Course Prefix and Number: MATH 129

Course Title: Applied Technical Mathematics

Course Prerequisites: ACT score of 18 or higher, or a grade of “C” or higher in MATH 099.


Course Description: This course covers a practical application of basic math/algebra skills to typical industrial applications and problems. There is emphasis on units of measure, algebraic expressions, reading tools of measurement, perimeter/area/volume, analysis using plane and solid geometry, simultaneous equations, polynomial roots, radicals, trigonometry (right and oblique triangles), graphical analysis and engineering units/notation.

Learning Outcomes:
At the end of this course, the student will:

A. perform order of operations for real numbers using a calculator and rounding answers to the appropriate place value;
B. have an understanding of U.S. Customary Units and Metric Units and conversions with both units;
C. solve and evaluate literal equations for the appropriate variable;
D. read, interpret and construct graphs;
E. calculate the perimeter and area of 2-dimensional objects and the volume of 3-dimensional objects
F. use Pythagorean theorem and trigonometric functions to find the missing side/angle of a right triangle; and
G. have a basic understanding of vector vocabulary and be able to do basic vector operations;

To achieve the learning outcomes, the student will or will be able to:
(The letter designations at the end of each statement refer to the learning outcome(s).)

1. perform order of operations of whole numbers using a calculator; (A)
2. perform order of operations of fractions using a calculator; (A)
3. perform order of operations of decimal numbers using a calculator; (A)
4. use a calculator to solve proportions; (A)
5. use a calculator to convert percentages, fractions and decimals; (A)
6. use a calculator to solve percentage application problems; (A)
7. perform order of operations of signed numbers using a calculator; (A)
8. perform operations related to exponents and roots using a calculator; (A)
9. converting numbers to and from scientific notation; (A)
10. apply rounding rules for significant digits of units of measurement; (B)
11. perform operations of same units; (B)
12. perform conversions of U.S. Customary Units; (B)
13. perform conversions of Metric Units; (B)
14. perform conversions between U.S. Customary Units and Metric Units; (B)
15. read instruments of measure and assign appropriate number value to location; (B)
16. evaluate algebraic expressions for given values; (C)
17. solving a literal equation for a specific variable; (C)
18. solving application problems related to formulas of the trade; (C)
19. read and interpret graphs and data; (D)
20. construct graphs using gathered data; (D)
21. find the perimeter of polygons; (E)
22. find the circumference of a circle; (E)
23. find the area of polygons; (E)
24. find the area of a circle; (E)
25. solving application problems related to perimeter and area of polygons and circles; (E)
26. finding lateral surface of prisms; (E)
27. finding total surface area of prisms; (E)
28. finding volume of 3-dimensional objects; (E)
29. finding volume of the frustum of a pyramid and cone; (E)
30. solving application problems related to volume of 3 dimensional objects; (E)
31. recognizing measures of angles in both decimal degrees and DMS form; (F)
32. converting between degrees and radian measure; (F)
33. finding the missing side of a right triangle by using Pythagorean Theorem; (F)
34. finding the area of a sector; (F)
35. define sine, cosine and tangent as a ratio of two sides of a right triangle; (F)
36. using the trigonometric functions to solve right triangles; (F)
37. define basic vocabulary of vectors; (G) and
38. evaluate basic operations with vectors; (G)

Course Requirements: All students are required to take a comprehensive final exam. When this course is taken in an online environment, the department has established a minimum grade of 50% on the final exam required to earn a grade of “C” or higher in the course. If this minimum score is not obtained by the student, then the student shall refer to the policy outlined in the course syllabus which will supersede the course grading scale shown below. All students will take the final exam in a monitored and controlled setting. Students who live less than one hour from Bossier Parish Community College (as determined by Google Maps using the address the student has listed in LoLA) will take the exam on the campus. Students who live outside of the area must notify their instructor via email to discuss alternate testing locations. Under no circumstances will any student take the exam online in an unmonitored and uncontrolled situation.

Course Grading Scale:
90 – 100 = A
80 – 89 = B
70 – 79 = C
60 – 69 = D
0 – 59 = F

Revised on 02/26/2016
**Attendance Policy:** The college attendance policy is available at [http://www.bpcc.edu/catalog/current/academicpolicies.html](http://www.bpcc.edu/catalog/current/academicpolicies.html)

**Course Fees:** This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams and/or clinical fees.

**Nondiscrimination Statement:** Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

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