

**TE 103**

**INTERMEDIATE TECHNICAL MATHEMATICS**



**STUDY GUIDE for Challenge Exam**

NOTE for the Actual Challenge EXAM:  
Formulas for the test are given on the last page of the exam.  
There are 100 questions on the Exam.

**REVISED  
July 2014**

DEPARTMENT: Manufacturing

COURSE TITLE: TE 103 Intermediate Technical Mathematics  
Four (4) Credits

I. COURSE DESCRIPTION:

**A study of numbers, common and decimal fractions, Scientific notation, percentages, ratios, proportions, direct and inverse variation, formulas and their transpositions, linear systems and equations, and quadratic equations**

II. STUDENT PERFORMANCE OBJECTIVES:

- 1. Add, subtract, multiply and divide common fractions**
- 2. Change a common fraction to a decimal fraction and round off to a given number of places**
- 3. Add, subtract, multiply and divide decimal fractions**
- 4. Multiply and divide numbers in scientific notation form**
- 5. Add, subtract, multiply and divide signed numbers**
- 6. Simplify or evaluate algebraic expressions**
- 7. Solve ratio problems**
- 8. Solve proportion problems**
- 9. Solve direct and inverse variation problems**
- 10. Solve percentage problems given any two of the three variables of the formula  $P = R*B$**
- 11. Add, subtract, multiply and divide numbers with exponents**
- 12. Solve linear equations and word problems**
- 13. Solve simultaneous equation problems using addition, graphing and substitution methods**
- 14. Factor and solve quadratic equations**

III. TESTING CONDITIONS – When you come to take the exam, you should bring:

- 1) Pencils
- 2) Eraser
- 3) Scientific Calculator - Note: A cell phone or computer CANNOT be used as a calculator.

**IV. TEST FORMAT and PROCEDURES** – to take this test, you must:

- 1) Pay fee to take the test at Cashier's Office. Bring receipt when you come to take the test.
- 2) Go to Academic Testing Center at GRCC and fill out request form. The Testing Center is on the third floor of the Student Center.
- 3) Make an appointment to take the test at the career resource center.
- 4) Take the test.
- 5) The Testing Center will grade the test and give you the results directly or they may call you with results depending on how busy they are there at the time.

**PLEASE NOTE: CREDIT WILL BE POSTED ON A CREDIT/NO CREDIT BASIS.  
SOME COLLEGES DO NOT GIVE CREDIT FOR COLLEGE EXAMINATIONS.  
BE SURE TO CHECK WITH YOUR TRANSFER COLLEGE.**

**Test will be completed within a three (3) hour period.  
See sample problems for specific types of questions.  
You must pass with a minimum of 70% for successful completion of this exam.**