



WAYNE STATE
UNIVERSITY

Transfer Student Success Center Transfer Planning Guide



Welding & Metallurgical Engineering Technology College of Engineering

engineering.wayne.edu/engineering-technology · (313) 577-0802

Transfer Planning Guide

This transfer planning guide provides a general overview and best advice, as well as links to other resources for transfer success. This guide is intended for planning purposes and not intended to list all transfer course options or replace an official plan of study.

Welding & Metallurgical Engineering Technology Transfer Recommendation *(prepares students to finish the program in two years)*

Wayne State University	Macomb Community College
	Michigan Transfer Agreement (MTA) –see advising notes
ENG 1020 and 3020	ENGL 1180 and 1190 Communications 1 and 2
MAT 1800	MATH 1465 Accelerated Calculus
ET 3430	MATH 1760 Analytic Geometry & Calculus 1
CHM 1020	CHEM 1050 Intro to Chemistry
PHY 2130	PHYS 1180 College Physics 1
PHI 2120	PHIL 2120 Professional Ethics
Welding and Lower Division Technical Requirements <i>(satisfies lower division technical and specific welding requirements)</i>	
ET 1XXX (Lower Division Technical Course)	ATDD 1900 Machine Tool Blueprint Reading
ET 1XXX (Lower Division Technical Course)	ATWD 1110 Fundamentals of Gas and Arc Welding
ET 1XXX (Lower Division Technical Course)	ATWD 1100 Welding Metallurgy
ET 1XXX (Lower Division Technical Course)	ATWD 1130 Shielded Metal Arc Welding (SMAW)
ET 1XXX (Lower Division Technical Course)	ATWD 1140 Gas Metal Arc Welding
ET 1XXX (Lower Division Technical Course)	ATWD 1150 Gas Tungsten Arc Welding
ET 1XXX (Lower Division Technical Course)	ATWD 2400 Maintenance Welding
ET 1XXX (Lower Division Technical Course)	ATMT 2420 Tool and Die Welding
ET 1XXX (Lower Division Technical Course)	ATMT 1300 Metallurgy-Characteristics of Ferrous Materials
ET 1XXX (Lower Division Technical Course)	ATMT 1310 Metallurgy-Characteristics of Non-Ferrous Materials
ET 1XXX (Lower Division Technical Course)	ATWD 1160, ATWD 1161, ATWD 1162, <u>or</u> ATWD 1163
ET 2140 Computer Graphics	ATAP 2010, ATAP2030, ATAP 2350, ATAP 2360, ATAP2370, DRCG 1140, PRDE 1400, PRDE 1410, PRDE 1450, PRDE 1475, PRDE 1520, PRDE 1620, PRDE 2520, <u>or</u> PRDE 2620
EET 2000	MECT 1141
MIT 3500	ATMT 1150 or 1160

Advising Recommendations

- Complete the Michigan Transfer Agreement (30 credits) to satisfy WSU General Education requirements
 - ENGL 1180 and 1190, MATH 1656, CHEM 1050, PHYS 1180, and PHIL 2120 may be used to satisfy specific MTA requirements.
- ET 1XXX (technical lower division courses) satisfies specific welding and major requirements. The WMT program requires 21 credits of lower division technical credits.
- All applicants are strongly encouraged to schedule an advising meeting prior to applying to the Wayne State University WMT program. Additional courses may transfer toward the WMT program.

Wayne State University – Welding & Metallurgical Engineering Technology (WMT)

Metallurgy and welding are two technologies that both have their roots in the Industrial Revolution, where the joining of metals began with the forge welding of pig or wrought iron. Because of their fundamental nature, these technologies are intertwined. The ability to develop and join metals has made an immeasurable contribution to the transportation, aerospace, agricultural, and defense industries.

Metallurgical engineering is a field with a rich historical background, where the practice has almost superseded the science. Metallurgy is the study of the relationship between the structure of materials at the atomic scale and their properties at the macroscale. These engineers or engineering technologists work in manufacturing environments where the engineering and joining of structures is of the utmost importance to fit, function and safety of a product. Welding engineering technology is a branch of metallurgical engineering concerned with all the aspects of joining metals, leading to the manufacture of sound weldments or design of more efficient equipment to aid in the welding process.

The demand for welding and metallurgical engineering technology graduates at the bachelor of science level is growing due to the following:

- Electric and autonomous vehicles will require welding and metallurgical engineering technology graduates to work with advanced metals and the advanced welding techniques to join them.
- Light-weighting in the automotive industry continues to be a hot topic. While much of the light-weighting focus has been on the contributions of polymers and composites, the use of nonferrous metals, high-strength low-alloy (HSLA) steels and advanced high-strength steels (AHSS) have been major contributors to light-weighting initiatives.
- The vast majority of "metallurgical engineering" programs have changed to "materials science." This change has required the addition of ceramics, polymers, composites and semiconductor coursework. The addition of the non-metal courses has resulted in a reduction of metallurgy coursework within the new materials science programs.

Transfer Credit Resources

- [Transfer Equivalency Self-Service](#): This tool displays how your earned credits will transfer into specific Wayne State degree programs. This tool provides an unofficial degree audit that indicates how your transfer credit is applied and which courses are still required to complete the degree.
- [Michigan Transfer Agreement \(MTA\)](#): The MTA can be earned at any Michigan community college to satisfy the Wayne State general education requirements. Each community college has an MTA-approved course list of its own, so please refer to the list of courses that your respective community college has approved for MTA.
- [Transfer Course Equivalency](#): This tool allows you to research specific courses and how they transfer to Wayne State.
- [Transfer Pathways](#): The transfer pathways are agreements with Michigan community colleges that streamline the transfer credit process while providing a roadmap to earning your associate's and bachelor's degrees.

Understanding Transfer Credit

- **What will transfer?** All college-level classes from regionally accredited colleges with a grade of 2.0 (C) or above will transfer. There are no specific limits to the number of transfer credits. However, each academic program has specific requirements that must be satisfied which helps determine the best number of credits to transfer.
- **How will it transfer?** Courses transfer as the number of credits earned at the college where you took the class. This is true regardless of the number of credits the Wayne State equivalent course is worth. Each transferred course will match one of the following types of credits:
 - **Equivalent credit** – matches a specific WSU course.
 - **Department credit** – transfer into academic department without a specific WSU course match (ex. ET1XXX).
 - **Elective credits** – transfer as general or elective credit (ex. GEN 1XXX or GEN 2XXX).

**** This plan is for informational purposes only. The University reserves the right to update this plan at any time without notice****

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