Mathematics

MATH 111 (1713)   Mathematics for Education
Prerequisite: Placement Test Recommendation
Credit Hours: 3
This course is designed to provide a foundation of theory for many of the concepts found in the current elementary and middle school mathematics classroom. This course will examine topics related to the Real Number system, such as set theory, logic, probability theory, and statistics, all from a problem solving approach. The use of technology (e.g. calculator, the Internet, etc.) as tools for problem solving and research will be an integral part of the course.

MATH 114 College Algebra with Review KRSN MAT1010**
Prerequisite: None
Credit Hours: 3
This course covers the same material as MATH 115 College Algebra with additional instruction. The course covers the properties of functions and their inverses, properties and graphs of the exponential and logarithmic functions, graphing techniques for general higher order polynomials and rational functions, and various solution techniques for solving higher order linear systems of equations. Topics on sequences and series will be presented as time permits. Use of technology such as the graphing calculator and some computer packages will be incorporated into the course.

MATH 115 (1719) College Algebra   KRSN MAT1010**
Prerequisite: Placement Test Recommendation
Credit Hours: 3
This course continues from MATH 100 Intermediate Algebra to cover and extend the properties of functions and their inverses, properties and graphs of the exponential and logarithmic functions, graphing techniques for general higher order polynomials and rational functions, and various solution techniques for solving higher order linear systems of equations. Topics on sequences and series will be presented as time permits. Use of technology such as the graphing calculator and some computer packages will be incorporated into the course.

MATH 119 Elementary Statistics with Review KRSN MAT1020**
Prerequisite: None
Credit Hours: 4
This course covers the same material as MATH 120 Elementary Statistics with additional instruction. This course is an introduction to fundamental statistical concepts and techniques with computer capability for applying these techniques to data. Includes descriptive statistics, nonparametric statistics, sampling techniques, hypothesis testing and other statistical inference.

MATH 120 (1720) Elementary Statistics   KRSN MAT1020**
Prerequisite: Placement Test Recommendation
Credit Hours: 3
This course is an introduction to fundamental statistical concepts and techniques with computer capability for applying these techniques to data. Includes descriptive statistics, nonparametric statistics, sampling techniques, hypothesis testing and other statistical inference.

MATH 121 Matrix Algebra
Prerequisite: Placement Test Recommendation or MATH 115 College Algebra (C or better)
Credit Hours: 3
This is an introductory course covering basic linear algebra, matrices, and their applications to the sciences, math, business, and economics. The course will cover matrices and matrix algebra, solution of linear systems of equations, the determinant of a matrix and its properties, eigenvalues and eigenvectors of matrices, and vector and inner product spaces.

MATH 125 (1730)   Trigonometry   KRSN MAT1030**
Prerequisite: Placement Test Recommendation or MATH 115 College Algebra
Credit Hours: 3
This course will cover the basic trigonometric functions on the right triangle and extend to rules for solving non-right triangles. Trigonometric identities will be derived and proven. Complex numbers and applications to the sciences will be presented. This course should be taken by any student needing to take Calculus I who has not yet had any exposure to the trigonometric functions. This course is recommended for any student needing to take physics and is required for most pre-engineering and engineering programs.

MATH 126   Quantitative Reasoning with Reiview KRSN MAT1040**
Prerequisite: None
Credit Hours: 4
This course covers the same material as MATH 129 Quantitative Reasoning with additional instruction. This course will prepare students for mathematics encountered in other college courses that use quantitative reasoning. There will be an emphasis on critical thinking skills needed to understand major issues in society. This course is designed for students NOT planning to major in a field that requires advanced mathematical skills.

MATH 129   Quantitative Reasoning KRSN MAT1040**
Prerequisite: Placement Test Recommendation
Credit Hours: 3
This course will prepare students for mathematics encountered in other college courses that use quantitative reasoning. There will be an emphasis on critical thinking skills needed to understand major issues in society. This course is designed for students NOT planning to major in a field that requires advanced mathematical skills.

MATH 130 (1751)   Calculus I   KRSN MAT2010**
Prerequisite: Placement Test Recommendation or MATH 125 Trigonometry
Credit Hours: 5
The first course in the calculus sequence will cover the concepts of limits and continuity of polynomial, rational, trigonometric, and exponential functions. The concept of rates of change and the derivative will be applied to these functions. The course will come to a close with the concepts of the anti-derivative and properties and definition of the definite integral. This course is required of any student seeking a degree in physics, mathematics, engineering, chemistry, and other related fields at a four-year institution.

MATH 131 (1752)   Calculus II
Prerequisite: MATH 130 Calculus I
Credit Hours: 5
This second course in the calculus sequence will cover the concepts of limits as applied to transcendental functions. Various substitution techniques for evaluating integrals will be presented. Problems involving areas, volumes of surfaces, and moments will be developed and solved. The course will cover sequences and series and look at properties of convergence and divergence. There will be an introductory look at differential equations and coverage of polar coordinates and parameterized curves. This course is required of any student seeking a degree in physics, mathematics, engineering, chemistry, and other related fields at a four-year institution.

MATH 201 (1753)   Calculus III
Prerequisite: MATH 131 Calculus II
Credit Hours: 5
This third course will complete the calculus sequence. The course will cover infinite sequences and series and test of convergence and divergence. The calculus of multivariable functions, partial derivatives, and optimization of higher dimensional surfaces will be covered. The theory and use of vector-valued functions to calculus will be presented. Problems of areas, volumes, and moments will be extended to three-dimensional space and solved using multiple integration techniques (including the line integral, Stoke's Theorem, and Green's Theorem in vector fields). This course is required of any student seeking a degree in physics, mathematics, engineering, chemistry, and other related fields at a four-year institution.

MATH 202 (1740)   Differential Equations
Prerequisite: MATH 201 Calculus III (C or better)
Credit Hours: 3
This course will include solution techniques for the standard ordinary differential equations of the first and second order (with some generalization to higher order equations). Power series solution techniques for linear equations with constant coefficients will be presented. Solution of differential equations using the Laplace Transform will be presented. Applications to geometry and the physical science will be presented and covered. This course is required of any student seeking a degree in physics, mathematics, engineering, chemistry, and other related fields at a four-year institution.

Music

MUSI 101 (1051)   Music Appreciation   KRSN MUS1010**
Prerequisite: None
Credit Hours: 3
This is a survey course in basic fundamentals of music, and from this foundation moving into a better understanding of styles and music from different periods in history. The main purpose is for students to gain a broader understanding of and appreciation for many types and styles of music. We will also see how music is influenced by social, religious, political, and scientific advancements happening in the world at any given time.

MUSI 102 (0822)   Children's Music   KRSN MUS2010**
Prerequisite: None
Credit Hours: 3
This course is directed toward students in the elementary education program. It is designed to show how music can be taught and integrated into other areas of the elementary classroom curriculum. Traditional areas of music instruction will be covered including fundamentals of music, singing, playing instruments, listening, moving to music, and creative experiences with music. In addition, we will study multicultural approaches to teaching and practice writing lesson plans focusing on the needs and interests of young children.

MUSI 104 (1092)   History of Jazz and Rock
Prerequisite: None
Credit Hours: 3
This is a survey course that shows the logical musical derivatives and developments of jazz and rock music. At the same time the course will identify and listen to the important elements that compose the individual styles of jazz and rock music as they evolved from era to era.

Nursing

NURS 116 (8041)   Pharmacology for Healthcare Providers
Prerequisite: None
Credit Hours: 3
This course introduces the principles of pharmacology, drug classifications, and the effects of selected medications on the human body. The nursing process is used as the framework for ensuring safe and effective nursing care for clients across the lifespan.

NURS 118 (5490)   Intravenous (IV) Therapy for LPNs and RNs
Prerequisite: Must have current LPN licensure and evidence of professional student liability insurance available through Labette Community College. Compliance with current immunization and tuberculin test requirements, per Nursing Department Policy will be required prior to enrollment in course
Credit Hours: 3
This elective course is designed to teach knowledge, skills, and competencies in administration of intravenous fluid therapy. Certification in IV Therapy for the State of Kansas will be received after successful completion of the State Exam. LPNs and RNs will both be rewarded with continuing education hours.