Course descriptions for new Mathematics curriculum

MATH 140 - Calculus I with Precalculus, Part 1 *(Credits: 4)*
An introduction to the differential and integral calculus of algebraic functions, the natural logarithmic function, and the natural exponential function, including limits, derivatives and their applications, integrals, and the Fundamental Theorem of Calculus. Review of topics from precalculus is integrated throughout the calculus material.

*Distribution Requirements:* QR

This course is not intended for students who have completed MATH 151 with a grade of C or better.

MATH 141 - Calculus I with Precalculus, Part 2 *(Credits: 4)*
A continuation of the study of differential and integral calculus of algebraic functions, together with the differential and integral calculus of general logarithmic functions, general exponential functions, and trigonometric functions. Review of topics from precalculus and trigonometry is integrated throughout the calculus material.

*Prerequisite:* Completion of MATH 140 with a grade of C or better.

*Distribution Requirements:* QR

This course is not intended for students who have completed MATH 151 with a grade of C or better.

MATH 151 - Calculus I *(Credits: 4)*
A study of differential and integral calculus of algebraic, trigonometric, logarithmic, and exponential functions of one real variable, including limits, derivatives and their applications, integrals, and the Fundamental Theorem of Calculus.

*Prerequisite:* Appropriate score on the Mathematics Placement Examination, or Math 159 with a grade of C or better, or approved transfer credit.

*Distribution Requirements:* QR.

This course is not intended for students who have completed MATH 141 with a grade of C or better.

MATH 152 - Calculus II *(Credits: 4)*
A study of the applications and techniques of integration of algebraic, trigonometric, logarithmic, and exponential functions of one real variable; two- and three-dimensional vectors; and differential calculus of functions of several variables.

*Prerequisite:* A grade of C or better in one of the following courses: MATH 141, MATH 151, MATH 160.

*Distribution Requirements:* QR.

May not be taken for credit if credit for MATH 210 has already been received.

MATH 211 - Vector Calculus and Several Variable Integration *(Credits: 4)*
A study of integration of functions of several variables, including the use of polar, cylindrical, and spherical coordinate systems; and vector calculus, including vector fields, line and surface integrals, and the theorems of Green and Stokes.

*Prerequisite:* MATH 152 with a grade of C or better.

*Distribution Requirements:* QR.

May not be taken for credit if a grade of C or better in MATH 210 has already been received.

MATH 270 - Optimization and Approximation *(Credits: 4)*
A study of optimization of functions of one variable and of several variables, including the Extreme Value Theorem and Lagrange multipliers; sequences and series; and Taylor approximation of functions.

*Prerequisite:* MATH 152 with a grade of C or better.

*Distribution Requirements:* QR.

May not be taken for credit if a grade of C or better in MATH 170 has already been received.