



## Associate to Bachelors (A2B) Articulation Agreement

### Prescribed Curriculum: Gillette College

### **Associate of Science – General Science**

General Education C	27 CREDIT HOURS				
	Credit Hours	Course Title or Category			
Science	4	CHEM 1020	General Chemistry I		
Mathematics	4	MATH 2200	Calculus I		
	3	Select 1 course from	Cultural Studies "Global Diversity" or "Foreign Language" categories		
Cultural Studies	3	Select 1 course from	Cultural Studies "Social and Behavioral Sciences" category		
US & WY Constitutions	3	Select 1 course from	HIST 1211 US to 1865, HIST 1221 US from 1865, HIST 1251 Wyoming History, or POLS 1000 American and Wyoming Government		
Communication	3	ENGL 1010	English Composition I		
Communication	3	COMM 2010	Public Speaking		
Gen Ed Course of Choice	4	CHEM 1030	General Chemistry II		

Elective Courses			<b>33</b> CREDIT HOURS
Credit Hours		Course No.	Course Title
General Electives	4	CHEM 2420	Organic Chemistry I
	4	CHEM 2440	Organic Chemistry II
	41	MATH 1400, or PHYS 1320	College Algebra, or College Physics II
Program Electives	3²	MATH 1405, or MATH 2250	Trigonometry, or Elementary Linear Algebra
	4	MATH 2205	Calculus II
	3	MATH 2310	Applied Differential Equations
	4	PHYS 1310	College Physics I
	7	Select from	Approved courses on Program Electives list

<sup>1</sup>College Algebra-ready Students take MATH 1400; Calculus-ready Students take PHYS 1320 <sup>2</sup>College Algebra-ready Students take MATH 1405; Calculus-ready Students take MATH 2250

Associate of Science – General Science Total: 60<sup>3</sup> CREDIT HOURS

<sup>3</sup>56 credits count toward the BS degree requirements for College Algebra-ready Students (MATH 1400 does not apply)

### **Bachelor of Science – Chemistry**

General Education Co	6 credit hours				
Credit Community College Hours Course No.			Course T	itle or Category	
Written Communication	3	ENGL 289	Explorations in STEM Communications		
Arts & Humanities	3	Select 1 course from	General Education Arts and H	umanities (Goal 4)	

Major Required Courses			34 CREDIT HOURS
Credit Hours		Course No.	Course Title
	2	CHEM 328L	Organic Chemistry II Lab
	4	CHEM 332/332L	Analytical Chemistry w/ Lab
	3	CHEM 342	Physical Chemistry I
	3	CHEM 352	Systematic Inorganic Chemistry
	3	CHEM 482	Environmental Chemistry
Chemistry	5	CHEM 344/344L	Physical Chemistry II w/ Lab
	4	CHEM 452/452L	Inorganic Chemistry w/ Lab
	3	CHEM 464	Biochemistry I
	1	CHEM 490	Seminar
	1	CHEM 370	Chemical Literature
	5	CHEM 434/434L	Instrumental Analysis w/ Lab

Other Required Cour	ses		<b>0-4</b> CREDIT HOURS
	Credit Hours	Course No.	Course Title
Physics	41	PHYS 209/209L	Fundamentals of Physics II

<sup>1</sup>Gillette College Calculus-ready students will complete 0 total credits of Other Required; College Algebra-ready students will complete 4 credits of PHYS 209/209L (4 total credits of Major Required)

Elective Courses			20 credit hours
Credit Hours		Course No.	Course Title
Free Electives	17	Select with Advisor	Free Electives
Program Electives	3	Select 1 course from	CHEM 420, 421, 426, 462, or 465

Post-Associate Degree Total: 60-64<sup>2</sup> CREDIT HOURS

<sup>2</sup>Gillette College Calculus-ready students will complete 60 total credits; College Algebra-ready students will complete 64 total credits (MATH 1400 does not apply)

Bachelor of Science – Chemistry Total: 120 CREDIT HOURS

#### **GUARANTEES**

Students who:

- 1. complete the Associate of Science General Science 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 60 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 60-64 remaining credits to meet the graduation requirements for the Bachelor of Science degree in Chemistry.
- 2. admission to South Dakota Mines
- 3. admission to the Bachelor of Science degree in Chemistry.

### LIMITATIONS

- 1. This agreement is between the Associate of Science General Science degree at Gillette College and the Bachelor of Science degree in Chemistry 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 General Science degree at Gillette College and the Bachelor of Science degree in Chemistry 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**

- 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 and Student Affairs department will collaborate to coordinate a review of 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**

Brian Tande, Ph.D.	Date	ate Janell Oberlander, Ed.D.	
President		President	
South Dakota Mines		Gillette College	
Brian.Tande@sdsmt.edu		JOberlander@gillettecollege.org	

Lance Roberts, Ph.D. Date Provost and Vice President for Academic Affairs South Dakota Mines Lance.Roberts@sdsmt.edu Barry Spriggs, Ph.D. Date Vice President for Academic and Student Affairs Gillette College <u>BSpriggs@gillettecollege.org</u>

Date

Zhengtao Zhu, Ph.D.	Date	Martin Fashbaugh	Date
Department Head		Dean of Arts and Sciences	
South Dakota Mines		Gillette College	
Zhengtao.Zhu@sdsmt.edu		MFashbaugh@gillettecollege.org	

Appendix A: Course Sequence

# General Science (A.S.) – College Algebra-Ready

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman	MATH 1400	College Algebra	4*	
Year First Somostor	CHEM 1020	General Chemistry I	4	
First Semester	ENGL 1010	English Composition I	3	
	Select 1 course from:	Cultural Studies: Global Diversity or Foreign Languages areas	3	
		Total Credits	14	
Semester	Course No.	Course Title	Credit Hours	Completed

Semester	Course No.	Course litie	Credit Hours	Completed
Freshman	MATH 1405	Trigonometry	3	
Year	CHEM 1030	General Chemistry II	4	
Second Semester	Select 1 course from:	US/WY Constitution: HIST 1211, 1221, 1251, or POLS 1000	3	
Semester	COMM 2010	Public Speaking	3	
	Select 1 course from:	GEOL 1100, BIOL 1010, or other approved Program Elective	3	
		Total Credits	16	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore	CHEM 2420	Organic Chemistry I	4	
Year	MATH 2200	Calculus I	4	
First Semester	Select 1 course from:	Cultural Studies: Social & Behavioral Science area	3	
	Select 1 course from:	GEOL 1100, BIOL 1010, or other approved Program Elective	4	
Í Í		Total Credits	15	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore	CHEM 2440	Organic Chemistry II	4	
Year	MATH 2310	Applied Differential Equations	3	
Second Semester	MATH 2205	Calculus II	4	
Semester	PHYS 1310	College Physics I	4	
		Total Credits	15	

General Education Coursework Total:	27 credit hours
Major and Elective Coursework Total:	33 credit hours
Gillette College Coursework Total:	60* CREDIT HOURS
	(56 Credits Apply)



# Chemistry (B.S.) – College Algebra-Ready: EVEN YEAR START

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year	CHEM 332/332L	Analytical Chemistry w/ Lab	4	
First Semester - FALL	CHEM 352	Systematic Inorganic Chemistry	3	
- FALL	CHEM 482	Environmental Chemistry	3	
	ENGL 289	STEM Communication for Technical and Public Audiences	3*	
		General Education – Arts/Humanities (Goal 4)	3*	
		Total Credits	16	

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year	CHEM 452/452L	Inorganic Chemistry w/ Lab	4	
Second	CHEM 328L	Organic Chemistry II Lab	2	
Semester - SPRING	PHYS 209/209L	Fundamentals of Physics II w/Lab	4	
SERING		Free Electives	6	
		Total Cred	its 16	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year	Select 1 course from	Program Electives: CHEM 420, 421, 426, 462, or 465	3	
First Semester	CHEM 464	Biochemistry I	3	
- FALL CHEM 34	CHEM 342	Physical Chemistry I	3	
		Free Electives	7	
	CHEM 490	Seminar	1	
		Total Credits	17	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year	CHEM 370	Chemical Literature	1	
Second	CHEM 434/434L	Instrumental Analysis w/ Lab	5	
Semester - SPRING	CHEM 344/344L	Physical Chemistry II w/ Lab	5	
SENING		Free Electives	4	
		Total Credits	15	

*General Education Coursework Total	: 6 credit hours
Major and Elective Coursework Total:	58 credit hours
South Dakota Mines Coursework Total:	64 CREDIT HOURS



# Chemistry (B.S.) – College Algebra-Ready: ODD YEAR START

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year	CHEM 332/332L	Analytical Chemistry w/ Lab	4	
First Semester	Chem 464	Biochemistry I	3	
- FALL	ENGL 289	STEM Communication for Technical and Public Audiences	3*	
		General Education – Arts/Humanities (Goal 4)	3*	
		Free Electives	3	
		Total Credits	16	
Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year Second	CHEM 434/434L	Instrumental Analysis w/ Lab	5	
	CHEM 328L	Organic Chemistry II Lab	2	
Semester -	CHEM 370	Chemical Literature	1	

SPRING CHEM 370 Chemical Literature	T	
PHYS 209/209L Fundamentals of Physics II w/Lab	4	
Free Electives	4	
Total Credits	16	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year	Select 1 course from	Program Electives: CHEM 420, 421, 426, 462, or 465	3	
First Semester	CHEM 352	Systematic Inorganic Chemistry	3	
- FALL	CHEM 342	Physical Chemistry I	3	
	CHEM 482	Environmental Chemistry	3	
		Free Electives	4	
	CHEM 490	Seminar	1	
ĺ		Total Credits	17	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year	CHEM 452/L	Inorganic Chemistry/Lab	4	
Second	CHEM 344/344L	Physical Chemistry II w/ Lab	5	
Semester - SPRING		Free Electives	6	
		Total Credits	15	

*General Education Coursework Total	: 6 credit hours
Major and Elective Coursework Total:	58 credit hours
South Dakota Mines Coursework Total:	64 CREDIT HOURS

## General Science (A.S.) – Calculus-Ready

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman	MATH 2200	Calculus I	4	
Year First Semester	CHEM 1020	General Chemistry I	4	
First Semester	ENGL 1010	English Composition I	3	
	Select 1 course from:	Cultural Studies: Global Diversity or Foreign Languages areas	3	
	Select 1 course from:	GEOL 1100, BIOL 1010, or other approved Program Elective	3	
		Total Credits	17	

Semester	Course No.	Course Title	Credit Hours	Completed
Freshman	MATH 2205	Calculus II	4	
Year	CHEM 1030	General Chemistry II	4	
Second Semester	PHYS 1310	College Physics I	4	
Semester	COMM 2010	Public Speaking	3	
		Total C	redits 15	

Semester	Course No.	Course Title	Credit Hours	Completed
Sophomore	CHEM 2410	Organic Chemistry I	4	
Year First Comostor	PHYS 1320	College Physics II	4	
First Semester	Select 1 course from:	US/WY Constitution: HIST 1211, 1221, 1251, or POLS 1000	3	
	MATH 2250	Elementary Linear Algebra	3	
		Total Credits	14	

Semester	Course No.	Course Title	Credit Hours	s Completed
Sophomore	CHEM 2440	Organic Chemistry II	4	
Year	MATH 2310	Applied Differential Equations	3	
Second Semester	Select 1 course from:	Cultural Studies: Social & Behavioral Science area	3	
Semester	Select 1 course from:	GEOL 1100, BIOL 1010, or other approved Program Elective	4	
		Total Credits	14	
		General Education Coursewor	k Total: 2	7 credit hours
		Major and Elective Coursewor	k Total: 3	3 credit hours

Gillette College Coursework Total: 60 CREDIT HOURS



# Chemistry (B.S.) – Calculus-Ready: EVEN YEAR START

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year	CHEM 332/332L	Analytical Chemistry w/ Lab	4	
First Semester	CHEM 352	Systematic Inorganic Chemistry	3	
- FALL	CHEM 482	Environmental Chemistry	3	
	ENGL 289	STEM Communication for Technical and Public Audiences	3*	
		General Education – Arts/Humanities (Goal 4)	3*	
		Total Credits	16	

Semester	Course No.	Course Title		Credit Hours	Completed
Junior Year	CHEM 452/452L	Inorganic Chemistry w/ Lab		4	
Second	CHEM 328L	Organic Chemistry II Lab		2	
Semester - SPRING		Free Electives		9	
		7	otal Credits	15	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year	Select 1 course from	Program Electives: CHEM 420, 421, 426, 462, or 465	3	
First Semester - FALL	CHEM 464	Biochemistry I	3	
	CHEM 342	Physical Chemistry I	3	
	CHEM 490	Seminar	1	
		Free Electives	4	
		Total Credits	14	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year	CHEM 370	Chemical Literature	1	
Second	CHEM 434/434L	Instrumental Analysis w/ Lab	5	
Semester - SPRING	CHEM 344/344L	Physical Chemistry II w/ Lab	5	
SENING		Free Electives	4	
		Total Credits	15	

*General Education Coursework Total	: 6 credit hours
Major and Elective Coursework Total:	54 credit hours
South Dakota Mines Coursework Total:	60 CREDIT HOURS



# Chemistry (B.S.) – Calculus-Ready: ODD YEAR START

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year	CHEM 332/332L	Analytical Chemistry w/ Lab	4	
First Semester	CHEM 342	Physical Chemistry I	3	
- FALL	Chem 464	Biochemistry I	3	
	ENGL 289	STEM Communication for Technical and Public Audiences	3*	
		General Education – Arts/Humanities (Goal 4)	3*	
		Total Credits	16	

Semester	Course No.	Course Title	Credit Hours	Completed
Junior Year	CHEM 328L	Organic Chemistry II Lab	2	
Second	CHEM 370	Chemical Literature	1	
Semester - SPRING	CHEM 344/344L	Physical Chemistry II w/ Lab	5	
SENING	CHEM 434/434L	Instrumental Analysis w/ Lab	5	
		Free Electives	2	
		Total Credits	15	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year	CHEM 352	Systematic Inorganic Chemistry	3	
First Semester - FALL	CHEM 482	Environmental Chemistry	3	
- FALL	CHEM 490	Seminar	1	
		Free Electives	7	
		Total Cred	its 14	

Semester	Course No.	Course Title	Credit Hours	Completed
Senior Year	CHEM 452/L	Inorganic Chemistry/Lab	4	
Second	Select 1 course from	Program Electives: CHEM 420, 421, 426, 462, or 465	3	
Semester - SPRING		Free Electives	8	
SINNO				
		Total Credits	15	

*General Education Coursework Total	: 6 credit hours
Major and Elective Coursework Total:	54 credit hours
South Dakota Mines Coursework Total:	60 CREDIT HOURS