



Associate in Science in Mechanical Engineering (TCC) to  
Bachelor of Science in Aerospace Engineering and Bachelor of Science in Mechanical  
Engineering (OSU)  
Available in Stillwater

Tulsa Community College (years 1 and 2) – 2024-25

**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 (A)                      |   |
| HIST 1483 – Am Hist 1492 – Civil War or<br>HIST 1493 – Am Hist Civil War - Pres | HIST 1483 (H) or<br>HIST 1493 (DH) |   |
| <b>Semester Credit Hours at TCC: 16</b>   |                                    |   |

*Spring*

| TCC Equivalent or Substitute                          | OSU Requirement                 | ✓ |
|---|---------------------------------|---|
| ENGR 1242 – Intro to Engineering Computer Programming | ENGR 1412                       |   |
| ENGR 1132 – Engineering Design w/CAD - Solidworks     | ENGR 1332                       |   |
| ENGL 1213 – Composition II                            | ENGL 1213                       |   |
| 3 Hrs Humanities (with I or D)                        | Humanities (I, or D)            |   |
| PHYS 2034 –Physics I with Calculus                    | PHYS 2014 (LN)                  |   |
| MATH 2124 – Calculus II                               | MATH 2153 (A) + 1 hour elective |   |
| <b>Semester Credit Hours at TCC: 18</b>               |                                 |   |

\*Students must have completed MATH 1513 and MATH 1613 or MATH 1715 or have demonstrated math competencies at the pre-calculus level through test scores prior to the first semester to complete this degree within two years/within the number of hours listed in the agreement. See an academic advisor to learn more about Math placement testing.

\*\* The (I) and (D) requirements are waived with completion of the AS degree.

**Year Two- Tulsa Community College**

*Fall*

| TCC Equivalent or Substitute            | OSU Requirement      | ✓ |
|---|----------------------|---|
| ENGR 2103 Engineering Statics           | ENSC 2113            |   |
| ENGR 2213 Thermodynamics                | ENSC 2213            |   |
| PHYS 2124 –Physics II with Calculus     | PHYS 2114 (LN)       |   |
| POLS 1113 – American Federal Government | POLS 1113            |   |
| MATH 2613 – Differential Equations      | MATH 2233            |   |
| 3 Hrs Humanities (with I or D)          | Humanities (I, or D) |   |
| <b>Semester Credit Hours at TCC: 19</b> |                      |   |

*Spring*

| TCC Equivalent or Substitute                     | OSU Requirement             | ✓ |
|--|-----------------------------|---|
| ENGR 2523 – Elementary Dynamics                  | ENSC 2123                   |   |
| ENGR 2143 – Strength of Materials                | ENSC 2143                   |   |
| ENGR 2613 Intro Electrical Science               | ENSC 2613                   |   |
| MATH 2134 – Calculus III                         | MATH 2163 + 1 hour elective |   |
| COMM 1113<br>General Education Required Elective | SPCH 2713 (S)               |   |
| <b>Semester Credit Hours at TCC: 16</b>          |                             |   |

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) – 2024-25

## Year Three – Oklahoma State University

Summer / Fall

| OSU Requirement   | ✓ |
|---|---|
| ENGR 2421 Engr. Data Acquisition Controls Lab<br>(Mandatory Summer for Aeros / Dual Degree in Tulsa)  |   |
| MAE 3333 – Fundamental Fluid Dynamics (Summer)  |   |
| ENSC 3313 Material Science  |   |
| MAE 3153 Introduction to MAE Design   |   |
| MAE 3013 – Engineering Analysis   |   |
| Two from the following labs:<br>ENSC 2141 Strengths Lab / ENSC 2411 Elect. Science Lab /<br>ENSC 2611 Elect. Fab Lab / ENSC 3231 Fluids Lab / ENSC<br>3311 Materials Lab / ENSC 3431 Thermo & Heat Trnsf. Lab |   |
| MAE 3293 Fundamentals of Aerodynamics   |   |
| <b>Semester Credit Hours at OSU: 4 (Summer) / 14 (Fall)</b>   |   |

Spring

| OSU Requirement  | ✓ |
|--|---|
| MAE 3253 – Applied Aerodynamics  |   |
| 3 Hrs Technical Elective (Varies) or<br>MAE 3233 – Heat Transfer for Dual Degree |   |
| MAE 3724 – Dynamic Systems Analysis & Controls                                   |   |
| MAE 3324 Mechanical Design I   |   |
|  |   |
|  |   |
| <b>Semester Credit Hours at OSU: 14</b>  |   |

## Year Four – Oklahoma State University

Fall

| OSU Requirement                                    | ✓ |
|--|---|
| MAE 4513 Aerospace Structures                      |   |
| MAE 4243 Propulsion & Power                        |   |
| MAE 4283 Stability and Control                     |   |
| MAE 3524 – Thermal Fluids Design (for Dual Degree) |   |
| IEM 3503 – Engineering Economics                   |   |
| <b>Semester Credit Hours at OSU: 16</b>            |   |

Spring

| OSU Requirement                           | ✓ |
|---|---|
| MAE 4374 Aerospace Systems Design         |   |
| MAE 4223 Aerospace Engineering Laboratory |   |
| 3 Hrs from Natural Science course options |   |
| MAE 3403 – Computer Methods               |   |
| <b>Semester Credit Hours at OSU: 13</b>   |   |

# Work with an advisor to determine timing of the Lab courses to coincide with appropriate courses.

\*\* The (I) and (D) requirements are waived with completion of the AS degree.

This plan is only one example of how a student may successfully complete degree requirements in four years. Course rotations may vary between the Stillwater and Tulsa campuses. Students are responsible for completing the requirements as given in the official degree requirements sheet.