



One Hundred Eighty-Second Commencement

Saturday, December Nineteenth
Two Thousand and Twenty

COMMENCEMENT PROGRAM

Virtual Ceremony
9:00 a.m.

Introduction Music: Transylvania Fanfare by Warren Benson	Wind Ensemble
President's Message	Dr. Jim Rankin
Senior Class Representative's Message	Mr. Jorge Cisneros-Hernandez
Remarks by Dean of Students	Dr. Patricia Mahon
Remarks by Dean of Graduate Education	Dr. Maribeth Price
Message from the Board of Regents	Dr. Joan Wink
Presentation of Degree Candidates	Dr. Lance Roberts
Conferral of Degrees	Dr. Jim Rankin
Congratulatory Remarks by Department Representatives	
Dr. Zhengtao Zhu, Interim Head of the Department of Chemistry, Biology, & Health Sciences	
Dr. Travis Kowalski, Interim Head of the Department of Mathematics	
Dr. William Capehart, Atmospheric & Environmental Sciences Program Coordinator	
Dr. Kenneth Benjamin, Interim Head of the Department of Chemical & Biological Engineering	
Dr. James Stone, Head of the Department of Civil & Environmental Engineering	
Dr. Jeffrey McGough, Head of the Department of Computer Science & Engineering	
Dr. Tom Montoya, Interim Department Head of Electrical Engineering	
Dr. Laurie Anderson, Head of the Department of Geology & Geological Engineering	
Dr. Jeffrey Woldstad, Head of the Department of Industrial Engineering	
Dr. Allison Gilmore, Head of the Department of Humanities & Social Sciences	
Dr. Pierre Larochelle, Head of the Department of Mechanical Engineering	
Dr. Michael West, Head of the Department of Materials & Metallurgical Engineering	
Dr. Robert Hall, Head of the Department of Mining Engineering & Management	
Dr. Steven Smith, Nanoscience & Nanoengineering Program Director	
Dr. Richard Schnee, Head of the Department of Physics	
Welcome to New Alumni	Ms. Julie Carver
Closing Remarks	Dr. Travis Kowalski
School Song	University Choir

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

Mr. Jorge Cisneros-Hernandez

Jorge Cisneros-Hernandez came to the South Dakota School of Mines and Technology after graduating from Thomas Jefferson High School in Council Bluffs, Iowa. His parents are Jorge Cisneros and Gloria Hernandez and he has three siblings: Blanca, Miguel, and Ariana.

Cisneros-Hernandez is involved in the VEX U Robotics team, serving as president and design lead, and in the education division of the Professional Development Institute, promoting the growth of student leaders on campus and helping plan the organization's fall retreat. He has worked as the senior assistant area coordinator in residence life and as a student employee in the mechanical engineering department. He interned at Caterpillar, Inc., in Rapid City.

After graduating with his Bachelor of Science degree in mechanical engineering, Cisneros-Hernandez will work for Blattner Energy based out of Avon, Minnesota.

GRADUATE DESIGNATIONS

†Army ROTC Cadet being commissioned as Second Lieutenant

‡Summer 2020 Graduate

¥ Honors Program 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

Eden Bhatta

Major Professor: Dr. Grant Crawford

Dissertation Title: Processing, Microstructure Characterization, and Biological Response of Cold Sprayed Biocomposite Coatings

Civil and Environmental Engineering

Ali Shojaei Zadeh

Major Professor: Dr. Geza

Dissertation Title: Development of Integrated Decision Support Tools for Stormwater Management

Charles Jason Tinant

Major Professor: Dr. Scott Kenner

Dissertation Title: Hydrologic and Ecological Drought in a Semi-Arid Region of the Northern Great Plains, USA

Chemical and Biological Engineering

Joseph De Coteau Houck

Major Professor: Dr. Rajesh Shende

Dissertation Title: Sol-gel Synthesized (Mn,Ti)-Perovskite Based Mixed Oxides and Hydrothermal Liquefaction Derived Biochar as Electrode Materials for Energy Storage Application

Geology, Geological Engineering, and Mining Engineering

Ankit Jha

Major Professor: Dr. Purushotham Tukkaraja

Dissertation Title: Investigation of Ventilation Aspects and Improvement of Rescue Operations in an Underground Metal Mine

Mining Engineering & Management

Akshay Anand Chowdu

Major Professor: Dr. Andrea Brickey

Dissertation Title: Operations Research Applications in Underground Mine Production Scheduling

Nanoscience & Nanoengineering

Lin Kang

Major Professor: Dr. Steve Smith

Dissertation Title: Correlated Super-Resolution Fluorescence and Atomic Force Microscopy of Biomaterials

Ni Putu Dewi Nurmalasari

Major Professor: Dr. Steve Smith

Dissertation Title: Quantitative Volumetric Imaging and Analysis of Auxin/Cytokinin Ratio in Soybean Root Nodules and Antibody Dependent Cellular Phagocytosis in Macrophages at the Cellular Level

Eric D. Schmid

Major Professor: Dr. David Salem

Dissertation Title: Fabrication and Characterization of Micro and Nano Channel Structures in Polymer Composites

Nathan William Smaglik

Major Professor: Dr. Phil Ahrenkiel

Dissertation Title: Advanced Synthesis of III-V Semiconductor and Metal Thin Films with Plasma-Enhanced Metalorganic Chemical Vapor Deposition

Physics

Hari Chapagain

Major Professor: Dr. Vladimir Sobolev

Dissertation Title: Theoretical study of Angle-Resolved Photoemission Spectroscopy (ARPES) of Ga_{1-x}Mn_xAs

MASTER OF SCIENCE DEGREE CANDIDATES

Atmospheric & Environmental Sciences

Christopher Nicholas Woody

Biomedical Engineering

Meerab Joseph

Bradley J. Spurlock

Chemical Engineering

Kayode Olufemi Bello
Joseph Lee Domine
Craig Keith Fatherlos
Rachel Marie Hermanson
Sidney William Vondra
James Martin Votel

Civil & Environmental Engineering

Mohammadreza Moeini
Jason Dale Phillips
Emily Elise Sande
Eric Samuel Simonton
Allison Jane Smith
Antoinette Winckel

Computational Sciences & Robotics

Kyle W. MacMillan

Construction Engineering & Management

Hannah Elizabeth Covey
Drew Milton Hinker
Laughlin Louison
Mark Oliver Manseau
Alexander James Warren

Electrical Engineering

Md Ali Azam
Shawon Dey
Ashley Lauren Jasunas
Kunal Khade
Theodore Owen Seeley
Connor Ronald Silveria

Engineering Management

Patricia Dee Bierschbach
Emmy Lynn Dressen
Christa Haley Hollister
Samantha K. Johnson
Timothy Dale Johnson
Sean Coulter Meberg
Anne Marie Miller
Tyler V. Schoening

Geology & Geological Engineering

Taran William Bradley
Michael Matthew Day
Jared Michael Long-Fox

Materials Engineering & Science

Hannah Marie Moen
James L. Tomich

Mining Engineering & Management

Lucas Rangel Bittencourt
Frank Owusu
Alfonso Palacio Castilla
Robert Russell Spear
Cameron David Tymstra
Tomaso Veneroso

BACHELOR OF SCIENCE DEGREE CANDIDATES

Applied Biological Sciences

Thomas Wayne Dirks

Applied & Computational Mathematics

Timothy James Hays **
Shashwati Shradha ***

Atmospheric & Environmental Sciences

Meghan Hattie Chada
Per Russell Lundquist

Biology

Hunter Sage Roy
Elizabeth Anne Wendt

Chemical Engineering

Alexandra Paige Brown
Lance Lewis Garrett
Dyson Julius Heizelman *
Colleen McGovern Hyer
Dalton Gene Kotilinek **
Jordan Robert Lokken

Gabriela Michelle Ponce Molina
William Edward Tibbitt
Chase Christian Wood

Civil Engineering

Bayley Robert Colemer
Katrina Michelle Davidson
Bryant Mark Gernes **
Harrison David Irwin
Samuel Clyde Irwin
Peter Ian Iverson
Guanxuan Liang
Nathan Jacob Martian
Casey William Martin
Justin Ryman Smith
Alexander James Westerbuhr
Morgan Melissa Wetz *
Dustin Hartwell Williams

Computer Engineering

Sherwyn Carmo Edward Braganza
Justin Luther Nielson **

Computer Science

Timothy James Hays **
Tyler James Holinka
Riley Donovan Kopp
Adam Lee Lenox
Lane Moseley
Adeshkumar Udaykumar Naik
Mangesh Sagar Sakordekar *
Shashwati Shradha ***
Michael John Theesen

Electrical Engineering

Serjio Chavez
Weston Kyle Crockett *
Alex Paul Greenfield
Isaac Jordon Kortemeyer **
Justin Luther Nielson **
Tristan Duval Picotte
Ethan Tate Unruh
Jacob Kyle Wicklund

Geological Engineering

Miranda Faith Berge
Dominic Jeffrey Krause
Perrin Alexander Salonek **
Regan Michelle Wess **

Geology

Joseph Alan Durst
Rachel Rose Jones

Industrial Engineering & Engineering Management

Garrett Milton Bonzell
Dorian Anton Cowart
George Brian Dahlstrom *
Kaitlyn Lee Fiala
Quentin R. K. Galuteria Soares
Andrea Cheyenne Gracia
Eli Walker Jeans
Spencer Timothy Malsom
Alex Alan Mattheis
Nicholas James Ritchie
Summer Marie Rogers
Jesus Gerardo Roman Pinilla
Jordan Michael Swanson
Marken Vilson
Nathaniel Jacob Wimmer
Owen Palmer Winger *
Grayson Peter Young

Interdisciplinary Sciences

Kaylee Elaine Wilson

Mechanical Engineering

Joseph Harris Allen *
Justin Lee Barkow ***
Benjamin Guenther Braun
Connor James Carey
Jorge L. Cisneros-Hernandez
Jacob Dylan Crist
John Taylor DeBoer *
Kaytie Marie DeWitt **
Tanner Thomas Farnsworth
Brock Don Folkers

Jacob Andrew Goulet
Ethan Patrick Hanson
Dalton Robert Jenkins
Kaycee Jo Johnson
Molly Anne Keller
Christian Louis Leckband
Paige Nicole Ling
Caiden Daniel Merritt
Tanner John Nelson
Darren Andrew Nissen *
Jacob Barnette Peterson
Alec William Ralph *
Justin Lee Rau
Matthew Bradley Rens
Craiy Ferdinand Rodrigues **
Grant Paul Russell
Jonah Malcolm Sayre **
Enis Sefa
Jake Ryan Siewert

Metallurgical Engineering

George Alexander Bernard ***
Tanner Donald Colpitts
Kain Robert Nugent
Melinda Ann Ravnaas
Bryce Michael Watson
Tyler David Wentworth

Mining Engineering

Ian Christopher Becket **
Kathryn Ann Heaton
Dominic Jeffrey Krause
Wade Nathan Shoop *
John William Weyeneth

Physics

Anthony Allen Ackerman

Pre-Professional Health Sciences

Catalina Beatriz Bennett

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, manufacturing specialist for the Center of Excellence for Advanced Manufacturing and Production.

COMMENCEMENT COMMITTEE

Dr. Haley Armstrong

Ms. Rachel Howard

Ms. Ann Brentlinger

Mr. Marlin Kinzer

Mr. Jeremy Bryan

Dr. Travis Kowalski, Chair

Ms. Diana Eastman

Dr. Patricia Mahon

Ms. Morgan Else

Ms. Michaela Mader

Ms. Gina Fiorello

Mr. Bryan Schumacher

Mr. Paycen Harroun

Dr. Vladimir Sobolev

Ms. Jade Herman

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