SOUTH DAKOTA MINES
An engineering, science and technology university

Casper College

Associate to Bachelors (A2B) Articulation Agreement

Prescribed Curriculum: Casper College

Associate of Science – Engineering (Metallurgical)

General Education Courses			27 CREDIT HOURS
	Credit Hours	**Community College Course No.**	**Course Title or Category**
Reasoning & Inquiry	4	CHEM 1020	General Chemistry I
Math Computation	4	MATH 2200	Calculus I
Written Comm	3	ENGL 1010	English Composition I
Oral Communication	3	COMM 2010	Public Speaking
Humanities	3	Select 1 course from	Humanities General Education (HU 0000) List
Social Science	3	Select 1 course from	Social Science General Education (SSC 0000) List
Fine Arts	3	Select 1 course from	Fine Arts General Education (FA 0000) List
US-WY Constitution	3	Select 1 course from	US and Wyoming Constitutions (CNST 0000) List
Health Wellness	1	Select 1 course from	Health and Wellness General Education (HW 0000) List

Required Courses			17 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Mathematics & Science	4	MATH 2205	Calculus II
	4	PHYS 1310	College Physics I
Engineering	3	ES 1101	Introduction to Engineering Study
	3	ES 1060	Introduction to Engineering Problem Solving
	3	ES 2110	Statics

Program Elective Courses			22CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Program Elective	4	COSC 1030	Computer Science I
	4	MATH 2210	Calculus III
	3	MATH 2310	Applied Differential Equations
	4	PHYS 1320	College Physics II
	4	CHEM 1030	Chemistry II
	3	ES 2410	Mechanics of Materials

Associate of Science – Engineering (Metallurgical) Total:	**66 CREDIT HOURS**

Post-Associate Degree Prescribed Curriculum: South Dakota Mines

Bachelor of Science – Metallurgical Engineering

General Education Courses			**3** CREDIT HOURS
	Credit Hours	**Community College Course No.**	**Course Title or Category**
Written Communication	3	ENGL 289	Explorations in STEM Communications

Major Required Courses			**43** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Metallurgical Engineering	1	MET 231	Structures & Properties of Materials Lab
	3	MET 232	Properties of Materials
	4	MET 220/220L	Mineral Processing and Resource Recovery w/lab
	4	MET 320	Metallurgical Thermodynamics
	1	MET 333	Process Measurements and Control
	4	MET 422	Transport Phenomena
	4	MET 321/321L	High Temperature Extraction, Concentration & Recycling w/lab
	2	MET 352/352L	Principles of Metallurgical Design w/lab
	4	MET 330/330L	Physics of Metals w/lab
	3	MET 332	Thermomechanical Processing
	2	MET 464	Senior Design I
	4	MET 310/310L	Aqueous Extraction, Concentration, and Recycling w/lab
	2	MET 433	Process Control
	4	MET 440/440L	Mechanical Metallurgy w/lab
	1	MET 465	Senior Design II

Other Required Courses			**9** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Other Engineering	4	EE 301/301L	Introduction to Circuits, machines, and Systems w/lab
Mathematics	3	MATH 373	Introduction to Numerical Analysis
Economics	2	IENG 301	Basic Engineering Economics

Elective Courses			**9** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Major Electives	6	Select from list	Major Electives
Science Electives	3	Select from list	Science Electives

Post-Associate Degree Total:	**64** CREDIT HOURS
Bachelor of Science – Metallurgical Engineering Total:	**130** CREDIT HOURS

A2B Articulation Agreement Guarantees & Limitations

GUARANTEES

Students who:

1. complete the Associate of Science - Engineering degree prescribed curriculum at Casper College exactly as it is identified in this articulation agreement, **and**
2. have the degree conferred on their education record at Casper College (post high school graduation)**, and**
3. earn a minimum cumulative grade point average (GPA) of 2.75 at the Casper College, **and**
4. pass all 66 credits for the associate degree, earning a grade C- or higher in each course

are **guaranteed** the following at the South Dakota School of Mines and Technology (South Dakota Mines):

1. junior standing at South Dakota Mines with no more than 64 remaining credits to meet the graduation requirements for the Bachelor of Science degree in Metallurgical Engineering.
2. admission to South Dakota Mines
3. admission to the Bachelor of Science degree in Metallurgical Engineering.

LIMITATIONS

1. This agreement is between the Associate of Science - Engineering degree at Casper College and the Bachelor of Science degree in Metallurgical Engineering at South Dakota Mines only.
2. Students must meet all admission and application requirements at South Dakota Mines, including the submission of all required documentation by stated deadlines. Students are advised to contact the Office of Admissions at the South Dakota Mines early in their transfer planning.
3. Student must have a cumulative grade point average (GPA) at the Casper College of 2.75 or higher **and** only courses with grades of C- or higher are guaranteed to be accepted in transfer by South Dakota Mines.
4. The credit and course transfer guarantees described in this agreement apply to the Associate of Science degree at Casper College and the Bachelor of Science degree in Metallurgical Engineering at South Dakota Mines. If the student changes majors at Casper College or at South Dakota Mines, the student is no longer covered by this Articulation Agreement and none of the Guarantees of the Agreement apply.
5. Students utilizing any form of transfer credit, including but not limited to credit awarded from other higher education institutions, standardized exam (CLEP, AP, DSST, etc.), prior learning assessment (military, certifications, ACE recommended credit, portfolio, challenge exam, work experience equivalent credit, etc.) to satisfy any Associate degree requirements will have those credits evaluated by South Dakota Mines. Should South Dakota Mines not accept the transfer credits accepted by Casper College, the student will be required to make up the credit deficiency at South Dakota Mines.
6. No course substitutions are allowed for the courses listed in the Prescribed Curriculum for the associate degree at Casper College.

A2B CONTACT INFORMATION

South Dakota Mines
Office of the Provost
605.394.2256
Provost@sdsmt.edu

Casper College
Academic Affairs
307.268.2229

RENEWAL, REVISION, and TERMINATION

1. This Associate to Bachelor Articulation Agreement (A2B) shall be in effect July 1 – June 30 each year and will automatically renew annually unless action is taken by South Dakota Mines or Casper College to terminate or modify it.
2. The South Dakota Mines Office of the Provost and the Casper College Academic Affairs division will collaborate to coordinate a review the content of the associate and bachelor degrees on a three-year cycle to ensure this A2B is still appropriate.
3. South Dakota Mines and the Casper College each reserve the right to seek revision of this agreement at any time.
4. Revision of any content of the agreement (except Appendices content) will be approved by each institution and result in a new agreement being signed, with copies retained by each institution.
    a. Revision to any Appendices will be communicated to each institution, but do not need to be approved by each institution and will not result in a new agreement being signed by each institution.
5. South Dakota Mines and the Casper College each reserve the right to seek termination of this agreement at any time.
6. Should the agreement be terminated, each institution agrees to collaborate and engage in appropriate plans to notify and work with impacted students, providing a minimum one-year advance notice of termination.

APPROVALS

Signed by:
Brian Tande
3F004B215B8C45E...

2/12/2025

Brian Tande, Ph.D. Date
President
South Dakota Mines
Brian.Tande@sdsmt.edu

Signed by:
Brandon Kosine
2A327AC7A15B415...

2/12/2025

Brandon Kosine, Ph.D. Date
Interim President
Casper College
Brandon.Kosine@caspercollege.edu

DocuSigned by:
Lance Roberts
F8ACCB3DDD0E4AF...

2/12/2025

Lance Roberts, Ph.D. Date
Provost and Vice President for Academic Affairs
South Dakota Mines
Lance.Roberts@sdsmt.edu

Signed by:
Gerald Hawkes
CB1325ADC7094FA...

2/12/2025

Gerald Hawkes, Ph.D. Date
Interim Provost
Casper College
Gerald.Hawkes@caspercollege.edu

DocuSigned by:
Michael West
C9DDE764A911497...

2/12/2025

Michael West, Ph.D. Date
Department Head
South Dakota Mines
Michael.West@sdsmt.edu

Signed by:
Jeffrey Sun
111B4B38DCCE4A8...

2/12/2025

Jeffrey Sun Date
Interim Dean
Casper College
Jeffrey.Sun@caspercollege.edu

Signed by:
Jared Bowden
9602F3C7F18F4B2...

2/12/2025

Jared Bowden Date
Academic Chair
Casper College
Jared.Bowden@caspercollege.edu

Appendix A: Course Sequence

Course Sequence: Casper College

Engineering - Metallurgical (A.S.)

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year First Semester	CHEM 1020*	Chemistry I (Reasoning & Inquiry in Science Gen Ed)	4	
	COMM 2010*	Public Speaking (Oral Comm Gen Ed)	3	
	ES 1101	Introduction to Engineering Study	3	
	ES 1060	Intro to Engineering Problem Solving	3	
	MATH 2200*	Calculus I (Math Computation Gen Ed)	4	
		Total Credits	***17***	

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year Second Semester	CHEM 1030	Chemistry II (PEL 0000)	4	
	HU 0000*	Select 1 course from HU List (Humanities Gen Ed)	3	
	ES 2110	Statics	3	
	ENGL 1010*	English Composition I (Written Communication Gen Ed)	3	
	MATH 2205	Calculus II	4	
		Total Credits	***17***	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year First Semester	PHYS 1310	College Physics I	4	
	HW 0000	Select 1 course from HW List (Health & Wellness Gen Ed)	1	
	ES 2410	Mechanics of Materials (PEL 0000)	3	
	MATH 2210	Calculus III (PEL 0000)	4	
	COSC 1030	Computer Science I (PEL 0000)	4	
		Total Credits	***16***	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year Second Semester	FA 0000*	Select 1 course from FA List (Fine Arts Gen Ed)	3	
	SSC 0000*	Select 1 course from SSC List (Social Science Gen Ed)	3	
	PHYS 1320*	College Physics II (PEL 0000)	4	
	CNST 0000*	Select 1 course from US/WY Constitution List (Gen Ed)	3	
	MATH 2310	Applied Differential Equations (PEL 0000)	3	
		Total Credits	***16***	

General Education Coursework Total:	30 credit hours
Major and Elective Coursework Total:	36 credit hours
Casper College Coursework Total:	**66 CREDIT HOURS**

Course Sequence: South Dakota Mines – Fall Semester Start

Metallurgical Engineering (B.S.) – even year start

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year First Semester – FALL (Even yr)	MET 231	Properties of Materials Lab	1	
	MET 232	Properties of Materials	3	
	MET 320	Metallurgical Thermodynamics	4	
	MET 422	Transport Phenomena	4	
		Science Elective	3	
		Total Credits	*15*	

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year Second Semester – SPRING (Odd yr)	MET 220/220L	Mineral Processing and Resource Recovery w/lab	4	
	MET 321/321L	High Temperature Extraction, Concentration, & Rec w/lab	4	
	EE 301/301L	Introduction to Circuits, Machines, and Systems w/lab	4	
	MET 352/352L	Principles of Metallurgical Design w/lab	2	
	MATH 373	Introduction to Numerical Analysis	3	
		Total Credits	*17*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year First Semester – FALL (Odd yr)	MET 333	Process Measurements and Control	1	
	MET 464	Senior Design	2	
	MET 330/330L	Physics of Metals w/lab	4	
	MET 332	Thermomechanical Processing	3	
	ENGL 289	Explorations in STEM Communications*	3	
		Major Electives	3	
		Total Credits	*16*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Second Semester – SPRING (Even yr)	MET 310/310L	Aqueous Extraction, Concentration, and Recycling w/lab	4	
	MET 440/440L	Mechanical Metallurgy w/lab	4	
	MET 433	Process Control	2	
	IENG 301	Basic Engineering Economics	2	
	MET 465	Senior Design II	1	
		Major Elective	3	
		Total Credits	*16*	

*General Education Coursework Total:	3 credit hours
Major and Elective Coursework Total:	61 credit hours
South Dakota Mines Coursework Total:	**64 CREDIT HOURS**

Metallurgical Engineering (B.S.) – odd year start

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year First Semester – FALL (Odd yr)	MET 231	Properties of Materials Lab	1	
	MET 232	Properties of Materials	3	
	MET 320	Metallurgical Thermodynamics	4	
	ENGL 289	Explorations in STEM Communications*	3	
	IENG 301	Basic Engineering Economics	2	
		Total Credits	*13*	

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year Second Semester – SPRING (Even yr)	MET 220/220L	Mineral Processing and Resource Recovery w/lab	4	
	MET 310/310L	Aqueous Extraction, Concentration, and Recycling w/lab	4	
	MET 440/440L	Mechanical Metallurgy w/lab	4	
	MET 352/352L	Principles of Metallurgical Design w/lab	2	
		Total Credits	*14*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year First Semester – FALL (Even yr)	MET 333	Process Measurements and Control	1	
	MET 464	Senior Design	2	
	MET 422	Transport Phenomena	4	
		Major Elective	3	
	MATH 373	Introduction to Numerical Analysis	3	
		Total Credits	*13*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Second Semester – SPRING (Odd yr)	MET 321/321L	High Temperature Extraction, Concentration, & Rec w/lab	4	
	MET 433	Process Control	2	
	MET 465	Senior Design II	1	
		Science Elective	3	
		Major Elective	2	
		Total Credits	*12*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Third Semester – FALL (Odd yr)	MET 330/330L	Physics of Metals w/lab	4	
	MET 332	Thermomechanical Processing	3	
	EE 301/301L	Introduction to Circuits, Machines, and Systems w/lab	4	
		Major Elective	1	
		Total Credits	*12*	

*General Education Coursework Total:	3 credit hours
Major and Elective Coursework Total:	61 credit hours
South Dakota Mines Coursework Total:	**64 CREDIT HOURS**