

MEMORANDUM OF AGREEMENT

BETWEEN:

UNIVERSITY OF NORTH DAKOTA, a public institution of higher education and an instrumentality of the State of North Dakota organized under the constitution of the State, having its principal place of business at Grand Forks, North Dakota, United States of America ("**UND**")

- and -

WILLISTON STATE COLLEGE, a public institution of higher education and an instrumentality of the State of North Dakota organized under the constitution of the State, having its principal place of business at Williston, North Dakota, United States of America ("**WSC**")

Date: 9/15/2022

WHEREAS UND is a post-secondary learning institution that grants degrees and other academic credits in certain programs and courses, including the programs referred to in Schedule A (each a "**UND Program**");

WHEREAS WSC is a post-secondary technical learning institution delivering to its students training programs or courses, including the program also referred to in Schedule B (the "**WSC Program**");

AND WHEREAS the parties have determined the eligibility of graduates of the WSC Program to enroll in the UND Program and the parties wish to encourage, review, and expand, as appropriate, the UND Program and the WSC Program, upon the terms below;

NOW THEREFORE, in consideration of the mutual covenants of the parties, the parties enter into this Memorandum of Agreement ("**Agreement**") and further agree as follows:

1. TERMS

1.1 Admission

UND agrees to accept students of the WSC Program who meet the criteria set out in Schedule B hereto. Such acceptance by UND is subject to there being placements available in the specific UND Program for any WSC student who applies for admission who meets the transfer requirements of UND referenced in Schedule A hereto. The advising of WSC students regarding admission and program requirements at UND will be the joint responsibility of WSC and UND. Once a student finishes their degree at WSC, UND will be solely responsible for advising the student regarding admission and program requirements.

1.2 Institutional Changes

WSC agrees to provide to UND at least sixty (60) days prior written notice of any substantive changes planned to the admission standards, graduation requirements, curriculum, or course offerings, or any planned changes to the length in weeks, hours of instruction, or overall duration of the WSC coursework included in Schedule C. For the purpose of this section 1.2, a substantive

change is any change in curriculum that could alter the learning outcomes, admission requirements, or graduation requirements of dual degree students. Depending upon the nature of the substantive changes at WSC, a re-evaluation by the parties of the WSC course(s) with associated changes in credits awarded may occur.

1.3 Changes to a UND Program

UND agrees to provide to WSC at least sixty (60) days prior written notice of any changes planned to the current admission standards or graduation requirements of a UND Program that may affect the eligibility of WSC students pursuant to this Agreement.

1.4 Transfer Credit

UND's Transfer Credit policy is published in its Academic Catalog. The UND Office of the Registrar monitors all academic policies and procedures relative to curriculum, registration, grade processing, transfer credits, and articulation agreements. If WSC plans on offering courses that students will take to fulfill the requirements of a UND Program, WSC must send a course syllabus to UND at least sixty (60) days prior to students enrolling in the class. UND will electronically pull the student's official WSC transcript from Campus Connection when the student applied for admissions to UND for evaluation and approval.

1.5 Mutual grant of rights

Each party grants to the other party a non-exclusive, non-transferable, revocable, royalty-free license during the term of this Agreement to use the name and non-athletic logo of the other party for promotional purposes relevant to this Agreement provided that each such use shall be subject to prior consultation between the parties and, further, any such use shall not:

- (a) contravene the other party's policy or practice as to proper use of its trademarks; or
- (b) in the opinion of the other party, damage its reputation or goodwill.

1.6 Promotion by WSC

WSC agrees to:

- (a) make information about this Agreement available to current WSC students and alumni; and
- (b) promote the opportunity for WSC students and graduates to participate in the UND Programs in relevant marketing materials, including online media and websites.
- (c) Identify space in classrooms, laboratories, and/or hallways in which to post information pertaining to UND Programs for viewing by current WSC students

1.7 Evaluation

UND and WSC shall jointly conduct an evaluation of the implementation of this Agreement on the second and each subsequent alternating anniversary year of the date of this Agreement. Where possible, each such evaluation will consist of both parties examining:

- (a) the number of qualified WSC students admitted into a UND Program during the prior year;
- (b) approved or proposed changes to courses in the WSC Program or a UND Program and any potential changes as referred to in Sections 1.2 and 1.3;

- (c) admission procedures, program planning, timelines and special requirements; and/or
- (d) recommendations for types and times of promotional efforts by either or both parties.

1.8 Registration

WSC students who plan on dual enrolling at UND, will need to fill out a collaborative registration form through WSC's Registrar's Office. If a WSC student completes their WSC degree, then they would register with UND's online registration system.

1.9 Course Offerings

UND will provide asynchronous audio and video courses via the internet to WSC students on the following schedule:

- (a) All freshman and sophomore engineering courses that are required for a degree in the specified programs in Schedule A will be made available to WSC students at least once per academic year;
- (b) Upper level UND engineering courses that are required for one of the UND engineering degrees will be offered on a schedule that will allow WSC students following the prescribed program to complete the junior and senior course sequence of a particular UND engineering degree over the course of three years. If the regular online course offering schedule does not accommodate the requirements listed above UND will make a good faith effort to allow WSC students to enrol in these courses in the same semester that they are offered to on-campus students.
- (c) UND will also offer required laboratories to WSC students on the UND campus using summer semesters. UND will not provide face-to-face or interactive instruction at WSC.

1.10 Degrees

WSC students who successfully complete the UND-approved articulated program of study, as well as all UND graduation requirements including Essential Studies, will earn a bachelor's degree from UND in the specified engineering discipline. WSC will likewise determine the graduation requirements for their degree.

1.11 Resolution Process

WSC and UND intend to collaborate on behalf of the academic progress of the students participating in their dual-enrollment program. Should this progress be unduly inhibited by unforeseeable conflicts that may arise the designated program directors from UND and WSC will seek a mutually acceptable resolution.

1.12 Proctoring

WSC students enrolled in UND's online engineering courses will be expected to adhere to the College of Engineering and Mines online proctoring policies. Students will be allowed to use WSC's testing facilities based on the current set fees for the proctoring facility. A failure to follow such policies may result in dismissal from a UND Program.

1.13 Tuition and Fees

Students will complete the Collaborate Agreement Registration Form with the registrar's Office, while dually enrolled at both institutions. WSC will disburse financial aid to the students. WSC will remit payment to UND for collaborative charges billed based on students' enrolled credits. WSC and UND agree not to add a surcharge for a partner course except when a student repeats a course. During the first two years of the program, students are expected to complete the Free Application for Federal Student Aid (FAFSA) and send to WSC. When a student has completed their WSC degree and is working to complete their UND degree, the student will be encouraged to submit their FAFSA application to UND, and the student will also be eligible to apply for UND scholarships through Scholarship Central.

1.14 Services Offered by WSC

WSC shall offer the following services to any collaborative student currently enrolled in courses pursuant to this Agreement as well as those students who are alumni of WSC pursuing a degree at UND:

- (a) **Aquatic and Wellness Center:** A collaborative student has unlimited use of the Center through the WSC mandatory fee. A UND student (with a current college ID) may obtain a membership at a discounted rate for use of the WSC Aquatic and Wellness Center.
- (b) **Clubs and Organizations:** Membership and participation in clubs and organizations are open to UND students taking classes on the WSC campus. Certain activities within the club or organizations may be limited to WSC students only due to liability related issues.
- (c) **Counseling:** Crisis support is available to UND students through the WSC Counseling Center to assist the student through the situation and in finding a provider in the community.
- (d) **Parking:** Parking is available free of charge to students in open lots. Questions on parking-related matters should be directed to the WSC Safety and Security Department.
- (e) Emergency notifications are sent out by this department to UND students, faculty, and staff who are on the WSC campus working or taking courses.
- (f) **Student Accessibility Services:** Students will register for student accessibility services at the institution from which they are taking the course. A collaborative student may be working with both UND and WSC. A UND student taking classes on the WSC campus will work through the coordinator on the UND campus in Grand Forks.
- (g) Student Activities (Student Life Office, Athletics, Theatre Productions, Concerts, etc.): Student activities sponsored by the WSC Student and Residence Life office (presentations, cook-outs, programming such as Fall Fantasy Week, dances, etc.) are available to UND students in the same manner they are available to WSC Students.
- (h) G) Other campus activities such as athletic events, theatre productions, concerts, presentations, and films that are sponsored by other departments on campus are available to UND students in the same manner they are available to WSC students (student must show a college student ID for free access or a minimal charge to an event).
- (i) Student Government: Participation in WSC student government is limited to UND students. UND students on the WSC campus may participate with UND student government, including running for elected positions.
- (j) **Tutoring:** Tutoring for UND students will be available using an online service provided by UND. A collaborative student will have tutoring available at WSC for courses that are taught at WSC

1.15 Accreditation

UND and WSC agree to cooperate to maintain UND's ABET accreditation standards and to maintain UND's and WSC's Higher Learning Commission North Central Association Accreditation standards.

1.16 Contact

Each party shall designate a representative to be responsible for inter-institutional administrative implementation of this Agreement and to coordinate with the other party's representative, the same to be confirmed periodically and updated as needed.

2. TERM AND TERMINATION

2.1 This Agreement shall take effect as of the date last signed below and continue for an initial term of five (5) years. The term shall be extended on a year by year basis by agreement between the parties made at least thirty (30) days prior to termination of the then current term. Either party can terminate this Agreement:

- (a) "for convenience" at any time upon giving three (3) months prior written notice to the other party;
- (b) if the other party is in breach hereof, upon giving thirty (30) days prior written notice if the breach is not cured within such thirty (30) days period; or
- (c) immediately upon giving written notice to the other party if the other party winds-up or dissolves or its academic or required regulatory or governmental authorizations and permits enabling it to offer and deliver the UND Program or the WSC Program, as the case may be, have been cancelled or withdrawn.

2.2 UND may terminate this Agreement effective upon delivery of written notice to WSC, or at such date as may be stated in the notice, under any of the following conditions:

- (a) If funding from federal, state, or other sources is not obtained or continued at levels sufficient to allow for the operation of one or more UND Programs as set out in this Agreement.
- (b) If federal or state laws, rules, or regulations are modified, changed or interpreted in such a way that the UND Program is no longer eligible for the funding proposed for payments authorized by this Agreement.
- (c) If any license, permits, or certificate required by law, rule, or regulation, or by the terms of this Agreement, is for any reason denied, revoked, suspended, or not renewed.

2.3 In the event of the termination of this Agreement "for convenience" under Section 2.1(a), both parties acknowledge and agree that all students enrolled in the WSC Program as at the date of the written notice of such termination shall be entitled to the benefit of this Agreement despite its termination upon their graduation from the WSC Program so as to ensure the fulfillment of the reasonable expectations of such students.

3. GENERAL

3.1 In the event a WSC student withdraws from WSC or UND for more than one academic year, he or she will be subject to the articulation agreement in place when he or she returns to the program.

- 3.2 Each institution will monitor the academic performance of student enrolling under this Agreement.
- 3.3 Under this Agreement, WSC students will receive equal consideration with other students seeking admission to a UND Program. If there are space limitations, provisions will be made to reserve space for WSC students planning entry into such UND Program.
- 3.4 Each party shall be responsible for claims, losses, damages, and expenses proximately caused by the negligent or wrongful acts or omissions of its employees acting within the scope of their employment in the performance of this Agreement. Each party's tort liability shall be determined pursuant to chapter 32-12.2 of the North Dakota Century Code and is subject to the conditions and limitations contained therein. Nothing herein shall preclude either party from asserting against third parties any defenses to liability it may have under the law or be construed to create a basis for a claim or suit when none would otherwise exist. This provision shall survive the termination of the Agreement.
- 3.5 The parties agree that in the performance of this Agreement there will be no discrimination on the basis of race, religion, age, color, sex, disability, sexual orientation, gender identity, national origin, marital status, veterans' status, or political belief or affiliation.
- 3.6 For the purpose of this Agreement, any notice or other communication between the parties shall be in writing and may be delivered by courier, mail, facsimile or electronic mail to the respective addresses of the parties set out below:
- (a) if to UND:
- Attn: Bailey Bubach
Email: bailey.bubach@und.edu
- (b) if to WSC:
- Attn: Kim Wray
Email: Kimberli.wray@willistonstate.edu

Notices sent by mail shall be deemed to be received within five (5) business days of mailing and notices sent by courier, fax or email shall be deemed to be received upon the date of actual receipt. The provisions of this section do not supersede any statutes or rules of court regarding notice of claims or service of process. In the event of a conflict between this section and any statutes or rules of court, the statutes or rules of court shall govern.

- 3.7 This Agreement shall be construed in accordance with the laws of the State of North Dakota and applicable federal laws of the United States of America. Jurisdiction for any disputes that cannot be resolved through informal means shall be in the Northeast Central Judicial District Court located in Grand Forks County, North Dakota.
- 3.8 Neither party to this Agreement shall be liable to the other party for any failure or delay in performance caused by circumstances beyond its reasonable control including, but not limited to, acts of God, fire or flood, labor difficulties, or governmental action.
- 3.9 Neither party shall assign its rights herein.
- 3.10 This Agreement constitutes the entire agreement of the parties with respect to the subject matter hereof and may only be amended in writing duly executed by the parties.

- 3.11 This Agreement may be executed in counterpart faxed or emailed (pdf) copies that together constitute one and the same agreement.

Executed as of the date first above written.

University of North Dakota

DocuSigned by:

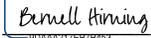


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Dr. Andrew Armacost
President, University of North Dakota

Williston State College

DocuSigned by:



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Dr. Bernell Hirning
President, Williston State College

Schedule A PROGRAMS

UND Programs

Chemical Engineering, Civil Engineering, Cyber Security, Geological Engineering, Mechanical Engineering and Petroleum Engineering Program Requirements:

UND Program requirements are subject to change. The current UND Program requirements are set out below:

<http://und-public.courseleaf.com/undergraduateacademicinformation/departmentalcoursesprograms/>

UND Transfer Admission Requirements:

Admission requirements are subject to change. Students applying for admission to a UND Program are required to submit UND's applicable application for admission form and applicable application fee. Students are subject to all UND admission and selection policies. Admission and selection requirements are described at:

<https://und.edu/admissions/transfer/apply.html>

Schedule B PROGRAM

WSC Program

Associate in Science (AS) Requirements:

WSC Program requirements are subject to change. The current WSC Program requirements are set out below:

[https://www.willistonstate.edu/programs/Associate-in-Science-\(AS\)/](https://www.willistonstate.edu/programs/Associate-in-Science-(AS)/)

WSC Admission Requirements:

Admission requirements are subject to change. Students applying for admission to the WSC Program are required to submit WSC's applicable application for admission form and applicable application fee. Students are subject to all WSC admission and selection policies. Admission and selection requirements are described at:

<https://www.willistonstate.edu/admissions/>

**Schedule C
TRANSFER CREDIT**

B.S. Chemical Engineering

FRESHMAN FALL (16 credits)	Credits	UND Course
ENGL 110: College Composition I	3	ENGL 110
UNIV 100: College Strategies	1	
MATH 165: Calculus I	4	MATH 165
CHEM 121/L: General Chemistry I L/L	5	CHEM 121/L
Approved ND Course: HUM/FA/HIST	3	

FRESHMAN SPRING (17 credits)	Credits	UND Course
ENGL 120: College Composition II	3	ENGL 130
Wellness Course	2	
Approved ND Course: COMPSCI	3	
MATH 166: Calculus II	4	MATH 166
CHEM 122/L: General Chemistry II/Lab	5	CHEM 122/L

SOPHOMORE FALL (20 credits)	Credits	UND Course
COMM 110: Fundamentals of Public Speaking	3	COMM 110
MATH 265: Calculus III	4	MATH 265
Approved ND Course: SS	3	
PHYS 251: University Physics I L/L	5	PHYS 251
CHE 102: Introduction to Chem. Engr.*	2	
CHE 201: Chem. Engr. Fundamentals*	3	

SOPHOMORE SPRING (20 credits)	Credits	UND Course
MATH 266: Introduction to Differential Equations	3	MATH 266
Approved ND Course: SS	3	
PHYS 252: University Physics II L/L	5	PHYS 252
Approved ND Course: HUM/FA/HIST	3	
CHE 315: Engr. Statistics and Design of Experiments*	3	
CHE 206: Unit Operations in Chem. Engr.*	3	

JUNIOR FALL (17-18 credits)	Credits	UND Course
CHE 301: Intro. to Transport Phenomena	4	
CHE 303: Chem. Eng. Thermodynamics	4	
CHE 331: Chem. Eng. Laboratory II	2	
ENGR 206: Fundamentals of Electrical Engr.	3	
Approved Organic Chemistry Course	4-5	

JUNIOR SPRING (19 credits)	Credits	UND Course
CHE 305: Separations	3	
CHE 321: Chem. Eng. Reactor Design	3	
CHE 332: Chem. Eng. Laboratory III	2	
ENGR 340: Professional Integrity in Engr.	3	
Material Science Elective	3	
CHE 103: Computing Tools for Chem. Engr.	3	
CHE 232: Chemical Engineering Laboratory I	2	

SENIOR FALL (16 credits)	Credits	UND Course
CHE 411: Plant Design I: Process Design and Economics	4	
CHE 408: Process Dynamics and Control	3	
CHE 431: Chemical Engr. Laboratory IV	3	
CHEM 466: Fundamentals of Physical and Biophysical Chemistry	3	
Advanced Chemical Science Elective	3	

SENIOR SPRING (17 credits)	Credits	UND Course
CHE 412: Plant Design II: Process Project Engineering	5	
CHE 416: Chemical Product Design	3	
Advanced Chemical Science Elective	3	
LEAD 101: Learning Leadership	3	
Technical Elective	3	

College of Engineering & Mines Curriculum Information



NOTES	*Courses must be taken through UND (can be done so remotely) in order for sequencing of plan. Students can enroll through collaborative registration.
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College of Engineering & Mines Curriculum Information

B.S. Civil Engineering

FRESHMAN FALL (16 credits)	Credits	UND Course
ENGL 110: College Composition I	3	ENGL 110
UNIV 100: College Strategies	1	
MATH 165: Calculus I	4	MATH 165
CHEM 121/L: General Chemistry I L/L	5	CHEM 121/L
Approved ND Course: HUM/FA/HIST	3	

FRESHMAN SPRING (18 credits)	Credits	UND Course
ENGL 120: College Composition II	3	ENGL 130
Wellness Course	2	
Approved ND Course: COMPSCI	3	
MATH 166: Calculus II	4	MATH 166
Approved ND Course: HUM/FA/HIST	3	
COMM 110: Fundamentals of Public Speaking	3	COMM 110

SOPHOMORE FALL (17 credits)	Credits	UND Course
MATH 265: Calculus III	4	MATH 265
GEOL 105: Physical Geology L/L	4	GEOL 101
PHYS 251: University Physics I L/L	5	PHYS 251
CE 101: Introduction to Civil Engineering*	1	
ENGR 201: Statics*	3	

SOPHOMORE SPRING (18 credits)	Credits	UND Course
MATH 266: Introduction to Differential Equations	3	MATH 266
MATH 210: Elementary Statistics	3	ECON 210
Approved ND Course: SS	3	
Approved ND Course: SS	3	
ENGR 202: Dynamics*	3	
ENGR 203: Mechanics of Materials*	3	

JUNIOR FALL (17 credits)	Credits	UND Course
CE 306: Fluid Mechanics	3	
CE 351: Structural Mechanics	4	
CE 411: Civil Engineering Materials Laboratory	1	
CE 412/L: Soil Mechanics & Lab	3/1	
CE 313/L: General Surveying & Lab	2/1	
ENGR 200: Computer Applications in Engineering	2	

JUNIOR SPRING (18 credits)	Credits	UND Course
CE 423/L: Hydraulic Engineering & Lab	3/1	
CE 431/L: Environmental Engineering I & Lab	3/1	
CE 451: Steel Design	3	
Adv. Science Elective	4	
CE 103: Graphical Communication	3	

SENIOR FALL (18 credits)	Credits	UND Course
CE 421: Hydrology	3	
CE 432: Environmental Engineering II	3	
CE 453: Reinforced Concrete	3	
CE 482: Civil Engineering Design I	3	
ENGR 460: Engineering Economy	3	
ENGR 340: Professional Integrity in Engineering	3	

SENIOR SPRING (18 credits)	Credits	UND Course
CE 414: Foundation Engineering	3	
CE 416: Transportation Engineering	3	
CE 444: Contracts and Specifications	3	
CE 483: Civil Engineering Design II	3	
Approved CE Technical Elective	3	
Approved CE Technical Elective	3	

College of Engineering & Mines Curriculum Information



NOTES	*Courses must be taken through UND (can be done so remotely) in order for sequencing of plan. Students can enroll through collaborative registration.
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College of Engineering & Mines Curriculum Information

B.S. in Cyber Security

FRESHMAN FALL (14 credits)	Credits	UND Course	FRESHMAN SPRING (15 credits)	Credits	UND Course
ENGL 110: College Composition I	3	ENGL 110	ENGL 120: College Composition II	3	ENGL 130
UNIV 100: College Strategies	1		Wellness Course	2	
MATH 165: Calculus I	4	MATH 165	Approved ND Course: COMPSCI	3	
Approved ND Course: SS	3		MATH 166: Calculus II	4	MATH 166
Approved ND Course: HUM/FA/HIST	3		Approved ND Course: HUM/FA/HIST	3	

SOPHOMORE FALL (16 credits)	Credits	UND Course	SOPHOMORE SPRING (18 credits)	Credits	UND Course
COMM 110: Fundamentals of Public Speaking	3	COMM 110	MATH 266: Introduction to Differential Equations	3	MATH 266
MATH 265: Calculus III	4	MATH 265	Approved ND Course: SS	3	
PHYS 251: University Physics I L/L	5	PHYS 251	PHYS 252: University Physics II L/L	5	PHYS 252
EE 206/L: Circuit Analysis/Lab*	4		EE 313/L: Linear Electric Circuits/Lab*	4	
			EE 201: Introduction to Digital Electronics*	3	

JUNIOR FALL (16 credits)	Credits	UND Course	JUNIOR SPRING (17 credits)	Credits	UND Course
MATH 207: Introduction to Linear Algebra	2		EE 405/L: Control Systems I/Lab	4	
EE 304: Computer Aided Measurement and Controls	3		EE 421/L: Electronics II/Lab	4	
EE 314/L: Signals and Systems/Lab	4		Approved Elective	3	
EE 318: Engineering Data Analysis	3		Approved Elective	3	
EE 321/L: Electronics I/Lab	4		Approved Elective	3	

SENIOR FALL (15 credits)	Credits	UND Course	SENIOR SPRING (15 credits)	Credits	UND Course
EE 480: Senior Design I	3		ENGR 460: Engineering Economy	3	
Approved EE/CYS Elective	3		EE 481: Senior Design II	3	
Approved EE/CYS Elective	3		Approved EE/CYS Elective	3	
Approved Elective	3		Approved EE/CYS Elective	3	
Approved Elective	3		Approved EE/CYS Elective	3	

College of Engineering & Mines Curriculum Information



NOTES	*Courses must be taken through UND (can be done so remotely) in order for sequencing of plan. Students can enroll through collaborative registration.
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College of Engineering & Mines Curriculum Information

B.S. in Geological Engineering

FRESHMAN FALL (18 credits)			FRESHMAN SPRING (18 credits)		
Credits	UND Course		Credits	UND Course	
3	ENGL 110: College Composition I	ENGL 110	3	ENGL 120: College Composition II	ENGL 130
1	UNIV 100: College Strategies		3	Approved ND Course: COMPSCI	
4	MATH 165: Calculus I	MATH 165	4	MATH 166: Calculus II	MATH 166
5	CHEM 121/L: General Chemistry I L/L	CHEM 121/L	3	Approved ND Course: HUM/FA/HIST	
3	Approved ND Course: HUM/FA/HIST		5	CHEM 122/L: General Chemistry II/Lab	CHEM 122/L
2	Wellness Course				

SOPHOMORE FALL (19 credits)			SOPHOMORE SPRING (19 credits)		
Credits	UND Course		Credits	UND Course	
3	COMM 110: Fundamentals of Public Speaking	COMM 110	3	MATH 266: Introduction to Differential Equations	MATH 266
4	MATH 265: Calculus III	MATH 265	3	MATH 210: Elementary Statistics	ECON 210
4	GEOL 105: Physical Geology L/L	GEOL 101/L	5	PHYS 252: University Physics II L/L	PHYS 252
5	PHYS 251: University Physics I L/L	PHYS 251	3	Approved ND Course: SS	
3	Approved ND Course: SS		2	GEOE 323: Engineering Geology*	
			3	ENGR 201: Statics*	

JUNIOR FALL (17 credits)			JUNIOR SPRING (17 credits)		
Credits	UND Course		Credits	UND Course	
3	GEOL 414: Applied Geophysics		1	GEOL 356: Geoscience Lectures	
3	GEOE 417: Hydrogeology		3	GEOL 330: Structural Geology**	
3	GEOE 412: Soil Mechanics		3	Approved Elective	
3	ME 341: Thermodynamics		3	Approved Elective	
2	ENGR 200: Computer Applications in Engineering		3	Approved Fluid Mechanics Course (CE 306 or ME 306)	
3	ENGR 203: Mechanics of Materials		4	GEOE 301/L: Petrophysics/Lab***	

SUMMER SEMESTER: Field Camp (6 credits) completed through South Dakota School of Mines

SENIOR FALL (13 credits)			SENIOR SPRING (15 credits)		
Credits	UND Course		Credits	UND Course	
3	GEOE 484: Geological Engineering Design		3	GEOE 485: Geological Engineering Design	
1	GEOL 421: Seminar I		1	GEOL 422: Seminar II	
3	GEOE 455/L: Geomechanics/Lab		3	Approved Elective	
3	ENGR 340: Professional Integrity in Engr.		3	ENGR 460: Engineering Economy***	
3	Approved Engineering Elective (ENGR 202 or ENGR 206)		5	GEOL 411: Sedimentology and Stratigraphy**	

College of Engineering & Mines Curriculum Information



NOTES	*Courses must be taken through UND (can be done so remotely) in order for sequencing of plan. Students can enroll through collaborative registration.
	**Certain prerequisites for courses are waived per department. Contact advisor for more information.
	***GEOE 301/L is only offered during spring of odd years. Students should swap GEOE 301/L with ENGR 460 based on offerings.

College of Engineering & Mines Curriculum Information

B.S. in Mechanical Engineering

FRESHMAN FALL (16 credits)			FRESHMAN SPRING (18 credits)		
UND Course	Credits	UND Course	UND Course	Credits	UND Course
ENGL 110: College Composition I	3	ENGL 110	ENGL 120: College Composition II	3	ENGL 130
UNIV 100: College Strategies	1		Wellness Course	2	
MATH 165: Calculus I	4	MATH 165	Approved ND Course: COMPSCI	3	
CHEM 121/L: General Chemistry I L/L	5	CHEM 121/L	MATH 166: Calculus II	4	MATH 166
Approved ND Course: HUM/FA/HIST	3		Approved ND Course: HUM/FA/HIST	3	
			Approved ND Course: SS	3	

SOPHOMORE FALL (18 credits)			SOPHOMORE SPRING** (19 credits)		
UND Course	Credits	UND Course	UND Course	Credits	UND Course
MATH 265: Calculus III	4	MATH 265	MATH 266: Introduction to Differential Equations	3	MATH 266
PHYS 251: University Physics I L/L	5	PHYS 251	PHYS 252: University Physics II L/L	5	PHYS 252
Approved ND Course: SS	3		ENGR 200: Computer Applications in Engr.*	2	
ME 101: Intro. to Mechanical Engineering*	3		ENGR 202: Dynamics*	3	
ENGR 201: Statics*	3		ENGR 203: Mechanics of Materials*	3	
			COMM 110: Fundamentals of Public Speaking	3	COMM 110

JUNIOR FALL (17 credits)			JUNIOR SPRING (17 credits)		
UND Course	Credits	UND Course	UND Course	Credits	UND Course
ME 201: Student Design**	2		ENGR 206: Fundamentals of Electrical Engineering	3	
ME 341: Thermodynamics	3		ME 323/L: Machine Component Design/Lab	4	
ME 301: Materials Science	3		ME 418/L: Manufacturing Processes/Lab	4	
ME 306: Fluid Mechanics	3		ME 474: Fundamentals of Heat and Mass Transfer	3	
ME 322: Design of Machinery	3		MATH 321: Applied Statistical Methods	3	
Technical Elective	3				

SENIOR FALL (17 credits)			SENIOR SPRING (18 credits)		
UND Course	Credits	UND Course	UND Course	Credits	UND Course
ME 480: Mechanical Engineering Seminar	3		ME 488: Engineering Design	3	
ME 483: Mechanical Measurements Laboratory	3		ENGR 340: Professional Integrity in Engineering	3	
ME 487: Engineering Design	2		Technical Elective- Manufacturing and Mat.	3	
Technical Elective- Thermal Sciences	3		Technical Elective- Mech. Design	3	
Technical Elective	3		Technical Elective	3	
ENGR 460: Engineering Economy	3		Technical Elective	3	

College of Engineering & Mines Curriculum Information



NOTES	*Courses must be taken through UND (can be done so remotely) in order for sequencing of plan. Students can enroll through collaborative registration.
	**If student is planning to complete UND degree through distance program, will need to take ME 201C in Sophomore Spring instead of ENGR 200. Student will also be required to complete ME 201L in summer during an on-campus lab.

College of Engineering & Mines Curriculum Information

B.S. in Petroleum Engineering

FRESHMAN FALL (19 credits)	Credits	UND Course	FRESHMAN SPRING (20 credits)	Credits	UND Course
ENGL 110: College Composition I	3	ENGL 110	PTRE 201: Introduction to Petroleum Engineering*	3	
UNIV 100: College Strategies	1		Wellness Course	2	
MATH 165: Calculus I	4	MATH 165	CHEM 122/L: General Chemistry II L/L	4	CHEM 122/L
CHEM 121/L: General Chemistry I L/L	4	CHEM 121/L	MATH 166: Calculus II	4	MATH 166
Approved ND Course: HUM/FA/HIST	3		PHYS 251: University Physics I	4	PHYS 251
GEOL 105/L: Physical Geology w/ Lab	4	GEOL 101/L	COMM 110: Public Speaking	3	COMM 110
SOPHOMORE FALL (18 credits)	Credits	UND Course	SOPHOMORE SPRING (18 credits)	Credits	UND Course
MATH 265: Calculus III	4	MATH 265	MATH 266: Introduction to Differential Equations	3	MATH 266
ENGR 200: Computer Applications in Engineering*	2		ENGR 203: Mechanics of Materials*	3	
ENGL 120: College Composition II	3	ENGL 130	ENGR 340: Professional Integrity in Engineering*	3	
ENGR 201: Statics*	3		ME 341: Thermodynamics*	3	
PTRE 301: Reservoir Rock Properties*	3		Approved ND Course: HUM/FA/HIST	3	
Approved ND Course: SS	3		PTRE 311: Petroleum Fluid Properties*	3	
JUNIOR FALL (16 credits)	Credits	UND Course	JUNIOR SPRING (13 credits)	Credits	UND Course
PTRE 401: Well Logging	3		PTRE 451: Advanced Drilling Engineering	3	
PTRE 411: Drilling Engineering	3		PTRE 445: Well Testing	3	
PTRE 431: Reservoir Engineering	3		PTRE Technical Elective	3	
PHYS 252: University Physics II	4		GEOL 407: Petroleum Geology	3	
ME 306: Fluid Mechanics	3		PTRE 361: Petroleum Engineering Lab I**	1	
SENIOR FALL (15 credits)	Credits	UND Course	SENIOR SPRING (13 credits)	Credits	UND Course
PTRE 421: Production Engineering	3		PTRE 485: Senior Design	3	
PTRE 465: Petroleum Geomechanics	3		PTRE 475: Well Completions	3	
PTRE 471: Numerical Reservoir Simulation	3		PTRE Technical Elective	3	

College of Engineering & Mines Curriculum Information

PTRE 405: Petroleum Engineering Economy and Law	3		Approved Statistics Course	3	
PTRE 484: Research Design	3		PTRE 462: Petroleum Engineering Lab II	1	

NOTES	*Courses must be taken through UND (can be done so remotely) in order for sequencing of plan. Students can enroll through collaborative registration.				
	**DEDP/Online students must complete laboratory requirements on-campus during summer semester.				

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