












Maintenance and Repair Concentration (9439)

Associate of Applied Science Degree

The Maintenance and Repair Concentration prepares graduates for repairing and maintaining equipment in an industrial environment.

The AWT option is designed to meet AWT employment needs throughout the Alliance in Northeast Ohio. See <http://thinkmfg.com/>.

The ArcelorMittal Endorsed Option for the Maintenance and Repair Concentration (ArcelorMittal Steelworker for the Future Program) is for students wanting a career as a maintenance technician mechanical at ArcelorMittal Cleveland. The Steelworker for the Future program is a partnership with Lakeland Community College, ArcelorMittal Cleveland, and the United Steelworkers Local 979 designed to prepare students for successful careers as mechanical maintenance or electrical maintenance technicians in the steel industry. Steelworker for the Future is an estimated 2.5-year program that includes four semesters of classroom training, plus up to 16 weeks of paid on-the-job (co-op) training at ArcelorMittal Cleveland for students who pass the company's hiring requirements. Students will earn an Associate of Applied Science (AAS) degree and can be eligible for hire at ArcelorMittal upon completion of the program. (Students are not required to work for ArcelorMittal, nor are they guaranteed employment at ArcelorMittal.) For more information about the program and to apply go to <http://steelworkerforthefuture.com/>

Course	Title	Credit Hours
First Semester		
CADT 1100	Introduction to AutoCAD 	3
CIMN 1110	Machining Processes 	3
ENGL 1110 or ENGL 1111	English Composition I (A) ² or English Composition I (B)	3
ENGR 1000	Introduction to Engineering Technology	2
FYEX 1000	First Year Experience	1
MATH 1080	Introduction to Technical Mathematics	4
Credit Hours		16
Second Semester		
CIMN 1160	Applied Electricity 	2
CIMN 1210	Materials Processing 	3
MATH 1180	Technical Mathematics I	4
MECT 1150	Technical Communications	3
PHYS 1200	Applied Physics Heat and Thermodynamics	3
Select course(s) from the Technical Electives list 		2
Credit Hours		17
Third Semester		
COMM 1000 or COMM 1100	Effective Public Speaking or Effective Interpersonal Communications	3
MECT 2150	Power Transmission 	2
PHYS 1100	Applied Physics Mechanics	3
Select course(s) from the Arts and Humanities Electives list		3
Select course(s) from the Technical Electives list 		4
Credit Hours		15
Fourth Semester		
CIMN 2390	Fluid Power Technology 	3
CIMN 2840	Repair and Maintenance Capstone 	2
QENT 1200	Quality Concepts and Techniques 	2
Select course(s) from the Social and Behavioral Sciences Electives list		3
Select course(s) from the Technical Electives list 		6
Credit Hours		16
Total Credit Hours		64

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1 English course selection is based on placement test results (ENGL 1111 English Composition I (B) is 4 credits, only 3 credits apply to the degree).

3 The co-op experience(s) with a company in the AWT will have a maximum of 2 credits.

4 There are two co-op experiences, each with ArcelorMittal, for a maximum of 2 credits.

5 There is a maximum of 2 credits for ENGR 2800.

🎓 This course is designated as a technical course in the program. Students must earn a "C" grade or higher in the course to fulfill the college's graduation requirements policy.

Technical Electives: minimum 12 credits

Students are required to develop an area of emphasis in the program through the selection of technical electives. Options include:

- Maintenance and Repair Option
- AWT Endorsed Option (Alliance for Working Together Consortium)
- ArcelorMittal Endorsed Option

The **Maintenance and Repair Option** requires the following elective course:

Course	Title	Credit Hours
MECT 1600	Geometric Dimensioning and Tolerancing 🎓	2

The **AWT Endorsed Option** requires all of the following elective courses:




Course	Title	Credit Hours
MECT 1600	Geometric Dimensioning and Tolerancing 🎓	2
ENGR 2800	Engineering Co-Op Experience 🎓 ³	1

The **ArcelorMittal Endorsed Option** requires all of the following elective courses:

Course	Title	Credit Hours
ENGR 2800	Engineering Co-Op Experience 🎓 ⁴	1
ENGR 2800	Engineering Co-Op Experience 🎓 ⁴	1
WELD 1300	Thermal Cutting, Gouging, Brazing, and Soldering 🎓	2
WELD 1320	Basic SMAW (Stick) Welding 🎓	2
WELD 1330	Basic GTAW (TIG) Welding 🎓	3
WELD 1340	Basic FCAW (Flux Cored) and GMAW (MIG/MAG) Welding 🎓	3

Students are required to choose the remaining technical electives from the following list of courses:

Course	Title	Credit Hours
CADT 1500	Advanced AutoCAD 🎓	3
CADT 2100	Introduction to SolidWorks 🎓	3
CADT 2500	Advanced SolidWorks 🎓	3
CIMN 1420	Computer Numerical Control Part Programming (CNC) 🎓	2
CIMN 1430	Introduction to Computer Assisted Part Programming 🎓	2
CIMN 1450	Programming CNC Lathes 🎓	2
CIMN 1460	Programming CNC Machining Centers 🎓	2
CIMN 2190	Manufacturing Methods and Costs 🎓	3
CIMN 2240	Jig and Fixture Design 🎓	3
CNET 1100	Cisco Networking Technology I 🎓	2
CNET 1200	Cisco Networking Technology II 🎓	2
CNET 1300	Cisco Networking Technology III 🎓	2
CPET 1120	C Programming for Engineering Technology 🎓	3
ENGR 2800	Engineering Co-Op Experience 🎓 ⁵	1-2
MECT 1600	Geometric Dimensioning and Tolerancing 🎓	2
WELD 1300	Thermal Cutting, Gouging, Brazing, and Soldering 🎓	2

		3
WELD 1320	Basic SMAW (Stick) Welding 	2
WELD 1340	Basic FCAW (Flux Cored) and GMAW (MIG/MAG) Welding 	3
WELD 1370	Basic Pipe Welding 	3

Electives

Course	Title	Credit Hours
Arts and Humanities Electives		
ARTS 1120	Art Appreciation	3
ARTS 2220	Survey of Art I	3
ARTS 2230	Survey of Art II	3
ENGL 2250	Survey of American Literature I	3
ENGL 2260	Survey of American Literature II	3
ENGL 2280	Survey of British Literature I	3
ENGL 2290	Survey of British Literature II	3
HUMX 1100	Introduction to Humanities	3
HUMX 1200	The American Experience in the Arts	3
MUSC 1200	Music Appreciation	3
MUSC 1215	World Music	3
MUSC 1800	Popular Music: Rock, Jazz, Country, and Hip-Hop	3
MUSC 2200	Music History and Literature I	3
MUSC 2250	Music History and Literature II	3
PHIL 1500	Introduction to Philosophy	3
PHIL 2000	Comparative Religion	3
PHOT 1000	History of Photography	3
Social and Behavioral Sciences Electives		
ANTH 1160	Introduction to Cultural Anthropology	3
ECON 1150	Basic Economics	3
ECON 2500	Principles of Macroeconomics	3
ECON 2600	Principles of Microeconomics	3
GEOG 1500	Introduction to Geography	3
GEOG 1600	World Regional Geography	3
GEOG 2500	World Cultural Geography	3
HIST 1150	Western Civilization I: Antiquity Through the Reformation	3
HIST 1250	Western Civilization II: Age of Revolution Through the Present	3
HIST 2150	U.S. History: Colonization Through Reconstruction	3
HIST 2250	U.S. History: Reconstruction to the Present	3
POLS 1300	U.S. National Government	3
POLS 2500	Modern Political Ideologies	3
PSYC 1500	Introduction to Psychology	3
SOCY 1150	Principles of Sociology	3