

programming sequences and series. Prerequisites: Completion of MATH-115 or appropriate Math Accuplacer score. Note: MATH-160 was formerly MATH-185. Note: MATH-160 will NOT count as a prerequisite for MATH-188. Offered: All.

MATH-170 Pre-Calculus 4 cr.

An in-depth study of linear, piecewise, quadratic, polynomial, rational, exponential, and logarithmic functions and their graphs. Also includes the fundamental theorem of algebra, systems of equations and inequalities, conic sections, sequences and series, and applications in geometry. A graphing calculator is required. Prerequisites: Completion of MATH-115 or appropriate Math Accuplacer score. Note: Beginning SP 2012 MATH-170 will be a prerequisite for MATH-188. Offered: All.

MATH-180 Trigonometry 3 cr.

Instructs the student in the knowledge of triangles, radian and degree measure, trigonometric functions, trigonometric identities, inverse trigonometric functions, polar coordinates, and vectors. Prepares the student to utilize trigonometry in the analysis of Calculus. Students need both Trigonometry and Pre-Calculus before entering Calculus I. [NM Common Course Number MATH 1213, Area II: Mathematics Core]. Prerequisites: Completion of MATH-115 or appropriate Math Accuplacer score. Minimum grade C. Offered: All.

MATH-185 is now MATH-160 (College Algebra)

MATH-187 Applications of Calculus 4 cr.

An introduction to the methods of differential and integral calculus. Polynomial, rational, exponential, and logarithmic functions are used in topics such as rates of change, limits, derivatives, continuity, extrema, graphing, antiderivatives, definite integrals, and techniques of integration. Applications involving optimization, related rates, growth and decay models, and marginality will be studied primarily in context of business related topics. Prerequisites: Complete MATH-160 (formerly MATH-185) or MATH-170 with a C or better. Offered: Spring.

MATH-188 Calculus I 4 cr.

Instructs the student in the methods of differential calculus. Topics include elementary algebraic and transcendental functions, limits, continuity, differentiation and optimization. Other topics include L'hospital's rule, Newton's method, Riemann sums, indefinite and definite integration, and the fundamental theorem of calculus. Mathematical software will be utilized throughout the course to expose students to computer algebra systems. [NM Common Course Number MATH 1614, Area II: Mathematics Core] Prerequisites: Completed MATH-185 (prior to Fall 2011) and MATH-180 with a minimum grade of C. Note: Beginning SP 2012 the prerequisites for MATH-188 will be MATH-170 and MATH-180 with a minimum grade of C. Offered: All.

MATH-189 Calculus II 4 cr.

A continuation of Math 188; extending to topics in Techniques of Integration, Numerical Integration, Applications of Integration, Infinite Series, Power Series, Maclaurin & Taylor Series and Taylor Polynomials. [NM Common Course Number MATH 1623, Area II: Mathematics Core]. Prerequisites: Complete MATH-188 with a minimum grade of C. Offered: All.

MATH-215 Math for Elem & Middle School Teachers 3 cr.

A development of the properties, concepts, and logical reasoning of geometry. Topics include analysis of geometric shapes, measurement, triangle congruence and similarity, basic Euclidean constructions, coordinate geometry, transformations, and tessellations. Prerequisites: MATH-121 with a minimum grade of C or better. Offered: Fall & Spring.

MATH-231 Discrete Mathematics 3 cr.

An introductory course encompassing set theory, logic, induction and recursion, number theory, matrices, combinatorics, graph theory, trees, boolean algebra, and models of computation. Prerequisites: Complete MATH-188 with a minimum grade of C. Offered: Spring.

MATH-251 Statistics 4 cr.

Instructs the student in the knowledge of an introduction to descriptive and inferential statistics, which includes the following topics: sampling theory, experimental design, probability, probability distributions, confidence intervals, correlation and regression, tests of hypotheses (using the normal, student-t, chi-square, and F-distributions) and ANOVA. Lab time is provided for data analysis using statistical software. [NM Common Course Number MATH 2113, Area II: Mathematics Core]. Prerequisites: Completion of MATH-115 or appropriate MATH Accuplacer score. Minimum grade C. Offered: All.

MATH-268 Calculus III 4 cr.

Instructs the student in the techniques of multivariable calculus. Topics include partial differentiation, linear and quadratic approximations, optimization, multiple integration, vector fields, line and flux integrals, curl, divergence, and the three fundamental theorems. [NM Common Course Number MATH 2614, Area II: Mathematics Core]. Prerequisites: MATH-189 with a minimum grade of C. Offered: Fall & Spring.

MATH-275 Linear Algebra 3 cr.

An applications approach to introductory linear algebra. Covers systems of linear equations, matrices, linear independence, vector spaces, inner product spaces, linear transformations, eigenvalues, eigenvectors and applications. Prerequisites: MATH-189 with minimum grade of C. Offered: On Demand.

MATH-282 Differential Equations 4 cr.

A course which gives an in-depth introduction to ordinary differential equations. Theoretical questions such as existence and uniqueness will be addressed but emphasis will be on concepts and applications. Topics include first order techniques and applications, second order techniques and applications, Laplace Transform methods, Cauchy-Euler equations, infinite series techniques, systems, numerical techniques and qualitative aspects. [NM Common Course Number MATH 2814, Area II: Mathematics Core]. Prerequisites: Complete MATH-268 with a minimum grade of C. Offered: Spring.

INDUSTRIAL MECHANICS

MECH-235 Mechanical Drives I 4 cr.

This course teaches the fundamentals of mechanical transmission systems used in industrial, agricultural, and

mobile applications. Students will learn industrial relevant skills including how to: operate, install, analyze performance, and design basic transmission systems using chains, v-belts, spur gears, bearings, and couplings. Vibration analysis will be used to determine when to perform maintenance of power transmission components. Prerequisites: IPOP 165. Corequisites: MECH-236, MECH-237, MECH-261, MECH-262. Offered: Fall. Faculty Permission Required.

MECH-236 Lubrication 1 cr.

This course teaches the technical skills needed to operate, install, tune, maintain and troubleshoot automatic lubrication systems. Lubrication concepts, setup and tuning, pneumatic pumps, series progressive valve systems and microprocessor based lubrication controllers will be covered. Prerequisites: TAKE IPOP-165. Corequisites: MECH-235, MECH-237, MECH-261, MECH-262 Offered: Fall. Faculty Permission Required.

MECH-237 Hydraulics I 2 cr.

This course teaches fundamentals of hydraulic systems used in industry mobile applications. Students learn industry-relevant skills including how to operate, install, analyze performance, and design basic hydraulic systems. This course will teach intermediate hydraulic components and system applications. Prerequisites: TAKE IPOP-165. Corequisites: MECH-235, MECH-236, MECH-261, MECH-262 Offered: Fall. Faculty Permission Required.

MECH-261 Pumps I 4 cr.

This course teaches how to select, operate, install, maintain and repair the many types of pumps used by industry. Prerequisites: TAKE IPOP-165. Corequisites: MECH-235, MECH-236, MECH-237, MECH-262. Offered: Fall. Faculty Permission Required.

MECH-262 Piping Systems 2 cr.

This course teaches how to install, maintain and trouble fluid systems. Prerequisites: TAKE IPOP-165. Corequisites: MECH-235, MECH-236, MECH-237, MECH-261. Offered: Fall. Faculty Permission Required.

MECH-263 Mechanical Drives II 4 cr.

This course will build on MECH 235 and will focus on bearings and gears used in heavy-duty mechanical transmission systems. This course will emphasize linear axis drives, clutches, and brakes. Prerequisites: MECH-262. Corequisites: MECH-264, MECH-265, MECH-266, MECH-267. Offered: Spring. Faculty Permission Required.

MECH-264 Rigging 2 cr.

This course teaches how to safely move loads of different shapes and sizes using a variety of methods. Students will use hoists, slings, ropes, and fittings to learn how to safely lift a wide variety of loads. Prerequisites: TAKE MECH-262. Corequisites: MECH-263, MECH-265, MECH-266, MECH-267. Offered: Spring. Faculty Permission Required.

MECH-265 Hydraulics II 2 cr.

This course builds on the concepts learned in MECH 237 and teaches advanced hydraulic systems. Students will learn operation of advanced hydraulic systems application, equipment installation,

performance analysis of motors and pumps, accumulators, control, relief and check valves, equipment maintenance, and system design. Prerequisites: MECH-262. Corequisites: MECH-263, MECH-264, MECH-266, MECH-267. Offered: Spring. Faculty Permission Required.

MECH-266 Pumps II 2 cr.

This course builds around the concepts learned in MECH 261. Disassembly, inspection and reassembly of centrifugal and positive displacement pumps will be covered. Prerequisites: TAKE MECH-262. Corequisites: MECH-263, MECH-264, MECH-265, MECH-267. Offered: Spring. Faculty Permission Required.

MECH-267 Maintenance Project 2 cr.

This course is the final project in the AAS.MECH program. Students will utilize what they've learned in previous MECH courses to complete the project. Prerequisites: TAKE MECH-262. Corequisites: MECH-263, MECH-264, MECH-265, MECH-266. Offered: Spring. Faculty Permission Required.

MEDICAL LABORATORY TECHNICIAN

MLTS-110 Medical Laboratory - Providing 2 cr.

Overview of medical terminology and survey of specialty areas within the profession. Selected laboratory sessions will be related to health maintenance. Offered: Fall & Spring. Faculty Permission Required.

MLTS-120 Intro to Medical Laboratory Sc 3 cr.

Introduces the student to the scope of practice of the laboratory professional. Students will use or apply basic concepts used in the medical laboratory including terminology, instrumentation, safety, basic statistics, physician office settings and quality assurance. Selected areas of laboratory practice will be presented. Prerequisites: Completion of ENGL-099, RDNG-113, and MATH-095 or appropriate English, Math, and Reading Accuplacer scores. Offered: Fall.

MLTS-160 Theory of Phlebotomy 2 cr.

Introduction to blood specimen collection and processing. Content areas include related body system anatomy and function, site selection, equipment and supplies, anticoagulants, specimen processing, safety, universal precautions, professionalism, ethics and review of the health care delivery system. Minimum grade required: C Offered: All.

MLTS-161 Phlebotomy Practice 2 cr.

100 clock hours of applied phlebotomy experience with a minimum of 100 documented blood procurements. Successful completion of MLTS 160 and MLTS 161 enable the student to sit for a national certification examination. Practice times to be arranged at selected clinical affiliates by the Program Director. Minimum grade required: C. Prerequisites: MLTS-160 with a grade of C or higher. Offered: All.

MLTS-210 Clinical Hematology 4 cr.

Introduction to theory and practice of hematology. Topics include principles of cell production, function, cell counting, classification, and morphology. Manual and automated instrumentation methods and correlation of results with pathophysiology are covered. Minimum grade required: C. Prerequisites: MLTS-120 and MLTS-160. Admission into MLT program required. Offered: Spring.