One Hundred Eighty-Sixth Commencement

Saturday, December Seventeenth
Two Thousand and Twenty-Two
The Monument Theatre

ORDER OF CEREMONY

Master of Ceremonies	Dr. Lance Roberts
Processional (Stand)	Mines String Theory
Rondeau by Mouret	
Pomp and Circumstance by Elgar	
Presentation of Colors	Army ROTC Color Guard
President's Message	Dr. Jim Rankin
Senior Class Representative's Message	Ms. Emily Nix
Message from the Board of Regents	Mr. John Bastian
Presentation of Honorary Degrees	Dr. Jim Rankin
Commencement Address	Mr. Randy Parcel
Conferral of Degrees	Dr. Jim Rankin
Presentation of Degree Candidates	Dr. Joseph Dlugos
Alumni Welcome	Mr. Gary Christman
Retirement of Colors	Army ROTC Color Guard
Recessional (Stand)	Mines String Theory
La Rejouissance by Handel	

SOUTH DAKOTA MINES STRING THEORY

Tammy Schnittgrund, Director
Jessie Kolb
Thomas Mayfield
Thatcher Dramstad
Kory Engelstad
Bennet Outland
Abby Sharp
Tristen Olsen
Ethan Rogers

This program is not an official document. Due to strict requirements, it must be printed before the final list of degree candidates can be determined.

SENIOR CLASS REPRESENTATIVE

Emily Nix

Emily Nix came to South Dakota Mines after graduating from Roosevelt High School in Sioux Falls, SD. Her parents are Matthew and Lynda Nix, and her siblings are Autumn, Daniel (PHYS/CS 15; MS CSR 17), Zachary (ChemE 17; MS BME 22), Alia, Michaela, and Ian.

Nix has been involved in various clubs and activities while at South Dakota Mines. She served on the Student Association Senate in various committees for two years; as the tri-chair of the Rocker Days Committee; as recruitment chair of the Alpha Omega Epsilon professional sorority; and as a member of Beta Delta Mu, a newly established sorority. She played several intramural sports and is on the Hardrocker Cheer team. She was a residential advisor, a tutor at the Slide Rule math help center and a part of the campus move-in crew. She served as a commencement usher and a substitute teacher for Rapid City Area Schools. She has worked at Cold Stone Creamery and volunteered for Circle K and Study Dakota.

After graduating with her Bachelor of Science degree in mathematics, Nix plans to attend graduate school for secondary education at Black Hills State University in Spearfish, SD.

HONORARY DOCTOR OF PUBLIC SERVICE

Pete Lien

Rapid City native Pete Lien graduated from Arizona State University in 1980 with a bachelor's degree in business administration. He worked in the oil and gas exploration and production industry in Colorado and Wyoming for five years before joining his family's Rapid City-based mining, mineral processing, and ready mix concrete business.

Pete Lien and Sons was founded in 1944, beginning with a limestone quarry supporting the Rapid City Army Air Force Base (now Ellsworth Air Force Base) and the new interstate highway system. Since then, the company has expanded into iron ore, sand and gravel, lime, calcium carbonate, and gypsum.

Lien currently serves as president and a board member of Pete Lien and Sons, as well as an Elevate Rapid City executive committee member and a trustee of the United States Air Force Academy Falcon Foundation. He previously served as the Rocky Mountain Chapter chairman of the Young Presidents Organization and on the Bishop's Advisory Board for the Diocese of Rapid City. In 2004, he received the Environmental Steward of the Year award from the National Stone, Sand, and Gravel Association.

Lien and his wife, Nancy, have three daughters and seven grandchildren.

HONORARY DOCTOR OF PUBLIC SERVICE

Randy Parcel

Randy Parcel graduated with honors from South Dakota Mines in 1967 with a bachelor's degree in mining engineering. During his time at Mines, he was a member of the debate team, tennis team, Singing Engineers, and Delta Sigma Phi. He was student body president his senior year.

He received a Juris Doctorate from Northwestern University in 1970 and spent 34 years in private law practice, representing U.S. and Canadian clients in mining matters in Alaska, the western U.S., and South America. He completed his career as vice president and general counsel of the Denver-based precious metals royalty company Royal Gold, Inc., retiring in 2007. He then served as special counsel to two Alaska Native Corporations and worked as a volunteer attorney for Disability Law Colorado, for which he received the Luis D. Rovira award in 2015.

Throughout his career, he maintained close contact with Mines, serving as a trustee and officer of the Foundation for 18 years, and as national co-chair of its "Vision 2000" capital campaign. He also served on search committees for the university president and Foundation executive director. In 2002, he was awarded the Guy E. March Medal.

Parcel and his wife, Dr. Tracy Kovach, reside in Westminster, CO. They have a son and three grandchildren.

GRADUATE DESIGNATIONS

† Summer 2022 Graduate

BACHELOR OF SCIENCE DEGREE

*	Cum Laude	White Tassels	3.50 - 3.69 GPA
**	Magna Cum Laude	Red Tassels	3.70 - 3.89 GPA
***	Summa Cum Laude	Gold Tassels	3.90 - 4.00 GPA

ASSOCIATE OF ARTS DEGREE

•	Honors	3.50 – 3.69 GPA
••	High Honors	3.70 – 3.89 GPA
•••	Highest Honors	3.90 – 4.00 GPA

DOCTOR OF PHILOSOPHY DEGREE CANDIDATES

Biomedical Engineering

Joseph Marshall Laubach†
Dissertation Title: Thermophilic Biopolymer Films from Geobacillus sp. WSUCF1 – A Novel Device for Topical Drug Delivery

Chemical and Biological Engineering

Ajibola Adewale Adewole†
Dissertation Title: Functionally Graded Syntactic Foam Composite Structure Designed for Impact Energy Absorption and Thermal Insulation

Maryam Amouamouha
Dissertation Title: Fundamental Investigation of Processes in Anaerobic Membranebioreactor with Electrolytic Regeneration (AMBER) for Wastewater Treatment

Shailabh Rauniyar
Dissertation Title: Genome to Phenome Response of Microbes Under Stress Environments

Civil and Environmental Engineering

Gonzalo Rodriguez Garcia
Dissertation Title: Life Cycle Assessment of Perovskite Photovoltaic Systems

Tanzila Tabassum
Dissertation Title: Experimental and Numerical Studies on Thermal-Mechanical Properties of Stabilized Soils

Geology, Geological Engineering, and Mining Engineering: Mining Engineering Specialization

Akash Adhikari
Dissertation Title: Application of Machine Learning and Computational Fluid Dynamics to Design Effective Underground Auxiliary Ventilation Systems

Materials Engineering and Science

Lance Nolan Kotter
Dissertation Title: Processing and Characterization of Multi-Spectral Pyrotechnic Flares: A Prelude Towards Additive Manufacturing

Physics

Madan Kumar Sharma Timalsina
Dissertation Title: Improved Search for a Weakly Interacting Massive Particle (WIMP) with the LZ (LUX-ZEPLIN) Dark Matter Experiment

MASTER OF SCIENCE DEGREE CANDIDATES

Biomedical Engineering

Beth Ann Blake†

Ethan Summers Smith†

Civil and Environmental Engineering

Mark Alexander Cedar Face

Vaibhav Handa

Tucker Franklin Hecht

Benjamin Jensen Hector

Stephen Cody MacLake

Damodar Poudyal

Calvin David Tohm†

Computer Science and Engineering

Anoushka Mathews

Jonathan Eugene Mathews

Construction Engineering and Management

Jeremiah Narvell Bridges

Mark William Ellis†

Travis Allen Fincher

Electrical Engineering

Amjad Jebril Jomma Ali

Lane Hansen

Tania Islam

Mingyan Mao

Md Shahnewaz Tanvir

Engineering Management

Cole Allan Cameron

Mike Adam Goodale

Daniel Robert Halloran

Anna Katherine Hanson†

Carol Ann Smith

Alex Turkinov

Samuel Cavitt Vollmer

Green and Sustainable Chemistry

Karen Ly

Collin David Rodmyre

Magan Demoyn Vaughn

Materials Engineering and Science

Nana Ansah Adoo

Samuel Earl Kessinger

Roy Daniel Kesterson†

Joseph Andre Lauzon

Austin Lee Wilbanks

Mechanical Engineering

Kaytie Marie Barkley

Joshua Pierce Hillard

Kole Samuel Pickner

Collin Van Zur

Mining Engineering and Management

Ernest William Darko

Nathaniel R. Hofland

Alberto Ramos San Miguel

Paleontology

Rudolph Russell Hummel

Jessica Lauren O'Neall

BACHELOR OF SCIENCE DEGREE CANDIDATES

Applied and Computational Mathematics
Dylan Mitchell Delfosse
Sarah Michelle Reilly

Atmospheric and Environmental Sciences
Steven James Slater

Biology
Kyla Sky Jarvis***
Madeline Kay Vagts***

Biomedical Engineering
Evan James McConnell
Delaney Elizabeth Schoenefeld
Kate Marie ChangPing Schultz

Business Management in Technology
Michael Alexander Frazer Garcia
Sarah Paige Millar

Chemical Engineering
Rylie Nicole Andrews
Savannah Paige Baldwin
Kevin E. Baltzer*
McKayla Marie Benson
Argenis Jose Blanco Perdomo
Lauren Ann Kelso
Allan Patrick Sipos
Warren Joseph Thompson
Jordyn Marie Tygesen
Emma Rose Volk***
Erika Renae Weeks
James Robert Wilson

Civil Engineering
Tobias James Bjerklie
Marshall Jay Christopher
Brent Hogeland
Coby Shay Kiefer

George Steev Martinez
Emma Leigh McCalmont
Moses Narteh†
Ethan Jacob Stebbins*
Drew Elliott Urben

Computer Engineering
Devon A. Schneider*

Computer Science
Rhone Honore Clement Gavois**
Oliver John Juhl

Electrical Engineering
Thomas Cooper Fargen
Ian James Kasten
Devon A. Schneider*
Joseph Mark Schutte***
Sierra Cieda Sourasinth

Geological Engineering
Chloe Marie Jungwirth*
Kyle Law**
Graydon James Olson
Raynor Austin Ratchford**
David Jerry Tilley

Geology
Eric Austin Ames
Hunter Martin Schroeder
Elisa Staat**

Industrial Engineering and Engineering Management
Zachary Alan Basham
Romain Paul Caille
Seungyun Choi
Ryan Eliseo Fernandez
Emre Kemal Goktas**
Taylor Robert Hillestad
Kaitlyn S. Knight
Macy Bell McClure
Austin Elton Settje
Zachary Braden Sumption***

Mathematics
Emily Elizabeth Nix
Samuel James Powers

Mechanical Engineering
Jorge Augusto Martinez Cambara
Corryn Elizabeth Sams

Metallurgical Engineering
Nicholas D. Gregg
Eric Leo Meyer
Sean Michael Miller
Justin William Schroeder

Mining Engineering
Tel Ky Bostwick*
Charles Henry Dammann***
Alexandra Leigh Gregor
Andrew Thomas Jespersen**
Mora Lee McMillan
Anthony Alexander Rojas**
Nathan Richard Ray Tysdal
Alec Weber

Physics
Blayne Patrick Norrick

Pre-Professional Health Sciences
Chelsea Nicole Brewster**
Kyla Sky Jarvis***
Madeline Niancai Roth

Science, Technology, and Society
Chance M. Schisler
Louise Katherene Swanson

ASSOCIATE OF ARTS DEGREE CANDIDATES

General Studies
Trevor J. Cunningham

THE TRADITION OF COMMENCEMENT

Dating back to the universities of thirteenth-century Europe, the conferring of degrees signified that faculty members had attained the guild status of a master. Originally, this "master's" degree was the only one offered; the baccalaureate was simply a stage towards mastership. During the ceremony, black robes were worn in imitation of the clergy, for at the time church and university were one. When the hood was placed over the candidate's head, the ceremony was consummated and mastership was achieved.

Over the centuries, graduation evolved to commemorate more than the end of an educational endeavor or the mastership of a craft. It became the start of a new adventure, a passage to professional status recognized by the community of scholars and the community at large.

Today, we call this ceremony commencement, a term defined as both an act of commencing and the ceremony for conferring degrees. In essence, it means a beginning within an end. A middle English term, commencement traces its roots to Anglo-French, Old French, and finally, the Latin word, *cominitiare,* a combination of the prefix *com* and *initiare,* meaning "together, begin," a fitting origin for a word that evokes a graduate's first steps taken in fellowship and a poignant reminder that in each destination lies a new dawn.

ACADEMIC ATTIRE

The use of academic dress stems from costumes used in universities of the fourteenth and fifteenth centuries, particularly at Oxford and Cambridge in England. The dress has been used in the United States since colonial times and was standardized by an Intercollegiate Code in 1895.

The style of gown and hood designate the degree earned. The bachelor's gown is royal blue without a hood and the sleeves are pointed; the master's gown is black and has oblong sleeves; and the doctoral gown is trimmed with velvet, has three distinctive chevrons on each arm, and bell-shaped sleeves.

The two colors on the inside of the hood are traditionally the colors of the college granting the degree. The School of Mines colors are blue and gold; however, the hood for the School of Mines is gold and silver, symbolic of the university's connection to these precious metals. Caps are black mortar boards with the tassel worn over the left front quadrant.

As one may observe from the procession, the faculty wear hoods and gowns of varying styles and colors. The color of the tassel on the hat and the outside velvet trim of the hood indicate the field of study.

THE CEREMONIAL MACE

During today's ceremony, the chair of the faculty will carry the South Dakota School of Mines & Technology's ceremonial mace. The university mace is an academic tradition that dates back to medieval times. The mace has acquired the ceremonial function of "guarding" the president in the tradition of a medieval sergeant-at-arms.

The School of Mines mace was designed to represent the university's many disciplines. The handle was crafted from a fossil and represents paleontology, while the pink quartz sphere, encased in the symbol of an atom, symbolizes both geology and physics. The silver and gold signify the institution's rich mining tradition. The laurel leaf garland crown, fashioned from Black Hills Gold, represents a mark of honor, distinction, and success.

The mace was designed by Ms. Deborah Mitchell, former director of the Apex Gallery and associate professor in the Department of Humanities. The seal was engraved by Dr. Ryan Koontz, integrated manufacturing specialist for the Center of Excellence for Advanced Multidisciplinary Projects.

COMMENCEMENT COMMITTEE

Ms. Grisel Aguiniga Fox
Dr. Haley Armstrong, co-chair
Ms. Ann Brentlinger
Dr. Saurabh Dhiman
Dr. Joseph Dlugos
Ms. Diana Eastman
Ms. Morgan Else
Ms. Gina Fiorello
Dr. Jade Herman, co-chair
Ms. Rachel Howard
Mr. Marlin Kinzer
Mr. Patrick Rust
Mr. Bryan Schumacher
LTC Gregory Shipper
Ms. Rachel Skea
Dr. Vladimir Sobolev

SOUTH DAKOTA BOARD OF REGENTS

Ms. Pam Roberts, President
Mr. Jim Thares, Vice President
Mr. Tony Venhuizen, Secretary
Dr. Brian Maher, Executive Director
Mr. John Bastian
Dr. Joan Wink
Mr. Brock Brown
Mr. Jeff Partridge
Mr. Tim Rave

PHOTOGRAPHY SERVICES

The Grad Team will be providing photography services to the graduates. Photos will be available online at TheGradTeam.com/events approximately one week after the ceremony.