



WICHITA STATE UNIVERSITY AND STERLING COLLEGE  
DUAL BACHELOR OF SCIENCE DEGREE  
ARTICULATION AGREEMENT  
BIOLOGICAL MATHEMATICS/BIOMEDICAL 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 dual degree. By completing the degree plan indicated below, SC students will have the opportunity to complete a Bachelor of Science (B.S.) in Biological Mathematics from SC and a B.S. in Biomedical Engineering from Wichita State University (WSU).

**The following SC-WSU 2.5+2 program:** is designed to help students complete a Bachelor of Science in Biological Mathematics at SC providing required prerequisite classes to assist in the preparation for a Bachelor of Science degree in Biomedical Engineering in the College of Engineering at WSU. Upon completion of the bachelor's degree at WSU, SC may accept up to 92 credit hours to complete a Bachelor of Science in Biological Mathematics at SC.

**SC (2.5 years):** SC courses include basics skills, humanities, social sciences, fine arts, physics, mathematics and other sciences foundation and core courses in addition to pre-engineering required courses. SC students must complete at least 45 hours of upper-division engineering credits including all WSU College of Engineering co-curricular requirements in order to qualify for graduation in Biomedical engineering.

**Sterling College:**

- SC students must complete at least 32 credit hours at SC and a minimum of 12 credit hours in a student's major must be taken at Sterling College.
- Students must fulfill all graduation requirements as outlined in SC's academic catalog.
- Provide space within math and science departments for materials.
- Inform the WSU College of Engineering concerning course content changes and Technical Elective (if applicable) course number changes or deletions.
- Provide WSU with required official transcripts at time of student's transferring to WSU.
- 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 based on course catalog/scheduling availability.

**Wichita State University:**

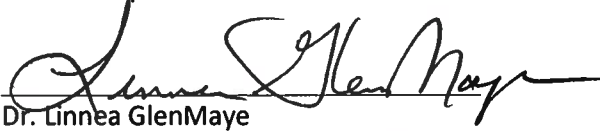
- Provide academic advising and support to SC students in the transfer process.
- Provide SC with official transcripts for the purpose of SC degree completion, including assistance with students' degree audit processes as per student's request.
- Articulate and promote articulation agreement.



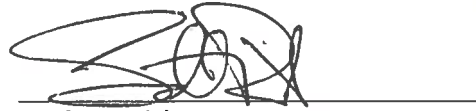
**WICHITA STATE  
UNIVERSITY**



- Assist SC student with all academic, non-academic and co-curricular including internship/co-op requirements.
- Provide options for SC students to take WSU courses (summer or on-line/hybrid options).
- In order to fulfill degree stipulations, SC students participating in this articulation will work with SC advising to schedule process for transferring institutional assessment and SC graduation requirements.



Dr. Linnea GlenMaye  
Associate Vice President for Academic Affairs  
Wichita State University



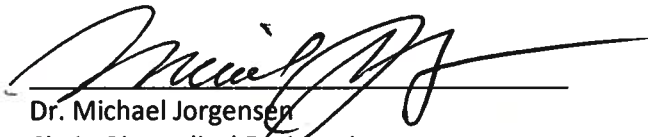
Dr. Scott Rich  
President  
Sterling College



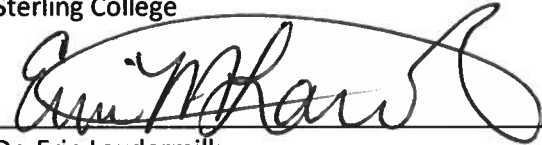
Dr. Steven Skinner  
Interim Dean, College of Engineering  
Wichita State University



Dr. Ken Brown  
Vice President for Academic Affairs  
Sterling College



Dr. Michael Jorgensen  
Chair, Biomedical Engineering  
Wichita State University



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



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

**Dual Degree Pathway in Biological Mathematics  
and Biomedical Engineering  
Sterling College & Wichita State University**

<b>Freshman – 1st Semester- Fall (taken at Sterling) 16 Credit Hours</b>		
<b>Wichita State University Equivalent</b>	<b>Sterling College</b>	<b>Hours</b>
ENGL 101 College English I	LL 101 College Composition I	3
BIOL 2000	BI 170/Lab Biology I: Zoology	4
CHEM 211 General Chemistry I	CH 151/Lab General Chemistry I	5
REL 115 New Testament (General Education - Humanities)	TM 103 Intro to New Testament	3
LASI 2000 Elective	GD 105 Foundations of Servant Leadership (Required for BS degree at Sterling College)	1
REL 2000 Elective	GD 190 Chapel/Convocation (Required for BS degree at Sterling College)	0
<b>Freshman – 2nd Semester- Spring (taken at Sterling) 16 Credit Hours</b>		
ENGL 102 College English II	LL 102 College Composition II	3
COMM 111 Public Speaking	CM 101 Public Speaking	3
MATH 242 Calculus I	MA 200 Calculus I	5
CHEM 212 General Chemistry II	CH 152/Lab General Chemistry II	5
REL 2000 Elective	GD 190 Chapel/Convocation (Required for BS degree at Sterling College)	0
<b>Freshman- 2<sup>nd</sup> Semester INTERTERM (taken at Sterling) 3 Credit Hours</b>		
REL 110 Old Testament	TM 102 Intro to Old Testament	3
<b>Sophomore – 1st Semester- Fall (taken at Sterling) 14 or 15 Credit Hours</b>		
Credit awarded after successful completion of PH 210, PH 220, PH 211 & PH 221	PH 210 Physics I	5
Credit awarded after successful completion of PH 210, PH 220, PH 211 & PH 221	PH 220 Applications of Calc to Physics I	1
MATH 243 Calculus II	MA 210 Calculus II	5
CHEM 533 Elem Organic Chemistry <b>OR General Education (Social and Behavioral Science): Recommended ECON 201 Principles of Macroeconomics OR PSY 111 General Psychology OR SOC 111 Intro to Sociology</b>	CH 232 Intro Organic Chem <b>OR Approved General Education (S&amp;BS) as found on the WSU Transfer Equivalency Table: Recommended BU 200 Macroeconomics OR BS 125 Gen. Psychology OR BS 115 Princ of Sociology</b>	3 or 4
REL 2000 Elective	GD 190 Chapel/Convocation (Required for BS degree at Sterling College)	0

<b>Sophomore – 1st Semester INTERTERM (taken at Sterling) 3 Credit Hours</b>		
CHEM 661 Introductory Biochemistry	CH 265 Biochemistry	3
<b>Sophomore – 2nd Semester-Spring (taken at Sterling) 15 Credit Hours</b>		
General Education (Fine Arts)	Approved General Education (Fine Arts) as found on the WSU Transfer Equivalency Table	3
General Education (Social and Behavioral Science): Recommended ECON 201 Principles of Macroeconomics <b>OR</b> PSY 111 General Psychology <b>OR</b> SOC 111 Intro to Sociology	Approved General Education (S&BS) as found on the WSU Transfer Equivalency Table: Recommended BU 200 Macroeconomics <b>OR</b> BS 125 Gen. Psychology <b>OR</b> BS 115 Princ of Sociology	3
Credit awarded after successful completion of 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 PHYS 314 Physics for Scientist II PHYS 316 University Physics Lab II	PH 221 Applications of Calc to Physics II	1
REL 4000 Elective	TM 366 Basic Christian Doctrine (Required for BS degree at Sterling College)	3
REL 2000 Elective	GD 190 Chapel/Convocation (Required for BS degree at Sterling College)	0
<b>Junior – 1st Semester-Fall (taken at Sterling) 15 or 16 Credit Hours</b>		
<b>CHEM 533 Elem Organic Chemistry</b> <b>OR</b> General Education (Social and Behavioral Science): Recommended ECON 201 Principles of Macroeconomics <b>OR</b> PSY 111 General Psychology <b>OR</b> SOC 111 Intro to Sociology	<b>CH 232 Intro Organic Chem</b> <b>OR</b> Approved General Education (S&BS) as found on the WSU Transfer Equivalency Table: Recommended BU 200 Macroeconomics <b>OR</b> BS 125 Gen. Psychology <b>OR</b> BS 115 Princ of Sociology	3 or 4
General Education Further Studies (Humanities or S&BS). Recommended: HIST 535History Of Kansas <b>OR</b> ECON 202 Principles of Microeconomics <b>OR</b> PSY 325 Developmental Psychology	General Education Further Studies (Humanities of S&BS). Recommended HG 322 Kansas History/Govt, <b>OR</b> BU 201 Microeconomics <b>OR</b> BS 225 Developmental Psychology	3
BIOL 2000 Elective – BME Open Elective	BI 263/Lab Genetics (Required for BS degree at Sterling College)	4
MATH 555 Differential Equations I <b>OR</b> IME 254 Engineering Probability and Statistics I	MA 350 Differential Equations <b>OR</b> MA 410 Probability Theory	3
HPS 2000 Elective	ES 101 Concepts of Physical Fitness/Health (Required for BS degree at Sterling College)	2
REL 2000 Elective	GD 190 Chapel/Convocation (Required for BS degree at Sterling College)	0
<b>(IF NEEDED) Junior – 1st Semester INTERTERM (taken at Sterling) 3 Credit Hours</b>		
<b>CHEM 661 Introductory Biochemistry</b>	<b>CH 265 Biochemistry</b>	<b>3</b>

<b>Junior – 1<sup>st</sup> Semester-Spring (taken at WSU) 16 Credit Hours</b>	
<b>Wichita State University Requirement</b>	<b>Hours</b>
BME 477 Introduction to Biomaterials	3
BIOL 210 General Biology I	4
BME 335 Biomedical Computer Applications	3
BME 115 Biomedical Engineering Seminar	0
IME 254 Engineering Probability and Statistics I OR MATH 555 Differential Equations I	3
Engineering Technical Elective (ME 250-Materials Engineering)	3
Engineer of 2020 (1 of 3)	
<b>Junior – SUMMER SEMESTER (Must be at WSU) 7 Credit Hours</b>	
AE 223 Statics	3
EE 282 Circuits I	4
<b>Junior – 2nd Semester-Fall (taken at WSU) 17 Credit Hours</b>	
BME 452 Biomechanics	3
BME 482 Design of Biodevices	3
BME 585 Capstone Design I	3
BIOL 223 Human Anatomy and Physiology	5
ME 398 Thermodynamics I	3
<b>Senior – 1st Semester-Spring (taken at WSU) 12 Credit Hours</b>	
BME 595 Capstone Design II	3
BME 480 Bioinstrumentation	3
Engineering Technical Elective	3
Engineering Technical Elective	3
Engineer of 2020 (2 or 3)	
<b>Senior – 2nd Semester-Fall (taken at WSU) 12 Credit Hours</b>	
BME 462 Introduction to Biofluids	3
IME 255 Engineering Economy	3
PHIL 385 Engineering Ethics	3
Engineering Technical Elective	3
Engineer of 2020 (3 or 3)	

**Courses transferring to Sterling College from Wichita State University will satisfy requirements for Bachelors of Science Degree in Biological Mathematics while completing BS degree requirements for Biomedical Engineering at Wichita State University**