SOUTH DAKOTA BOARD OF REGENTS

Academic and Student Affairs
Consent

AGENDA ITEM: 5 – I (1)
DATE: December 11-12, 2024

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SUBJECT

Articulation Agreements – SDSMT

CONTROLLING STATUTE, RULE, OR POLICY

BOR Policy 2.2.2.1 – Seamless Transfer of Credit
BOR Policy 2.2.2.3 – External (Non-Regental System) Accredited University/College Transfer of Credit

BACKGROUND / DISCUSSION

BOR Policy 2.2.2.1 – Seamless Transfer of Credit establishes requirements for institutions seeking to develop program level agreements for interested transfer students. The policy further establishes the distinction between AA, AS, and AAS degrees which are classified as transferable, terminal, or non-transferable degrees (respectively). However, the AAS is "transferable when a specific degree articulation agreement exists between a given A.A.S. degree and a specific Baccalaureate degree." Agreements established with regionally accredited institutions must be developed in conjunction with the faculty, following all institutional guidelines and are monitored as a function of the institutional program review process. Once approved, the agreements apply only at Regental institutions with equivalent programs.

IMPACT AND RECOMMENDATION

To comply with BOR Policy 2.2.2.1, South Dakota School of Mines & Technology requests approval of following articulation agreements:

- Students who have completed an AS degree in Engineering (Civil) at Casper College may apply up to 65 credits toward the BS in Civil Engineering at SDSMT.
- Students who have completed an AS degree in Engineering (Civil) at Gillette College may apply up to 62 credits toward the BS in Civil Engineering at SDSMT.
- Students who have completed an AS degree in Engineering (Geological) at Gillette College may apply up to 59 credits toward the BS in Geological Engineering at SDSMT.

(Continued)

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DRAFT MOTION 20241211_5-I(1):

I move to approve South Dakota School of Mines & Technology to finalize and execute articulation agreements with Casper College, Gillette College, and Northern State University in substantially similar form to that set forth in Attachment I.

- Students who have completed an AS degree in Engineering (Industrial) at Casper College may apply up to 61 credits toward the BS in Industrial Engineering and Engineering Management at SDSMT.
- Students who have completed an AS degree in Engineering (Industrial) at Gillette College may apply up to 65 credits toward the BS in Industrial Engineering and Engineering Management at SDSMT.
- Students who have completed an AA degree in General (Industrial Engineering Track) at Northern State University may apply up to 61 credits toward the BS in Industrial Engineering at SDSMT.
- Students who have completed an AS degree in Engineering (Metallurgical) at Casper College may apply up to 66 credits toward the BS in Metallurgical Engineering at SDSMT.
- Students who have completed an AS degree in Engineering (Metallurgical) at Gillette College may apply up to 63 credits toward the BS in Metallurgical Engineering at SDSMT.

ATTACHMENTS

Attachment I – SDSMT Articulation Agreements

Associate to Bachelors (A2B) Articulation Agreement

Prescribed Curriculum: Casper College

Associate of Science – Engineering (Civil)

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			23 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Program Elective	4	ENTK 1500	Engineering Graphics
	3	MATH 2310	Applied Differential Equations
	3	ES 2330	Fluid Dynamics
	4	MATH 2210	Calculus III
	3	ES 2410	Mechanics of Materials
	3	ES 2120	Dynamics
	3	ES 2310	Thermodynamics

Associate of Science – Engineering (Civil) Total:	**67 CREDIT HOURS** *(65 Credits Apply)**

Post-Associate Degree Prescribed Curriculum: South Dakota Mines

Bachelor of Science – Civil 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			42 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Civil Engineering	3	CEE 274	Construction Engineering and Management
	3	CEE 326	Environmental Engineering and Science I
	3	CEE 284	Applied Numerical Methods
	3	CEE 316/316L	Engineering and Construction Materials w/Lab
	3	CEE 336/336L	Hydraulic Systems Design w/Lab
	3	CEE 346/346L	Geotechnical Engineering w/Lab
	3	CEE 353	Structural Theory
	3	CEE 325	Introduction to Sustainable Design
	9	Select 3 courses from	CEE 327/327L, CEE 337, CEE 347/347L, or CEE 456
	3	CEE 468	Highway Engineering
	3	CEE 463	Concepts of Professional Practice
	3	CEE 489	Capstone Design Project

Other Required Courses			11 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Mathematics and Science	3	CHEM 114	General Chemistry II
	3	Select 1 course from	CSC 170/170L, MATH 443, GEOE 221/221L
	3	MATH 381	Introduction to Probability and Statistics
Economics	2	IENG 301	Basic Engineering Economics

Elective Courses			9 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Dept Approved	9	Select from list	Department Approved Electives

Post-Associate Degree Total:	**65 CREDIT HOURS**

Bachelor of Science – Civil 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 67 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 65 remaining credits to meet the graduation requirements for the Bachelor of Science degree in Civil Engineering.
2. admission to South Dakota Mines
3. admission to the Bachelor of Science degree in Civil Engineering.

LIMITATIONS

1. This agreement is between the Associate of Science - Engineering degree at Casper College and the Bachelor of Science degree in Civil Engineering from the above list 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 Civil 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
[Phone]
[Email]

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

Lance Roberts, Ph.D. Interim President South Dakota Mines President@sdsmt.edu	Date	Brian Kosine, Ph.D. Interim President Casper College Brandon.Kosine@caspercollege.edu	Date
James Stone, Ph.D. Provost and Vice President for Academic Affairs South Dakota Mines Provost@sdsmt.edu	Date	Gerald Hawkes, Ph.D. Interim Provost Casper College Gerald.Hawkes@caspercollege.edu	Date
Marc Robinson, Ph.D. Interim Department Head South Dakota Mines Marc.Robinson@sdsmt.edu	Date	Jeffrey Sun, Interim Dean Casper College Jeffrey.Sun@caspercollege.edu	Date
		Jared Bowden Academic Chair Casper College	

Jared.Bowden@caspercollege.edu

Appendix A: Course Sequence

Course Sequence: Casper College

Engineering - Civil (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	
	ES 1060	Intro to Engineering Problem Solving	3	
	ES 1101	Introduction to Engineering Study	3	
	ENTK 1500	Engineering Graphics (PEL 0000)	4	
	MATH 2200*	Calculus I (Math Computation Gen Ed)	4	
		Total Credits	*18*	

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year Second Semester	CNST 0000*	Select 1 course from US/WY Constitution List (Gen Ed)	3	
	COMM 2010*	Public Speaking (Oral Comm Gen Ed)	3	
	ES 2110	Statics	3	
	ENGL 1010*	English Composition I (Written Communication Gen Ed)	3	
	MATH 2205	Calculus II	4	
		Total Credits	*16*	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year First Semester	ES 2120	Dynamics (PEL 0000)	3	
	FA 0000*	Select 1 course from FA List (Fine Arts Gen Ed)	3	
	ES 2410	Mechanics of Materials (PEL 0000)	3	
	MATH 2210	Calculus III (PEL 0000)	4	
	PHYS 1310	College Physics I	4	
		Total Credits	*17*	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year Second Semester	HW 0000	Select 1 course from HW List (Health & Wellness Gen Ed)	1	
	SSC 0000*	Select 1 course from SSC List (Social Science Gen Ed)	3	
	HU 0000*	Select 1 course from HU List (Humanities Gen Ed)	3	
	ES 2310	Thermodynamics (PEL 0000)	3	
	ES 2330	Fluid Dynamics (PEL 0000)	3	
	MATH 2310	Applied Differential Equations I (PEL 0000)	3	
		Total Credits	*16*	

*General Education Coursework Total:	30 credit hours
Major and Elective Coursework Total:	37 credit hours
Casper College Coursework Total:	**67 CREDIT HOURS**

Course Sequence: South Dakota Mines – Fall Semester Start

Civil Engineering (B.S.)

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year First Semester - FALL	CEE 284	Applied Numerical Methods	3	
	CHEM 114	General College Chemistry II	3	
	CEE 336/336L	Hydraulic Systems Design w/Lab	3	
	CEE 353	Structural Theory	3	
	CEE 346/346L	Geotechnical Engineering I	3	
	CEE 316/316L	Construction Materials	3	
		Total Credits	***18***	

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year Second Semester - SPRING	CEE 326	Environmental Engineering I	3	
	CEE 325	Introduction to Sustainable Design	3	
	CEE 274	Construction Engineering & Management	3	
	Select 3 from list	CEE 327/327L, CEE 337, CEE 456, CEE 347/347L	9	
		Total Credits	***18***	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year First Semester - FALL	IENG 302	Engineering Economics	3	
	CEE 463	Concepts of Professional Practice	2	
	MATH 381	Introduction to Probability & Statistics	3	
	ENGL 289	Explorations in STEM Communication*	3	
		Department Approved Elective	3	
		Total Credits	***14***	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Second Semester - SPRING	CEE 468	Highway Engineering	3	
	CEE 489	Capstone Design	3	
	Select 1 from list	CSC 170/170L, MATH 443, GEOE 221/221L	3	
		Department Approved Electives	6	
		Total Credits	***15***	

*General Education Coursework Total:	3 credit hours
Major and Elective Coursework Total:	62 credit hours
South Dakota Mines Coursework Total:	**65 CREDIT HOURS**

SOUTH DAKOTA MINES
An engineering, science and technology university

Gillette College

Associate to Bachelors (A2B) Articulation Agreement

Prescribed Curriculum: Gillette College

Associate of Science – Engineering (Civil)

General Education Courses			27 CREDIT HOURS
	Credit Hours	**Community College Course No.**	**Course Title or Category**
Science	4	CHEM 1020	General Chemistry I
Mathematics	4	MATH 2200	Calculus I
Cultural Studies	3	Select 1 course from	Cultural Studies "Global Diversity" or "Foreign Language" categories
	3	Select 1 course from	Cultural Studies "Social and Behavioral Sciences" category
US & WY Constitutions	3	HIST 1211, or 1221, or 1251, or POLS 1000	US to 1865, or US from 1865, or Wyoming History, or American and Wyoming Government
Communication	3	ENGL 1010	English Composition I
	3	COMM 2010	Public Speaking
Gen Ed Course of Choice	4	MATH 2205	Calculus II

Required Courses			18 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Mathematics & Science	4	MATH 2210	Calculus III
	3	MATH 2310	Applied Differential Equations
	4*	PHYS 1310	College Physics I
Engineering	1	ES 1000	Orientation of Engineering
	3	ES 2110	Statics
	3	ES 2120	Dynamics

Program Elective Courses			20 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
ES Elective	3	ES 2410	Mechanics of Materials I
Program Elective	4	CHEM 1030	General Chemistry II
	3	ES 2330	Fluid Dynamics
	3*	ENTK 1500	Engineering Graphics
	4	ENTK 2070	Engineering Surveying I
	3	ES 1060	Introduction to Engineering Problem Solving

Associate of Science – Engineering (Civil) Total:	**65 CREDIT HOURS (*62 credits apply)**

Post-Associate Degree Prescribed Curriculum: South Dakota Mines

Bachelor of Science – Civil Engineering

General Education Courses			6 CREDIT HOURS
	Credit Hours	**Community College Course No.**	**Course Title or Category**
Written Communication	3	ENGL 289	Explorations in STEM Communications
Arts & Humanities	3	Select 1 course from	General Education Arts and Humanities (Goal 4)

Major Required Courses			38 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Civil Engineering	3	CEE 326	Environmental Engineering I
	3	CEE 325	Intro to Sustainable Design
	3	CEE 274	Construction Engineering & Management
	3	CEE 336/336L	Hydro Systems Design
	3	CEE 353	Structural Theory
	3	CEE 346/346L	Geotechnical Engineering I
	3	CEE 316/316L	Construction Materials
	9	Select 3 of the following:	CEE 327/327L, CEE 337, CEE 456, CEE 437/347L
	3	CEE 468	Highway Engineering
	2	CEE 463	Concepts of Professional Practice
	3	CEE 489	Capstone Design

Other Required Courses			9 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Economics	3	IENG 302	Engineering Economics
Mathematics	3	MATH 381	Intro to Probability & Statistics
Other Math/Science	3	Select 1 of the following:	CSC 170/170L, MATH 443, GEOE 221/221L

Elective Courses			15 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Electives	15	Select from list	Department Approved Electives

Post-Associate Degree Total:	**68 CREDIT HOURS**
Bachelor of Science – Civil Engineering Total:	**130 CREDIT HOURS**

A2B Articulation Agreement Guarantees & Limitations

GUARANTEES

Students who:

1. complete the Associate of Science - Engineering degree prescribed curriculum at Gillette College exactly as it is identified in this articulation agreement, **and**
2. have the degree conferred on their education record at Gillette College (post high school graduation)**, and**
3. earn a minimum cumulative grade point average (GPA) of 2.75 at the Gillette College, **and**
4. pass all 64 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 68 remaining credits to meet the graduation requirements for the Bachelor of Science degree in Civil Engineering.
2. admission to South Dakota Mines
3. admission to the Bachelor of Science degree in Civil Engineering.

LIMITATIONS

1. This agreement is between the Associate of Science - Engineering degree at Gillette College and the Bachelor of Science degree in Civil 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 Gillette 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 Gillette College and the Bachelor of Science degree in Civil Engineering at South Dakota Mines. If the student changes majors at Gillette 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 Gillette 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 Gillette College.

A2B CONTACT INFORMATION

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

Gillette College
Academic & Student Affairs
307.681.6000
admissions@gillettecollege.org

RENEWAL, REVISION, and TERMINATION

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2. The South Dakota Mines Office of the Provost and the Gillette College Academic and Student Affairs department 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 Gillette 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 Gillette 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

Lance Roberts, Ph.D.	Date	Janell Oberlander, Ed.D.	Date
Interim President		President	
South Dakota Mines		Gillette College	

James Stone, Ph.D.	Date	Barry Spriggs, Ph.D.	Date
Interim Provost and Vice President for Academic Affairs		Vice President for Academic and Student Affairs	
South Dakota Mines		Gillette College	

Marc Robinson, Ph.D.	Date	Martin Fashbaugh	Date
Interim Department Head		Dean of Arts and Sciences	

Appendix A: Course Sequence

Course Sequence: Gillette College

Engineering - Civil (A.S.)

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year First Semester	MATH 2200	Calculus I	4	
	CHEM 1020	General Chemistry I	4	
	ES 1000	Orientation of Engineering	1	
	ENGL 1010	English Composition	3	
	ES 1060	Intro to Engineering Problem Solving (Program Elective)	3	
		Total Credits	*15*	

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year Second Semester	COMM 2010	Public Speaking (Advanced Writing)	3	
	CHEM 1030	General Chemistry II (Program Elective)	4	
	ES 2110	Statics	3	
	MATH 2205	Calculus II	4	
	PHYS 1310	College Physics I	4*	
		Total Credits	*18*	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year First Semester	MATH 2210	Calculus III	4	
	ES 2120	Dynamics	3	
	Select 1 course from:	Cultural Studies: Foreign Language or Global Diversity areas	3	
	ES 2410	Mechanics of Materials I (ES Program Elective)	3	
	Select 1 course from:	HIST 1211, HIST 1221, HIST 1251, POLS 1000 (US/WY Const)	3	
		Total Credits	*16*	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year Second Semester	MATH 2310	Applied Differential Equations	3	
	Select 1 course from:	Cultural Studies: Social & Behavioral Science area	3	
	ENTK 1500	Engineering Graphics (Program Elective)	3*	
	ENTK 2070	Engineering Surveying I	4	
	ES 2330	Fluid Dynamics (Program Elective)	3	
		Total Credits	*16*	

General Education Coursework Total:	27* credit hours
Major and Elective Coursework Total:	38* credit hours
Gillette College Coursework Total:	**65 CREDIT HOURS (*62 credits apply)**

Course Sequence: South Dakota Mines – Fall Semester Start

Civil Engineering (B.S.)

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year First Semester - FALL	ENGL 289	Communication in the STEM Workplace	3	
	CEE 336/336L	Hydraulic Systems Design w/Lab	3	
	CEE 353	Structural Theory	3	
	CEE 346/346L	Geotechnical Engineering w/Lab	3	
	CEE 316/316L	Engineering and Construction Materials w/Lab	3	
	CEE 284	Applied Numerical Methods	3	
		Total Credits	*18*	

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year Second Semester - SPRING	CEE 326	Environmental Engineering I	3	
	Select 3 from:	CEE 327/327L, CEE 337, CEE 456, CEE 347/347L	9	
	CEE 274	Construction Engineering and Management	3	
	CEE 325	Introduction to Sustainable Design	3	
		Total Credits	*18*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year First Semester - FALL	IENG 302	Engineering Economics	3	
	CEE 463	Concepts of Professional Practice	2	
		Department Approved Electives	9	
	Math 381	Introduction to Probability and Statistics	3	
		Total Credits	*17*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Second Semester - SPRING		Department Approved Electives	6	
	CEE 489	Capstone Design	3	
		General Education – Arts/Humanities (Goal 4)	3	
	CEE 468	Highway Engineering	3	
		Total Credits	*15*	

*General Education Coursework Total:	6 credit hours
Major and Elective Coursework Total:	62 credit hours
South Dakota Mines Coursework Total:	**68 CREDIT HOURS**

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 (Electrical)

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			22 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Program Elective	4	COSC 1030	Computer Science I
	4	MATH 2210	Calculus III
	3	ES 2120	Dynamics
	4	PHYS 1320	College Physics II
	3	MATH 2250	Linear Algebra
	4	ES 2210	Electric Circuit Analysis

Associate of Science – Engineering (Electrical) Total:	**66 CREDIT HOURS** *(64 Credits Apply)**

Post-Associate Degree Prescribed Curriculum: South Dakota Mines

Bachelor of Science – Electrical 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			**39** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Electrical Engineering	4	EE 221/221L	Circuits II w/lab
	4	EE 351/351L	Mechatronics and Measurement Systems w/lab
	3	EE 313	Signals and Systems
	4	EE 320/320L	Introduction to Electronics w/lab
	4	EE 330/330L	Energy Systems w/lab
	3	EE 381	Electric and Magnetic Fields
	4	EE 314/314L	Control Systems w/lab
	3	EE 362	Electronic, Magnetic, and Optical Properties of Materials
	3	EE 382	Applied Electromagnetic and Wireless Communications
	3	EE 451	Fundamentals of Systems Engineering
	2	EE 463	Capstone Design I
	2	EE 467	Capstone Design II

Other Required Courses			**9** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Other Engineering	3	CENG 244/244L	Introduction to Digital Systems w/lab
Mathematics	3	MATH 321	Differential Equations
	3	MATH 381	Introduction to Probability and Statistics

Elective Courses			**15** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Professional	15	Select from list	Professional Electives

Post-Associate Degree Total:	**66** CREDIT HOURS
Bachelor of Science – Electrical 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 66 remaining credits to meet the graduation requirements for the Bachelor of Science degree in Electrical Engineering.
2. admission to South Dakota Mines
3. admission to the Bachelor of Science degree in Electrical Engineering.

LIMITATIONS

1. This agreement is between the Associate of Science - Engineering degree at Casper College and the Bachelor of Science degree in Electrical Engineering from the above list 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 Electrical 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.
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    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.
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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

Lance Roberts, Ph.D.	Date	Brian Kosine, Ph.D.	Date
Interim President		Interim President	
South Dakota Mines		Casper College	
President@sdsmt.edu		Brandon.Kosine@caspercollege.edu	
James Stone, Ph.D.	Date	Gerald Hawkes, Ph.D.	Date
Provost and Vice President for Academic Affairs		Interim Provost	
South Dakota Mines		Casper College	
Provost@sdsmt.edu		Gerald.Hawkes@caspercollege.edu	
Jeff McGough, Ph.D.	Date	Jeffrey Sun	Date
Department Head		Interim Dean	
South Dakota Mines		Casper College	
Jeff.Mcgough@sdsmt.edu		Jeffrey.Sun@caspercollege.edu	

SOUTH DAKOTA MINES
An engineering, science and technology university

Gillette College

Associate to Bachelors (A2B) Articulation Agreement

Prescribed Curriculum: Gillette College

Associate of Science – Engineering (Geological)

General Education Courses			**27** CREDIT HOURS
	Credit Hours	**Community College Course No.**	**Course Title or Category**
Science	4	CHEM 1020	General Chemistry I
Mathematics	4	MATH 2200	Calculus I
Cultural Studies	3	Select 1 course from	Cultural Studies "Global Diversity" or "Foreign Language" categories
	3	Select 1 course from	Cultural Studies "Social and Behavioral Sciences" category
US & WY Constitutions	3	HIST 1211, or 1221, or 1251, or POLS 1000	US to 1865, or US from 1865, or Wyoming History, or American and Wyoming Government
Communication	3	ENGL 1010	English Composition I
	3	COMM 2010	Public Speaking
Gen Ed Course of Choice	4	MATH 2205	Calculus II

Required Courses			**18** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Mathematics & Science	4	MATH 2210	Calculus III
	3	MATH 2310	Applied Differential Equations
	4*	PHYS 1310	College Physics I
Engineering	1	ES 1000	Orientation of Engineering
	3	ES 2110	Statics
	3	ES 2120	Dynamics

Program Elective Courses			**18** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
ES Elective	3	ES 2410	Mechanics of Materials
Program Elective	4*	CHEM 1030	General Chemistry II
	3	ES 2330	Fluid Dynamics
	4*	GEOL 1100	Physical Geology
	4*	PHYS 1320	College Physics II

Associate of Science – Engineering (Geological) Total: **63** CREDIT HOURS (*59 credits apply)

Post-Associate Degree Prescribed Curriculum: South Dakota Mines

Bachelor of Science – Geological Engineering

General Education Courses			6 CREDIT HOURS
	Credit Hours	**Community College Course No.**	**Course Title or Category**
Written Communication	3	ENGL 289	Explorations in STEM Communications
Arts & Humanities	3	Select 1 course from	General Education Arts and Humanities (Goal 4)

Major Required Courses			43 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Geology and Geological Engineering	2	GEOE 201L	Surveying for Mining and Geological Engineering
	3	GEOL 212/212L	Mineralogy and Crystallography w/Lab
	3	GEOL 341/341L	Igneous and Metamorphic Petrology w/Lab
	3	GEOL 331/331L	Stratigraphy and Sedimentation w/Lab
	3	GEOL 416/416L	Introduction to GIS w/Lab
	3	GEOE 324/324L	Engineering Geophysics I w/Lab
	3	GEOL 322/322L	Structural Geology
	3	GEOE 456/456L	Statistical Methods in Geology and Geological Engineering w/Lab
	3	GEOE 466/466L	Engineering and Environmental Geology w/Lab
	3	GEOE 467	Introduction to Geomechanics
	3	GEOE 475/475L	Groundwater w/Lab
	3	GEOE 461	Geothermal and Production Engineering
	2	GEOE 464/464L	Geological Engineering Design Project I
	6	GEOE 410	Engineering Field Geology

Other Required Courses			16 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Economics	3	IENG 302 or MEM 302	Engineering Economics or Mineral Economics
Computer Science	3	CSC 170/170L	Programming for Engineers and Scientists
Other Engineering	3	CEE 346/346L	Geotechnical Engineering w/Lab
	4	MET 320	Metallurgical Thermodynamics
	3	MEM 304/304L	Theoretical and Applied Rock Mechanics w/Lab

Elective Courses			6 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Electives	6	Select from list	Professional Electives

Post-Associate Degree Total:	**71 CREDIT HOURS**
Bachelor of Science – Geological Engineering Total:	**130 CREDIT HOURS**

A2B Articulation Agreement Guarantees & Limitations

GUARANTEES

Students who:

1. complete the Associate of Science - Engineering degree prescribed curriculum at Gillette College exactly as it is identified in this articulation agreement, **and**

2. have the degree conferred on their education record at Gillette College (post high school graduation)**, and**
3. earn a minimum cumulative grade point average (GPA) of 2.75 at the Gillette College, **and**
4. pass all 63 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 71 remaining credits to meet the graduation requirements for the Bachelor of Science degree in Geological Engineering.
2. admission to South Dakota Mines
3. admission to the Bachelor of Science degree in Geological Engineering.

LIMITATIONS

1. This agreement is between the Associate of Science - Engineering degree at Gillette College and the Bachelor of Science degree in Geological 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 Gillette 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 Gillette College and the Bachelor of Science degree in Geological Engineering at South Dakota Mines. If the student changes majors at Gillette 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 Gillette 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 Gillette College.

A2B CONTACT INFORMATION

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

Gillette College
Academic & Student Affairs
307.681.6000
Admissions@gillettecollege.org

RENEWAL, REVISION, and TERMINATION

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APPROVALS

Jim Rankin, Ph.D.	Date	Janell Oberlander, Ed.D.	Date
President		President	
South Dakota Mines		Gillette College	
Lance Roberts, Ph.D.	Date	Barry Spriggs, Ph.D.	Date
Provost and Vice President for Academic Affairs		Vice President for Academic and Student Affairs	
South Dakota Mines		Gillette College	
Rob Hall, Ph.D.	Date	Martin Fashbaugh	Date
Department Head		Dean of Arts and Sciences	

Appendix A: Course Sequence

Course Sequence: Gillette College

Engineering - Geological (A.S.)

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year First Semester	MATH 2200	Calculus I	4	
	CHEM 1020	General Chemistry I	4	
	ES 1000	Orientation of Engineering	1	
	ENGL 1010	English Composition	3	
	GEOL 1100	Physical Geology (Program Elective)	4	
		Total Credits	*16*	

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year Second Semester	COMM 2010	Public Speaking (Advanced Writing)	3	
	CHEM 1030	General Chemistry II (Program Elective)	4	
	ES 2110	Statics	3	
	MATH 2205	Calculus II	4	
	PHYS 1310	College Physics I	4	
		Total Credits	*18*	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year First Semester	MATH 2210	Calculus III	4	
	ES 2120	Dynamics	3	
	PHYS 1320	College Physics II (Program Elective)	4	
	ES 2410	Mechanics of Materials (ES Program Elective)	3	
		Total Credits	*14*	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year Second Semester	MATH 2310	Applied Differential Equations	3	
	Select 1 course from:	Cultural Studies: Social & Behavioral Science area	3	
	Select 1 course from:	Cultural Studies: Foreign Language or Global Diversity areas	3	
	ES 2330	Fluid Dynamics (Program Elective)	3	
	Select 1 course from:	HIST 1211, HIST 1221, HIST 1251, POLS 1000 (US/WY Const)	3	
		Total Credits	*15*	

General Education Coursework Total:	27* credit hours
Major and Elective Coursework Total:	36* credit hours
Gillette College Coursework Total:	**63 CREDIT HOURS (*59 credits apply)**

Course Sequence: South Dakota Mines – Fall Semester Start

Geological Engineering (B.S.)

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year First Semester - FALL	GEOE 201L	Surveying for Mining and Geological Engineers	2	
	GEOL 212/212L	Mineralogy & Crystallography w/lab	3	
	GEOE 467	Introduction to Geomechanics	3	
	GEOL 331/331L	Stratigraphy & Sedimentation w/lab	3	
	CSC 170/170L	Programming for Engineers and Scientists w/lab	3	
		Arts/Humanities Gen Ed Elective (Goal 4)	3	
		Total Credits	*17*	

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year Second Semester - SPRING	GEOL 341/341L	Igneous & Metamorphic Petrology w/lab	3	
	GEOE 456/456L	Statistical Methods in Geology and Geological Eng w/lab	3	
	GEOE 324/324L	Engineering Geophysics w/lab	3	
	Select 1 from	IENG 302 Engineering Econ or MEM 302 Mineral Econ	3	
	ENGL 289	Explorations in STEM Communications	3	
		Professional Elective	3	
		Total Credits	*18*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year First Semester - FALL	MET 320	Metallurgical Thermodynamics	4	
	GEOL 416/416L	Introduction to GIS w/lab	3	
	GEOE 466/466L	Engineering & Environmental Geology w/lab	3	
	GEOE 475/475L	Groundwater w/lab	3	
	CEE 346/346L	Geotechnical Engineering w/lab	3	
		Total Credits	*16*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Second Semester - SPRING	GEOE 461	Geothermal & Production Engineering	3	
	GEOE 464/464L	Geological Engineering Design Project I	2	
	MEM 304/304L	Theoretical & Applied Rock Mechanics w/lab	3	
	GEOL 322/322L	Structural Geology w/lab	3	
		Professional Elective	3	
		Total Credits	*14*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Third Semester - Summer	GEOE 410	Engineering Field Geology	6	
		Total Credits	*6*	

*General Education Coursework Total:	6 credit hours
Major and Elective Coursework Total:	65 credit hours
South Dakota Mines Coursework Total:	**71 CREDIT HOURS**

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 (Industrial)

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	PSYC 1000	General Psychology
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			21 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Program Elective	4	PHYS 1320	College Physics II
	4	CHEM 1030*	Chemistry II
	4	MATH 2210	Calculus III
	3	MATH 2310	Applied Differential Equations
	3	ES 2120	Dynamics
	3	ES 2310	Thermodynamics

Associate of Science – Engineering (Industrial) Total:	**65 CREDIT HOURS** *(61 Credits Apply)**

Post-Associate Degree Prescribed Curriculum: South Dakota Mines

Bachelor of Science – Industrial Engineering and Engineering Management

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			**56** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Industrial Engineering	2	IENG 241L	Introduction to Quality Methods and Teaming
	3	IENG 381	Introduction to Probability and Statistics
	3	IENG 215	Cost Estimating for Engineers
	3	IENG 382	Probability Theory and Statistics II
	3	IENG 302	Engineering Economics
	3	IENG 311/311L	Work Methods and Measurements w/lab
	1	IENG 352	Creativity and Innovation
	1	IENG 354	Marketing Technology Innovations
	3	IENG 362	Stochastic Models
	3	IENG 486	Statistical Quality and Process Control
	3	IENG 321/321L	Ergonomics/Human Factors Engineering w/lab
	1	IENG 355	Financing Technology Innovations
	3	ENGM 435	Optimization Techniques
	3	IENG 441	Simulation
	3	IENG 425	Production and Operation Management
	3	IENG 464	Senior Design Project I
	3	IENG 471	Facilities Planning
	3	Select 1 course from	IENG 331 Safety Engineering or IENG 431 Industrial Hygiene
	3	IENG 366	Engineering Management
	3	IENG 465	Senior Design Project II
	3	IENG 475	Computer-Controlled Manufacturing Sys and Robotics w/lab

Elective Courses			**10** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Dept Approved	6	Select from list	Department Approved Electives
Professional	4	Select from list	Professional Breadth Electives

Post-Associate Degree Total:	**69** CREDIT HOURS
Bachelor of Science – Industrial 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 65 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 69 remaining credits to meet the graduation requirements for the Bachelor of Science degree in Industrial Engineering and Engineering Management.
2. admission to South Dakota Mines
3. admission to the Bachelor of Science degree in Industrial Engineering and Engineering Management.

LIMITATIONS

1. This agreement is between the Associate of Science - Engineering degree at Casper College and the Bachelor of Science degree in Industrial Engineering and Engineering Management from the above list 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.
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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

Casper College
Academic Affairs
307.268.2229

Provost@sdsmt.edu

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APPROVALS

Lance Roberts, Ph.D.	Date	Brian Kosine, Ph.D.	Date
Interim President		Interim President	
South Dakota Mines		Casper College	
President@sdsmt.edu		Brandon.Kosine@caspercollege.edu	
James Stone, Ph.D.	Date	Gerald Hawkes, Ph.D.	Date
Provost and Vice President for Academic Affairs		Interim Provost	
South Dakota Mines		Casper College	
Provost@sdsmt.edu		Gerald.Hawkes@caspercollege.edu	
Jeff Woldstad, Ph.D.	Date	Jeffrey Sun	Date
Department Head		Interim Dean	
South Dakota Mines		Casper College	
Jeff.Woldstad@sdsmt.edu		Jeffrey.Sun@caspercollege.edu	

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

Appendix A: Course Sequence

Course Sequence: Casper College

Engineering - Industrial (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	
	ES 2120	Dynamics (PEL 0000)	3	
	MATH 2210	Calculus III (PEL 0000)	4	
	FA 0000*	Select 1 course from FA List (Fine Arts Gen Ed)	3	
	HW 0000	Select 1 course from HW List (Health & Wellness Gen Ed)	1	
		Total Credits	*15*	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year Second Semester	PSYC 1000*	General Psychology (SSC 0000)	3	
	CNST 0000*	Select 1 course from US/WY Constitution List (Gen Ed)	3	
	ES 2310	Thermodynamics (PEL 0000)	3	
	MATH 2310	Applied Differential Equations I (PEL 0000)	3	
	PHYS 1320	College Physics II (PEL 0000)	4	
		Total Credits	*16*	

*General Education Coursework Total:	30 credit hours
Major and Elective Coursework Total:	35 credit hours
Casper College Coursework Total:	**65 CREDIT HOURS**

Course Sequence: South Dakota Mines – Fall Semester Start

Industrial Engineering and Engineering Management (B.S.)

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year First Semester - FALL	IENG 381	Introduction to Probability & Statistics	3	
	IENG 352	Creativity and Innovation	1	
	IENG 311/311L	Work Methods and Measurements w/lab	3	
	IENG 354	Marketing Technology Innovations	1	
	IENG 486	Statistical Quality and Process Control	3	
	IENG 302	Engineering Economics	3	
	IENG 471	Facilities Planning	3	
		Total Credits	*17*	

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year Second Semester - SPRING	IENG 382	Introduction to Probability & Statistics II	3	
	IENG 215	Cost Estimating	3	
	IENG 321/321L	Ergonomics/Human Factors Engineering w/lab	3	
	IENG 441	Simulation	3	
	IENG 241L	Introduction to Quality Methods and Teaming	2	
		Professional Elective	4	
		Total Credits	*18*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year First Semester - FALL	IENG 362	Stochastic Models	3	
	ENGM 435	Optimization Techniques	3	
	ENGL 289	Explorations in STEM Communication	3	
	IENG 464	Senior Design Project I	3	
	IENG 425	Production and Operation Management	3	
	IENG 331	Safety Engineering	3	
		Total Credits	*18*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Second Semester - SPRING	IENG 355	Financing Technology Innovations	1	
		Department Approved Elective	6	
	IENG 465	Senior Design Project II	3	
	IENG 366	Engineering Management	3	
	IENG 475/475L	Computer-Controlled Manufacturing Sys & Robotics w/lab	3	
		Total Credits	*16*	

*General Education Coursework Total:	3 credit hours
Major and Elective Coursework Total:	66 credit hours
South Dakota Mines Coursework Total:	**69 CREDIT HOURS**

SOUTH DAKOTA MINES
An engineering, science and technology university

Gillette College

Associate to Bachelors (A2B) Articulation Agreement

Prescribed Curriculum: Gillette College

Associate of Science – Engineering (Industrial)

General Education Courses			**27** CREDIT HOURS
	Credit Hours	**Community College Course No.**	**Course Title or Category**
Science	4	CHEM 1020	General Chemistry I
Mathematics	4	MATH 2200	Calculus I
Cultural Studies	3	Select 1 course from	Cultural Studies "Global Diversity" or "Foreign Language" categories
	3	PSYC 1000	General Psychology
US & WY Constitutions	3	HIST 1211, or 1221, or 1251, or POLS 1000	US to 1865, or US from 1865, or Wyoming History, or American and Wyoming Government
Communication	3	ENGL 1010	English Composition I
	3	COMM 2010	Public Speaking
Gen Ed Course of Choice	4	MATH 2205	Calculus II

Required Courses			**18** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Mathematics & Science	4	MATH 2210	Calculus III
	3	MATH 2310	Applied Differential Equations
	4	PHYS 1310	College Physics I
Engineering	1	ES 1000	Orientation of Engineering
	3	ES 2110	Statics
	3	ES 2120	Dynamics

Program Elective Courses			**20** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
ES/PHYS Elective	4	PHYS 1320	College Physics II
Program Elective	3	MATH 2250	Linear Algebra
	4	Select 1 course from	GEOL 1100 (Physical Geology), CHEM 1030 (General Chemistry II)
	3	ES 2330	Fluid Dynamics
	3	ES 2410	Mechanics of Materials
	3	ES 1060	Introduction to Engineering Problem Solving

Associate of Science – Engineering (Industrial) Total: 65 CREDIT HOURS

Post-Associate Degree Prescribed Curriculum: South Dakota Mines

Bachelor of Science – Industrial Engineering and Engineering Management

General Education Courses			6 CREDIT HOURS
	Credit Hours	**Community College Course No.**	**Course Title or Category**
Written Communication	3	ENGL 289	Explorations in STEM Communications
Arts & Humanities	3	Select 1 course from	General Education Arts and Humanities (Goal 4)

Major Required Courses			56 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Industrial Engineering	2	IENG 248/248L	Engineering Graphics and Computer Modeling w/ Lab
	3	IENG 381	Introduction to Probability and Statistics
	3	IENG 215	Cost Estimating for Engineers
	3	IENG 382	Probability Theory and Statistics II
	3	IENG 302	Engineering Economics
	3	IENG 311/311L	Work Methods and Measurements w/lab
	1	IENG 352	Creativity and Innovation
	1	IENG 354	Marketing Technology Innovations
	3	IENG 362	Stochastic Models
	3	IENG 486	Statistical Quality and Process Control
	3	IENG 321/321L	Ergonomics/Human Factors Engineering w/lab
	1	IENG 355	Financing Technology Innovations
	3	ENGM 435	Optimization Techniques
	3	IENG 441	Simulation
	3	IENG 425	Production and Operation Management
	3	IENG 464	Senior Design Project I
	3	IENG 471	Facilities Planning
	3	Select 1 course from	IENG 331 Safety Engineering and IENG 431 Industrial Hygiene
	3	IENG 366	Engineering Management
	3	IENG 465	Senior Design Project II
	3	IENG 475/475L	Computer-Controlled Manufacturing Systems & Robotics w/lab

Elective Courses			3 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Electives	3	Select from list	Department Approved Electives

Post-Associate Degree Total:	**65 CREDIT HOURS**
Bachelor of Science – Industrial Engineering and Engineering Management Total:	**130 CREDIT HOURS**

A2B Articulation Agreement Guarantees & Limitations

GUARANTEES

Students who:

1. complete the Associate of Science - Engineering degree prescribed curriculum at Gillette College exactly as it is identified in this articulation agreement, **and**

2. have the degree conferred on their education record at Gillette College (post high school graduation)**, and**
3. earn a minimum cumulative grade point average (GPA) of 2.75 at the Gillette College, **and**
4. pass all 65 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 65 remaining credits to meet the graduation requirements for the Bachelor of Science degree in Industrial Engineering and Engineering Management.
2. admission to South Dakota Mines
3. admission to the Bachelor of Science degree in Industrial Engineering and Engineering Management.

LIMITATIONS

1. This agreement is between the Associate of Science - Engineering degree at Gillette College and the Bachelor of Science degree in Industrial Engineering and Engineering Management 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 Gillette 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 Gillette College and the Bachelor of Science degree in Industrial Engineering and Engineering Management at South Dakota Mines. If the student changes majors at Gillette 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 Gillette 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 Gillette College.

A2B CONTACT INFORMATION

South Dakota Mines
Office of the Provost
605.394.2256

Gillette College
Academic & Student Affairs
307.681.6000

Provost@sdsmt.edu admissions@gillettecollege.org

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 Gillette College to terminate or modify it.
2. The South Dakota Mines Office of the Provost and the Gillette College Academic & Student Affairs department 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 Gillette 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 Gillette 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

Lance Roberts, Ph.D.	Date	Janell Oberlander, Ed.D.	Date
Interim President		President	
South Dakota Mines		Gillette College	
President@sdsmt.edu		JOberlander@gillettecollege.org	

James Stone, Ph.D.	Date	Barry Spriggs, Ph.D.	Date
Interim Provost and Vice President for Academic Affairs		Vice President for Academic and Student Affairs	
South Dakota Mines		Gillette College	
Provost@sdsmt.edu		BSpriggs@gillettecollege.org	

Jeffrey Woldstad, Ph.D.	Date	Martin Fashbaugh	Date
Department Head		Dean of Arts and Sciences	
South Dakota Mines		Gillette College	

Jeff.Woldstad@sdsmt.edu MFashbaugh@gillettecollege.org

Appendix A: Course Sequence

Course Sequence: Gillette College

Engineering - Industrial (A.S.)

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year First Semester	MATH 2200	Calculus I	4	
	CHEM 1020	General Chemistry I	4	
	ES 1000	Orientation of Engineering	1	
	ENGL 1010	English Composition	3	
	ES 1060	Intro to Engineering Problem Solving (Program Elective)	3	
		Total Credits	*15*	

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year Second Semester	COMM 2010	Public Speaking (Advanced Writing)	3	
	Select 1 course from	CHEM 1030 or GEOL 1100 (Program Elective)	4	
	ES 2110	Statics	3	
	MATH 2205	Calculus II	4	
	PHYS 1310	College Physics I	4	
		Total Credits	*18*	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year First Semester	MATH 2210	Calculus III	4	
	ES 2120	Dynamics	3	
	PHYS 1320	College Physics II	4	
	PSYC 1000	General Psychology	3	
	ES 2410	Mechanics of Materials	3	
		Total Credits	*17*	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year Second Semester	MATH 2310	Applied Differential Equations	3	
	Select 1 course from:	Cultural Studies: Foreign Language or Global Diversity areas	3	
	Select 1 course from:	HIST 1211, HIST 1221, HIST 1251, POLS 1000 (US/WY Const)	3	
	MATH 2250	Elementary Linear Algebra (Program Elective)	3	
	ES 2330	Fluid Dynamics (Program Elective)	3	
		Total Credits	*15*	

General Education Coursework Total:	27 credit hours
Major and Elective Coursework Total:	38 credit hours
Gillette College Coursework Total:	**65 CREDIT HOURS**

Course Sequence: South Dakota Mines – Fall Semester Start

Industrial Engineering and Engineering Management (B.S.)

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year First Semester - FALL	IENG 248/248L	Engineering Graphics and Computer Modeling w/Lab	2	
	IENG 381	Introduction to Probability & Statistics	3	
	IENG 352	Creativity and Innovation	1	
	IENG 311/311L	Work Methods and Measurements w/lab	3	
	IENG 354	Marketing Technology Innovations	1	
	IENG 331	Safety Engineering	3	
	ENGL 289	Explorations in STEM Communication (Goal 1)	3*	
		Total Credits	*16*	

Semester	Course No.	Course Title	Credit Hours	Completed
	IENG 302	Engineering Economics	3	
Junior Year Second Semester - SPRING	IENG 382	Introduction to Probability & Statistics II	3	
	IENG 215	Cost Estimating	3	
	IENG 321/321L	Ergonomics/Human Factors Engineering w/lab	3	
	IENG 441	Simulation	3	
		Total Credits	*15*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year First Semester - FALL	IENG 362	Stochastic Models	3	
	ENGM 435	Optimization Techniques	3	
	IENG 464	Senior Design Project I	3	
	IENG 425	Production and Operation Management	3	
	IENG 486	Statistical Quality and Process Control	3	
	IENG 471	Facilities Planning	3	
		Total Credits	*18*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Second Semester - SPRING	IENG 355	Financing Technology Innovations	1	
	IENG 465	Senior Design Project II	3	
	IENG 366	Engineering Management	3	
	IENG 475/475L	Computer-Controlled Manufacturing Sys & Robotics w/lab	3	
		Department Approved Electives	3	
	Select 1 course from	Arts/Humanities Gen Ed Elective (Goal 4)	3*	
		Total Credits	*16*	

*General Education Coursework Total:	6 credit hours
Major and Elective Coursework Total:	59 credit hours
South Dakota Mines Coursework Total:	**65 CREDIT HOURS**

Associate to Bachelors (A2B) Articulation Agreement

Prescribed Curriculum: Northern State University

Associate of Arts – General (Industrial Engineering Track)

General Education Courses			**34** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title or Category**
Written Communication	3	ENGL 101	Composition I
	3	ENGL 201	Composition II
Oral Communication	3	CMST 215	Public Speaking (or CMST 101, or CMST 222)
Social Sciences	3	PSYC 101	General Psychology
Social Sciences	3	Select 1 Course From	SGR #3 list of approved courses
Arts/Humanities	6	Select 2 Course From	SGR #4 list of approved courses
Mathematics	4	MATH 123	Calculus I
Natural Sciences	4	CHEM 112/112L	General Chemistry I w/Lab
	5	PHYS 211/211L	University Physics I w/Lab

Required Courses			**27** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Math and Science	4	MATH 125	Calculus II
	4	MATH 225	Calculus III
	3	MATH 321	Differential Equations
	3	MATH 381	Introduction to Probability Theory and Statistics
	5	PHYS 213/213L	University Physics II w/Lab
Humanities/Soc Sci	3	Select 1 Course From	Upper Division Humanities or Social Sciences
Elective	3	BADM 350	Legal Environment of Business
Other	2	FYS190 (or IDL 190)	Seminar

Associate of Arts – General (Industrial) Total:	**61** CREDIT HOURS

Post-Associate Degree Prescribed Curriculum: South Dakota Mines

Bachelor of Science – Industrial Engineering

Major Required Courses			**50** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Industrial Engineering	2	IENG 248/248L	Engineering Graphics and Computer Modeling w/Lab
	3	IENG 215	Cost Estimating for Engineers
	3	IENG 382	Probability Theory & Statistics II
	3	IENG 302	Engineering Economics
	3	IENG 311/311L	Work Methods and Measurements w/ Lab
	1	IENG 352	Creativity & Innovation
	1	IENG 354	Marketing Technology Innovations
	3	IENG 362	Stochastic Models
	3	IENG 486	Statistical Quality and Process Control
	3	IENG 321/321L	Ergonomics/Human Factors Engineering w/Lab
	1	IENG 355	Financing Technology Innovations
	3	IENG 441	Simulation
	3	IENG 425	Production and Operations Management
	3	IENG 464	Senior Design Project I
	3	IENG 471	Facilities Planning
	3	Select 1 Course From	IENG 331 or IENG 431
	3	IENG 366	Engineering Management
	3	IENG 465	Senior Design Project II
	3	IENG 475	Computer-Controlled Manufacturing

Other Required Courses			**3** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Engineering Management	3	ENGM 435	Optimization Techniques

Elective Courses			**16** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Electives	3	Select From	Department Electives approved list of courses
	4	Select From	Professional Electives approved list of courses
	9	Select From	Engineering Electives approved list of courses

Post-Associate Degree Total: **69** CREDIT HOURS

Bachelor of Science – Industrial Engineering Total: **130** CREDIT HOURS

A2B Articulation Agreement Guarantees & Limitations

GUARANTEES

Students who:

1. complete the Associate of Arts - General degree prescribed curriculum at Northern State University exactly as it is identified in this articulation agreement, **and**

2. have the degree conferred on their education record at Northern State University (post high school graduation)**, and**

3. earn a minimum cumulative grade point average (GPA) of 2.75 at the Northern State University, **and**

4. pass all 61 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 69 remaining credits to meet the graduation requirements for the Bachelor of Science degree in Industrial Engineering.

2. admission to South Dakota Mines

3. admission to the Bachelor of Science degree in Industrial Engineering.

LIMITATIONS

1. This agreement is between the Associate of Arts - General degree at Northern State University and the Bachelor of Science degree in Industrial Engineering from the above list 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 Northern State University 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 Arts degree at Northern State University and the Bachelor of Science degree in Industrial Engineering at South Dakota Mines. If the student changes majors at Northern State University 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 Northern State University, 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 Northern State University.

A2B CONTACT INFORMATION

South Dakota Mines
Office of the Provost
605.394.2256

Northern State University
College of Arts and Sciences
605.626.2602

Provost@sdsmt.edu Alyssa.Kiesow@northern.edu

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 Northern State University to terminate or modify it.
2. The South Dakota Mines Office of the Provost and the Northern State University College of Arts and Sciences 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 Northern State University 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 Northern State University 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

Lance Roberts, Ph.D.	Date	Neal Schnoor, Ph.D.	Date
Interim President		President	
South Dakota Mines		Northern State University	
James Stone, Ph.D.	Date	Michael Wanous, Ph.D.	Date
Interim Provost and Vice President for Academic Affairs		Provost	
South Dakota Mines		Northern State University	
Jeff Woldstad, Ph.D.	Date	Alyssa Kiesow, Ph.D.	Date

Department Head
South Dakota Mines

Dean
Northern State University

Appendix A: Course Sequence

Course Sequence: Northern State University

General (A.A.) Industrial Engineering Track – Option 1: Calculus I Ready

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year FALL	IDL/FYS 190	Seminar	2	
	ENGL 101	Composition I	3	
	CHEM 112/L	General Chemistry w/ Lab	4	
	MATH 123	Calculus I	4	
	SGR #4	Humanities – Civics Course General Education (see SGR #4)	3	
		Total Credits	***16***	

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year SPRING	ENGL 201	Composition II	3	
	MATH 125	Calculus II	4	
	PSCY 101	General Psychology (SGR #3)	3	
	CMST 215	Public Speaking	3	
	SGR #4	Humanities General Education (see SGR #4)	3	
		Total Credits	***16***	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year FALL	SGR #3	Social Science General Education (see SGR #3)	3	
	MATH 225	Calculus III	4	
	MATH 321	Differential Equations	3	
	PHYS 211/L	University Physics I w/ Lab	5	
		Total Credits	***15***	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year SPRING	BADM 350	Legal Environment of Business	3	
	MATH 381	Introduction to Probability and Statistics	3	
	PHYS 213/L	University Physics II w/ Lab	5	
	Humanities/Social Sci	Upper Division Humanities or Social Science	3	
		Total Credits	***14***	

General Education Coursework Total:	27 credit hours
Major and Elective Coursework Total:	34 credit hours
Northern State University Coursework Total:	**61 CREDIT HOURS**

Course Sequence: Northern State University

General (A.A.) Industrial Engineering Track – Option 2: College Algebra Ready

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year FALL	MATH 114	College Algebra	3	
	IDL/FYS 190	Seminar	2	
	ENGL 101	Composition I	3	
	SGR #4	Humanities – Civics Course General Education (see SGR #4)	3	
	SGR #3	Social Science General Education (see SGR #3)	3	
		Total Credits	***14***	

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year SPRING	MATH 120	Trigonometry	3	
	ENGL 201	Composition II	3	
	PSCY 101	General Psychology (SGR #3)	3	
	CMST 215	Public Speaking	3	
		Total Credits	***12***	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year FALL	MATH 123	Calculus I	4	
	PHYS 211/L	University Physics I w/ Lab	5	
	CHEM 112/L	General Chemistry w/ Lab	4	
		Total Credits	***13***	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year SPRING	MATH 125	Calculus II	4	
	PHYS 213/L	University Physics II w/ Lab	5	
	MATH 381	Introduction to Probability and Statistics	3	
	SGR #4	Humanities General Education (see SGR #4)	3	
		Total Credits	***15***	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year FALL	MATH 225	Calculus III	4	
	MATH 321	Differential Equations	3	
	Humanities/Social Sci	Upper Division Humanities or Social Science	3	
	BADM 350	Legal Environment of Business	3	
		Total Credits	***13***	

General Education Coursework Total:	27 credit hours
Major and Elective Coursework Total:	34 credit hours
Northern State University Coursework Total:	**61 CREDIT HOURS**

Course Sequence: South Dakota Mines – Fall Semester Start

Industrial Engineering (B.S.)

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year First Semester - FALL	IENG 248/248L	Engineering Graphics and Computer Modeling w/ Lab	2	
	IENG 362	Stochastic Models	3	
	IENG 486	Statistical Quality & Process Control	3	
	IENG 311/311L	Work Methods & Measurements w/Lab	3	
	IENG 352	Creativity and Innovation	1	
		Total Credits	*12*	

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year Second Semester - SPRING	IENG 215	Cost Estimating for Engineers	3	
	IENG 355	Financing Technology Innovations	1	
	IENG 441	Simulation	3	
	IENG 321/321L	Ergonomics/Human Factors Engineering w/ lab	3	
		Engineering Elective	3	
		Total Credits	*13*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year First Semester - FALL	IENG 382	Introduction to Probability Theory & Statistics II	3	
	IENG 425	Production and Operations Management	3	
	IENG 464	Senior Design I	3	
	IENG 331	Safety Engineering	3	
	ENGM 435	Optimization Techniques	3	
		Total Credits	*15*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Second Semester - SPRING	IENG 366	Engineering Management	3	
	IENG 465	Senior Design II	3	
	IENG 475/475L	Computer-Controlled Manufacturing Systems & Robotics	3	
		Engineering Elective	3	
		Professional Elective	4	
		Total Credits	*16*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Third Semester - FALL	IENG 302	Engineering Economics	3	
	IENG 471	Facilities Planning	3	
	IENG 354	Marketing Technology Innovations	1	
		Department Approved Elective	3	
		Engineering Electives	3	
		Total Credits	*13*	

Major and Elective Coursework Total:	69 credit hours
South Dakota Mines Coursework Total:	**69 CREDIT HOURS**

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 from the above list 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

_____

Lance Roberts, Ph.D. Date
Interim President
South Dakota Mines
President@sdsmt.edu

_____

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

_____

James Stone, Ph.D. Date
Provost and Vice President for Academic Affairs
South Dakota Mines
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_____

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

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Michael West, Ph.D. Date
Department Head
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_____

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

_____

Jared Bowden

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**

SOUTH DAKOTA MINES
An engineering, science and technology university

Gillette College

Associate to Bachelors (A2B) Articulation Agreement

Prescribed Curriculum: Gillette College

Associate of Science – Engineering (Metallurgical)

General Education Courses			**27** CREDIT HOURS
	Credit Hours	**Community College Course No.**	**Course Title or Category**
Science	4	CHEM 1020	General Chemistry I
Mathematics	4	MATH 2200	Calculus I
Cultural Studies	3	Select 1 course from	Cultural Studies "Global Diversity" or "Foreign Language" categories
	3	Select 1 course from	Cultural Studies "Social and Behavioral Sciences" category
US & WY Constitutions	3	HIST 1211, or 1221, or 1251, or POLS 1000	US to 1865, or US from 1865, or Wyoming History, or American and Wyoming Government
Communication	3	ENGL 1010	English Composition I
	3	COMM 2010	Public Speaking
Gen Ed Course of Choice	4	MATH 2205	Calculus II

Required Courses			**18** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Mathematics & Science	4	MATH 2210	Calculus III
	3	MATH 2310	Applied Differential Equations
	4	PHYS 1310	College Physics I
Engineering	1	ES 1000	Orientation of Engineering
	3	ES 2110	Statics
	3	ES 2120	Dynamics

Program Elective Courses			**18** CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
ES Elective	4	PHYS 1320	College Physics II
Program Elective	3	ES 1060	Intro to Engineering Problem Solving
	3	ES 2410	Mechanics of Materials I
	4	CHEM 1030	General Chemistry II
	4	ES 2210	Electric Circuit Analysis

Associate of Science – Engineering (Metallurgical) Total: 63 CREDIT HOURS

Post-Associate Degree Prescribed Curriculum: South Dakota Mines

Bachelor of Science – Metallurgical Engineering

General Education Courses			6 CREDIT HOURS
	Credit Hours	**Community College Course No.**	**Course Title or Category**
Written Communication	3	ENGL 289	Explorations in STEM Communications
Arts & Humanities	3	Select 1 course from	General Education Arts and Humanities (Goal 4)

Major Required Courses			43 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Metallurgical Engineering	1	MET 231	Structures and 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 Controls
	4	MET 422	Transport Phenomena
	4	MET 321/321L	High Temp Extraction, Concentration, and Recycling w/Lab
	2	MET 352/352L	Principles of Metallurgical Design
	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			5 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Economics	2	IENG 301	Basic Engineering Economics
Mathematics	3	MATH 373	Introduction to Numerical Analysis

Elective Courses			13 CREDIT HOURS
	Credit Hours	**Course No.**	**Course Title**
Major Electives	6		Select from list of Major Electives
Free Electives	1		Select in consultation with Academic Advisor
Science Electives	6		Select from list of Science Electives

Post-Associate Degree Total:	**67 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 Gillette College exactly as it is identified in this articulation agreement, **and**
2. have the degree conferred on their education record at Gillette College (post high school graduation)**, and**
3. earn a minimum cumulative grade point average (GPA) of 2.75 at the Gillette College, **and**
4. pass all 63 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 67 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 Gillette 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 Gillette 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 Gillette College and the Bachelor of Science degree in Metallurgical Engineering at South Dakota Mines. If the student changes majors at Gillette 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 Gillette 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 Gillette College.

A2B CONTACT INFORMATION

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

Gillette College
Academic & Student Affairs
307.681.6000
admissions@gillettecollege.org

RENEWAL, REVISION, and TERMINATION

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APPROVALS

Lance Roberts, Ph.D.	Date	Janell Oberlander, Ed.D.	Date
Interim President		President	
South Dakota Mines		Gillette College	

James Stone, Ph.D.	Date	Barry Spriggs, Ph.D.	Date
Interim Provost and Vice President for Academic Affairs		Vice President for Academic and Student Affairs	
South Dakota Mines		Gillette College	

Mike West, Ph.D.	Date	Martin Fashbaugh	Date
Department Head		Dean of Arts and Sciences	

Appendix A: Course Sequence

Course Sequence: Gillette College

Engineering - Metallurgical (A.S.)

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year First Semester	MATH 2200	Calculus I	4	
	CHEM 1020	General Chemistry I	4	
	ES 1000	Orientation of Engineering	1	
	ENGL 1010	English Composition	3	
	ES 1060	Intro to Engineering Problem Solving (Program Elective)	3	
		Total Credits	*15*	

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman Year Second Semester	COMM 2010	Public Speaking (Advanced Writing)	3	
	CHEM 1030	General Chemistry II (Program Elective)	4	
	ES 2110	Statics	3	
	MATH 2205	Calculus II	4	
	PHYS 1310	College Physics I	4	
		Total Credits	*17*	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year First Semester	MATH 2210	Calculus III	4	
	ES 2120	Dynamics	3	
	Select 1 course from:	Cultural Studies: Foreign Language or Global Diversity areas	3	
	PHYS 1320	College Physics II (ES/PHYS Program Elective)	4	
	ES 2410	Mechanics of Materials I (Program Elective)	3	
		Total Credits	*17*	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore Year Second Semester	MATH 2310	Applied Differential Equations	3	
	Select 1 course from:	Cultural Studies: Social & Behavioral Science area	3	
	Select 1 course from:	HIST 1211, HIST 1221, HIST 1251, POLS 1000 (US/WY Const)	3	
	ES 2210	Electric Circuit Analysis (Program Elective)	4	
		Total Credits	*14*	

General Education Coursework Total:	27 credit hours
Major and Elective Coursework Total:	36 credit hours
Gillette College Coursework Total:	**63 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 year)	MET 231	Properties of Materials Lab	1	
	MET 232	Properties of Materials	3	
	MET 320	Metallurgical Thermodynamics	4	
	MET 422	Transport Phenomena	4	
		Arts/Humanities Gen Ed Elective (Goal 4)*	3	
	ENGL 289	Explorations in STEM Communications*	3	
		Total Credits	*18*	

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year Second Semester – SPRING (odd year)	MET 220/220L	Mineral Processing and Resource Recovery w/lab	4	
	MET 321/321L	High Temperature Extraction, Concentration, & Rec w/lab	4	
		Science Electives	3	
	MET 352/352L	Principles of Metallurgical Design w/lab	2	
	MATH 373	Introduction to Numerical Analysis	3	
		Free Electives	1	
		Total Credits	*17*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year First Semester – FALL (odd year)	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	
		Major Electives	3	
		Science Electives	3	
		Total Credits	*16*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Second Semester – SPRING (even year)	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 Electives	3	
		Total Credits	*16*	

*General Education Coursework Total:	6 credit hours
Major and Elective Coursework Total:	61 credit hours
South Dakota Mines Coursework Total:	**67 CREDIT HOURS**

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

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year First Semester – FALL (odd year)	MET 231	Properties of Materials Lab	1	
	MET 232	Properties of Materials	3	
	MET 320	Metallurgical Thermodynamics	4	
		Arts/Humanities Gen Ed Elective (Goal 4)*	3	
	ENGL 289	Explorations in STEM Communications*	3	
		Total Credits	*14*	

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year Second Semester – SPRING (even year)	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 year)	MET 333	Process Measurements and Control	1	
	MET 422	Transport Phenomena	4	
	MET 464	Senior Design	2	
	IENG 301	Basic Engineering Economics	2	
	MATH 373	Introduction to Numerical Analysis	3	
		Free Elective	1	
		Total Credits	*13*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Second Semester – SPRING (odd year)	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	3	
		Total Credits	*13*	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year Third Semester – FALL (odd year)	MET 330/330L	Physics of Metals w/lab	4	
	MET 332	Thermomechanical Processing	3	
		Science Elective	3	
		Major Elective	3	
		Total Credits	*13*	

*General Education Coursework Total:	6 credit hours
Major and Elective Coursework Total:	61 credit hours
South Dakota Mines Coursework Total:	**67 CREDIT HOURS**