



1775 – 2025



TU Clausthal

THE HISTORY OF THE UNIVERSITY

PART 1:
1775 TO 1918 –
DEVELOPMENT OF THE UNIVERSITY
IN THE MAIN BUILDING

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The building on Clausthal's market square - which has been rebuilt and remodeled again and again over the years - initially housed the Mining School, then the Mining Academy and is now the main building of the University of Technology.



The researchers' knowledge has also been incorporated into the Upper Harz water management, a system created from the 16th to the 19th century for detour and storage, which drove the water wheels in the mines around Clausthal and Zellerfeld. It is considered the world's most important pre-industrial water management system in the mining industry. UNESCO has declared it a World Heritage Site.

Prehistory:

The polymath Gottfried Wilhelm Leibniz spends more than three years in the Harz Mountains between 1680 and 1696. The inventor wanted to make silver mining more profitable and wrote at the time:

"The Harz is a true source of experience and discoveries in mechanics and physics; I believe I can discover more with five or six practitioners from the Harz than with 20 of Europe's greatest scholars."

During his time in the Upper Harz, Leibniz, alongside Caspar and Henning Calvör, also campaigned for improved training for mine personnel and worked as a mine and metallurgical engineer. In this respect, he is an early source of ideas for the later Clausthal University of Technology.



Gottfried Wilhelm Leibniz

1775

FOUNDATION OF THE MINING SCHOOL

At the end of the 18th century, the Upper Harz was one of the most important ore districts in Europe. Half of the silver mined in Germany comes from Clausthal and the surrounding area. But profitability is declining. In order to further develop the mining industry, training was to be improved. From 1775, 24 young miners and smelters are taught about nature, stone, earth and ores every year. They attend school two afternoons a week.



Claus Friedrich von Reden

Clausthal mining captain Claus Friedrich von Reden is considered the founder of the Mining School and later university. He established the new institution with the help of General Superintendent Johann Christoph Friderici, the head of the Latin school Christian Heinrich Rettberg and town pharmacist Johann Christoph Ilsemann. In addition to mining studies, the curriculum included mathematics, mechanics, mineralogy, chemistry, mineral resource estimation as well as engineering and metallurgy. The teachers were paid by the mining authority.



Johann Christoph Friderici



Publication of the one-year training course for miners and metallurgists. The document marks the date of foundation of the Mining School and later Mining Academy in 1775.



Because of its appearance the miner's lamp is called a frog. The lamp container was filled with oil and a twisted flax wick. Thanks in part to the Mining School, working conditions underground have improved.



1777

GOETHE INCOGNITO IN THE HARZ MOUNTAINS



Johann Wolfgang
von Goethe

Under the pseudonym Wilhelm Weber, Johann Wolfgang von Goethe visits the Clausthal mineral and ore collections and studies mining and metallurgy in the Upper Harz region. Goethe, who is said to have posed in Clausthal as a painter from Darmstadt, had been commissioned by Duke Karl August of Weimar to resume copper mining in Ilmenau. However, he lacked specialist knowledge. He therefore visited the most exploitative mines in Clausthal and St. Andreasberg as an “industrial spy”, so to speak.

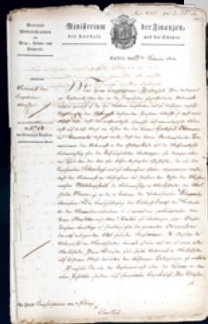
1810/11

INSTITUTIONALIZATION OF THE MINING SCHOOL

On November 21, 1810, the ministerial regulations for the “Mining School of the Harz Division at Clausthal” were published, created by Jérôme Bonaparte based on the model of the École des Mines and previously developed by Friedrich Hausmann. A secondary school education and a minimum age of 16 were required. The training center was given a budget and premises on the site of today’s main building. From 1811 to 1853, Christian Zimmermann, who had habilitated at the University of Marburg, became the first real director. Classes begin at Easter 1811 with 56 pupils.



Christian
Zimmermann



Writing from the Ministry of Finance of 1810, signed by the Inspector General for mining, metallurgy and salt Works, Johann Friedrich Ludwig Hausmann.



The main building that housed the Mining Academy from 1811 to 1903. The new main construction of the university, which is still in use today, was built on the same site. The Friedrich Adolph Roemer monument stands at the front of the square.

1834

DEVELOPMENT OF THE WIRE ROPE



Julius Albert

Until now, loads in mining have been suspended from iron chains and hemp ropes. Time and time again, the chains broke and the ropes snapped. Then Julius Albert, a senior mining engineer from Clausthal, invented the first wire rope in world history. It has a diameter of 18 millimetres and consists of three strands of four wires each. Tested on July 23rd 1834 in the 484-metre-deep shaft of the Caroline mine, it works to the complete satisfaction of its inventor.

1842

A MINE SURVEYING MASTERPIECE

Eduard Borchers – regarded as the most important mine surveyor of his time – was a lecturer in geometry and mine surveying at the Mining Academy from 1841 to 1882. In 1842, inspired by Carl Friedrich Gauss, he set up a magnetic observatory both in Clausthal Zehntgarten and 545 meters underground. He incorporated the results of his research into his precise calculations for the construction (1851 to 1864) of the Ernst August tunnel, which was 25 kilometers long in total. The longest and deepest water drainage tunnel in the Upper Harz mining industry drains the region's mines. On the day of the exact breakthrough from both directions, Borchers is appointed mining master.



"The last breakthrough of the Ernst August tunnel. After a sketch by Dr. R. Geißler." This drawing appeared with this caption in a newspaper in 1864. One of the three miners is holding a miner's light to illuminate the scene. The other two are shaking hands over a pile of rubble from the breakthrough. Hammers and pickaxes lie on the floor of the tunnel.

0061

INFOBOX

Students:	229
International students:	34
Female students:	0
Professors/lecturers:	13
Director of the Mining Academy:	Prof. Gustav Köhler

1864

REVALUATION TO THE ROYAL MINING ACADEMY



Adolph Roemer

Under Adolph Roemer as director (1853 to 1867), the Mining School was successfully transformed into a scientific college. From 1859, the education lasted four years and the “studiosie” had to study 24 to 28 hours a week, in addition to practical work in the mine and in the smelter. In 1864, during Roemer’s term of office, the institution was upgraded to the internationally recognized “Royal Mining Academy”. 1882 former students donated a monument to him in Clausthal, which still stands on the market square today.



1897

ARNOLD SOMMERFELD IS APPOINTED PROFESSOR IN CLAUSTHAL



Arnold Sommerfeld

Arnold Sommerfeld, who held his first full professorship between 1897 and 1900 as Professor of mathematics in Clausthal, was one of the founders of modern theoretical physics alongside Albert Einstein, Niels Bohr and Max Planck. He created one of the most important schools of science, whose students included renowned theorists of the atomic age, such as the Nobel Prize winners Hans Bethe, Peter Debye, Wolfgang Pauli and Werner Heisenberg. Sommerfeld himself was nominated for the Nobel Prize more often than any physicist before or after him, but he was never awarded it.



With the revaluation to a mining academy, studies became more extensive and demanding in the second half of the 19th century.



As Professor of metallurgy and chemical technology, Carl Schnabel was at the Clausthal Mining Academy from 1885 to 1900. With the “Carl Schnabel Medal” named after him, the university still honors people who have rendered outstanding services to the university.



This photograph of two Clausthal students smoking a pipe on a sofa was taken around 1900. One of them is wearing a pince-nez.

1907

CONSTRUCTION OF THE MAIN BUILDING

The Royal Mining Academy's need for space increases with the level of education. After 20 years of struggling for a new building, construction work on a new academy building begins in 1903 under Gustav Köhler as academy director. The cost of construction and furnishings amounted to 352,000 German marks. The impressively designed main building opposite the market church is inaugurated in 1907. Many of the building's architectural extras are dismantled in later years as they cannot withstand the Upper Harz weather in the long term.



The new construction of the main building of the Mining Academy and later Clausthal University of Technology was built between 1903 and 1907.



Construction of the main building of the Mining Academy: Construction work on the new building of the lower part of the right wing and the central part in 1903.



1912

AWARD OF THE GRADUATE ENGINEER

The title of mining and metallurgical engineer, which had previously been used after graduation, was replaced. For the first time, the legally protected degree of graduate engineer may be awarded for the first time. The title Dipl.-Ing. subsequently develops into a seal of quality, far beyond the borders of Germany and Europe. At the beginning of the 21st century it is replaced by the Bachelor's and Master's degrees.



In the beginning of the 20th century there was a reading room for lecturers in the main building of the Mining Academy of Clausthal.

PROUD OF 250 YEARS

Clausthal University of Technology, founded in 1775 as the Clausthal Mining School, celebrates its 250th birthday in 2025. Under the motto “traditionally innovative”, we are commemorating this major anniversary with numerous scientific, cultural and sporting events.

- Our anniversary year runs from September 2024 to the end of 2025.
- The highlight is the festival week from June 15th to 22nd, 2025.

Celebrate with us!



Further information:
www.250-jahre.tu-clausthal.de/en

Here you will find our university history in four parts:

- Part 1: Main building of Clausthal University of Technology, Adolph-Roemer-Straße 2a, Clausthal-Zellerfeld
- Part 2: Aula Academica, Aulastraße 8, Clausthal-Zellerfeld
- Part 3: University Library, Leibnizstraße 2, Clausthal-Zellerfeld
- Part 4: EnergyCampus Goslar of Clausthal University of Technology, Am Stollen 19a, Goslar

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The historical presentation of Clausthal University of Technology and its predecessor institutions makes no claim of completeness. The texts are based on publications on the history of the university by Prof. Georg Müller, Dr. Peter Kickartz and Prof. Peter Dietz, on commemorative publications on the 175th and 200th anniversary of the university and on other sources from the university archives. For detailed information, please contact the Press, Communication and Marketing Office.

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