Transfer Credit Guide

This guide is subject to change and should be used in consultation with an academic advisor.

CMU
CENTRAL MICHIGAN UNIVERSITY

MAJOR: MATHEMATICS – GENERAL, APPLIED OR PURE CONCENTRATION
DEGREE: BACHELOR OF ARTS OR BACHELOR OF SCIENCE

The Concentration in Applied Mathematics or Pure Mathematics is designed for mathematics students who plan to either enter graduate school after graduation from CMU or use mathematics as an adjunct skill in their professional life outside academe. This includes students planning to enter professions as wide-ranging as mathematical modeling, accounting and finance, actuary, computer programming, engineering, and a variety of positions within the health and social sciences.

Schoolcraft College	Credits	Central Michigan University Equivalent
General Education Requirements – Competencies (Require a grade of "C" or higher)		
ENG 101 College Composition 1	3	ENG 101 Freshman Composition
ENG 102 College Composition 2	3	ENG 201 Intermediate Composition
Oral Communication		Satisfied by COMA 103 or THEA 241 (see below)
Mathematics		Satisfied by MATH 150 (see below)
Quantitative Reasoning		Satisfied by GEOG 212; MATH 122; PHYS 181, 211 or at CMU
Writing Intensive	·····▶	Six credits waived if MTA or MACRAO is satisfied. The remaining 6 must be completed at CMU
General Education – University Program Requirements All MTA applicable courses require a grade "C" or higher		

Group I Humanities (6 – 8) from at least 2 subjects
 MACRAO: Requires 8 hours – MTA: Requires 2 courses
 Select **one** of the following:
    COMA 103 Fundamentals of Speech
    THEA 241 Oral Interpretation of Literature
 Select additional courses from: ARB – FR – GER – SPAN: 101, 102, 201, 202; ART 105, 106, 109, 110, 113, 115, 116, 118, 119, 125, 126, 201, 205, 211, 212, 216, 218, 219, 236, 239, 243, 244; CHIN – ITAL: 101, 102; ENG 170, 200, 203, 243, 244, 245, 246, 248, 251, 252, 275, 280; HIST 134, 137, 138, 141, 151, 152, 153, 230; HUM 106, 150, 190, 201, 202, 203, 204, 210, 212, 215, 231, 232; MUS 104, 105, 107, 149, 153, 154, 155, 164, 165, 250, 252; PHIL 243
	3
	 3
	 3 – 6
		COM 101 Introduction to Communication
		 TAI 170 Oral Interpretation of Literature
		 Various Humanities Course Credit

Group II Natural Sciences (4 – 8) from at least 2 subjects *MACRAO: Requires 8 hours (Math + Natural Science)-MTA: Requires 2 courses* At least one course must be a lab science Select courses from: BIOL 100, 101, 103, 104, 105, 114, 115, 120, 130, 140, 236, 237, 238, 240, 243; CHEM 100, 111, 117, 120, 213, 214; GOEG 105, 135, 212, 217, 225; GEOL 133, 134, 237; PHYS 104, 123, 181, 182, 211, 212	4 – 8	Various Natural Science Course Credit
Group III Social Sciences (6 – 8) from at least 2 subjects *MACRAO: Requires 8 hours – MTA: Requires 2 courses* Select courses from: ANTH 112, 117, 201, 211, 214; ECON 103, 201, 202; GEOG 133, 241; HIST 134, 137, 138, 141, 151, 152, 153, 230; POLS 105, 109, 205, 207, 209; PSYCH 153, 201, 205, 206, 207, 209, 219, 229, 239, 249; SOC 201, 205, 209, 210, 220, 290	6 – 8	Various Social Sciences Course Credit
Group IV Studies in Culture and Diversity		**Waived if MTA/MACRAO is satisfied**
Mathematics (3 – 4): *MACRAO: Requires 8 hours (Math + Natural Science) - MTA: Requires 1 course* MATH 150 Calculus w/ Analytical Geometry 1	 5	 MTH 132 Calculus I
Major or Degree Related Transferable Courses		
MATH 151 Calculus w/ Analytical Geometry 2	5	MTH 133 Calculus III
MATH 230 Linear Algebra	4	MTH 223 Linear Algebra and Matrix Theory
MATH 240 Calculus w/ Analytic Geometry 3	5	MTH 233 Calculus III
MATH 252 Differential Equations	5	MTH 334 Differential Equations
Important Notes		
• **It is strongly recommended that transfer students contact CMU early in their college career to ensure proper course sequencing for their major, optimizing course scheduling, and timely degree completion at CMU. CMU College of Science & Engineering 989.774.1870**		

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Central Michigan University Competency and University Program Course Requirement Information
Mathematics Major

Required Courses I (24 hours)
MTH 132 satisfied at Schoolcraft with MATH 150
MTH 133 satisfied at Schoolcraft with MATH 151
MTH 223 satisfied at Schoolcraft with MATH 230
MTH 233 satisfied at Schoolcraft with MATH 240
MTH 332 Introduction to Mathematical Proof (3)
MTH 499 Capstone Course in Mathematics (3)
MTH 523 Modern Algebra I (3)
Required Courses II (3 hours)
Select one of the following:
MTH 532 Advanced Calculus I (3)
MTH 545 Introduction to Point-Set Topology (3)

Electives (9 hours)
Nine or more hours of electives are to be selected from MTH, STA, or CPS in consultation with and approved by a mathematics advisor and must be numbered MTH 296 or higher, STA 382QR or higher, or CPS 181 or higher. **Contact an academic advisor about double counting.**
MTH 175 (3) Discrete Mathematics may be included as an elective. If MTH 175 is included, then at least 33 hours of the total hours must be in mathematics or statistics.

Applied Mathematics Concentration	Pure Mathematics Concentration
Core Courses (30 hours)	**Core Courses (30 hours)**
MTH 132 satisfied at Schoolcraft with MATH 150	MTH 132 satisfied at Schoolcraft with MATH 150
MTH 133 satisfied at Schoolcraft with MATH 151	MTH 133 satisfied at Schoolcraft with MATH 151
MTH 223 satisfied at Schoolcraft with MATH 230	MTH 223 satisfied at Schoolcraft with MATH 230
MTH 233 satisfied at Schoolcraft with MATH 240	MTH 233 satisfied at Schoolcraft with MATH 240
MTH 332 Introduction to Mathematical Proof (3)	MTH 332 Introduction to Mathematical Proof (3)
MTH 334 satisfied at Schoolcraft with MATH 252	MTH 334 satisfied at Schoolcraft with MATH 252
MTH 499 Capstone Course in Mathematics (3)	MTH 499 Capstone Course in Mathematics (3)
MTH 523 Modern Algebra I (3)	MTH 523 Modern Algebra I (3)
MTH 532 Advanced Calculus I (3)	MTH 532 Advanced Calculus I (3)
Required Courses (12 hours)	**Required Courses (12 hours)**
Select four of the following:	Select four of the following:
MTH 434 Methods of Applied Mathematics (3)	MTH 436 Elements of Complex Variables (3)
MTH 438 Numerical Analysis I (3)	MTH 444 Introduction to Differential Geometry (3)
MTH 439 Numerical Analysis II (3)	MTH 521 Theory of Numbers (3)
MTH 520 Optimization Theory (3)	MTH 525 Modern Algebra II (3)
MTH 534 Applied Mathematics/Differential Equations (3)	MTH 533 Advanced Calculus II (3)
MTH 586 Operations Research I (3)	MTH 545 Introduction to Point-Set Topology (3)
MTH 587 Operations Research II (3)	
STA 580 Applied Statistical Methods I (3)	

BACHELOR OF ARTS: Completion of the 202 course in any foreign language. This requirement may also be satisfied by passing the 202 examination or equivalent. Two foreign language courses from the University Program may be counted toward satisfying this requirement

General Notes

- A grade of C- or better is required for a course to transfer.
- A bachelor's degree requires a minimum of 124 semester hours of credit. CMU will accept community college transfer credits beyond the recommended 64 semester hours; however students will need to complete a minimum of 60 semester hours from an accredited 4-year-degree granting institution. A minimum of 40 hours must be completed at the 300 level or above. A minimum of 30 semester hours of credit must be earned from CMU.
- The University Program Requirements and competencies may be fulfilled by students who satisfy the MACRAO Agreement or the MTA
- **Students are required to meet CMU Competency Requirements prior to reaching 56 credit hours. Competency requirements consist of: two Written English (composition) courses, one Oral English (communication) course, and one Mathematics course be completed with a grade of "C" or above.**

Any remaining required and elective courses for a bachelor's degree will be selected in consultation with an academic advisor to ensure that CMU degree requirements are being met.

Contact Undergraduate Admissions at cmuadmit@cmich.edu for major related course information and or explore http://cmich.edu/transfer, CMU's Transfer Equivalency Tool and the CMU's Transfer Simulation Tool.

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