing-yi Fan, e-mail: Q.Y.Fan@tudelft.nl

Bachelor's degree seeking students from Aalto University may also contact:

saara.sokolnicki@aalto.fi (Aalto-ENG) or

anja.hanninen@aalto.fi (Aalto-CHEM)

Contact persons:

Hans de Ruiter (professor)

/Ms Qing-yi Fan, e-mail:

Q.Y.Fan@tudelft.nl Program Coordinator of EMMEP

Technical University of Delft

Faculty of Civil Engineering and Geosciences

The Netherlands

Phone +31 15 278 84248

E-mail: info@emmep.org



Mikael Rinne

Professor Rock Mechanics

Department of Civil Engineering

School of Engineering

Aalto University

Phone +358 50 572 6090

E-mail: mikael.rinne@aalto.fi



Jari Koskinen

Professor, Materials Science

Chemical technology

Department of Materials Science

and Engineering

Aalto University

Phone: +358 50 5552789

E-mail: jari.koskinen@aalto.fi



Disclaimer

FEMP programs presented here are under development and prone to changes. Please follow the above given web-sites for the most recent information.