

Associate in Science in Mechanical Engineering at Tulsa Community College to Bachelor of Science in Mechanical Engineering at Northeastern State University

63 Credit Hours at TCC + 61 Credit Hours at NSU = 124 Total Credit Hours

Transfer Map Catalog Year: 2024-2025

University Campus Locations: Broken Arrow Campus

Note to Students: Transfer maps provide a semester by semester guide to a university showing how TCC courses transfer to a specific bachelor's degree program. This transfer map is based on a full-time schedule and is just one example of how a student may successfully complete degree requirements for both programs. Students should work with a TCC advisor and the university to ensure they are on-time and on-track for transfer. Students are responsible for understanding the program/admission/transfer requirements for the

university and for completing requirements in the official degree sheet for each major.

| TULSA COMMUNITY COLLEGE – SEMESTER ONE | | |
|---|--|--------------|
| TCC Course | NSU Course | Credit Hours |
| CHEM 1315 General Chemistry I (L) or CHEM 1365 General Chemistry for Engineers* | CHEM 1123 & 1131 - General Chemistry I and lab | 5 |
| HIST 1483 or HIST 1493 U.S. History | HIST 1483 American History to 1877 or HIST 1493 American History since 1877 | 3 |
| ENGR 1111 Introduction to Engineering | ENGR 1003 Introduction to Engineering | 1 |
| MATH 2114 Analytic Geometry and Calculus I (A)* | MATH 2614 Calculus I | 4 |
| ENGL 1113 Composition I | ENGL 1113 English Composition I | 3 |
| Semester Credit Hours at TCC: | | 16 |

^{*}MATH PLACEMENT: 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.

| TULSA COMMUNITY COLLEGE – SEMESTER TWO | | |
|---|----------------------------------|--------------|
| TCC Course | NSU Course | Credit Hours |
| ENGR 1132 Engineering Design w. Computer Aided Design | ENGR Hrs. | 2 |
| ENGR 1242 Introductory Engineering Computer Programming | ENGR Hrs. | 2 |
| PHYS 2034 Physics I with Calculus (L) | PHYS 2115 Engineering Physics I | 4 |
| MATH 2124 Analytic Geometry and Calculus II (A) | MATH 2624 Calculus II | 4 |
| ENGL 1213 Composition II | ENGL 1213 English Composition II | 3 |
| Semester Credit Hours at TCC: | | 15 |

| TULSA COMMUNITY COLLEGE – SEMESTER THREE | | |
|---|----------------------------------|--------------|
| TCC Course | NSU Course | Credit Hours |
| ENGR 2103 Engineering Statics | ENGR 3133 Statics | 3 |
| ENGR 2213 Thermodynamics | amics ENGR 3653 Thermodynamics I | |
| General Education Required Elective | General Elective | |
| MATH 2613 Elementary Differential Equations Sub for MATH 4113 Differential Equations | | 3 |
| PHYS 2124 Physics II with Calculus (L) PHYS 2215 - Engineering Physics II | | 4 |
| Semester Credit Hours at TCC: | | 16 |

| TULSA COMMUNITY COLLEGE – SEMESTER FOUR | | |
|---|--|--------------|
| TCC Course | NSU Course | Credit Hours |
| ENGR 2143 Engineering Strength of Materials | ENGR 3263 Mechanics of Materials | 3 |
| ENGR 2523 Elementary Dynamics | ENGR 3213 Mechanics (Dynamics) | 3 |
| ENGR 2613 Introduction to Electrical Science | ENGR 3513 Electricity and Magnetism (Circuit Theory) | 3 |
| MATH 2134 Analytic Geometry and Calculus III | MATH 2634 Calculus III | |
| POLS 1113 American Federal Government POLS 1113 American Federal Government | | 3 |
| Semester Credit Hours at TCC: | | 16 |

See notes below in regard to reverse transfer

| NORTHEASTERN STATE UNIVERSITY – SEMESTER FIVE | | |
|---|--------------|--|
| NSU Course | Credit Hours | |
| ENGR 3543 Engineering Analysis and Methods | 3 | |
| ENGR 3282 Mechanics laboratory | 2 | |
| ENGR 3813 Fluid Mechanics | 3 | |
| ENGR 3852 Fluids Laboratory | 2 | |
| MATH 3513 Statistical Methods | 3 | |
| Humanities Elective** | 3 | |
| Semester Credit Hours at NSU: | 16 | |

Notes: **It is recommended that students reverse transfer two 3-credit hour courses from NSU to TCC to complete their A.S. in Mechanical Engineering. Contact <u>reversetransfer@tulsacc.edu</u> for assistance with this process after semester five.

| NORTHEASTERN STATE UNIVERSITY – SEMESTER SIX | | |
|--|--------------|--|
| NSU Course | Credit Hours | |
| ENGR 4413 Advanced Heat | 3 | |
| ENGR 3662 Thermal Engineering Lab | 2 | |
| ENGR 3913 Computational Methods in Engineering | 3 | |
| MATH 3983 Linear Algebra | 3 | |
| Humanities Elective** | 3 | |
| General Elective | 1 | |
| Semester Credit Hours at NSU: | 15 | |

Congratulations you have earned your Associate Degree from TCC! Time to celebrate!

| NORTHEASTERN STATE UNIVERSITY – SEMESTER SEVEN | | |
|--|--------------|--|
| NSU Course | Credit Hours | |
| ENGR 4152 Engineering Design I | 2 | |
| ENGR 3874 Systems and Controls (integrated with Digital Logic Design Lab and | 4 | |
| Mechatronics Lab) | 4 | |
| Mechanical Engineering Elective | 3 | |
| Upper General Electives | 3 | |
| General Electives | 3 | |
| Semester Credit Hours at NSU: | 15 | |

| NORTHEASTERN STATE UNIVERSITY – SEMESTER EIGHT | | |
|--|--------------|--|
| NSU Course | Credit Hours | |
| ENGR 4252 Engineering Design II | 2 | |
| ENGR 4323 Machine Elements | 3 | |
| Upper General Electives | 4 | |
| General Electives | 3 | |
| General Electives | 3 | |
| Semester Credit Hours at NSU: | 15 | |

Congratulations you have earned your Bachelor's Degree from NSU! Time to celebrate!

TCC Milestones and Recommended Actions:

- **Consider Summer Courses:** Summer courses at TCC can help accelerate your time to transfer, and help you stay on track. Talk to your advisor about planning summer courses.
- **During or After Year One at TCC:** Consider a campus tour of Northeastern State University and connect with a NSU academic advisor, to ensure you are on track to transfer. Your TCC academic advisor can assist in planning these actions.
- **During Year Two at TCC:** During or right after semester three coursework, apply for admission at Northeastern State University as a transfer student (https://apply.nsuok.edu/).
- **Final Semester at TCC:** Congratulations you are about to earn your Associate Degree! Be sure to apply for graduation @ https://www.tulsacc.edu/student-resources/graduation.
- **Transcripts:** After your final semester, submit an official TCC transcript to NSU (www.tulsacc.edu/student-resources/student-records/requesting-and-submitting-transcripts).
- Reverse Transfer: Students who transfer to a university before completing an associate degree and
 who have earned at least 15 credit hours from TCC may be eligible to complete their TCC degree
 through Reverse Transfer. Email reversetransfer@tulsacc.edu to see if you qualify for a degree through
 the Reverse Transfer program (https://www.tulsacc.edu/student-resources/graduation/reverse-transfer).

Program Information and Recommended Actions - NSU:

- Mechanical Engineering Electives must be chosen from one of the electives listed below.
 - ENGR 3583 Manufacturing Processes
 - ENGR 4653 Thermodynamics II
 - ENGR 3413 Statistical Thermodynamics
 - ENGR 3714 Electronics

• General Electives can be chosen from mechanical engineering electives as well as courses from other programs.

Baccalaureate Degree Information:

- Students must complete minimum 60 of 120 credit hours from a university (four-year school), excluding physical education courses.
- 30 credit hours are required from NSU.
- 40 credit hours must be junior and senior (3000/4000) level courses.
- At least 45 credit hours must be ENGR courses.
- At least 18 hours or 50% of the major, whichever is greater, must be from NSU; half the major must be upper level (3000/4000).
- English proficient (ENGL 1113 Composition & ENGL 1213 Composition II) with a C or better.
- Computer proficient.

Learn More About Programs in this Pathway:

- TCC A.S. Mechanical Engineering https://www.tulsacc.edu/academics/programs-courses/mechanical-engineering-engineering
- NSU BS Mechanical Engineering program -https://catalog.nsuok.edu/preview_program.php?catoid=34&poid=4578&returnto=2123

University Transfer Contact Information

University Transfer Office
Tulsa Community College
www.tulsacc.edu/transfer
Contact: tcc2university@tulsacc.edu

Transfer Student Services
Northeastern State University
https://www.nsuok.edu/Transfer
Contact: transfer2nsu@nsuok.edu

APPROVAL SIGNATURE PAGE

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| Jessica Wartin | |
| January (urtin | 10/24/2024 |
| Dr. Jessica Martin, Dean, Science and Health Professions | Date |
| Northeastern State University | |
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| Dr. Kristopher Copeland, Associate Vice President for Academic Affairs | Date |
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TCC2NSU A.S. Mechanical Engineering to B.S. Mechecanical Engineering 2024-2025 Final Draft (Total Hours Update)

Final Audit Report 2024-10-24

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