

## MAT

### **MAT 114 Introduction Probabilities and Statistics 3.0 UNITS**

This course offers an analysis of the basic ideas and methods of collecting, tabulating, and representing data. Topics include frequency distributions, histograms and frequency polygons; measures of central tendency, variability percentiles; Z-scores, elementary probability, binomial and normal distributions; linear regression and correlation, and hypothesis testing.

### **MAT 100 College Algebra 3.0 UNITS**

This course teaches the essentials of college algebra. The topics include polynomials, first-degree equations, word problems, graphing, systems of linear equations, factoring, exponents, quadratic equations, matrices, and radicals.

### **MAT 102 Mathematics for the Health Science 3.0 UNITS**

This course provides an introduction to the logic of mathematics and measurement. The role of mathematics in the health professions and the application to problems encountered by the health professional are discussed. Topics covered include basic computation with non-negative rational and real numbers, ratios and proportions, scientific notation, and logarithms. The metric system, its nature, and specific applications to medical dosages and other health problems are also examined.

### **MAT 103 Business Mathematics 3.0 UNITS**

This course covers the mathematical and numerical skills for ratios, proportions, rate and percentage problems, and the metric system. Also included are the following: the mathematics of buying, pricing and selling, payrolls, insurance, depreciation and profits, simple and compound interest, bank discounts, consumer credit, corporation stocks and bonds, and other investments.

### **MAT EXEMPT Exempt AF MAT Multiple Measure 0.0 UNITS**

### **MAT EXPC Exempt MAT-100 Multiple Measure 0.0 UNITS**

### **MAT EXCAL Exempt MAT-110 Multiple Measure 0.0 UNITS**

### **MAT 211 Calculus III 4.0 UNITS**

Continuation of MAT 112. The main topics considered are conic sections;

parameterized curves; polar, cylindrical, and spherical coordinates; vectors in plane and space; functions of two or more variables; multiple integrals; and integrations in vector fields. Use of mathematical software in problem-solving is emphasized.

### **MAT 006 Refresher: Basic Algebra 0.0 UNITS**

EOF NON CREDIT Refresher: Basic Algebra

### **MAT 070 Basic Algebra Workshop 1.0 UNIT**

This workshop is required for all students taking MAT 073, Basic Algebra I. The workshop emphasizes problem-solving.

### **MAT 071 Basic Mathematics 3.0 UNITS**

Basic computational skills and problem-solving using these skills. Topics include whole numbers, common fractions, decimals, percents, ratio and proportion, measurement, and geometry. Placement is determined by the College Placement Test.

### **MAT 073 Basic Algebra 3.0 UNITS**

Topics in this elementary algebra course include signed numbers, linear equations, polynomials, factoring, algebraic fractions, quadratic equations, simultaneous equations, and the coordinate system. Placement is determined by the College Placement Test.

### **MAT 080 College Algebra Workshop 1.0 UNIT**

This course covers topics in pre-calculus, including polynomials, rational, logarithmic, and exponential functions and their applications. The lab hour reinforces concepts discussed during the lecture hour.

### **MAT 116 Pre-Calculus for Business 4.0 UNITS**

A course in mathematics with special emphasis on applications to business, economics and related fields. Topics include linear, quadratic, exponential and logarithmic functions with applications involving supply, demand, revenue, cost, profit and break-even points, matrices and systems of linear equations, graphing, Leontief Input-Output model, and mathematics of finance. Classroom instructions will be presented using a TI-83+ graphing calculator.

### **MAT 000 Enrich Prog: Basic Math 0.0 UNITS**

### **MAT 001 Enrich Prog: Basic Algebra 0.0 UNITS**

### **MAT 110 Precalculus 4.0 UNITS**

This course provides the preparation necessary for students who intend to study calculus for science and engineering programs. Topics include the following: fundamentals of algebra; linear inequalities; functions and relations; polynomial, rational, exponential, and logarithmic functions; trigonometric functions; analytic trigonometry; analytic geometry; complex numbers; and discrete algebra, logic, and proof.

### **MAT 123 Mathematics for Liberal Arts 3.0 UNITS**

Students in appropriate non-STEM programs apply mathematics to real-world problem solving. Topics include critical thinking skills, sets, Venn diagrams and their applications, logic, tree diagrams, graphs and sets, mathematical system, graphs, functions, linear and quadratic functions, probability, and statistics.

### **MAT 111 Calculus I 4.0 UNITS**

This course considers the limits, continuity, theory and techniques of differentiation and integration, with applications of both processes to science/engineering. The use of mathematical software in problem-solving is emphasized.

### **MAT 002 Bridge: Basic Math 0.0 UNITS**

### **MAT 003 Bridge: Basic Algebra 0.0 UNITS**

### **MAT 112 Calculus II 4.0 UNITS**

This course is a continuation of MAT 111. Topics include calculus of transcendental functions, integrations by parts, trigonometric integrals, improper integrals, sequences and infinite series. The use of mathematical software in problem-solving is emphasized.

### **MAT 004 Refresher: Basic Math 0.0 UNITS**

### **MAT 005 Refresher: Basic Algebra 0.0 UNITS**

### **MAT 212 Differential Equations 4.0 UNITS**

Methods for solving ordinary differential equations are studied, together with physical and geometrical applications. Laplace transforms and numerical and series solutions are included. Use of mathematical software in problem-solving is emphasized.

### **MAT 007 Refresher: Basic Math 0.0 UNITS**

EOF NON CREDIT Basic Math workshop

**MAT 215      Linear Algebra      3.0  
UNITS**

Systems of linear equations, Gauss elimination, matrices, determinants, vector spaces of ordered n-tuples and functions, linear transformations, inner products, orthogonal basis, eigenvalues, eigenvectors and related vectors. Machine computation will be used to illustrate and supplement mathematical ideas and concepts.

**MAT 008      Enrich Prog: Basic  
Math and Algebra 0.0  
UNITS**