

MINES@150



COLORADO SCHOOL OF MINES
EARTH • ENERGY • ENVIRONMENT

Campus Update: Three Years to Go...



February 19, 2021 Presentation to Campus

THE CAMPAIGN FOR

MINES

@ 150

Topics



The “Why” of MINES@150

The Essence of MINES@150

The Essentials of MINES@150

Pandemic – plans altered?

Progress – Specific Examples:

- **Campus Master Plan**
- **Faculty Senate Signature Student Experience Grants**

Why is MINES@150 Important?

The world is changing.

As we look around, we see threats and opportunities...

Competition:

increasingly competitive higher education landscape

Relevance:

interests and needs of students, industry, and society have changed

MINIMAL PUBLIC
INVESTMENT

INCREASED
COMPETITION FOR
TOP STEM STUDENTS

THE 4TH INDUSTRIAL
REVOLUTION
IS HERE

DEMOGRAPHIC
SHIFTS IN COLLEGE-
BOUND STUDENTS



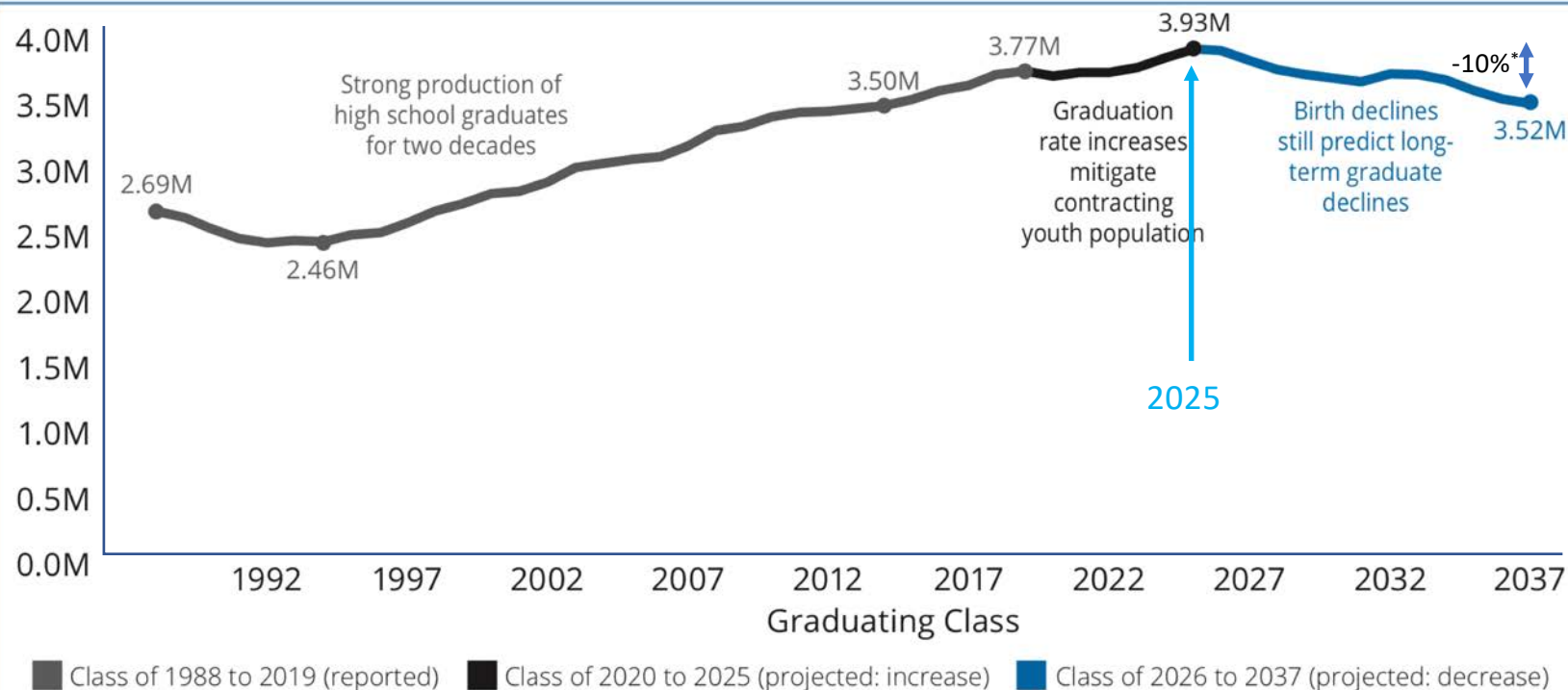
AUTOMATION: WE
CAN BE REPLACED

PREPARING FOR JOBS
THAT DON'T EXIST
TODAY

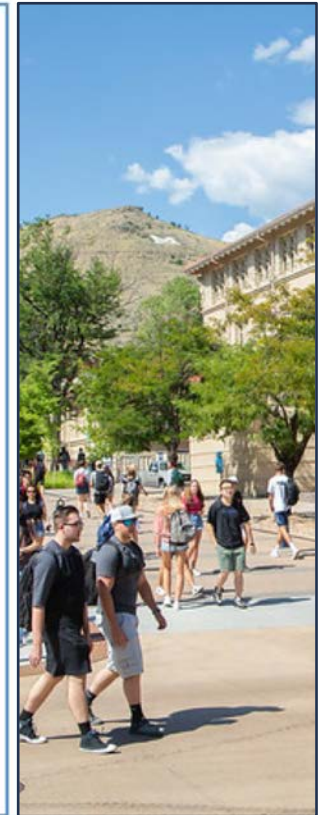
GLOBAL
EQUALIZING AND
NEW DELIVERY/
BUSINESS MODELS

MILLENNIAL AND
iGEN LEARNERS

National Trends: High School Graduation Class



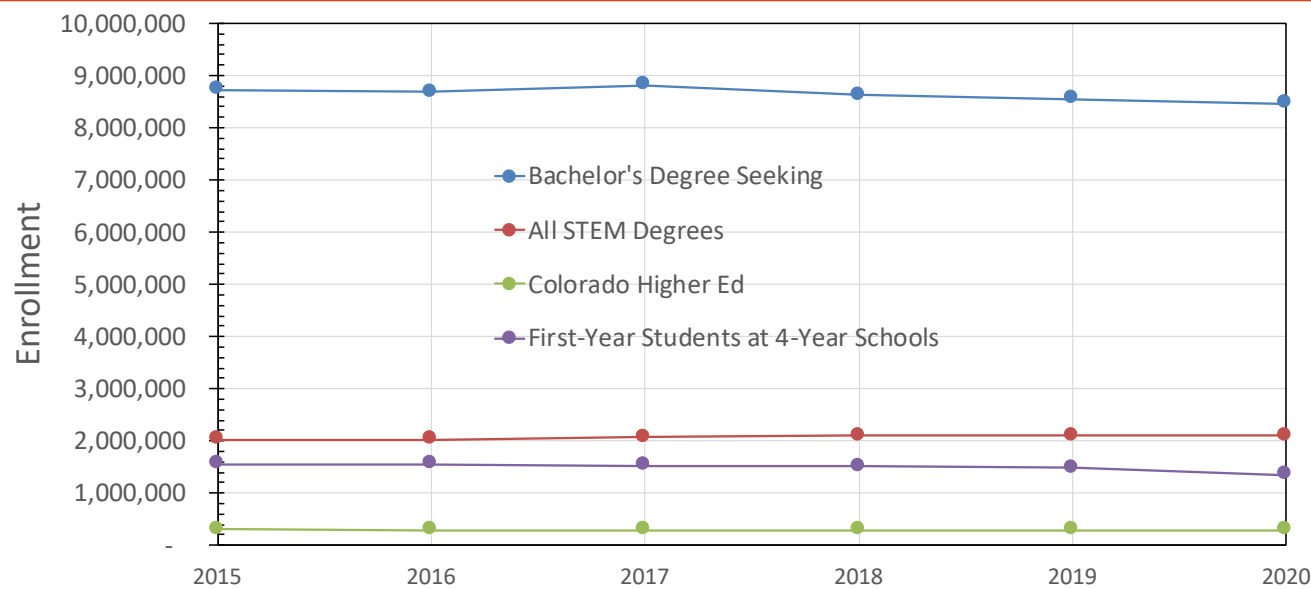
Source: Western Interstate Commission for Higher Education, *Knocking at the College Door*, 10th edition, 2020. See [Technical Appendix](#) for detailed sources of data through the Class of 2019; WICHE projections, Class of 2020 through 2037.



National Trends: Higher Ed Enrollment

Declines were already happening pre-pandemic.

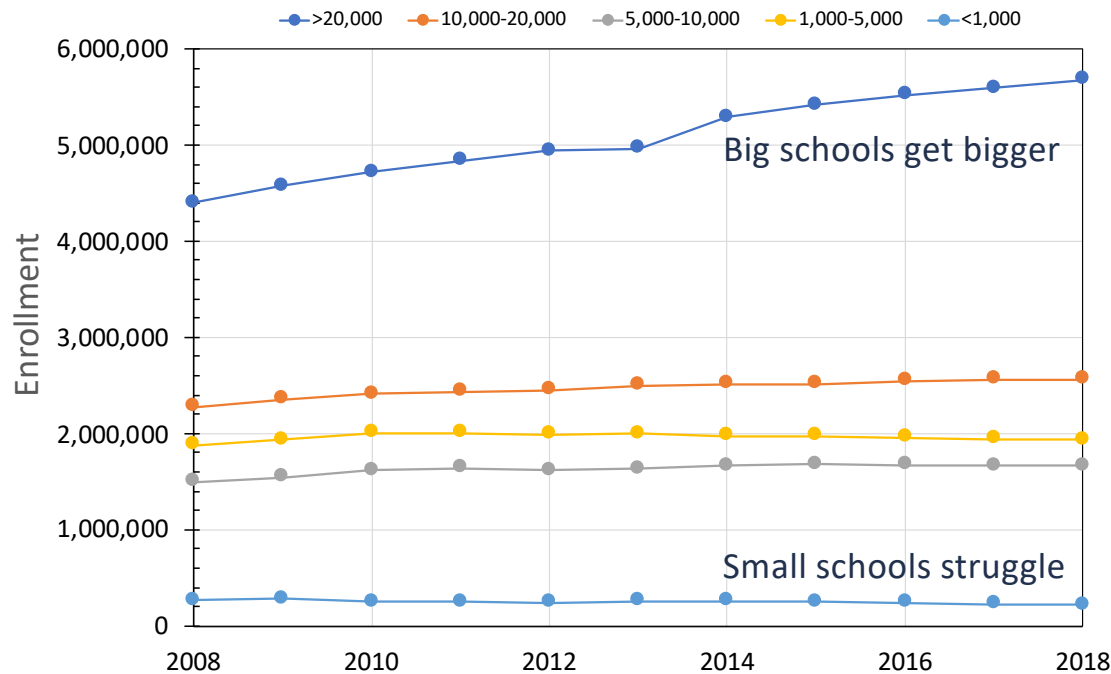
Why?



	2015	2016	2017	2018	2019	2020
Bachelor's Degree-Seeking	8,735,162	8,680,309	8,814,333	8,626,366	8,548,717	8,470,450
First-Year (all 4-year institutions)	1,554,191	1,554,206	1,525,834	1,517,142	1,480,532	1,356,484
Colorado Higher Ed	303,777	292,738	291,986	294,234	292,738	291,986
All STEM Degrees	2,022,114	2,035,788	2,079,530	2,105,960	2,103,272	2,105,144



National Trends: Enrollment by School Size



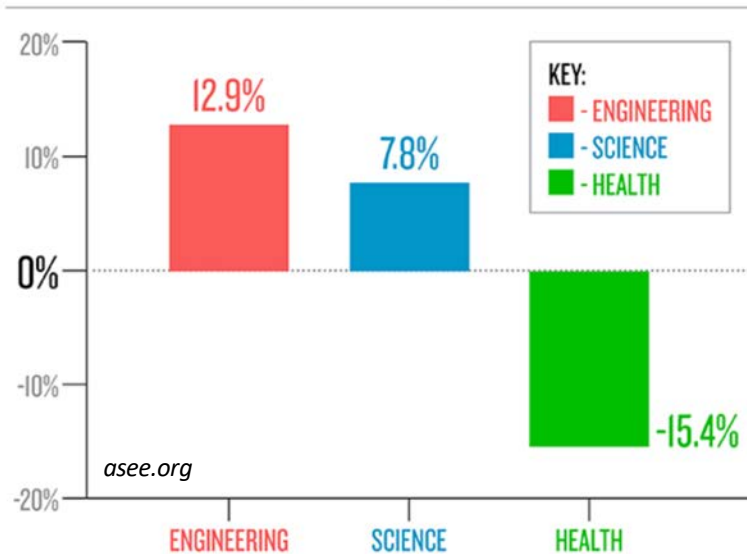
School Size (# of students)	% Enrollment Change 2010- 2018
>20,000	21%
10,000-20,000	6%
5,000 - 10,000	3% Mines +17%
1,000 - 5,000	-4%
<1,000	-13%

Where is growth happening?

CU Boulder	+15%	Purdue	+8%
CU Engineering	+56%	Purdue Engineering	+43%

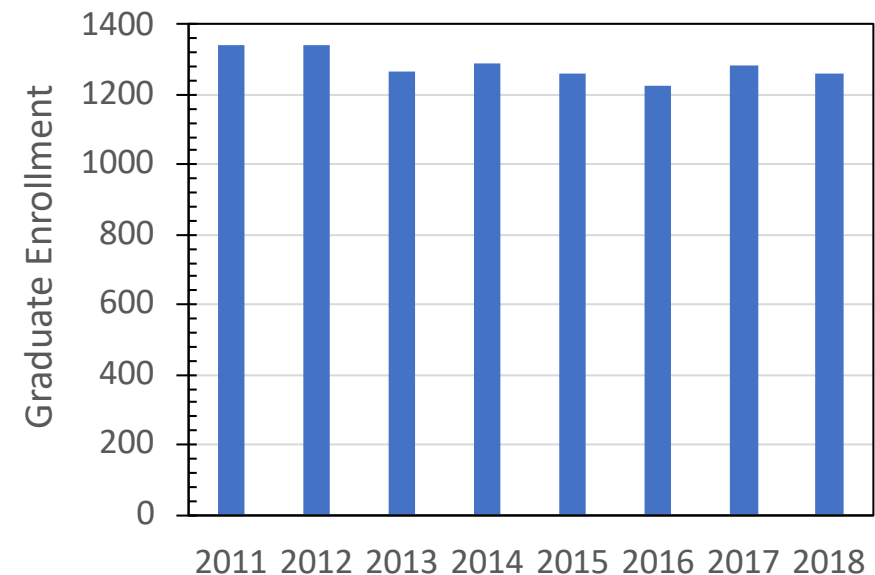
National Trends: Graduate Enrollment

PERCENTAGE INCREASE OF
GRADUATE ENROLLMENTS OVER THE DECADE
(2009-2018)



CU Engineering	+44%	(2010-2018)
Purdue Engineering	+45%	(2009 – 2018)

Mines Total Graduate Enrollment



Mines	-6%	(2011-2018)
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National Trends: Strategic Plans

Typical Strategic Plans

Growth (large schools)

Increase STEM majors (all schools)

Typical Pressures

Increase Student Success (publics)

Decrease Student Debt (publics)

Workforce Skills (liberal arts)



**Earn an esteemed
University of
Colorado Boulder
engineering degree
from Western.**

Take advantage of the innovative Western-University of Colorado Boulder partnership. Graduate with a degree from the prestigious University of Colorado Boulder—ranked in the top 20 nationally among public universities—while enjoying small class sizes, mentorship programs and world-class Rocky Mountain adventures in Gunnison.

[Learn More](#)

The “Why” for MINES@150



Declining HS graduates + changing demographics + changing attitudes

Competition for the students we want at Mines will increase

Lessons-learned from 2020-2021 (2.5% higher education enrollment decline)

“Top-of-Mind/First-Choice” schools with a differentiated, relevant, and attractive value proposition will thrive in the new environment

We need to be one of those
(...and soon)

Other Considerations



We won't compete based on **cost** (CO + STEM programs), so we have to offer something **unique and relevant** with great **ROI**

Many offer accredited engineering and science degrees – but few focus on deliberate **professional development**

As programs grow, they lose **hands-on components** – we can double-down

We have the potential to be more **nimble**

Our **Alumni** are an untapped resource

The Essence of MINES@150: Our Aspirations

To thrive as a **mid-sized** and **uniquely STEM-focused** university, MINES will need to be **top-of-mind and first-choice** for students, public and private partners, and faculty and staff.

A Top-of-Mind First-Choice University

MINES

A leader in educating STEM students and professionals

A preferred partner for talent, solutions and life-long learning

An inspiring and caring community in which to learn, explore, live and work

A producer of differentiated and highly desired STEM-educated leaders

The exemplar for alumni affinity, visibility and involvement

Accessible and attractive to qualified students from all backgrounds

A go-to place for use-inspired research and innovation needed to solve challenges facing industry, society, and the environment



MINES@150: The 10 Essentials

To achieve our MINES@150 aspirations, we must:

- **grow to 7500 students** (5000 undergraduate + 2500 graduate/post-bac students)
- **expand pathways** for, and be **attractive and accessible** to students we want at Mines
- offer a **unique signature student experience** with **deliberate professional development**, and achieve **best-in-class student success outcomes and ROI**
- produce **distinctive graduates**: highly-valued, future-prepared and adaptable
- **re-align our portfolio with the future; expand offerings and diversify delivery**
- **grow the reach and impact of our R&D and E&I efforts**
- **build/acquire the infrastructure** needed for MINES@150
- **grow/acquire the leaders, faculty, and staff** needed for MINES@150
- **strengthen affinity** for MINES among our students, alumni, and external partners
- **attract investment** to support our strategic initiatives

MINES@150 Priorities/Initiatives

expand
pathways
for, and be
attractive
and
accessible
to students
we want at
Mines

Pathways to Mines – Expand Opportunity

(Increase the ways that students get attracted to and prepared for Mines)

Signature Student Experience

(distinctive coupled curricular + co-curricular preparation for future success)

Student Success

(>94% retention, 75%/85% 4/6 year graduation, >95% post-graduation placement)

Living & Learning Community Expansion

(housing for 1st and 2nd year students and thesis-based graduate students)

Scholars Communities

(all students are members of vertically-connected & supportive communities)

Financial Accessibility & ROI

(manageable student debt at graduation)

DI&A Plan & Initiatives (woven into many initiatives)

MINES@150 Priorities/Initiatives

offer a **unique signature student experience** with **deliberate professional development**, and achieve **best-in-class student success outcomes** and **ROI**.



Faculty Senate Signature Student Experience Grant Program

Oredigger Camp

Thematic Scholars Communities
(Harvey, Grewcock, Vanguard, etc.)

***excite*inspire*engage* programs**
(Thorson, Cornerstone, etc.)

Vallejo-Irvine (VIP) Program
(deliberate professional preparation)

E&I Ecosystem
(Labriola Innovation Complex, Beck Venture Center, McNeil E&I programs)

Preparing Future Alumni
(owned/delivered by alumni)

MINES@150 Priorities/Initiatives

re-align our portfolio with the future; expand offerings and diversify delivery.

grow enrollment in post-bac credential programs (non-research-based).

Launch Thematic/Interdisciplinary/Leading Edge Programs

- Advanced Energy Systems (NREL+MINES)
- Space Resources (aerospace industry+MINES)
- Advanced Manufacturing (industry+MINES)
- Quantum Engineering
- Others (30+ new post-bac options; data sciences, etc.)

Business Engineering & Mgmt Sciences

Construction Engineering & Mgmt

Stackable Credentials (certificates, micro-masters, etc.)

Remote 4+1 Completion (while working 1st job)

MINES Online

MINES@150 Priorities/Initiatives

produce
**distinctive
graduates:**
highly-valued,
future-
prepared and
adaptable.

Attributes of Mines Graduates

- **Hard-working, creative, persistent, resilient & collaborative problem solvers**
- **Technical competency**
- **Hands-On Experience**
- **Best Professional Preparation**
 - **Business competency**
 - **Communicating & selling ideas, solutions, etc.**
 - **Leadership**
 - **Organizational understanding**
- **Strong Affinity to Mines**
- **Pay it forward attitude**

Pathways of Distinction

(distinctive & differentiated programs)

Econ Alternative

(finance, accounting, etc.)

Vallejo-Irvine (VIP) Program

(deliberate professional preparation)

E&I Ecosystem

(Labriola Innovation Complex, Beck Venture Center, McNeil E&I programs)

Expanded Honors Tracks

(beyond McBride)

Harvey, Grewcock, Vanguard Scholars

(thematic scholars communities)

Preparing Future Alumni

(owned/delivered by alumni)

MINES@150 Priorities/Initiatives

Grow the reach and impact of our R&D and E&I efforts

- build thematic strengths,
- expand partnerships,
- diversify funding sources,
- increase tech transfer.



MINES@150 Priorities/Initiatives

**Grow/
acquire
the
leaders,
faculty and
staff
needed for
MINES@150**

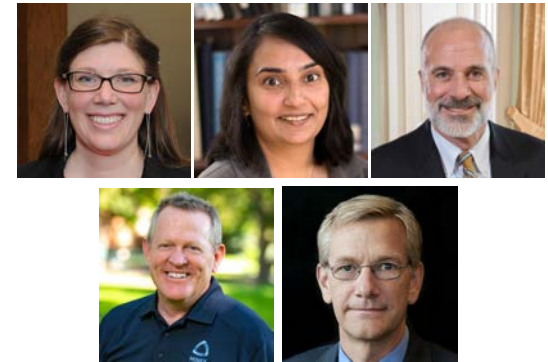
Fryrear Endowed Chairs for Innovation & Excellence

Each distinguished endowed chair and award offers the most highly-accomplished faculty recognition for demonstrating exceptional teaching and/or research AND for the important leadership roles they take to drive a strategic initiative and/or program that furthers the vision and mission of Mines



New MINES@150-specific Leadership Positions

*Vice Provosts for X
Presidential Faculty Fellow for X
Vice President for Global Initiatives*



Formal Leadership Development Programs

*Administrative Leaders
Campus Leaders*

MINES@150 Priorities/Initiatives

**Strengthen
affinity for
MINES among
our students,
alumni, and
external
partners**

Oredigger Camp

(new students welcomed by upper class students)

MINES Traditions

(M-Climb, E-Days, Homecoming, etc.)

Developing Future Alumni

(alumni owned/delivered)

MINES Climbs Together

(Orediggers supporting Orediggers)

Signature Student Experience

(if done right, it will accomplish this imperative...)

Department/Program-Level Initiatives

(TBD)



MINES@150 Priorities/Initiatives

Attract
investment to
support our
strategic
initiatives



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