Discipline: Supply Chain Automation

Integrated Course Outline of Record

Math XX

College:
Lecture Hours: 54
Math -XX: Mathematics for Supply Chain Automation Lab Hours: 0
Units: 3.00

COURSE DESCRIPTION

Prerequisites: None

In this course concepts from arithmetic, elementary algebra, geometry and scientific notation are reviewed, extended and applied to problems from areas of technology, including electronics, facilities operation, manufacturing, welding and building energy systems. 54 hours lecture.

SHORT DESCRIPTION FOR CLASS SCHEDULE

Mathematics for Supply Chain Automation.

ADVISORY ENTRY SKILLS

None.

STUDENT LEARNING OUTCOMES

Upon successful completion of the course, the students should be able to:

- Apply the fundamental operations of arithmetic with respect to integers, fractions, decimals, and percents with applications primarily from the fields of electrical and mechanical engineering (E & ME) including metal work, welding, and pulley systems
- Apply the concepts of the elements of measurements and conversions with applications from the fields of E & ME including blueprint analysis
- Solve algebraic equations, inequalities, and systems of equations and inequalities with applications from the fields of E & ME including metal work and blueprint analysis
- Evaluate, manipulate, and factor polynomial and rational expressions with applications from the fields of E & ME
- Graph straight lines and apply the concept of linear slope in problems from technology
- Manipulate radical expressions and solve quadratic equations with applications from the fields of E & ME
- Apply the concepts of ratio, proportion, and variation with applications from the fields of E & ME including metal work, pulley systems and blueprint analysis
- Solve applied problem in Geometry with applications from the fields of E & ME

COURSE CONTENT

TOPICS

A. Arithmetic

1. Operations on whole numbers.
2. Applications and problem solving
3. Fractional notation and mixed numerals
4. Decimal notation
5. Applications

B. Measurements

1. English system
2. Metric system
3. Conversions between the English and metric systems
4. Rates
5. Temperature
6. The decimal number system and powers of ten
7. Operations with measurements
8. Applications

C. Algebra

1. Introduction to real numbers
2. Solving equations and inequalities
3. Graphs of equations
4. Polynomial operations
5. Polynomial factoring
6. Rational expressions and equations
7. Graphs, slopes, and applications
8. Systems of equations and inequalities
9. Radical expressions and quadratic equations
10. Ratio, proportion, and variation
11. Applications

D. Geometry

1. Length and area
2. Perimeter
3. Areas of parallelograms, triangles, and trapezoids
4. Circles
5. Pythagorean Theorem
6. Angles and triangles
7. Solids and volumes
8. Applications

METHODS OF INSTRUCTION

(To be completed by instructor)

Methods of instruction can include lectures, discussion, demonstration, experimentation, audio-visual, group work, and regularly assigned homework. Calculators / computers will be used when appropriate.

Course may be taught as face-to-face, media-based, hybrid or online course.

METHODS OF EVALUATION

(To be determined and announced by the instructor)

Evaluation methods can include assignments, quizzes, chapter or major tests, individual or group projects, computer assignments and/or a final examination.

INSTRUCTIONAL MATERIALS

Textbook: Cleaves, College Mathematics, 9th edition, 2014
Publisher: Pearson Education

MyMathLab access code is required for this course

A scientific calculator is required.

Schedule (your times may vary, but all topics must be covered).

A. Arithmetic	**Weeks**
1. Operations on whole numbers.	0.5
2. Applications and problem solving	0.5
3. Fractional notation and mixed numerals	0.5
4. Decimal notation	0.5
5. Applications	0.5
B. Measurements	
1. English system	0.25
2. Metric system	0.5
3. Conversions between the English and metric systems	0.5
4. Rates	0.25
5. Temperature	0.25
6. The decimal number system and powers of ten	0.25
7. Operations with measurements	0.5
C. Algebra	
1. Introduction to real numbers	0.5
2. Solving equations and inequalities	1
3. Graphs of equations	0.5

4. Polynomial operations	1
5. Polynomial factoring	1
6. Rational expressions and equations	1
7. Graphs, slopes, and applications	0.5
8. Systems of equations and inequalities	1
9. Radical expressions and quadratic equations	0.5
10. Ratio, proportion, and variation	1
D. Geometry	
1. Length and area	0.25
2. Perimeter	0.25
3. Areas of parallelograms, triangles, and trapezoids	0.5
4. Circles	0.25
5. Pythagorean Theorem	0.25
6. Angles and triangles	0.5
7. Solids and volumes	0.5
Total:	**15**