Course Outline for MATH 110E

ELEMENTARY ALGEBRA A COREQUISITE SUPPORT

Effective: Fall 2018

I. CATALOG DESCRIPTION:
   MATH 110E — ELEMENTARY ALGEBRA A COREQUISITE SUPPORT — 2.00 units

   This credit course is a co-requisite for Elementary Algebra A, the first half of Elementary Algebra. This course is only available through manual enrollment during the semester for students who are taking Elementary Algebra in the Emporium mode and are on track to complete at least the Elementary Algebra A material. This course will support students in achieving Elementary Algebra A learning goals by providing support around mastering the necessary arithmetic, algebraic and geometric concepts that are relevant to their Elementary Algebra A course. This course will provide study strategies that promote understanding and improve performance, more in-depth investigation of core concepts that are difficult for students to master, and learning skills.

    2.00 Units Lecture

   Prerequisite
   MATH 107 - Pre-Algebra
   with a minimum grade of C
   or

   MATH 107B - Pre-Algebra B
   with a minimum grade of C

   Corequisite
   MATH 110A - Elementary Algebra A

   Grading Methods:
   Pass/No Pass

   Discipline:
   • Mathematics

	MIN
Lecture Hours:	36.00
Expected Outside of Class Hours:	72.00
Total Hours:	108.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:
Before entering the course a student should be able to:

   A. MATH107
      1. perform accurate computations with whole numbers, fractions and decimals, signed and unsigned, without using a calculator;
      2. simplify and evaluate variable expressions;
      3. demonstrate a knowledge of ratios, proportions and precentages and their application;
      4. solve linear equations involving multiple steps;
      5. construct graphs of linear equations in two variables in a rectangular coordinate system;
      6. apply the concepts learned to specific real-life applications, such as, simple interest, business and finance, restaurants, bank statements, etc.
   B. MATH107B

IV. MEASURABLE OBJECTIVES:
Upon completion of this course, the student should be able to:

   A. Develop study skills and life skills that will improve the student's likelihood of succeeding in their academic goals, such as time management, study skills, identifying his/her individual growth mindset, and brain research on learning.
   B. Incorporate independent learning skills to master Elementary Algebra A material.
   C. Use learning strategies to identify and communicate in their own words the key concepts of Elementary Algebra A.

D. Organize and justify their mathematical thinking on Elementary Algebra A problems.
E. Use effective strategies to read mathematical text for understanding.
F. Apply Elementary Algebra A concepts at a higher level.

V. CONTENT:
A. Students will focus on identifying and communicating what learning objectives were covered in their Elementary Algebra A class.
   1. Students will learn note-taking skills and refer to the notes for understanding.
   2. Students will learn how to synthesize big ideas in the material.
   3. Students will identify examples or problems that relevant to the learning objectives.
B. Practice organizing their thinking and justifying each mathematical steps while simplifying or solving Elementary Algebra problems.
C. Interact with Multimedia Instructional material for understanding.
   1. Make a skeleton outline of material covered in the multimedia instructional material.
   2. Highlight important facts in the material.
D. Review Elementary Algebra A concepts and pratice completing many Elementary Algebra A problems.
E. Successfully solve Elementary Algebra A context problems by learning how to:
   1. Read context problems with understanding
   2. Identify relevant information.
   3. Define variables.
   4. Execute relevant procedures.
   5. Interpret results in the context of the problem.
F. Learn appropriate skills necessary to become more productive, successful and independent learners.
   1. Students will participate in Growth Mindset, Brain Research and learning skill activities.
   2. Students will learn about free resources available on campus and on the internet to enhance their learning of mathematics.
   3. Students will actively participate in learning skills activities around topics such as time management, note-taking, study habits, etc.

VI. METHODS OF INSTRUCTION:
A. **Directed Study** - Directed Study will regularly focus students' time on main Elementary Algebra A concepts, creating meaningful notes on what the big ideas are and how they should be applied, citing the multimedia resources as applicable.
B. **Audio-visual Activity** - Audio-visual activities will only be in small, relevant amounts, with specific skills-building goal in mind and time left for students to practice applying the demonstrated skill described.
C. **Classroom Activity** - Students will engage in classroom activities around key mathematical concepts in Elementary Algebra A.
D. **Individualized Instruction** - Instructor will provide individualized instruction as often as possible.

VII. TYPICAL ASSIGNMENTS:
A. Binder Activities
   1. Students will be complete essential review materials, with content including math concepts, study skills and applications.
   2. Students will watch video lectures and complete scaffolded lecture note pages that follow the video. The scaffolded notes will teach them how to organize their thinking.
B. Online Activities
   1. Lab Assignments in the online learning environment will include math concepts, study skills and applications. These will be graded for mastery.
   2. Practice assessments in the online learning environment will assess student mastery of concepts.
   3. Online tutorials will be assigned and completed.
C. In Class
   1. Participate in optional workshops with an instructor or tutor on key concepts.
   2. Engage with the online environment, instructor, tutor, and fellow students to learn key concepts.

VIII. EVALUATION:
A. **Methods**

   1. Exams/Tests
   2. Quizzes
   3. Simulation
   4. Group Projects
   5. Class Participation
   6. Class Work
   7. Home Work
   8. Lab Activities

B. **Frequency**

   1. Minimum of 4 chapter assessments (quizzes or tests) and a cumulative assessment test.
   2. Minimum of 4 lab activities.
   3. Homework assignment for every chapter, as needed based on pre-assessment.
   4. Daily classwork and participation.
   5. Simulations and group projects as appropriate to the content.

IX. TYPICAL TEXTS:
   1. Rockswold, Gary, and Terry Krieger. *Interactive Developmental Mathematics.* 1st ed., Pearson, 2016.
   2. Rockswold, Gary, and Terry Krieger. *Beginning and Intermediate Algebra with Applications & Visualization.* 4th ed., Pearson, 2017.
   3. Bass, Alan. *Math Study Skills.* 2nd ed., Pearson, 2012.
   4. Nolting, Paul. *Math Study Skills.* 5th ed., Brooks Cole, 2015.

X. OTHER MATERIALS REQUIRED OF STUDENTS: