

**Associate in Science in Mechanical Engineering (TCC) to
Bachelor of Science in Industrial Engineering and Management (OSU)**

Available in Stillwater

Tulsa Community College (years 1 and 2) – 2025-26

Year One – Tulsa Community College

Fall

TCC Equivalent or Substitute	OSU Requirement	✓
ENGR 1111 – Intro to Engineering	UNIV 1111	
CHEM 1365 – General Chemistry for Engineers	CHEM 1414 (LN) + 1 hour elective	
ENGL 1113 – Composition I	ENGL 1113	
MATH 2114 – Calculus I	MATH 2144 (Q)	
HIST 1483 – Am Hist 1492 – Civil War or HIST 1493 – Am Hist Civil War - Pres	HIST 1483 (H) or HIST 1493 (DH)	
Semester Credit Hours at TCC: 16		

Spring

TCC Equivalent or Substitute	OSU Requirement	✓
ENGR 1242 – Intro to Engineering Computer Programming	ENGR 1412	
MATH 2124 – Calculus II	MATH 2153 (Q) + 1 hour elective	
PHYS 2034 – Physics I with Calculus	PHYS 2014 (LN)	
ENGL 1213 – Composition II	ENGL 1213	
3 Hrs Humanities (with G or D)**	3 hours H (with G or D)**	
Semester Credit Hours at TCC: 16		

** Minimum 6 hrs (H). Of these, 3 hours must meet the Global Designation (G) and 3 hrs must meet the Diversity (D) requirements. Students who complete their AS at TCC are eligible to have the (G) & (D) requirements waived per OSRHE policy.

Year Two- Tulsa Community College

Fall

TCC Equivalent or Substitute	OSU Requirement	✓
ENGR 1132 – Engineering Design with Computer Aided Design	ENGR 1332	
ENGR 2213 – Thermodynamics ¹	ENSC 2213	
PHYS 2124 – Physics II with Calculus	PHYS 2114 (LN)	
MATH 2134 – Calculus III ² or MATH 2613 – Differential Equations ²	MATH 2163 or MATH 2233	
ENGR 2103 – Engineering Statics	ENSC 2113	
Semester Credit Hours at TCC: 15-16		

Spring

TCC Equivalent or Substitute	OSU Requirement	✓
Select 1 ¹ : ENGR 2143 – Strength of Materials ENGR 2523 – Elementary Dynamics ENGR 2613 – Intro Electrical Science	ENSC 2143 ENSC 2123 ENSC 2613	
POLS 1113 – American Federal Government	POLS 1113	
COMM 1113 – Public Speaking (Gen Ed Required Elective)	SPCH 2713 (S)	
3 Hrs Humanities (with G or D)**	3 hours H (with G or D)**	
Semester Credit Hours at TCC: 12		

¹ Only two of these ENGR courses are required for the BS IEM at OSU. TCC will substitute during reverse transfer for the AS.

² Either MATH 2134 or MATH 2613 is required for the BS IEM. TCC will substitute a course during reverse transfer for the AS. For students who take MATH 2613 and do not have additional electives or other hours to meet the total hours required may need one additional hour of elective.

Before transferring to OSU, have the TCC Registrar send an official transcript to the OSU Admissions Office with any degrees earned noted on the transcript. If you have not completed the requirements for an associate degree, talk with your OSU Academic Advisor about Reverse Transfer options to use OSU coursework to complete your TCC associate degree.

Oklahoma State University (years 3 and 4) – 2025-26

Year Three – Oklahoma State University

Fall

OSU Requirement	✓
ENSC 3313 – Materials Science	✓
IEM 2903 – Introduction to Industrial Engineering	✓
IEM 3403 –Engineering Project Management	✓
IEM 3103 – Probability & Statistics for Engrs I	✓
MATH 3013 (Q) – Linear Algebra ²	✓
Semester Credit Hours at OSU: 15	

Spring

OSU Requirement	✓
IEM 3503 – Engineering Economics Analysis	✓
IEM 3523 – Engineering Cost Information and Control Systems	✓
IEM 3703 – Probability and Statistics for Engineers II	✓
IEM 3813 – Work Design, Ergonomics, and Human Performance	✓
IEM 4013 – Operations Research	✓
IEM 3713 – Software Programming for Data Analytics	✓
Semester Credit Hours at OSU: 18	

***Action:** After completing ENSC 3313, IEM 2903 and MATH 3013 students should complete a reverse transfer to earn their A.S. Mechanical Engineering from Tulsa Community College. Contact reversetransfer@tulsacc.edu to complete this process.

Year Four – Oklahoma State University

Fall

OSU Requirement	✓
IEM 3303 – Manufacturing Processes	✓
IEM 4113 –Experimental Design & Analysis for Engineering	✓
IEM 4613 – Production Planning and Control Systems	✓
IEM 4723 – Information Systems Design and Development	✓
IEM 4713 – Systems Simulation Modeling	✓
IEM 4623 – Supply Chain and Logistics	✓
Semester Credit Hours at OSU: 18	

Spring

OSU Requirement	✓
IEM 4103 – Quality Control & Reliability Analysis	✓
IEM 4203 – Facilities and Material Handling System Design	✓
Select 6 hours: IEM Elective – IEM 4163, 4783, 4953, 4990(3) or any MATH, STAT, CS or CEAT course 3000-level or above with advisor approval	✓
IEM 4913 – Senior Design Projects	✓
Semester Credit Hours at OSU: 15	

This plan is only one example of how a student may successfully complete degree requirements in four years. Students are responsible for completing the requirements as given in the official degree requirements sheet.

