



WICHITA STATE UNIVERSITY AND BUTLER COMMUNITY COLLEGE 2+2 AGREEMENT **Associate in Science Degree / Bachelor's Degree in Aerospace Engineering** **March 26, 2020**

The purpose of the 2+2 Agreement is to provide Butler Community College's students a four-year coordinated program through the pre-engineering curriculum where students will receive an Associate in Science degree at Butler Community College (BCC) in the first two years and a Bachelor of Science degree in Aerospace Engineering from Wichita State University (WSU) after two additional years. This agreement will provide guidance for both parties in advising students.

This agreement is for Butler Community College students who have:

- Earned an Associate in Science (A.S.) degree according to attached degree plan in Pre-Engineering.
- Achieved a minimum cumulative GPA of 2.0.
- Applied for admission to WSU.

Butler Community College students meeting the above requirements will:

- Be guaranteed admission to WSU with completion of application requirements and receipt of transcripts.
- Enter with junior status toward a baccalaureate degree.
- Be guaranteed to transfer 57 credit hours from Butler Community College to WSU.

This partnership reflects the following objectives, institutional expectations, and operational principles:

- Expanded student program opportunities, course articulation understandings, and transfer coordination considered mutually beneficial in this coordinated partnership.
- Graduates will possess the technical skills and conceptual background, creative mindset and applied experiences to address the workforce needs for achieving the desired economic development in the State of Kansas.
- All students must complete all major, institutional, and required degree requirements appropriate to the program curricula at the degree granting institution in order to graduate.
- Both Butler Community College and Wichita State University College of Engineering program faculty and administrators will promote the program with qualified prospective students and share assessment of learning outcomes toward the goal of program improvement.
- Students can inquire about academic and participation scholarships, financial aid, and grants by contacting the WSU Financial Aid office (316) 978-3430 and the College of Engineering, Engineering Student Success Center at (316) 978-3420.
- Students transferring to WSU from Butler Community College who have not completed an A.S. must meet the necessary requirements for admission to WSU, and will have their transcript evaluated on an individual basis.

In order to ensure a successful transition and completion of the associates' and bachelors' degrees from both institutions in this 2+2 agreement, students should refer to the required degree plans or stipulations of this agreement. Transfer students must complete at least 60 credit hours of four-year college work and no less than 45 credit hours of upper-division work in order to qualify for graduation from Wichita State University. Courses used as prerequisites may have higher grade requirements as described in the WSU undergraduate catalog.

Reverse Transfer

Students, who transfer to Wichita State University from Butler Community College before attainment of the Associate in Science degree, are eligible to reverse transfer courses that have WSU/BCC equivalency back to Butler. This allows for the attainment of the Associate in Science degree provided that at least 45 credit hours are earned at Butler and all other degree requirements are met.

Modification of Agreement

This agreement shall only be modified in writing with the same formality as the original agreement.

Terms of Agreement

The agreement will begin with the 2020-21 academic year.

Termination of Agreement

Either party may terminate this agreement for any reason with a written notice from either party. The parties agree that termination shall include an agreement that students currently enrolled in the program at the time of termination shall be permitted to complete the program as described herein.

Wichita State University



Dr. Richard Muma
Provost
Wichita State University

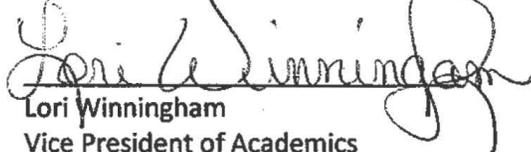


Dr. Dennis Livesay
Dean, College of Engineering
Wichita State University



Dr. L. Scott Miller
Chair, Aerospace Engineering
Wichita State University

Butler Community College



Lori Wunningham
Vice President of Academics
Butler Community College



Mel Whiteside
Dean, STEM
Butler Community College



Larry Friesen
Lead Instructor, Pre-Engineering
Butler Community College

**Butler Community College (two academic years) & Wichita State University (two calendar years)
Courses taken at Butler Community College towards completing the Associate in Science Degree
(plus, one course taken concurrently at Wichita State University in the Sophomore year)**

Freshman – 1st Semester 16 Credit Hours			
Wichita State University Equivalent	Hours	Butler Community College	Hours
ENGL 101 College English I	3-G	EG 101 English Composition I	3
General Education (Fine Arts)	3-G	Approved General Education (Fine Arts) as found on the WSU Transfer Guide	3
Math 242 Calculus I	5-M	MA 151 Calculus I w/ Analytic Geometry	5
CHEM 211 General Chemistry I	5-M	CH 110 College Chemistry I	5
Freshman – 2nd Semester 16 Credit Hours			
ENGL 102 College English II	3-G	EG 102 English Composition II	3
General Education (Fine Arts or Humanities or Social & Behavioral Science)	3-G	Approved General Education (Fine Arts or Humanities or Social & Behavioral Science) as found on the WSU Transfer Guide	3
Math 243 Calculus II	5-M	MA 152 Calculus II w/ Analytic Geometry	5
PHYS 313 Physics of Scientists I (4) PHYS 315 University Physics Lab (1)	5-M	PH 251 Physics I	5
Sophomore – 1st Semester 18-19 Credit Hours			
COMM 111 Public Speaking	3-G	SP 100 Public Speaking	3
Math 344 Calculus III	3-M	MA 253 Calculus III w/ Analytic Geometry	3
PHYS 314 Physics of Scientists II (4) PHYS 316 University Physics Lab II (1)*	4-M	PH 252 Physics II	5
IME 2000 Engineering Graphics I (3)*	0-C	EN 101 Engineering Graphics I	3
AE approved Natural Science elective (3)	3-M	BI 110 Biology (5) or BI 240 Anatomy & Physiology (5) or CH 115 Chemistry II (5) or PH 103 Astronomy (4) or PH 111 Meteorology (4) or PS 102 Geology (4)	4-5
Sophomore – 2nd Semester 12 Credit Hours at BCC			
ECON 201 Principles of Macroeconomics	3-G	EC 201 Principles of Macroeconomics	3
Math 350 Modeling Differential Equations (Satisfies MATH 555 Dif. Eq. requirement, but will not count towards a Math minor)	3-M	MA 260 Differential Equations	3
IME 222 Engineering Graphics (2) IME 222L Graphics Lab (1)	3-C	EN 102 Engineering Graphics II (Both EN 101 & 102 must be completed)	3
AE 223 Statics	3-C	EN 260 Statics	3
Total:	57		62-63
Sophomore – 2nd Semester 3 Credit Hours Concurrently at WSU			
AE 227 Digital Computations	3-C		

G: General Education; M: Math/Science; C: Engineering Core

*** although credit transfers to WSU, it does not apply towards the B.S. degree in Aerospace Engineering**

A total of 62-63 credit hours are taken at Butler Community College**

57 credit hours will apply towards the WSU B.S. degree in Aerospace Engineering

**** completing the associate's degree may require additional coursework not listed above**

Aerospace Engineering 2+2 Pathway [continued]

Butler Community College (two academic years) & Wichita State University (two calendar years)

Additional courses taken at Wichita State University to complete B.S. in Aerospace Engineering degree

Summer Bridge Term in Preparation for Junior Year Coursework 6 Credit Hours (AE 227, AE 333 and AE 373 are pre-requisites to Junior Year coursework)	
Wichita State University Course	Hours
AE 333 Mechanics of Materials	3
AE 373 Dynamics	3
Junior – 1st Semester 16 Credit Hours	
AE 324 Fundamentals of Atmospheric Flight	3
ME 398 Thermodynamics I	3
AE 415 Introduction to Space Dynamics	3
AE 525 Flight Structures I	3
EE 282 Circuits I	4
Junior – 2nd Semester 15 Credit Hours	
ME 250 Materials Engineering	3
AE 424 Aerodynamics I	3
AE 502 Aerospace Propulsion I	3
AE 514 Flight Dynamics and Control	3
AE 625 Flight Structures II	3
Senior – 1st Semester 16 Credit Hours	
AE 512 Experimental Methods in Aerospace	3
AE 524 Aerodynamics II	3
AE 528 Aerospace Design I	4
AE 607 Flight Control Systems	3
Aerospace Engineering Technical Elective	3
Senior – 2nd Semester 16 Credit Hours	
PHIL 385 Engineering Ethics	3
AE 628 Aerospace Design II	4
Aerospace Engineering Technical Electives (3)	9
Total (including 3 credit hours of AE 227 taken during the Sophomore year)	72