SYLLABUS

DATE OF LAST REVIEW: 02/11/2013
CIP CODE: 47.0604
SEMESTER: Departmental Syllabus
COURSE TITLE: Automotive Math
COURSE NUMBER: AUTT0101
CREDIT HOURS: 1
INSTRUCTOR: Departmental Syllabus
OFFICE LOCATION: Departmental Syllabus
OFFICE HOURS: Departmental Syllabus
TELEPHONE: Departmental Syllabus
EMAIL: KCKCC issued email accounts are the official means for electronically communicating with our students.

PREREQUISITE(S): None

REQUIRED TEXT AND MATERIALS:
Please see bookstore for current textbook(s) and other required material.

COURSE DESCRIPTION:
This class prepares students for situations that automotive technicians will encounter in automotive class work and automotive service on the job. As the student completes this course, they will have a stronger foundation in problem solving and dealing with issues that they will encounter on the job.

METHOD OF INSTRUCTION:
A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.
COURSE OUTLINE:
All students must comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations.

I. Whole Numbers
   A. Addition
   B. Subtraction
   C. Multiplication
   D. Division

II. Common Fractions
   A. Addition
   B. Subtraction
   C. Multiplication
   D. Division

III. Decimal Fractions
   A. Fractional Equivalents
   B. Addition
   C. Subtraction
   D. Multiplication
   E. Division

IV. Percent and Percentage
   A. Simple Percent
   B. Simple Percentage
   C. Grades
   D. Discounts
   E. Profit and Loss, Commissions
   F. Percent of Error and Averages

V. Measurement
   A. Linear
   B. Scale Reading
   C. Scale of DVOM, M, k, m...
   D. Angular
   E. Area and Volume
   F. Time and Speed

VI. Ratio and Proportion

VII. Formulas
   A. Circular Measurement
   B. Horsepower
   C. Torque

VIII. Graphs

IX. Invoices

EXPECTED LEARNER OUTCOMES:
   A. The learner will describe solving problems using whole numbers, fractions
B. The learner will describe manipulating decimals using kilo, Mega, micro, milli when used with values
C. The learner will explain how to use percentages to solve a problem
D. The learner will be able to describe how to measure volume, length, angles, area and time
E. The learner will be able to describe simple ratios
F. The learner will be able to summarize how to calculate horsepower and torque
G. The learner will explain the use of graphs
H. The learner will review how to calculate and repair order

COURSE COMPETENCIES:

The learner will describe solving problems using whole numbers, fractions and decimals
1. Add, subtract, multiply and divide using whole numbers
2. Add, subtract, multiply and divide using fractions
3. Add, subtract, multiply and divide using decimals

The learner will describe manipulating decimals using kilo, Mega, micro, milli when used with values
4. Manipulate decimals and use kilo, Mega, etc

The learner will explain how to use percentages to solve a problem
5. Use percentages to calculate a grade
6. Use percentages to calculate the duty cycle of a solenoid

The learner will be able to describe how to measure volume, length, angles, area and time
7. Measure volume using metric and English units
8. Measure length using metric and English
9. Measure angle using degrees
10. Measure area
11. Measure time
12. Convert metric measurements to Imperial, and Imperial to Metric

The learner will be able to describe simple ratios
13. Use and understand fuel to air ratios

The learner will be able to summarize how to calculate horsepower and torque
14. Calculate horsepower
15. Calculate torque for tightening bolt in inch/lbs., ft/lbs, and NM

_The learner will explain the use of graphs_

16. Graph values of temperature to resistance and voltage to time

_The learner will review how to calculate an repair order_

17. Calculate an invoice using parts, labor and sales tax
18. The learner will discuss the value of mathematics to an Automotive Technician

**ASSESSMENT OF LEARNER OUTCOMES:**
Assessment methods may include, but are not limited to, the following: Homework, Assignments, Quizzes, Class Participation, Chapter Tests, and Final Exam. The grading scale and the process for calculating the course grades are to be determined by the individual instructors. This information will be included in each instructor’s syllabus.

**SPECIAL NOTES:**
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student’s progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

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