



Addendum to 2019-2020 NMC Catalog

The information contained in this catalog addendum is provided as an update and in addition to the Academic Catalog effective April 2019.

Student Rights and Responsibilities – Academic Policies – Effective April 2019

Credit Hour Policy

Northwestern Michigan College operates under a semester credit hour system. The credit hour policy applies equally to courses of varying credits, duration, and modes of instruction, and applies to all credits granted by the college.

Credit hours are determined by the Curriculum Committee to align with the documented direct instructional time needed to address all required student learning outcomes as identified on the official Course Outline. In addition, students are expected to engage in a minimum of two hours of independent learning activities (e.g., reading, research, homework, studying) for every credit hour of direct instruction provided. Further information is posted on [NMC's Credit Hour Policy webpage](#).

Veterans Affairs Delayed Payment Policy

In compliance with the Veterans Benefits and Transition Act of 2018, Northwestern Michigan College will not impose any penalty upon eligible students if they are unable to meet their financial obligations due to delayed payment of benefits from the Department of Veterans Affairs. Prohibited penalties would include but are not limited to, the assessment of late fees, the denial of access to classes, institutional facilities and resources, or requirement of eligible students to borrow additional funds to cover outstanding balances that will be covered by payments from the Department of Veterans Affairs.

For purposes of this policy, an eligible individual is any individual who is entitled to educational assistance under chapters 30, 31, 33 or 35 of Section 3679 of title 38, United States Code, commonly known as the GI Bill but is inclusive of the Montgomery GI Bill, The Post 9/11 GI Bill and The Survivors' and Dependents' Educational Assistance (DEA) program.

Students who are unable to make payments to NMC due to delayed payments should contact NMC's Point of Contact (POC) for Military and Veteran Services for assistance.

The Vice President for Student Services and Technologies, in conjunction with the appropriate faculty and staff, is responsible for the development and publication of any procedures or guidelines that may be necessary to administer this policy effectively.

If any provision(s) of this policy or set of bylaws conflicts with laws applicable to Northwestern Michigan College, including the Community College Act of 1966, the Freedom of Information Act, or the Open Meetings Act, as each may be amended from time to time, such laws shall control and supersede such provision(s).

Program Updates:

Aviation – Associate in Applied Science Degree – NMC Code 562

The following courses have been removed from the available Directed Electives options for the Aviation - Associate in Applied Science Degree:

| | |
|---|----------------|
| AVF 141 – Remote Pilot Flight..... | 3.0 (4) |
| AVF 211 – Commercial Drone Operations..... | 4.0 (4) |
| AVF 241 – Advanced Drone Operations..... | 3.0 (4) |
| AVG 142 – Remote Pilot Ground..... | 3.0 (3) |

These courses will still be offered, just not in conjunction with the Directed Electives for this degree.

New Courses:

AVG 102 – Leadership in Aviation.....2.0 (2)

This course identifies and develops leadership characteristics specifically applicable to professional pilots. This course is designed to teach students how to combine strong technical knowledge, aeronautical decision-making and ethics to be a successful leader and contributor in the aviation industry. **Group 2 course.**

ART 293 – Art Study Abroad.....1.0 (1)

In this class, students are provided the opportunity to travel to a specified destination affiliated with the corresponding art non-trip course. This course will serve to integrate the student learning experience and provide a sense of cultural perspective, diversity and regional awareness. The course is an opportunity for students to explore other areas around the world while applying discipline-specific course content. For a more specific course description, please review the course description of the associated non-trip course. **Group 2 course.**

BIO 293 – Biology Study Abroad.....1.0 (1)

In this class, students are provided the opportunity to travel to a specified destination affiliated with the corresponding biology non-trip course. This course will serve to integrate the student learning experience and provide a sense of cultural perspective, diversity and regional awareness. The course is an opportunity for students to explore other areas around the world while applying discipline-specific course content. For a more specific course description, please review the course description of the associated non-trip course. **Group 2 course.**

BUS 294 – Business Study Abroad.....1.0 (1)

In this class, students are provided the opportunity to travel to a specified destination affiliated with the corresponding business non-trip course. This course will serve to integrate the student learning experience and provide a sense of cultural perspective, diversity and regional awareness. The course is an opportunity for students to explore other areas around the world while applying discipline-specific course content. For a more specific course description, please review the course description of the associated non-trip course. **Group 2 course.**

CAR 100 – Introductory Craft Skills.....2.0 (3)

This course provides an introduction to essential construction skills. Through structured classroom and hands-on skill building, the student will be introduced to the construction industry, building materials, safety, hand and power tools, print reading, construction math, communication and employability skills. **Group 2 course.**

CUL 293 – Culinary Study Abroad.....1.0 (1)

In this class, students are provided the opportunity to travel to a specified destination affiliated with the corresponding culinary non-trip course. This course will serve to integrate the student learning experience and provide a sense of cultural perspective, diversity and regional awareness. The course is an opportunity for students to explore other areas around the world while applying discipline-specific course content. For a more specific course description, please review the course description of the associated non-trip course. **Group 2 course.**

EGR 211 – Electrical Circuits I.....3.0 (3)

This course will cover basic electrical concepts, resistive circuits, nodal and loop analysis techniques, superposition, Thevenin and Norton equivalents, maximum power transfer, capacitance and inductance, AC steady-state analysis, steady-state power analysis. **Group 2 course.**

EGR 221 – Material Science.....3.0 (3)

Introduction to the structure, processing, properties, and performance of engineering materials, including metals, polymers, glasses, ceramics, and composites. Presents case studies covering selection of materials, component design, and analysis of component failures. **Group 2 course.**

HST 293 – History Study Abroad.....1.0 (1)

In this class, students are provided the opportunity to travel to a specified destination affiliated with the corresponding history non-trip course. This course will serve to integrate the student learning experience and provide a sense of cultural perspective, diversity and regional awareness. The course is an opportunity for students to explore other areas around the world while applying discipline-specific course content. For a more specific course description, please review the course description of the associated non-trip course. **Group 2 course.**

HUM 293 – Humanities Study Abroad.....1.0 (1)

In this class, students are provided the opportunity to travel to a specified destination affiliated with the corresponding humanities non-trip course. This course will serve to integrate the student learning experience and provide a sense of cultural perspective, diversity and regional awareness. The course is an opportunity for students to explore other areas around the world while applying discipline-specific course content. For a more specific course description, please review the course description of the associated non-trip course. **Group 2 course.**

PHL 293 – Philosophy Study Abroad.....1.0 (1)

In this class, students are provided the opportunity to travel to a specified destination affiliated with the corresponding philosophy non-trip course. This course will serve to integrate the student learning experience and provide a sense of cultural perspective, diversity and regional awareness. The course is an opportunity for students to explore other areas around the world while applying discipline-specific course content. For a more specific course description, please review the course description of the associated non-trip course. **Group 2 course.**

SVR 150 – Construction Survey App.....5.0 (8)

Students perform design surveys and conduct construction layout for infrastructure. Major topics include using horizontal and vertical control, establishing alignment, obtaining topographic information, determining grades, horizontal and vertical curves, completion of construction plans, computation of earthwork quantities, and field stakeout. Students will use this knowledge in both field and office environments. **Group 2 course.**

SVR 160 – Surveying Calculations.....3.0 (4)

Students will investigate and apply a number of mathematical principles common to plane surveying applications focusing on Cartesian geometry and coordinate systems using hand calculations, CAD programs, and programable spreadsheets. Areas of study include direct and inverse problems, intersection problems, horizontal and vertical curves, volume computations, area partitions, coordinate transformations, resections and an introduction to spherical triangles. **Group 2 course.**

VCA 293 – Visual Comm Study Abroad.....1.0 (1)

In this class, students are provided the opportunity to travel to a specified destination affiliated with the corresponding a visual communications non-trip course. This course will serve to integrate the student learning experience and provide a sense of cultural perspective, diversity and regional awareness. The course is an opportunity for students to explore other areas around the world while applying discipline-specific course content. For a more specific course description, please review the course description of the associated non-trip course. **Group 2 course.**

Course Changes – Credits, Contacts or Required Prerequisites

AVG 381 – Instructor Ground School.....5.0 (5)

A course of study that will provide basic education principles and a review of the aeronautical knowledge required for the flight instructor (airplane single engine) certificate and prepare the student to take the FAA Fundamentals of Instruction (FOI) and the Flight Instructor-Airplane Single Engine written examinations. Through classroom presentations and one-on-one student teaching, students will gain practical teaching experience. **Group 2 course.**

Change: added to required prerequisites of AVF 230 and AVG 251, “both with a 2.0 or higher”. (effective Fall 2018)

AVG 251 – Commercial Ground School.....4.0 (4)

This course is an advanced study of aviation topics including: GPS, meteorology, radio communications, airspace, and Federal Aviation Regulations. In addition, aircraft systems, career opportunities, aviation safety, aircraft weight and balance, performance charts, and aerodynamics are reviewed with emphasis on commercial pilot operations. **Group 2 course.**

Change: added to required prerequisite of AVG 252, “with a 2.0 or higher”. (effective Fall 2018)

AVG 252 – Instrument Ground School.....4.0 (4)

This course provides the aeronautical knowledge required for the instrument rating and prepare the student to take the FAA Instrument Rating - Airplane written examination. Topics include: flight instruments, radio navigation, departure, enroute and arrival procedures, VOR, NDB, ILS, and GPS approaches, IFR emergencies, aviation weather, and IFR cross-country flight planning. **Group 2 course.**

Change: added to required prerequisites of AVF 111 and AVG 101, “both with a 2.0 or higher”. (effective Fall 2018)

CIT 246 – Windows Server Infrastructure.....3.0 (4)

Students taking this course will learn how to setup, configure, and maintain a Windows Server Infrastructure. Topics covered include Dynamic Host Configuration Protocol (DHCP), Domain Name Systems (DNS), Distributed File Systems (DFS), and Virtual Private Networks. This course maps to the 70-741 Networking with Windows Server 2016 certification exam. **Group 2 course.**

Change: Removed required prerequisite of CIT 215 and added a required prerequisite of “CIT 213 or instructor permission”. (effective Spring 2020)

CIT 247 – Enterprise Solutions.....3.0 (4)

In this course students will gain practical experience building enterprise systems using Identity solutions. Students will study Active Directory, Group Policy, Certificate Services and Federation and access solutions. This course maps to the 70-742 Identity with Windows Server 2016 certification exam. **Group 2 course.**

Change: Removed required prerequisite of CIT 246 and added a required prerequisite of “CIT 213 or instructor permission”. (effective Spring 2020)

MNG 314 – Diesel Engineering.....7.0 (10)

A comprehensive course dealing with the development of the diesel engine as it applies to marine propulsion. This course is designed to cover the construction, operation, and maintenance of the marine diesel engine and its support systems. Lecture is reinforced with extensive use of hands-on labs and computerized simulations. STCW. **Group 2 course.**

Change: increased course contacts from 7 to 10. (effective Spring 2018)

MTH 131 – Intro to Prob & Stats.....3.0 (3)

Descriptive statistics, experimental design, an introduction to probability concepts and inferential statistics are included in the course. Descriptive statistics includes graphs of both numerical and categorical data, measures of central tendency, and measures of variation. The normal density function, linear regression, and the binomial model are included. One and two sample problems involving confidence intervals and significance tests are studied for the sample mean and the sample proportion. **Group 1 course.**

Change: removed MTH 120 exclusion from required prerequisites. (effective Spring 2020)

WPT 260 – Introduction to Welding Automation.....3.0 (5)

This course provides students an opportunity to learn the theory behind common forms of automation utilized throughout the welding industry. Lab assignments will focus on equipment set-up and operations along with analysis of results. **Group 2 course.**

Change: removed MFG 111 and WPT 142, and added WPT 113 and WPT 114 as required prerequisites. (effective Fall 2018)

Course Changes – Descriptions and Title (effective Fall 2019 unless otherwise noted)

AVF 132 – Instrument Flight.....4.0 (4)

A flight course designed to meet the aeronautical experience requirements for the FAA Instrument check ride. Upon completion of this course, the student will have attained the FAA Instrument Rating. Course requires 39.8 flight hours, 9.8 hours of pre/post, and 17.7 hours of ground instruction. Hourly rates effective March 2018 are \$59/hour for ground instruction and \$230/hour for the aircraft and flight instructor. **Group 2 course.**

Change: Course Description.

AVF 230 – Commercial Flight I.....2.0 (2)

The student will advance their skills required by the FAA to obtain a Commercial Pilot Certificate. They will gain experience in different aircraft with the opportunity to gain a Tailwheel Endorsement or Seaplane Rating. Students will increase their instrument proficiency while conducting cross country flights. Course requires 35 flight hours, 6 of pre/post, and 7 hours of ground instruction. Hourly rates effective March 2018 are \$59/hour for ground instruction and \$230/hour for the aircraft and flight instructor. **Group 2 course.**

Change: Course Description.

AVF 232 – Commercial Flight II.....3.0 (3)

A flight course structured to provide a dual and solo flight hours to partially fulfill the flight hour requirements for the FAA Commercial Pilot Certificate. This course will provide a review of VFR cross country navigation procedures and introduce the student to multi-engine flight. Course requires 35 flight hours, 3.0 hours of pre/post, and 27.8 hours of ground instruction. Hourly rates effective March 2018 are \$59/hour for single engine ground instruction and \$69/hour for multi-engine flight instruction and \$230/hour for the single aircraft and flight instructor and \$340/hour for the multi-engine aircraft and instructor. **Group 2 course.**

Change: Course Description

AVF 234 – Commercial Flight III.....2.0 (2)

This course is the last of three flight courses required to obtain the FAA Commercial Pilot Certificate. This course consists of flight hours with an emphasis on commercial flight maneuvers in preparation for the Commercial Pilot FAA Practical Test. Upon completion of this course, the student will have attained the FAA Commercial Pilot Certificate. Course requires 24.6 flight hours, 3.6 hours of pre/post, and 8.0 hours of ground instruction. Hourly rates effective March 2018 are \$59/hour for ground instruction and \$230/hour for the aircraft and flight instructor. **Group 2 course.**

Change: Course Description

Course Deletions – Courses deleted (effective Fall 2019 unless otherwise noted)

WPT 120 – GTAW (TIG) Welding I.....2.0 (3)

This course provides the student with the opportunity to learn and apply the theory of basic Gas Tungsten Arc Welding (GTAW) techniques on ferrous and non-ferrous metals in the flat and horizontal positions. **Group 2 course.**

Change: course deleted, no longer offered.

WPT 130 – SMAW (ARC) Welding I.....3.0 (5)

This course is designed for students pursuing job skills or transfer into a Welding degree program. Students learn theory and application of safe Shielded Metal Arc Welding (SMAW) in the flat and horizontal positions. They develop skills with "fast freeze" and "low hydrogen" type electrodes. Topics include welding terminology, electrical theory as it relates to SMAW, weld defects and quality, and the American Welding Society SMAW filter material numbering system. **Group 2 course.**

Change: course deleted, no longer offered.

WPT 140 – GMAW (MIG) Welding I.....2.0 (3)

This course provides the student an opportunity to learn the theory and application of basic Gas Metal Arc Welding (GMAW) techniques on ferrous metals. Group 2 course. **Group 2 course.**

Change: course deleted, no longer offered.
