The Division of Natural Sciences
Houston Community College

HCC
Houston Community College

TECM 1301 Industrial Mathematics | Online | #18972

Spring 2021| 8 Weeks (03.22.2021-05.16.2021)
3 Credit Hours | 48 hours per semester

Course Syllabus

Instructor	**Name: Professor Tayebeh Hajjari** **Office:** Katy Campus, Room 359K **Tel:** 713-718-5204 **Online Office hours via WebEx: MoWe 2-3 pm TuTh 8:30-9:30 am** **Email:** tayebeh.hajjari@hccs.edu *Please feel free to contact me concerning any problem that you are experiencing in this course. You do not need to wait until you have received a poor grade before asking for my assistance. Your performance in my class is very important to me. I am available to hear your concerns and just to discuss course topics.		
Course Reference Number (CRN)	**18792**	**Course Level**	Beginning
Course Description:	Math skills applicable to industrial occupations. Includes fraction and decimal manipulation, measurement, percentage, and problem-solving techniques for equations and ratio/proportion applications.		
Course Prerequisite(s)	MATH 0306 (Basic Math Pre-Algebra) GUST 0339 (5^{th}-7^{th} Grade Reading) ENGL 0300 or 0347		
Course Semester Credit Hours (SCH) (Lecture, Lab)	Credit Hours: 3.0 (Lecture 3)		
Course Location/Times	Online	**Total Course Contact Hours**	48
Instructional Materials	Industrial Mathematics Practical Applications TECM 1301, Author: Max Saravia/ Professor Anyakwu's MathconUniverse Youtube Channel Math Content		
Instructional Methods	Online	**Type of Instruction**	Web-based Lectures
Course Length (number of weeks)		8 Weeks, **Last day to withdraw Apr. 26**	

Course Schedule:

Week of	Topics
1	**BASIC MATHEMATICAL CONCEPTS** • Operations with Whole numbers
2	**Review Operations with Fractions** • Introduction to Fractions • Addition and Subtraction of Fractions • Multiplication and Division of Fractions • The U.S. System of Weights and Measures **DECIMALS** • Addition and Subtraction of Decimals • Rounding Numbers • Multiplication and Division of Decimals • Percent • **Exam 1**
3	• Review of Operations with Decimal Fractions and Percent • Ratio, Rate, and proportions • Given percentage of a number • Advance Percent Problems • **Exam 2**
4	**Midterm Examination Apr. 12** **Signed Numbers, EXPONENTS AND SCIENTIFIC NOTATIONS** • Operations with signed numbers • Introduction to exponents
5	**Signed Numbers, EXPONENTS AND SCIENTIFIC NOTATIONS** • Exponents and scientific notation • Prefixes using exponents: kilos, mega, milli, micro. • Problems involving exponents and prefixes **METRIC SYSTEM** • English System of units • SI system of units • Unit conversions • **Exam 3**
6	**GEOMETRY AND TRIGONOMETRY (Extra Credit)** • Basic geometry • Perimeters, areas, and volumes of common solid shapes • Triangles and their properties • Pythagorean Theorem • Basic trigonometry functions • **Exam 4**
7	**Final Exam Review**
8	**Final Examination May 13**

Course Requirement, Policy

Instructor Grading Criteria	Assignments	30%
	Exams	20%
	Midterm Examination	25%
	Final Examination	25%
	Total Percentage	100%

Learning Objective, Students Learning Outcome and Program Spec

Note: This section of the syllabus provides the general course learning objectives, the expected students learning outcome, the course scope in terms of the department program, and the instrument used to evaluate the course. If you have any question, contact the instructor or the department.

HCC Grading Scale

Grade	GPA Points
A = 100- 90	4 points per semester hour
B = 89 - 80:	3 points per semester hour
C = 79 - 70:	2 points per semester hour
D = 69 - 60:	1 points per semester hour
59 and below = F	0 points per semester hour

Course Student Learning Outcomes (SLO):

Perform operations using addition, subtraction, multiplication and division.
Perform operations using fractions, and mixed numbers.
Convert between decimals and fractions and vice versa.

1. Utilize a calculator to perform operations involving fractions and decimals.
2. Utilize percentages to solve problems encountered in industrial environments.
3. Use measuring tools and interpret and determine information in drawings and diagrams using fractions and decimals.
4. Convert unit values.
5. Calculate ratios in a technical application.
6. Compute percentages utilizing ratio and proportions.
7. Calculate proportions in a technical application.
8. Calculate areas and volumes of geometric solids.
9. Transpose linear equations to solve for unknowns.

	10. Solve simple equations 11. Convert English units to SI units and vice versa. 12. Utilize concepts of geometry to determine perimeters, areas and volumes, and use formulas to solve problems.
Program/Discipline Requirements:	Students are required to enroll in TECM 1301 along with or prior to other discipline courses (e.g. Welding, Electricity, Air conditioning). Students are not allowed to graduate if they withdraw from TECM 1301. Students who stop attending class and do not withdraw from the course will receive an FX grade. Students attempting advanced certificates are strongly advised that for most advanced courses student must be placed in MATH 0308.
HCC Policy Statement	
Access Student Services Policies on their Web site:	**1. Attendance** Students are expected to be present during the days and times of online instruction regularly. **2. Academic Honesty** Scholastic dishonesty is treated with the utmost seriousness by the instructor and the College. Academic dishonesty includes, but it is not limited to the willful attempt to misrepresent one's work, cheat, plagiarize, or impede other students' scholastic progress. Consult the Student Handbook for more details. **3. Students with Disabilities** The Disability Support Services Office (DSSO) assists students with physical, learning, or emotional disabilities in developing independence and self-reliance. Students with Disabilities are urged to contact the DSSO at least 30 to 60 days prior to the first day of class. The goal is to ensure that students with disabilities get off to a good start and have the support necessary for them to succeed. The DSSO are committed to compliance with the Americans with Disabilities Act (ADA) and Rehabilitation Act of 1973 (section 504). Student can contact DSSO by phone at 713.718.6164 - TTY 713.718.6335. Fax 713.718.1468 **4. Course Withdrawal** It is the responsibility of the student to officially withdraw from a course before the official withdrawal deadline. A student who does not withdraw from a course by the deadline (04/06/2020) will receive an "F" as the final grade. Also note that under Section 51.907 of the Texas Education Code, an institution of higher education may not allow a student to drop more than six courses. **5. Course Repeater Policy:**

	Beginning in the fall 2006, students repeat a course for a third or more times will face significant tuition/fee increases at HCC and other Texas public colleges and universities. Please ask your instructor and/or counselor about opportunities for tutoring/other assistance prior to considering course withdrawal or if you are not receiving passing grades. **6. Student ID** Students are required to obtain a Student ID. For additional information, consult the Student Handbook.
Distance Education and/or Continuing Education Policies	
Access DE Policies on their Web site:	http://de.hccs.edu/de/de-student-handbook
Access CE Policies on their Web site for non-credit classes:	http://hccs.edu/CE-student-guidelines