**KISHWAUKEE COLLEGE SYLLABUS AUTOMATED ENGINEERING TECH (MT) FALL 2012**

Course Title: Prerequisite: Number of Credits: Course Number:

Course Ref. Number:

Classroom Number: Day & Time:

Start & End Date: Mid Term Date: Final Exam Date: Instructors Name: Office Location: Office Hours: Work Phone: Home Phone:

E-mail:

Machine Shop Mathematics I None

Three (3) hours Lecture/Discussion a Week MT-151

3001 (16753)

A -421

Thursday, 6:30p.m.- 9:15p.m. 08/30/2012- 12/20/12

Thursday 10/18/2012, 6:30p.m.- 8:30p.m. Thursday 12/20/2012, 6:30p.m.- 8:30p.m. Mr. Patrick J. Holtz

1. 419

By Appointment Only 815-895-1373

815-793-4070

pholtz@kishwaukeecollege.edu or patrickh2@frontier.com

**Course Description:** Designed to meet the needs of the vocational-technical student majoring in manufacturing technology. Topics include powers and roots, ratios and proportions, practical measurements, formulas, geometric constructions, and graphs as each applies to the machine shop and the tool and die maker. Emphasizes practical problem solving. Three (3) hours lecture/discussion a week.

**Expected Learner Outcomes:** At the end of the semester, the student will be able to complete with at least 70% accuracy of the topics covered. The topics include:

* 1. Common Fractions, Decimal Fractions, and Percentages.
	2. Linear Measurement: Customary (English) and Metric.
	3. Fundamentals of Algebra.
	4. Fundamentals of Plane Geometry.
	5. Geometric Figures: Areas and Volumes.

**Required Texts:** Mathematics for Machine Technology, Smith & Peterson - 6E, Delmar Publishers.

**Required Student Materials:** Texas Instruments, TI-30X liS calculator, Protractor, pencils, and graph paper

**Additional Student References:** Machinist's Ready Reference, C. Weingartner.

**Breakdown of Course Requirements:**

1. Homework: 480
2. Quizzes: 150
3. Mid Term: 100
4. Final: 100
5. Participation 25

12@40 pts. Each 2@75 pts. Each

855 Total Points

1

**Final Grade Determination:** Grade reports will not be mailed out. Please check KishSOS, My Student Info, under Academic Profile, Grades, for grade reports.

855-770 =A

769-684 = B

683-599 = c

598-513 =D

512- below = F

**Attendance Policy:** Due to the structure of this class, students will be expected to be on time for every class. Five (5) points for each absence in excess of two (2) will be deducted from the final grade total unless arrangements are made between the instructor and the student prior to the next class meeting.

**Make-up Policy for Tests and Other Course Requirements:**

1. Homework should be turned in on time. Work turned in on time will receive full credit.
2. Illness or absence due to family trips, medical leave, etc. will be dealt with separately. Makeup assignments/tests not completed due to illness will be accepted for full credit when turned in within a reasonable time frame (the following class meeting), which will be determined on an individual basis.

**Learning Skills Center (A-3001:** Tutoring and testing is available to all Kishwaukee students free of charge. Students must present their Kishwaukee College student ID when using any Learning Skills Center services. No appointment is necessary for assistance in English. For more information on the Learning Skills Center go to [www.kishwaukeecollege.edu/learning](http://www.kishwaukeecollege.edu/learning) skills center

The Writing Center (A-306) answers your writing-related questions regardless of the class or assignment. No appointment is necessary, and students can get help individually or in small groups. Also available are workshop opportunities for any size group.

**Withdrawal Policy:** A "W' will not be given as a final grade. The student is responsible for officially withdrawing from the class according to procedures described in the college catalog. Any student that does not officially withdraw from the class will receive a letter grade. The last day for withdrawal for this course can be found at "MY CLASS SCHEDULE" on KishSOS. The last day to withdraw from this course is Monday, December 03, 2012.

**Class Cancellations:** Class cancellations due to inclement weather will be announced on local radio stations or posted on the College Web site: www.kishwaukeecolleqe,edu. Students may also call the College at (815) 825-2086. Class cancellations due to instructor absence will be posted on the classroom door and posted at ww.kishwaukeecollege.edu/class cancellations. Room changes will be announced in advance whenever possible and posted on the classroom door.

**Emergency Procedures/Safety:** Yellow and red *Emergency Information Flip Charts* are located in each classroom. These are quick reference sheets with telephone numbers to reach emergency assistance and a brief description of the correct actions to take in the event of a tornado, fire or other emergency on campus.

**Graduation Requirements for Transfer Students:** All students intending to graduate with an A.A., AS., A.E.S., or A.F.A. are required to submit a Degree Portfolio. The Degree Portfolio is *a* way for the institution to measure Its effectiveness in preparing students for successful completion of a degree at the

transferring institution. Save your work throughout your career at the college in order to facilitate the portfolio compilation. Submit a completed application for graduation from the college the semester that you plan on graduating prior to submitting the Degree Portfolio. The specific requirements (along with the rubrics used for assessment) for the Degree Portfolio can be found at [www.kishwaukeecollege.edu/portfolio.](http://www.kishwaukeecollege.edu/portfolio)

# **Academic HONESTY:** Academic honesty is essential in a college community. In order to evaluate student work, faculty must be able to trust that the work is original with a student and not the work of someone else. Plagiarism, cheating, or other dishonest actions will not be tolerated, and the penalties for such actions are at the discretion of the instructor. A complete explanation of the policy and procedures surrounding academic honesty are outlined in the Kishwaukee College Catalog.

**Copyright:** As a Kishwaukee College Student, you may have software made available to you by the college tor course use. Please understand that copyright law may prohibit copying these materials. Violation of copyright laws can lead to prosecution for a criminal offense.

**Assistive Resources Center/Disability Services:** Any student having a documented disability or special learning need and wanting to request accommodations, should contact the Coordinator in A 317 or at (815) 825-2086 Ext 3960, (815) 825-9106 (TTY), or send an email to awilson@kishwaukeecolleqe.edu. The student's disability must impact their ability to participate in the educational environment and be documented by an appropriate professional prior to accommodations being approved.

**Student Email:** Your Kishwaukee College e-mail account will be the only way to receive official notices from the college. If you choose to forward your e-mail to another account, please be advised that all communication from and within the college will use your Kishwaukee student e-mail. When communicating with instructors or employees of the college, you are required to use your Kishwaukee

e-mail address.

**Tentative Course Outline:**

Week 1, Aug. 30:

Week 2, Sep. 06;

Week 3, Sep. 13:

Week 4, Sep. 20:

Week 5, Sep. 27:

Week 6, Oct 04:

Week 7, Oct 11:

Week 8, Oct 18:

Week 9, Oct 25:

Units 1, 2, 3, 4. Introduction to Common Fractions and Mixed Numbers. Addition of Common Fractions and Mixed Numbers. Subtraction of Common Fractions and Mixed Numbers. Multiplication of Common Fractions and Mixed Numbers.

Units 5, 6, 7, 8. Division of Common Fractions and Mixed Numbers. Combined Operations of Common Fractions and Mixed Numbers. Computing with a Calculator: Fractions and Mixed Numbers. Introduction to Decimal Fractions.

Units 9, 10, 11, 12. Rounding Decimal Fractions and Equivalent Decimal and Common Fractions. Addition and Subtraction of Decimal Fractions. Multiplication of Decimal Fractions. Multiplication of Decimal Fractions. Division of Decimal Fractions.

Quiz.

Units 13, 14, 15, 16. Powers. Roots. Table of Decimal Equivalents and Combined Operations of Decimal Fractions. Computing with a Calculator: Decimals.

Units 18, 19, 20, 22. Ratio and Proportion. Direct and Inverse Proportions. Introduction to Percents. Basic Calculations of Percentages, Percents, and Rates. Percent Practical Applications.

Units 24, 25, 26, 27. Customary (English) Units of Measure. Metric Units of Linear Measure. Degree of Precision, Greatest Possible Error, Absolute Error, and Relative Error. Tolerance, Clearance, and Interference.

MidTerm.

Units 28, 29, 30, 31. Customary and Metric Steel Rules. Customary Vernier Calipers and Height Gages. Customary Micrometers. Customary and Metric Gage Blocks.

Week 10, Nov. 01:

Week 11, Nov. 08:

Week 12, Nov. 15:

Week 13, Nov. 22:

Week 14, Nov. 29:

Week 15, Dec. 06:

Week 16, Dec. 13:

Week 17, Dec. 20:

Units 33, 34, 35. Symbolism and Algebraic Expressions. Signed Numbers. Algebraic Operations of Addition, Subtraction, and Multiplication.

Units 36, 37, 38. Algebraic Operations of Division, Powers, and Roots. Introduction to Equations. Solution of Equations by the Subtraction, Addition, and Division Principles of Equality.

Quiz.

Thanksgiving No Class.

Unit 39, 40. Solution of Equations by the Multiplication, Root, and Power Principles of Equality. Solution of Equations Consisting of Combined Operations and Rearrangement of Formulas.

Units 41. Applications of Formulas to Cutting Speed, Revolutions per Minute, and Cutting time.

Units 42. Applications of Formulas to Spur Gears. Final Exam.

**Course outline is subject to change.**

Language on the syllabi course materials developed by INAM funds:

From the grant agreement’s Part IV  Special Conditions, Item 15, Intellectual Property Rights, the following needs to be on all products developed in whole or in part with grant funds:

“This workforce solution was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timelines, usefulness, adequacy, continued availability, or ownership. This solution is copyrighted by the institution that created it. Internal use, by an organization and/or personal use by an individual for  non-commercial purposes, is permissible. All other uses require the prior authorization of the copyright holder.”