



WICHITA STATE UNIVERSITY  
 DUAL BACHELOR OF SCIENCE DEGREE  
 ARTICULATION AGREEMENT  
 MATHEMATICS/INDUSTRIAL ENGINEERING

September 21, 2018

The purpose of this Articulation Agreement is to provide learning opportunities through a transfer agreement aimed for Sterling College (SC) students to complete a Bachelor of Science degree in Mathematics from SC and a Bachelor of Science, Industrial Engineering degree from WSU.

*The following SC-WSU 2+2 program is designed:*

Mathematics at SC provides required courses for a Bachelor of Science degree in Industrial Engineering in the College of Engineering at WSU upon completion of a bachelor's degree at WSU. SC students must complete 60 credit hours to complete a Bachelor of Science in Mathematics at SC.

SC (2 years): SC courses include basic skills, humanities, social and behavioral sciences, and other sciences foundation and core courses in addition to pre-engineering required courses. SC students must complete 60 credit hours to complete a Bachelor of Science in Industrial Engineering at WSU.

**Sterling College:**

- SC students must complete at least 33 credit hours at SC and a minimum of 12 credit hours at WSU.
- Student's major must be taken at Sterling College.
- Provide space within math and science departments for material.
- Inform the WSU College of Engineering concerning course completion changes, if applicable.
- Provide appropriate course scheduling and advising for students.
- Work with WSU advisors in the transfer of courses back to SC for the purpose of degree completion at SC.
- SC staff to provide appropriate course scheduling and advising for students.

**Wichita State University:**

- Provide academic advising and support to SC students in the transfer process.
- Provide SC with official transcripts for the purpose of SC degree completion, including assistance with student's degree audit processes as per student's request.
- Articulate and promote articulation agreement.

- Assist SC student with all academic requirements.
- Provide options for SC students to take courses.
- In order to fulfill degree stipulations, SC students participating in this program will work with SC advising to schedule program of study and meet all academic requirements.

Dr. Linnea GlenMays  
Associate Vice President  
Wichita State University

Dr. Scott Rich  
President  
Sterling College

Dr. Steven Skinner  
Wichita State University

Dr. Kirk Keh Brown  
President for Academic Affairs  
Sterling College

Dr. Kristina Kishman  
Chair,  
Industrial Systems and  
Wichita State University

Dr. Erin Lau  
Associate Vice President for Academic Affairs  
Sterling College

Dr. Jonathan Leonard  
Chair, Natural Sciences and Mathematics  
Sterling College

**Dual Degree Pathway in Mathematics  
and Industrial Engineering**  
Sterling College & Utah State University

**Freshman - 1st Semester (taken at Sterling)**

ENGL 101 College English I	ENGL 101 College Composition I	3
CS 211 Intro to Programming OR General Education (Social and Behavioral Sciences) Recommended: PS 115	CS 150 CS FOR APPROVED Behavioral Science as follows: Psychology OR PS 115 OR PS 116 OR PS 117 OR PS 118 OR PS 119 OR PS 120 OR PS 121 OR PS 122 OR PS 123 OR PS 124 OR PS 125 OR PS 126 OR PS 127 OR PS 128 OR PS 129 OR PS 130 OR PS 131 OR PS 132 OR PS 133 OR PS 134 OR PS 135 OR PS 136 OR PS 137 OR PS 138 OR PS 139 OR PS 140 OR PS 141 OR PS 142 OR PS 143 OR PS 144 OR PS 145 OR PS 146 OR PS 147 OR PS 148 OR PS 149 OR PS 150 OR PS 151 OR PS 152 OR PS 153 OR PS 154 OR PS 155 OR PS 156 OR PS 157 OR PS 158 OR PS 159 OR PS 160 OR PS 161 OR PS 162 OR PS 163 OR PS 164 OR PS 165 OR PS 166 OR PS 167 OR PS 168 OR PS 169 OR PS 170 OR PS 171 OR PS 172 OR PS 173 OR PS 174 OR PS 175 OR PS 176 OR PS 177 OR PS 178 OR PS 179 OR PS 180 OR PS 181 OR PS 182 OR PS 183 OR PS 184 OR PS 185 OR PS 186 OR PS 187 OR PS 188 OR PS 189 OR PS 190 OR PS 191 OR PS 192 OR PS 193 OR PS 194 OR PS 195 OR PS 196 OR PS 197 OR PS 198 OR PS 199 OR PS 200	3
SOC 111 Introduction to Sociology OR ECON 201 Principles of Macroeconomics	Macroeconomics	3
CHEM 211 General Chemistry I	CH 151/Lab General Chemistry I	5
REL 115 New Testament (General Education Humanities)	REL 105 New Testament	3
LASI 2000 Elective	GD 105 Foundations of Servant Leadership	3
REL 2000 Elective	GD 190 Chapel/Convocation (Kearney Sterling College)	3

**Freshman - 2nd Semester (taken at Sterling)**

ENGL 102	ENGL 102	3
COMM 114 Public Speaking	COMM 114	3
MATH 242 Calculus I	MATH 242	5
CHEM 212 General Chemistry II (Technical Elective)	CH 152/Lab General Chemistry II	5
REL 2000 Elective	GD 190 Chapel/Convocation (Kearney Sterling College)	3

**Freshman- 2nd Semester (taken at Utah State University)**

REL 110 Old Testament	REL 110	3
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**Sophomore - 1st Semester (taken at Utah State University)**

Credit awarded after successful completion of PH 210, PH 211, PH 212, PH 213, PH 214, PH 215, PH 216, PH 217, PH 218, PH 219, PH 220, PH 221, PH 222, PH 223, PH 224, PH 225, PH 226, PH 227, PH 228, PH 229, PH 230, PH 231, PH 232, PH 233, PH 234, PH 235, PH 236, PH 237, PH 238, PH 239, PH 240, PH 241, PH 242, PH 243, PH 244, PH 245, PH 246, PH 247, PH 248, PH 249, PH 250, PH 251, PH 252, PH 253, PH 254, PH 255, PH 256, PH 257, PH 258, PH 259, PH 260, PH 261, PH 262, PH 263, PH 264, PH 265, PH 266, PH 267, PH 268, PH 269, PH 270, PH 271, PH 272, PH 273, PH 274, PH 275, PH 276, PH 277, PH 278, PH 279, PH 280, PH 281, PH 282, PH 283, PH 284, PH 285, PH 286, PH 287, PH 288, PH 289, PH 290, PH 291, PH 292, PH 293, PH 294, PH 295, PH 296, PH 297, PH 298, PH 299, PH 300	PH 210 PHYSICS I	5
Credit awarded after successful completion of PH 210, PH 211, PH 212, PH 213, PH 214, PH 215, PH 216, PH 217, PH 218, PH 219, PH 220, PH 221, PH 222, PH 223, PH 224, PH 225, PH 226, PH 227, PH 228, PH 229, PH 230, PH 231, PH 232, PH 233, PH 234, PH 235, PH 236, PH 237, PH 238, PH 239, PH 240, PH 241, PH 242, PH 243, PH 244, PH 245, PH 246, PH 247, PH 248, PH 249, PH 250, PH 251, PH 252, PH 253, PH 254, PH 255, PH 256, PH 257, PH 258, PH 259, PH 260, PH 261, PH 262, PH 263, PH 264, PH 265, PH 266, PH 267, PH 268, PH 269, PH 270, PH 271, PH 272, PH 273, PH 274, PH 275, PH 276, PH 277, PH 278, PH 279, PH 280, PH 281, PH 282, PH 283, PH 284, PH 285, PH 286, PH 287, PH 288, PH 289, PH 290, PH 291, PH 292, PH 293, PH 294, PH 295, PH 296, PH 297, PH 298, PH 299, PH 300	PH 220 Applications of Electrodynamics I	5
MATH 243 Calculus II	MATH 243	5
CS 211 Intro to Programming Education (Social and Behavioral Sciences) Recommended: PS 115	CS 150 CS FOR APPROVED Behavioral Science as follows: Psychology OR PS 115 OR PS 116 OR PS 117 OR PS 118 OR PS 119 OR PS 120 OR PS 121 OR PS 122 OR PS 123 OR PS 124 OR PS 125 OR PS 126 OR PS 127 OR PS 128 OR PS 129 OR PS 130 OR PS 131 OR PS 132 OR PS 133 OR PS 134 OR PS 135 OR PS 136 OR PS 137 OR PS 138 OR PS 139 OR PS 140 OR PS 141 OR PS 142 OR PS 143 OR PS 144 OR PS 145 OR PS 146 OR PS 147 OR PS 148 OR PS 149 OR PS 150 OR PS 151 OR PS 152 OR PS 153 OR PS 154 OR PS 155 OR PS 156 OR PS 157 OR PS 158 OR PS 159 OR PS 160 OR PS 161 OR PS 162 OR PS 163 OR PS 164 OR PS 165 OR PS 166 OR PS 167 OR PS 168 OR PS 169 OR PS 170 OR PS 171 OR PS 172 OR PS 173 OR PS 174 OR PS 175 OR PS 176 OR PS 177 OR PS 178 OR PS 179 OR PS 180 OR PS 181 OR PS 182 OR PS 183 OR PS 184 OR PS 185 OR PS 186 OR PS 187 OR PS 188 OR PS 189 OR PS 190 OR PS 191 OR PS 192 OR PS 193 OR PS 194 OR PS 195 OR PS 196 OR PS 197 OR PS 198 OR PS 199 OR PS 200	3
SOC 111 Introduction to Sociology, OR ECON 201 Principles of Macroeconomics	Macroeconomics	3

REL 2000 Elective	GD 190 Chapel Convocation (Required for BS degree at Sterling College)	0
General Education (Fine Arts) OR MATH 511 Linear Algebra	Approved General Education Transfer Equivalency Table Algebra	
<b>Sophomore – 1st Semester</b>		
General Education / Further Studies in Humanities or Social and Behavioral Sciences	Approved General Education Transfer Equivalency Table	
ECON 202 Principles of Microeconomics OR PSY 325 Developmental Psychology	Microeconomics OR PSY 325 Developmental Psychology as found on the WSU Transfer Equivalency Table	3
<b>Sophomore – 2nd Semester</b>		
General Education / Social and Behavioral Sciences	Approved General Education (Social and Behavioral Sciences) Transfer Equivalency Table	
MATH 344 Calculus	MATH 202 Calculus	5
Credit awarded for PH 210, PH 220, PH 211 & PH 221	PH 211 Physics II	5
PHYS 313 Physics for Scientist I PHYS 315 University Physics Lab I (Technical Elective) PHYS 314 Physics for Scientist II PHYS 316 University Physics Lab II (Technical Elective)	PH 221 Applications of Calculus to Physics	
REL 4000 Elective	TM 388 Ethics (Required for BS degree at Sterling College)	3
HPS 2000 Elective	ES 101 Concepts of Environmental Science for BS degree at Sterling College	
REL 2000 Elective	GD 190 Chapel Convocation (Required for BS degree at Sterling College)	

<b>Junior – 1st Semester</b>		
<b>Wichita State University, Revere Campus</b>		
IME 254 Engineering Fluids and Statics		3
MATH 555 Differential Equations I (Math & Science Elective)		3
MATH 511 Linear Algebra (OR IME 254 taken at WSU) (Math Elective)		3
IME 258 Manufacturing Processes		3
IME 530 Information Systems		3
IME 255 Engineering Mechanics		3
Engineer of 2020 (1 of 3)		
<b>Junior – 2nd Semester</b>		
IME 452 Work Systems		3
IME 524 Engineering Statistics II		3

IME 553 Production Systems		
IME 554 Statistical Quality Control	3	
MATH 415 Intro To Advanced Engineering Mathematics	3	
IME 550 Operations Research I	3	
Engineer of 2020 (2 of 3)		
<b>Senior – 1st Semester (taken at WSO) 15 Credit Hours</b>		
IME 650 Operations Research II	3	
IME 222/L Engineering Graphics/Lab (not needed if major in ME taken at Sterling College) OR General Education (in ARTS)	3	
IME 552 Facilities Planning	3	
IME 590 Industrial Engineering Business	3	
MATH 515 Fundamentals of Algebra	3	
Technical Elective	3	
<b>Senior – 2nd Semester (taken at WSO) 15 Credit Hours</b>		
IME 549 Industrial Ergonomics	3	
IME 565 System Simulations	3	
IME 690 Industrial Engineering Design II	3	
PHIL 385 Engineering Ethics	3	
Technical Elective	3	
Engineer of 2020 (3 of 3)		

**Courses transferring to Sterling College from other colleges**

**Bachelor's of Science Degree in Mechanical Engineering**

**BS degree requirements for industrial engineering**