MEE@50: Fifty Years of Mineral and Energy Economics

This year marks the 50th anniversary of the founding of Mineral and Energy Economics (MEE) at Colorado School of Mines.

Founded in 1969 and originally known as Mineral Economics, the program attracts students from all over the world. Our alumni are known globally for their career achievements and analytical skills.

MEE students, who pursue MS and PhD degrees, acquire the talents necessary for understanding the complex interactions of markets and policy that influence the energy, mineral and environmental sectors. The program focuses on applied quantitative methods and models that form a foundation for sound business decision making and public policy.

The image above depicts many of the faculty and staff circa 1991 – back row (left to right), Tom Kaufmann, John Tilton, Carol Dahl, Rod Eggert, unknown, and David Fletcher; front row, Wade Martin, Oded Rudawsky, Linda Tomitsch and Robert Patrick.

The images below show the current faculty in the Division of Economics and Business, with the exception of active emeritus professors who appear on page 2.

► Learn more at econbus.mines.edu.
Message from the Division Director

Fifty years is a long time. I've been privileged to be on the faculty for more than 30 of these years.

While we hope that course-work and research projects are memorable, it's students and faculty members who create distinctive experiences and the legacies of a program.

MEE students have distinguished themselves while at Mines, but even more so after graduation - as executives in mining and energy companies, banks and financial institutions; as consultants; as ministers of mines and energy, and in other policy-making capacities; and as academics.

With sincere apologies to those influential faculty members I don't list, I think of Jean Mather, Oded Rudawsky, Al Petrick and Frank Stermole from the early years (1970s - early 1980s); John Cordes, David Fletcher, Wade Martin, Ruth Maurer, John Stermole, John Tilton and Gene Woolsey from MEE's middle years (mid 1980s - 1990s); and Ed Balistrieri, John Cuddington, Carol Dahl, Graham Davis, Dan Kaffine, Alexandra Newman and Michael Walls more recently (late 1990s - 2000s).

All programs evolve and change - and so it is with MEE. Many of the current faculty, pictured on page 1, are new to MEE. I'm excited about the skills, new ideas and energy they bring to the program!

Thank you for joining us in celebrating 50 years of MEE!

Rod Eggert, Interim Division Director, reggert@mines.edu

A Brief History of the Coulter Chair

On December 26, 1968, Mines and the Viola Vestal Coulter Foundation agreed to establish the William J. Coulter Chair in Mineral Economics. The Foundation committed to make annual contributions for 20 years. It has made contributions every year for 50 years to support the Chair and other departmental activities.

The Coulter Foundation was present at the creation of MEE and remains a key partner today - for which we are profoundly grateful.

William J. Coulter was a mining engineer who worked in a number of operations in the western U.S. In the late 1920s-30s, he was General Superintendent of Mining and Milling Operations at the Climax Molybdenum mine near Leadville. From the late 1930s to mid 1950s, he held senior leadership positions at Climax Molybdenum in Denver.

In 1938, Coulter established the Viola Vestal Coulter Foundation to honor the memory of his wife, Viola Vestal Coulter. Since then, the Foundation has provided scholarships and in other ways supported students and higher education, especially in the fields of mineral economics, music and nursing.


Active Emeritus Professors

Carol Dahl  Graham Davis  John Tilton  Michael Walls

COLORADO SCHOOL OF MINES
1500 Illinois Street
Golden, CO 80401
Before it was a program, mineral economics was a class at Colorado School of Mines - covering risk assessment, capital formation and use, resource availability, forecasting market prices and trends, and the impact of technology changes on resource companies. The desire for a more extensive economics curriculum, coupled with funding for the William Jesse Coulter Chair of Mineral Economics from the Viola Vestal Coulter Foundation in the late 1960s, was the catalyst that launched the mineral economics graduate program at Mines.

In 1969, the Board of Trustees established a separate degree-granting Department of Mineral Economics. It centered around the MS degree in mineral economics, and the first masters degree was awarded in 1970. The program was established to meet a perceived industrial need. Typical Mines graduates often rose rapidly to the top engineering positions in their companies. However, there was a need for additional education for Mines grads in the specific areas of management and evaluation of economic alternatives. Acting on this need, Mines established the department with two major objectives:

1. The academic training of mineral engineers in economic analysis and management skills which would enable them to rapidly assume increasing responsibilities in corporate management.
2. The education of mineral engineers to do feasibility studies for mineral and energy development and utilization projects, in public and private sectors.

It was decided that the creation, staffing and administration of the program should not all rest upon the shoulders of the Coulter Chair, who should serve as the intellectual leader of the program. Jean Mather, once an economics instructor at Mines and former president of the University of Massachusetts, was hired as department head and served for a decade.

Mather turned to Professor Hubert Risser of the Illinois Geological Survey and the University of Illinois, who took a leave of absence to fill the Coulter Chair temporarily. He had a mining engineering degree from Mines, a PhD in economics from Kansas and was well known in the field of coal economics.

After his stint, Al Petrick of the Bureau of Mines, who had completed his MS in mining engineering at Columbia and his PhD in economics at Colorado, was named to the chair on a regular basis in 1970. Oded Rudawsky, a recent PhD in mineral economics at Penn State, also joined the department. The new department was now underway and did very nicely with its service load, masters candidates primarily drawn from industry, and a certain amount of consulting for the more experienced faculty.

The department added its PhD program in mineral economics in 1972, and the first PhD degree was awarded in 1974. With the masters and PhD offerings, the department quickly became one of the largest graduate programs on campus, and within a decade, grew to be the largest such graduate program in the world.
In 1984, John Cordes, who had both law and economics degrees, was named department chairman. Between 1984 and 1987, when the first Mineral Economics Visiting Committee was named and conducted its first external review, Cordes moved to strengthen the industry analysis and policy elements of the program. With the decision of Petrick to move into emeritus rank, the Coulter Chair became available. John Tilton was on the faculty at Penn State and had strong credentials nationally and internationally among mineral economists. He assumed the Coulter Chair in 1985.

From 1985 to 1994, the department offered an executive version of its MS in Mineral Economics for working professionals, directed by David Fletcher.

The department offices moved in 1991 from the Green Center to Engineering Hall, where the department is currently housed. The BS degree in economics was first offered in 1994. This broadening of degree offerings was reflected in the change of the department’s name in 1995 to the Division of Economics and Business.

That same year the Division initiated its dual-degree program with Institut Français du Petrole (IFP) in Paris, France, in petroleum economics and management. This program remains an important part of the division’s degree offerings today.

In 2001, the Division launched the MS degree program in engineering and technology management (ETM).

The Division changed the program name from Mineral Economics to Mineral and Energy Economics (MEE) in 2009 to better reflect the inclusion of energy in the MS and PhD programs. Today’s MEE students typically have undergraduate degrees in engineering, earth sciences or economics.

“Thanks to the global reputation of Mines and MEE’s somewhat narrow focus on mineral and energy industries and markets, the program has attracted highly motivated and highly qualified graduate students from around the world” says John Tilton. “This has greatly enriched the academic environment in the Division of Economic and Business for both faculty and students.”

To date, the Division has awarded a total of 2,184 degrees, which includes 1,134 MS and 195 PhD degrees in Mineral and Energy Economics (including Mineral Economics); 478 MS degrees in Engineering and Technology Management; and 385 BS degrees in Economics.
The Future is Bright for MEE Grads

Mines graduate study in Mineral and Energy Economics offers a specialized program in applied economics that includes training in valuable quantitative methods. Faculty members are actively engaged in economic research applied to earth, energy and the environment. They have expertise in a range of areas including global climate policy, price forecasting, energy demand, utility regulation, asset valuation, critical minerals, environmental economics, renewable energy mandates, and international mineral markets. Faculty and graduate students are distinctive in their focus on applied energy, mineral and environmental topics. This concentration of interest and expertise cannot be found in traditional economics programs. Students earn a distinctive degree that is highly marketable and positions them for important contributions.

Learn more at econbus.mines.edu. Select programs > mineral and energy economics.

BY THE NUMBERS

Mineral and Energy Economics Graduates

1,329
Total Degrees Awarded

1,134
Masters Degrees

195
PhD Degrees

36
Countries

Job Placement

Recent graduates of the Mineral and Energy Economics Program are employed at companies such as Ball, BTU Analytics, Newman, NRG, Point Logic, S&P Global Platts, U.S. Department of Energy, and Wood Mackenzie.

Graduates by Decade

- MS
- PhD
- 1970s
- 1980s
- 1990s
- 2000s
- 2010s to date
Ensuring Proper Use of Mineral and Energy Resources

It’s quite humbling to direct the Mineral and Energy Economics program at Mines given its long and storied history. I am quite thankful for the esteemed giants in the program, including John Tilton, Carol Dahl, Graham Davis and Rod Eggert who have pushed the program to where it is today.

Today, our students and alumni do amazing things across the globe to improve the lives of countless people by ensuring proper uses of mineral and energy resources. Whether it’s competing against other schools in case competitions or gaining experience at a consulting firm, the current students of the Mineral and Energy Economics program show that they are world class in their knowledge, dedication and results.

The future looks bright as mineral and energy markets are becoming more intertwined with one another. With the rise of more complicated, engineered energy systems, has come increased demand for the mineral raw materials necessary for energy storage (lithium, cobalt, graphite), magnets (rare earths), semiconductors (gallium, indium, tellurium) and electrification (copper). The program is well placed to provide value to future students given our depth of knowledge and experience across the natural resource spectrum.

From all of us who contribute to the program, we’re excited for what the next 50 years will bring.

Ian Lange, Program Director, Mineral and Energy Economics
Ilange@mines.edu

Learn more at econbus.mines.edu/mineral-energy-economics