

# WSU Tech to Wichita State: Associate of Arts (AA) to Mechanical Engineering, Bachelor of Science (BS) [E14C]

**General Education: Wichita State University Policy** 

<u>v</u>	WSU Course	WSU Tech Course	CR	Grade	Sem/YR	Notes
Foundation	ENGL 101 College English 1	ENG 101 Composition I	3	2.2.3	<i>55,</i> K	110000
Courses  Must be  completed with	ENGL 102 College English 2	ENG 120 Composition II	3			
a C- or better within the first	COMM 111 Public Speaking	SPH 101 Public Speaking	3			
48 hours of college coursework.	MATH 111 College Algebra	MTH 112 College Algebra	3			AA Requirement only. Students who place into Trig or Calc do not need College Algebra.
Divisional Courses	Fine Arts	ART 100, MUS 110 or THR 100	3			
	Humanities - PHIL 385	No Equivalent	3			300+ level course
	Social/Behavioral Science –		3			
	Math & Natural Science – MATH 242	MTH 125 Calculus I	5			
Additional Courses	Gen Ed Division 1 - MATH 243	MTH 150 Calculus II	5			M/NS. See Tech advisor for limited availability.
At least 9 hours must be	Gen Ed Division 2 -		3			Non-M/NS. 300+ level course
numbered 300	Gen Ed Any Division - CHEM 211	CHM 125 Chemistry I	5			
or higher	Gen Ed Any Division – PHYS 313 & 315	No Equivalent	5			300+ level course

NOTE: Students who have completed an AA or AS through a Kansas Community College may choose to fulfill general education requirements by completing two 300-level courses at Wichita State University.

Math and Natural Science Requirements

	WSU Course	WSU Tech Course	CR	Grade	Sem/YR	Notes
These courses	CHEM 211 General	CHM 125 Chemistry I	5			Gen Ed.
may also be	Chemistry I					
listed in the	MATH 242 Calculus I	MTH 125 Calculus I	5			Gen Ed. P: Score or Trig.
general education requirements	MATH 243 Calculus II	MTH 150 Calculus II	5			Gen Ed. See Tech advisor for limited availability. P: Min C in Calc. I
	MATH 344 Calculus III	No Equivalent	3			Min C in Calc II.
	MATH 555 Differential Equations	No Equivalent	3			P: Min C in MATH 243.
	PHYS 313/315 Physics for Scientists I w/ Lab	No Equivalent	5			C: MATH 243.
	PHYS 314 Physics for Scientists II	No Equivalent	4			P: MATH 243 and PHYS 313.
	Choose 1 M/NS Elective From Below:	Transferable Options	3-5			See specific course
	BIOL <b>106/107</b> , <b>210*</b> , 211, <b>223</b> , 310, <b>370</b> , any 500+	BIOL 110, BIOL 130*, BIOL 150 or BIOL 120				*See Tech advisor for limited availability.
	CHEM <b>212</b>	CHEM 135 Chemistry II				
	PHYS <b>195/196, 395</b> or any	PHS 115 Introductory				
	500+	Astronomy				

# **Engineering Core**

	WSU Course	WSU Tech Course	CR	Grade	Sem/YR	Notes
Non-ME engineering	AE 223 Statics	No Equivalent	3			P: PHYS 313 C: MATH 243
requirements	AE 333 Mechanics of Materials	No Equivalent	3			P: AE 223 C: MATH 344
	EE 282/L Circuits I w/ Lab	No Equivalent	4			C: MATH 243
	IME 222/L Engineering Graphics w/ Lab	No Equivalent	3			P: College Trig.
	PHIL 385 Engineering Ethics	No Equivalent	3			Gen Ed.

# **Mechanical Engineering Courses**

	WSU Course	WSU Tech Course	CR	Grade	Sem/YR	Notes
	ME 250/251 Materials Engineering/Lab	No Equivalent	4			P: CHEM 211 & MATH 242
	ME 325 Numerical Methods	No Equivalent	3			P: MATH 243 & PHYS 313
	ME 335 Dynamics for Mechanical Engineers	No Equivalent	3			P: AE 223 & MATH 344
	ME 339 Design of Machinery	No Equivalent	3			P: IME 222
	ME 398 Thermodynamics I	No Equivalent	3			P: MATH 243 & PHYS 313
	ME 439 Mechanical Engineering Design I	No Equivalent	3			P: ME 250, 251, AE 333, & MATH 555
	ME 475 Integrated Design & Manufacturing	No Equivalent	3			P: ME 250/251, AE 333

ME 521 Fluid Mechanics & Lab	No Equivalent	3		P: ME 398 & 335, MATH 555
ME 522 Heat Transfer	No Equivalent	3		P: ME 325 & 521, PHYS 314
ME 533 Mechanical Engineering Lab	No Equivalent	3		P: AE 333, EE 828, ME 325, ENGL 102, COMM 111 & PHYS 315. C: ME 522
ME 541 Mechanical Engineering Design II	No Equivalent	3		P: ME 339, 439, 475
ME 625 Applications in Thermal Engineering	No Equivalent	3		P: ME 521, 522
ME 633 Mechanical Systems Lab	No Equivalent	3		P: ME 522 & 533
ME 659 Mechanical Control Systems	No Equivalent	3		P: EE 282 and MATH 555 or EE 383
ME 662 Senior Capstone Design	No Equivalent	3		P: ME 339, 4439 & 522 C: ME 663 & 659
Mechanical Electives	No Equivalent	6		
Thermal/Fluids Science Electives	No Equivalent	6		
Open Technical Elective	No Equivalent	3		

### **Engineering+ Program requirements**

Students must	Cooperative Education or Internship
select 3 of the 7	Entrepreneurship and Innovation
options listed here	Global Learning or Study Abroad
to meet	Multidisciplinary Education
Engineering+	Undergraduate Research
requirements.	Leadership
	Service Learning

Consult the Wichita State Undergraduate Catalog for detailed information and how to satisfy each Engineering+ option. Other information found at www.wichita.edu/engineering+



### AA Graduation Requirements

Earn credit for 60 cumulative hours.

Earn a minimum of 15 hours at WSU.

Earn a minimum of 48 hours in Liberal Arts and Sciences coursework.

Complete all general education requirements.

Maintain an overall, WSU and cumulative GPA of 2.00 or higher.



### BS in Mechanical Engineering Graduation Requirements

Earn credit for 129 cumulative hours.

Earn credit in a minimum of **60** hours at a 4-year institution.

Earn credit in a minimum of 45 hours of upper-division coursework.

Complete all general education requirements.

Maintain an overall, WSU, and program GPA of 2.00 or higher.

At least 24 of last 30 or 50 of last 60 credit hours must be completed at WSU.



## **Advising Resources**

#### WSU Tech Academic Advisor:

Shelby Berry Phone: 316.677.1727

Email: ssmith42@wsutech.edu

#### WSU Returning Adult Specialist:

Jenna Randall Phone: 316.978.8406

Email: jenna.randall@wichita.edu ShockerPathway@wichita.edu

#### **Mechanical Engineering Advising**

Lena Lamei Engineering Building Room 101A 316.978.2825 Lena.lamei@wichita.edu



#### **Connect with Shocker Pathway Resources**

www.wichita.edu/academics/adult\_learning/shocker\_pathway.php

Instagram: ShockerPathwayWSU Twitter: @ShockerPathway Facebook: @WSUShockerPathway



### Suggested Course Sequence at WSU Tech for WSU Gen Ed Policy

	WSU Tech Course	CR	Prerequisite	Notes
WSU Tech Semester 1	ENG 101 Composition I	3	Entrance Score	If not eligible for ENG 101 take first available ENG course.
Semester :	MTH 112 College Algebra	3	Entrance Score	If student places into Trig or Calculus, student does not need to start w/ College Algebra. Math sequence should be top priority for Engineering students.
	CHM 125 Chemistry I	5	See Tech Advisor	
	Social/Behavioral Science	3		
WSU Tech	ENG 120 Composition II	3	Min C in ENG 101	
Semester 2	MTH 113 College Trigonometry	3	Score or Min C in MTH 112	If student places into Calculus, student does not need to take Trig. Math sequence should be top priority for Engineering students. Take math every semester.
	Fine Arts	3		
	Science Elective	5		
WSU Tech	SPH 111 Public Speaking	3		
Semester 3	MTH 125 Calculus I	5	Score or MTH 113 w/ C	
	Additional Gen Ed – 2 <sup>nd</sup> Division	3		Suggested 300+ S/BS.
	Engineering+	3		
	ORI 003 Shocker Pathway Transfer	0		
Courses to	PHIL 385 Engineering Ethics	3	Jr/Sr Standing	
Finish AA at	MATH 243 Calculus II	5	MATH 242 w/ C	
WSU	PHYS 313/315 Physics for Scientists I w/ Lab	5		
	IME 222 w/ Lab Engineering Graphics w/ Lab	4		
	Elective or Engineering+	3+		