ARTICULATION AGREEMENT FOR PETROLEUM ENGINEERING BETWEEN NORTHWEST COLLEGE AND UNIVERSITY OF WYOMING

OVERVIEW:

This formal program articulation agreement is made and entered into by Northwest College, hereinafter referred to as NWC, and University of Wyoming, hereinafter referred to as UW. By this agreement NWC and UW express a shared commitment to increasing opportunities for student access to and success in higher education.

PURPOSE:

This agreement provides students who have completed the **Associate of Science** degree with articulated coursework in ENGINEERING the opportunity to complete a **Bachelor of Science in PETROLEUM ENGINEERING** degree at UW. Any NWC student who has earned an Associate of Science degree with coursework that adheres to the guidelines within this agreement is guaranteed that UW will: 1) apply the relevant general education credits; 2) accept designated major related credits; and 3) give the student UW class standing consistent with the articulated curriculum herein and in a manner consistent with the treatment of native UW students in the Bachelor of Science degree.

CONDITIONS OF TRANSFER:

Section I: Admissions and Matriculation

NWC students maintaining continuous enrollment under this agreement and following the curriculum plan in place under the NWC catalog of record will matriculate to the UW academic program in place for that catalog year. A break in enrollment that is not a summer semester may cause the student to be readmitted under a different catalog year. In that case, this articulation agreement may not remain valid.

Criteria for acceptance into UW College of Engineering will be consistent with the criteria outlined in the institutional articulation agreement between NWC and UW.

NWC, upon request of students, will provide verification of completed courses to UW through its Office of Registration and Records.

Transfer students from NWC will have access to financial aid, scholarships, and student services on a similar basis as native students.

UW will apply the same academic progress and graduation standards to NWC transfer students as are applicable to native UW students in the same catalog year.

Section II: Program Plan

While a course-by-course equivalence was used in the development of this plan, this agreement presumes that the general education core requirements at NWC meet general education requirements at UW under the statewide block transfer articulation agreement. Students falling under this program articulation agreement will be responsible for successfully completing the additional program core requirements as noted in section below.

ARTICULATION AGREEMENT SIGNATURE PAGE

In signing this document, all parties agree to honor both the spirit and intent of this program-level articulation of an Associate's degree in Engineering from NWC with a Bachelor's degree in Petroleum Engineering from the University of Wyoming. Students who follow the attached curriculum and complete all the agreed-upon requirements will be able to graduate with degrees from both institutions in a timely manner.

This agreement is made and entered into in the academic year 2015-2016 and remains in force unless a new articulation agreement is signed by all parties. The agreement is subject to annual review to assure currency with the respective degree requirements, and may be amended at any time, affecting students from the date of the amendment forward. Should either party desire to discontinue this agreement, advance notification of one year will be required and students enrolled under the Agreement who remain continuously enrolled will be allowed to complete the program as articulated.

Engineering Program Coordinator, NWC

Date: 12-17-15

Digitally signed by Hertanto Adidharma
DN: cn=Hertanto Adidharma, o=University of Wyoming, ou=Department of Chemical and Petroleum Engineering, email=adidharm@uwyo.edu, c=US
Date: 2015.11.11 12:05:15 -07'00'

Dr. Hertanto Adidharma
Department Head, Petroleum Engineering, UW
Date: 11/11/2015

Physical Science Division Chair, NWC

Date: 12-17-15

Dr. Michael V. Pishko
Dean, College of Engineering, UW
Date: 11/12/15

VP of Academic Affairs, NWC

Date: 12-11-15

Dr. David Jones
VP of Academic Affairs, UW
Date: 12/2/15

President, NWC

Date: 12/11/15

Dr. Richard McGinity
President, UW
Date:

Courses

Associate of Science, Specialization in Engineering NWC			**Equivalent University of Wyoming Courses**		
General Education			**General Education**		
Course	**Course Title**	**Credits**	**Course**	**Course Title**	**Credits**
ES 1000 or HMDV 1001	Orientation to Engineering or Freshman Seminar (UNST)	1-3	FYS	First Year Seminar	3
CO/M 1010	Public Speaking (COM2)	3	COJO 2010	Public Speaking	3
ENGL 1010	English I: Intro to Comp.(COM1)	3	ENGL 1010	College Comp/Rhetoric	3
MATH 2200	Calculus I	5	MATH 2200	Calculus I	4
CHEM 1020	General Chemistry I	5	CHEM 1020	General Chemistry I	4
POLS 1000 or HIST 1221	US/WY Govt or US Hist from 1865	3	POLS 1000	US & Wyom Constitutions (V)	3
***ENGL 1020 OR 2005	Intro to Lit or Technical Writing	(3)		(no requirement)	
HUM/VPA/CCA elective		3	Human Culture Elective		3
HUM/VPA/CCA elective		3	Human Culture Elective		3
***PEAC/Wellness		(2)	(no requirement)		
***Propose to NWC to omit ENGL+PEAC because they are not required at UW					
Total General Education Credits		**26-33**	**Total General Education Credits**		**26**
Program Core Requirements			**Program Core Requirements**		
Course	**Course Title**	**Credits**	**Course**	**Course Title**	**Credits**
MATH 2205	Calculus II	5	MATH 2205	Calculus II	4
GEOL 1100	Physical Geology	4	GEOL 1100	Physical Geology	4
ES 1060	Intro to Engineering Computing	3	PETE 1060	Intro to Petro Engr.Prob.Solving	1
CHEM 1030	General Chemistry II	4	CHEM 1030	General Chemistry II	4
ES 2110	Statics	3	ES 2110	Statics	3
MATH 2210	Calculus III	5	Math 2210	Calculus III	4
MATH 2310	Applied Differential Equations I	3	MATH 2310	Applied Differential Equations I	3
ES 2120	Dynamics	3	ES 2120	Dynamics	3
PHYS 1320	College Physics II	4	PHYS 1220	Engineering Physics II	4
Total Program Core Credits		**34**	**Total Program Core Credits**		**30**
Total Associate Degree Hours		**60-67**	**Total Associate Degree Hours**		**56**

Transfer Courses for Junior Standing in PETE			Transfer Courses for Junior Standing in PETE		
Course	**Course Title**	**Credits**	**Course**	**Course Title**	**Credits**
ES 2410	Mechanics of Materials	3	ES 2410	Mechanics of Materials	3
ES 2310	Thermodynamics	4	ES 2310	Thermodynamics	3
ES 2330	Fluid Dynamics/Mechanics	3	ES 2330	Fluid Dynamics	3
CHEM 2320	Organic Chemistry I	4	CHEM 2300	Intro. to Organic Chemistry	4
	BELOW ARE REQUESTED TECH ELECTIVES (1 of 6 at NWC)				
GEOL 1200, ES 2070, or ES 2210	Historical Geology, Engineering Surveying, or Electric Circuit Theory	3-4	Tech Elective		3
Total Required Transfer Credits		**17-18**	**Total Required Transfer Credits**		**16**
Total NWC Credit Hours		**77-85**	**Total NWC Credit Hours**		**72**

Special Notes or Requirements (minimum grade requirements, etc.):

UNIVERSITY OF WYOMING COURSEWORK TO COMPLETE BACHELORS DEGREE IN PETROLEUM ENGINEERING:

Courses needed for major in PETROLEUM ENGINEERING:

Course Number	Course Title	Credit Hrs
PETE 2050	Fundamentals of Petroleum Engineering	3
PETE 2060	Introduction to Petroleum Engineering Computing	3
PETE 3100	Rock and Fluids Lab	2
PETE 3255	Basic Drilling Engineering	3
PETE 3015	Multicomponent Thermodynamics	3
PETE 3200	Reservoir Engineering	3
PETE 3265	Drilling Fluids Lab	3
PETE 3715	Production Engineering	3
PETE 3725	Well Bore Operations	3
PETE 4320	Well Log Interpretation	3
PETE 4225	Well Test Analysis	2
PETE 4340	Petroleum Economics	3
PETE 4736	PETE Senior Design (COM3)	4
GEOL 4190	Petroleum Geology	3
PETE XXXX	Technical Elective	3
PETE XXXX	Technical Elective	3
XXXX*	Technical Elective	3
XXXX	Technical Elective	3
XXXX	Technical Elective	3

If GEOL 1200 is not taken at NWC, this Technical Elective must be a GEOL course.

TOTAL CREDITS NEEDED FOR MAJOR IN PETE AT UW	56
TOTAL TRANSFER CREDITS FROM NWC (UW EQUIVALENT)*	72
*(STUDENTS WILL HAVE AN ADDITION 5-13 NWC CREDITS, BASED ON CREDIT PER CLASS AND CLASS CHOICE; NO ADDITIONAL COURSES ARE REQUIRED)	
TOTAL MINIMUM CREDITS NEEDED FOR DEGREE (NWC+UW)	128

NOTES:

1. ES 1060 at NWC are accepted for PETE 1060 at UW.
2. GEOL 1200 (Historical Geology), ES 2070 (Engineering Surveying), or ES 2210 (Electric Circuit Theory) is approved by UW for ONE of Technical Electives.
3. PHYS 1320 at NWC is equivalent to PHYS 1220 at UW.
4. CHEM 2320 at NWC is accepted for by UW for CHEM 2300.

Engineering, Northwest College Certificate

Northwest College

FRESHMAN

Fall Semester			Hrs	Spring Semester			Hrs
Dept	#	Course Title	#	Dept	#	Course Title	#
ES	1000	Orientation to Eng. (Fa & Sp)	1	ES	2110	Statics (Fa & Sp)	3
MATH	2200	Calculus I (Fa & Sp)	5	MATH	2205	Calculus II (Fa & Sp)	5
CHEM	1020	General Chemistry I (Fa & Sp)	5	CHEM	1030	General Chemistry II (Fa & Sp)	4
ES	1060	Intro to Eng. Computing (Fa)	3	ENGL	1010	Intro To Composition (Fa, Sp & Su)	3
		TOTAL	14			TOTAL	15

Northwest College
WYOMING

SOPHOMORE

Fall Semester			Hrs	Spring Semester			Hrs
Dept	#	Course Title	#	Dept	#	Course Title	#
MATH	2210	Calculus III (Fa)	5	MATH	2310	Applied Differential Equations (Sp)	3
PHYS	1320	College Physics II (Fa)	4	ES	2310	Thermodynamics (Sp)	4
ES	2120	Dynamics (Fa)	3	ES	2330	Fluids	3
ES	2410	Mechanics of Materials (Fa)	3	#POLS	1000	US/WY Govt	3
^CHEM	2320	Organic Chem I	4				
		TOTAL	19			TOTAL	13

Total Transfer Hours 61

Transfer Recommendations and Notes:

#POLS 1000 OR HIST 1221 may be taken at NWC instead of UW

Student may choose to take one technical elective (from Senior Year) at NWC; choices are GEOL 1200, ES 2070, or ES 2210

Student must also complete 2 credits of PE Activity/Wellness and ENGL 1020 or 2005 to earn an A.S. Degree from NWC, but this is not necessary for transfer. If the student chooses to complete an AS degree, these courses are available Fa, Sp, and Su at NWC

^CHEM 2320 may be taken at NWC (Fa, Soph. year) instead of CHEM 2300 at UW, student's preference

Northwest College or UW - Student's Choice

Summer Semester			Hrs
Dept	#	Course Title	#
HUM/VPA	CCA	Electives (2)	6
[5]CO/M	1010	Public Speaking	3
		TOTAL	9

Transfer Recommendations and Notes:

[5]CO/M 1010 may be taken at NWC or UW, student's preference.

The following courses (18 credits) are also available during the summer semester: POLS 1000, ENGL 1010, CO/M 1010, HUM/VPA CCA Electives, and ES 2330, and may be taken at either NWC or UW

Petroleum Engineering, Bachelor of Science

University of Wyoming

JUNIOR

Fall Semester			Hrs	Spring Semester			Hrs
Dept	#	Course Title	#	Dept	#	Course Title	#
PETE	2050	Fundamentals Petroleum Engr	3	PETE	3200	Reservoir Engineering	3
PETE	2060	Petroleum Engr Computing	3	PETE	3265	Drilling Fluids Lab	3
PETE	3255	Basic Drilling Engineering	3	PETE	3715	Production Engineering	3
PETE	3015	Multicomponent Thermo	3	PETE	3725	Well Bore Operations	3
*GEOL	1100	Physical Geology (Fa)	4	PETE	4320	Well Log Interpretation	3
				PETE	3100	Rock and Fluids Lab	2
		TOTAL	16			TOTAL	17

SENIOR

Fall Semester			Hrs	Spring Semester			Hrs
Dept	#	Course Title	#	Dept	#	Course Title	#
PETE	4225	Well Test Analysis	2	PETE	4736	PETE Senior Design (COM3)	4
PETE	4340	Petroleum Economics	3	GEOL	4190	Petroleum Geology	3
		Technical Elective	3			Technical Elective	3
		Technical Elective	3			Technical Elective	3
		Technical Elective	3			Technical Elective	3
		TOTAL	14			TOTAL	16
						Total Degree Hours	133

Transfer Recommendations and Notes:

*GEOL 1100 may be taken NWC (Fa only) or during the Junior year at UW, student's preference