**LSU College Readiness Program**

**COURSE PROFILE**

**2-17-2017**

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| **COURSE NAME** | **CLEP Prep Course** |
| **PRIMARY ONLINE CONTENT SOURCE** | ***Algebra and Trigonometry, 2e,* *MyMathLab***  Kirk Trigsted |
| **COURSE/UNIT CREDIT** | **1 Carnegie Unit** |
| **GRADE(S)** | **10, 11, or 12** |
| **PREREQUISITE(S)** | **Successful Completion of Algebra II** |

**CLEP PREP COURSE**

**SECTION NAMES (NUMBER OF EXERCISES) AND LEARNING OBJECTIVES**

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| **CLEP 1: Factoring and Expanding Polynomials (38)**  Multiply polynomials  Factor out a greatest common factor  Factor by grouping  Factor trinomials with a leading coefficient equal to one  Factor using special factoring formulas |
| **CLEP 2: Operations with Algebraic Expressions (13)**  Use the order of operations to simplify numeric and algebraic expressions |
| **CLEP 3: Operations with Exponents (52)**  Simplify exponential expressions involving integer exponents  Simplify radical expressions  Simplify exponential expressions involving rational exponents |
| **CLEP 4: Quadratic Inequalities (16)**  Solve polynomial inequalities |
| **CLEP 5: Systems of Non-linear Equations (16)**  Determine the number of solutions to a system of nonlinear equations  Solve systems of nonlinear equations using substitution, elimination, or graphing  Solve applied problems using systems of nonlinear equations |
| **CLEP 6: Inequalities in Two Variables (18)**  Determine whether ordered pairs are solutions to inequalities in two variables  Graph linear inequalities in two variables |
| **CLEP 7: Systems of Inequalities in Two Variables (21)**  Determine if ordered pairs are solutions to systems of inequalities in two variables  Graph systems of linear inequalities in two variables |
| **CLEP 8: Algebra of Functions (25)**  Evaluate a combined function  Find combined functions and their domains |
| **CLEP 9: Real Numbers (12)**  Understand and classify real numbers  Understand absolute value and use it to find distance |
| **CLEP 10: Complex Numbers (37)**  Simplify powers of *i*  Add and subtract complex numbers  Multiply complex numbers  Find the quotient of complex numbers  Simplify radicals with negative radicands  Solve quadratic equations using the quadratic formula |
| **CLEP 11: Sequences and Series (42)**  Write the terms of a sequence  Write the terms of a recursive sequence  Write a formula for the general terms of a sequence  Compute partial sums of a series  Determine the sums of a finite series written in summation notation  Write a series using summation notation  Solve applications involving sequences and series |
| **CLEP 12: Arithmetic Sequences and Series (35)**  Determine if a sequence is arithmetic  Find the general term of an arithmetic sequence  Find a specific term of an arithmetic sequence  Compute the nth partial sum of an arithmetic series  Solve applications of arithmetic sequences and series |
| **CLEP 13: Geometric Sequences and Series (38)**  Write the terms of a geometric sequence  Determine whether a sequence is geometric and find its common ratio  Find the general term of a geometric sequence  Find a specific term of a geometric sequence  Compute the nth partial sum of a geometric series  Determine if an infinite geometric series converges or diverges and find its sum  Solve applications of geometric sequences and series |
| **CLEP 14: Binomial Theorem (25)**  Expand binomials raised to a power using Pascal's triangle  Evaluate binomial coefficients  Expand binomials raised to a power using the Binomial Theorem  Find a particular term of a binomial expansion  Find a particular coefficient of a binomial expansion |
| **CLEP 15: Determinants of 2 by 2 Matrices (14)**  Determine the size of matrices and their types  Evaluate second-order determinants  Evaluate determinants of 2x2 matrices  Solve equations involving determinants  Write systems of linear equations given determinants and solve equations |