



May 1, 2020

Greetings:

My name is Scott Schultz and I serve as the Academic Dean of Science, Engineering, Mathematics and Social Sciences at Des Moines Area Community College. I have been in the role less than a year and working hard learning DMACC's many academic programs and establishing working relationships. I have really enjoyed working with a great group of people who bring high quality academic programming to the region. I have met a few of you and look forward to an opportunity when social distancing is just a memory and I can get out to meet more of you.

I want to thank you and your faculty for the great work taking place as DMACC classes in your schools move to remote instruction. I have never worked as hard as I have over the last six weeks, assisting students and faculty transition and developing strategies to allow academic progress to continue.

I'm writing to you today in relation to DMACC math classes and specifically about qualifying students' prerequisites for next year during this time when students are not physically coming to school. I would like to share this proposed solution to enroll students into a DMACC math course:

- If the student took the prerequisite DMACC course (concurrent enrollment certainly counts) in the last eighteen months and received a C- or better, then they can register.
- If the student took the prerequisite course that was not a DMACC course in the last 9 months and scored a B- or better, then they can register. This would be a high school math course.
- If the student does not meet either of the above requirements, then they should take the ALEKS test online which does not require proctoring. They will need to meet the same cut scores that students who come to DMACC would need to enter that particular course.

I know that your students may not be earning letter grades for their high school courses. My son is a sophomore and plans to take precalculus next year as his first DMACC course. His teacher is keeping track of grades, but in the end his grade will end up with a pass on his transcript. His teacher will know if he scores a B- or better. I trust that working with your teachers you can determine which students earn the B- or better and we can enroll them even without having the B- on an official transcript.

To assist you and your teachers I am including all our current courses with descriptions and the prerequisite course and the ALEKS cut score needed to enroll. This entire process is supposed to bring consistency district wide and make it simpler for you to qualify a student to register. If you have questions or believe that this is a barrier that will be challenging to implement, please reach out to me. Together we can serve these students.

In addition, I would like to take this opportunity to share with you a district wide math policy that is being implemented starting with our summer semester to ensure that our classes continue to transfer. This policy is based on discussions with the math departments at our primary transfer institutions as well as best practices by governing bodies in higher education mathematics. It is consistent with research done with post-secondary math courses and will be adhered to by all faculty teaching DMACC math courses.

## DMACC Math Department Position Statement

In an effort to bring consistency and continuity to math courses offered for DMACC credit, including concurrent enrollment courses, and to remain consistent with Iowa Regent Institutions' policy and that of our national affiliate AMATYC, the DMACC math department supports the establishment of the following best practice for all 100 and 200 level math courses: "DMACC 100 and 200 level math courses do not allow exam retakes."

This research-supported plan is in keeping with DMACC's belief that classroom policy should promote maximum student effort on every assessment. This exam retake policy does not apply to makeup exams, which may be offered to students who did not take the original exam due to an absence.

In closing, it is my hope that we can continue to work together to find efficiencies to best support the enrollment of students in DMACC math classes. If we can be of any further assistance to your instructors as they complete this semester online, know we would be happy to assist.

Sincerely,



Scott Schultz

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## Course Descriptions

Course Number	Course Title	Description
MAT034	Arithmetic	A review of the fundamental operations of arithmetic, including addition, subtraction, multiplication, and division of whole numbers, decimals and fractions. This is a college preparatory course designed for those students who need to review and improve their knowledge of the fundamentals of mathematics. College preparatory courses cannot be used to fulfill degree requirements. Prerequisite: Placement score and/or prerequisite required.
MAT053	Pre-Algebra	A review of arithmetic and an introduction to algebra. This is a college preparatory course designed to strengthen arithmetic skills and introduce basic concepts of algebra in preparation for MAT 063. College preparatory courses cannot be used to fulfill degree requirements. Prerequisite: Placement score and/or prerequisite required.
MAT063	Elementary Algebra	A beginning algebra course covering most elementary topics of algebra. This includes the real number system, solving equations and inequalities, polynomials, fractional equations and radical expressions. This is an adaptor course designed for students with no algebra background or for students who need review. It is designed to prepare students for MAT 141(Finite Math) or MAT 773(Applied Math II). Prerequisite: Minimum ALEKS score of 14% or MAT 053 with grade of C- or higher.
MAT064	College Prep Math	This is a college preparatory course for students with no algebra background or for students who need to review. It is designed to prepare students for enrollment in MAT 110 (Math for Liberal Arts) or MAT 157 (Statistics). This course includes math study skills, arithmetic skills, problem-solving, algebra and geometry. This class is not recommended for science, math or engineering majors. College preparatory courses cannot be used to fulfill degree requirements. Prerequisite: Minimum ALEKS score of 14% or MAT 034 with grade of C- or higher or MAT 053 with grade of C- or higher.
MAT073	Elementary Algebra II	A review of elementary algebra along with new topics, including exponents and radicals, functions and graphs, quadratic equations, inequalities and systems of equations. This course cannot be used to fulfill degree requirements. Prerequisite: Placement score and/or prerequisite required. Minimum ALEKS scores of 30% or MAT 063 with grade of C- or higher.
MAT093	Math Study Skills	Provides students with the study techniques necessary for successful completion of their college preparatory or college credit math courses. It also addresses feelings and attitudes that might block math learning and offers strategies and techniques designed to overcome these feelings. College preparatory courses cannot be used to fulfill degree requirements.
MAT110	Math for Liberal Arts	The student will begin to think critically by studying logic, sets and statistical reasoning. The student will examine problem-solving and decision-making by studying probability, application of statistical data, modeling, and financial mathematics. The student will become aware of possible abuses of mathematics. Finally the student will understand the broad usefulness of mathematics by studying history of mathematics and application of mathematics in art, music, business and/or politics. Prerequisite: Placement score and/or prerequisite required. Minimum ALEKS scores of 30% or MAT 064 with grade of C- or higher.

MAT114	Elementary Educators Math I	This is the first of two courses focusing on math concepts taught in K-6. Topics will be covered from both a practical and theoretical standpoint, with an emphasis on practical understanding using concrete examples. Course content includes problem solving, systems of whole numbers, numeration, algorithms for computation, topics from number theory, and topics from geometry including measurement, polygons, polyhedra, congruence and transformations. This course is for students in education fields and is not appropriate for students majoring in other areas. This is not a methods course. Prerequisite: Placement score and/or prerequisite required. Minimum ALEKS scores of 46% or MAT 073 with a C- or higher.
MAT116	Elementary Educators Math II	This course is a continuation of MAT 114. Course content includes basic 2D and 3D geometry and measurement, elementary probability, data analysis and statistics, operations and algorithms for computing with fractions, decimals, percents and integers. Prerequisite: MAT 114 with a grade of "C-" or better
MAT121	College Algebra	This course provides an intensified study of algebraic techniques and prepares students for future study in mathematics. The central theme of this course is the concept of a function and its graph. Topics include: linear functions, polynomial functions, piece-wise functions, rational functions, radical functions, exponential/logarithmic functions, and systems of equations. Prerequisite: Minimum ALEKS scores of 46% or MAT 073 with a C- or better
MAT129	Precalculus	The central theme of this course is the concept of a function and its graph. Topics include: functions (linear, radical, exponential, logarithmic, polynomial, piecewise and trigonometric) and their graphs, and basic trigonometry. Prerequisite: Minimum ALEKS scores of 61% or MAT 130 with a C- or better
MAT130	Trigonometry	The central themes of this course include: circular functions and their inverses, trigonometric identities, trigonometric equations, solving triangles and graphing. Prerequisite: Pre-requisite: Minimum ALEKS scores of 46% or MAT 121 with a C- or better.
MAT141	Finite Math	A general education course in practical mathematics for those students not majoring in mathematics or science. This course will include such topics as set operations and applications, methods of counting, probability, systems of linear equations, matrices, geometric linear programming and an introduction to Markov chains. Prerequisite: Minimum ALEKS score of 30% or MAT 063 with a C- or higher.
MAT148	Linear Algebra w/Applications	A study of the use and application of matrices in the solution of systems of linear equations, determinants, vector spaces, linear transformations, eigenvalues, eigenvectors, bases and projections. Linear algebra is a core course in many engineering, physics, mathematics and computer science programs. This course makes heavy use of computing technology. Graphing calculators required. Prerequisite: MAT 211 or equivalent with a C- or better.
MAT157	Statistics	Tabular and graphical presentation, measures of central tendency and variability, standard elementary procedures involving the binomial, normal, student's T, chi-square and F distributions, correlation, regression, analysis of variance and several nonparametric procedures. Prerequisite: Minimum ALEKS score of 30% or MAT 064 with a C- or higher. (Note, a higher math course would satisfy the prerequisite as well)
MAT160	Statistical Business Appl.	This is the second course in the statistics sequence. Course content includes application and interpretation of probability and statistics as applied to business situations by using sampling, confidence intervals, control charges, simple linear regression analysis, multiple regression analysis, correlation analysis, data analysis, time series analysis,

		hypothesis testing and computer analysis. Prerequisite: MAT 157 with a grade of C- or better.
MAT162	Prin. of Business Statistics	Make inferences about population parameters. Conduct regression inferential analyses. Obtain, present and organize statistical data using measures of location and dispersion; the Normal distribution; sampling distributions; estimation and confidence intervals; inference for simple linear regression analysis. Use computers to visualize and analyze data. Prerequisite: Minimum ALEKS score of 46% or MAT 073 with a C- or better.
MAT164	Calculus for Busn/Social Sci	Functions, graphs, differential calculus, integral calculus, introduction to max-min theory for functions of two variables. Emphasis on application of calculus to business problems. Not a substitute for MAT 211 and MAT 217. Prerequisite: Minimum ALEKS scores of 61% or MAT 121 with a C- or better.
MAT211	Calculus I	Introduction to limits, continuity, differentiation, applications of the derivative, the definite and indefinite integral, numerical integration, exponential and logarithmic functions, other transcendental functions and introduction to differential equations. Prerequisite: Minimum ALEKS scores of 76% or MAT 121 and MAT 130 both with a grade of C- or higher or MAT 129 with a grade of C- or higher.
MAT217	Calculus II	Continuation of Calculus I. Topics include applications of integration, integration techniques, L'Hopital's rule, improper integrals, infinite sequences, series, Taylor and Maclaurin series, the calculus of plane curves, parametric equations and polar equations. Prerequisite: MAT 211 with a C- or better.
MAT219	Calculus III	Continuation of Calculus II. Topics include vectors and vector-valued functions, tangent and normal vectors, arc length and curvature, vector fields, line and surface integrals, Green's theorem, the divergence theorem and Stokes's theorem, multivariable functions, partial derivatives, directional derivatives and gradients, optimization of multivariable functions. Prerequisite: MAT 217 or equivalent with a grade of C- or higher.
MAT227	Diff Equations with Laplace	Ordinary differential equations, systems of ordinary differential equations, Laplace transforms, numerical methods and applications. Prerequisite: MAT 217 with a grade of C- or better.
MAT772	Applied Math	A course in elementary mathematical skills for technicians. Topics covered include fundamental operations with whole numbers, fractions, decimals and signed numbers; percent; geometric figures and basic constructions; area and volume formulas; English/Metric systems; measurements; and the interpretation of graphs and charts.
MAT773	Applied Math II	A course in algebra and trigonometry for technicians. Topics covered include polynomials, equations, systems of linear equations, factoring, quadratic equations, trigonometry, powers, roots and logarithms. Prerequisite: Minimum ALEKS scores of 30% or MAT 063 with a C- or higher
MAT900	Field Studies in Actuarial Sc	This course is designed to give the student the opportunity to study the mathematical foundational concepts of life, property and casualty, and health insurance as well as how actuarial science is applied with the insurance industry outside the typical classroom setting. Students will learn foundational mathematical concepts and apply their learning to real world problems within the industry. Prerequisite: Instructor permission.