



# WICHITA STATE UNIVERSITY AND COWLEY COLLEGE 2+2 AGREEMENT Associates of Science Degree/Bachelor's Degree in Electrical Engineering July 24, 2019

The purpose of the 2+2 Agreement is to provide Cowley College's students a four-year coordinated program through the pre-engineering curriculum where students will receive an Associates of Science degree at Cowley College (CC) in the first two years and a Bachelor of Science degree in Electrical 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 Cowley College students who have:

- Earned an Associates of 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.

Cowley 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 64 credit hours from Cowley 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 Cowley 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 Cowley 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 Cowley College before attainment of the Associates of Science degree, are eligible to reverse transfer courses that have WSU/CC equivalency back to Cowley. This allows for the attainment of the Associates of Science degree provided that at least 45 credit hours are earned at Cowley 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 2019-2020 academic year.

#### **Termination of Agreement**

Either party may terminate this agreement for any reason with a written notice from either party.

This agreement is a collaboration between Wichita State University and Cowley College. Any changes, corrections, or additions to this agreement shall be in writing and signed by all necessary parties between both academic institutions.

Wichita State University

DP. Richard Muma Provost and Professor Wichita State University

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

EF.

Dr. Gergely Zaruba Department Chair Electrical Engineering and Computer Science Wichita State University

**Cowley College** 

Dr. Dennis C. Rittle President Cowley College

Dr. Michelle Schoon Interim Vice President of Academic Affairs Cowley College

Dr. Scott Layton Faculty and Chair Natural Science Department Cowley College

# Electrical Engineering Pathway (2+2) Cowley College & Wichita State University Courses taken at Cowley College for completion of Associates Degree of Science

Freshman – 1st Semester (Taken at Cowley) 16 Credit Hours				
Wichita State University Equivalent	Hours	Cowley College	Hours	
ENGL 101 College English I	3-G	ENG 2211 Composition I	3	
MATH 242 Calculus I	5-M	MTH 4435 Calculus I	5	
ENGR 101 Introduction to Engineering (TE*)	2-T	PHS 4545 Intro to Engineering	2	
CHEM 211 General Chemistry I	5-M	CHM 4220 Chemistry I	5	
HPS 2000 Elective (not transferable to B.S. degree)	0	Health & Physical Education Elective	1	
Freshman -	- 2nd Sem	ester (Taken at Cowley) 17 Credit Hours		
ENGL 102 College English II	3-G	ENG 2212 Composition II	3	
General Education (Social and Behavioral Science)	3-G	Approved General Education (Social & Behavioral Science) as found on the WSU Transfer Guide	3	
MATH 243 Calculus II	5-M	MTH 4440 Calculus II	5	
CS 211 Introduction to Programming	3-C	CIS 1876 C Programming	3	
General Education (Fine Arts)	3-G	Approved General Education (Fine Arts) as found on the WSU Transfer Guide	3	
Sophomore	- 1st Sen	nester (Taken at Cowley) 15 Credit Hours		
COMM 111 Public Speaking	3-G	COM 2711 Public Speaking	3	
CS 194 Introduction to Digital Design	4-C	CIS 1894 Introduction to Digital Design	4	
IME 255 Engineering Economy	3-C	PHS 4555 Engineering Economy	3	
PHYS 313 Physics for Scientists I and PHYS 315 University Physics Lab I	4-M 1-C*	PHS 4560 Engineering Physics I	5	
Sophomore	- 2nd Ser	nester (Taken at Cowley) 17 Credit Hours		
General Education (Social & Behavioral Science)	3-G	Approved General Education (Social & Behavioral Science) as found on the WSU Transfer Guide	3	
AE 223 Statics	3-C	PHS 4570 Statics	3	
PHYS 314 Physics for Scientists II PHYS 316 University Physics Lab II	4-M 0	PHS 4561 Engineering Physics II	5	
IME 254 Engineering Probability and Statistics I	3-C	MTH 4445 Engineering Probability and Statistics I	3	
General Education (Humanities)	3-G	Approved General Education (Humanities) as found on the WSU Transfer Guide	3	
Total	63		65	

G: General Ed.; M: Math/Science; C: Engineering Core; T: Technical Elective

\* this one credit hour transfers in towards the major to make up the credit hour lost during the transfer of CIS1876->CS 211; thus, for students under this umbrella,

the PHYS315 class will appear under "Engineering Core"

A total of 65 credit hours taken at Cowley College for completion of Associates Degree of Science

63 credit hours will transfer to WSU towards B.S. degree in Electrical Engineering

# Electrical Engineering Pathway (2+2) Cowley College & Wichita State University Courses taken at Wichita State for completion of B.S. in Electrical Engineering

Junior – 1 <sup>st</sup> Semester (Taken at WSU) 16 Credit Hours				
Wichita State University Requirement	Hours			
EE 282 Circuits I	4			
MATH 344 Calculus III	3			
ME 398 Thermodynamics I	3			
MATH 555 Differential Equations I	3			
PHIL 385 Engineering Ethics	3			
Junior – 2nd Semester (Taken at WSU) 15 Credit Ho	urs			
EE 284 Circuits II	3			
EE 492 Electronic Circuits I	4			
MATH 511 Linear Algebra	3			
EE 488 Electric Machines and Transformers	4			
EE 285L Programming w/MATLAB for EE/CE	1			
Senior – 1st Semester (Taken at WSU) 14 Credit Hou	urs			
General Education-Further Studies	3			
EE 463 Applied Engineering Electromagnetics	3			
Technical Elective	3			
EE 585 Electrical Design Project I	2			
EE 383 Signal and Systems	3			
Senior – 2nd Semester (Taken at WSU) 16 Credit Ho	urs			
EE 684 Introductory Control Systems	3			
EE 493 Electronic Circuits II	4			
EE 586 Introduction to Communication Systems	4			
EE 595 Electrical Design Project II				
Technical Elective	3			

A total of 61 credit hours taken at Wichita State for the completion of the B.S. degree in Electrical Engineering