INSTRUCTOR:	David W.K.W.L. DONLIN, Lecturer, Mathematics
OFFICE:	Hale Mana'opono 103
OFFICE HOURS:	TR 4:30 – 5:30 pm or by appointment
EMAIL:	donlind@hawaii.edu
SOCIAL MEDIA	**Facebook: David William KWL Donlin**
CONTACT INFO:	**Instagram: David.William.KWL.Donlin**
	Twitter: @David_Donlin
EFFECTIVE DATE:	Spring 2016

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai'i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide O'ahu's Ko'olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

DISABILITIES ACCOMMODATION STATEMENT

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale 'Akoakoa 213 for more information or visit http://windward.hawaii.edu/Disabilities/.

CATALOG DESCRIPTION AND COURSE CONTENT

This course is designed to help students review and master the basics of mathematics. Topics include an introduction to expressions and equations with whole numbers, fractions, decimals, ratios and proportions, percents, geometric formulas, and similar triangles. Pre-Requisite(s): satisfactory math placement test score, or consent of instructor.

GENERAL COURSE STRUCTURE

This is a **non-traditional / non-lecture** based Math course that uses computer software and customized study plan for each student. If you learn Math best through lecture based course then it is recommend that you take appropriate level course on the traditional track. In this self-paced course students meet individually with the instructor to develop their course plan. The course material is divided into four modules (plus review module). Students begin each module by working on selected study plan problems after watching short lecture videos on the module to get ready for the Pre-Test. Then students take a Pre-Test to determine their areas of mastery and areas that need to improve within each module of the course, which is accomplished through web based homework. After completing required web based homework, students will take the Post-Test to move on to next module. Typical class periods consist of the instructor's one-on-one

with each student to check student progress and to provide help. Meanwhile, students work on customized homework and receive assistance from the Supplemental Instruction (SI) Leader.

- Upon completion of this course, the student may decide to continue in the next sequential course if it is within the allowable deadline, or choose to wait until the start of the next semester to enroll in another math course. If the student chooses to wait until the next semester to enroll in another math course, then the student is released from the completed class.
- If you cannot finish this course by the end of the term, you may re-register for this course the following semester and continue your work from last module completed, assuming the transition time is less than or equal to a month. You will receive credit for attendance, completed course material, and passed modules. You can discuss this option further with the instructor for more detail.

LEARNING RESOURCES AND MATERIALS

The textbook for this course is "Developmental Mathematics" 8th Edition by Bittinger. WCC book store should have custom edition of this textbook that come with MyMathLab access code, which is essential for this course. For quick reference you can use the ISBN 1269747649. A reliable computer with home internet access and a headphone is also required for this course.

COURSE LEVEL STUDENT LEARNING OUTCOMES

The student learning outcomes for the course are:
1. Demonstrate proficiency in the skills and competencies for this level of mathematics.
2. Apply concepts and principles to solve applied problems related to the topics covered in this course.
3. Utilize precise language and symbols in written and oral forms.
➢ All SLOs assessments are embedded in class activities, homework, quizzes, or exams.

POINT DISTRIBUTION AND GRADES

Grading Categories		Grading Scale	
Attendance	10%	A	90% or Higher
Homework	20%	B	80% - 89.9%
Pre/Post-Tests	50%	C	70% - 79.9%
Final Exam	20%	D	60% - 69.9%
		F	Below 60%

- Other grade options: CR-Credit, NC–No Credit, W–Withdrawn, I–Incomplete, and N grade.
- If a student signs up for CR/NC option, a grade of C or higher is considered CR and grade of D or F is considered NC. A student will automatically receive a W grade by dropping the course within certain time line indicated in the system schedule. An Incomplete (I) grade is given when a student fails to complete a small portion of the course due to circumstances beyond his/her control.
- The N grade indicates that the student has worked conscientiously, attended regularly, finished all work, fulfilled course responsibilities, and has made measurable progress. However, either the student has not achieved the minimal student learning objectives and is not yet prepared to

succeed at the next level, or the student has made consistent progress in the class but is unable to complete the class due to extenuating circumstances, such as major health, personal or family emergencies. If you would like to request for N grade, complete the N grade request form (ask instructor for the form) no later than the time of final examination addressing how you meet the criteria for N grade. You must hand me this form in person unless prior arrangements are made. Then I will make a decision on whether you qualify for the N grade.

HOMEWORK

Based on the assessment results of the module Pre-Test, the students will work on customized MML homework for each module. Since all homework assignments are computer based, students must show appropriate step by step work leading to correct solution on paper that will be filed in a student's binder to be turned in at the end of the semester for grades. Students are expected to complete assigned work in timely manner and get help as early as possible. It is recommended that students do part of the homework that they understand outside of the class and utilize the class time to work on challenging problems with assistance from the SI and instructor.

EXAMS

After watching necessary lecture videos and doing study problems, the student will take a Pre-Test for each module. If the student achieves a minimum of 70% of the possible points for the Pre-Test and complete all required online homework, the student may opt to move on to the next module. Note that students must pass the review module before the drop date without a W, otherwise student must drop the class. Upon completing the coursework for a module the student takes the module's Post-Test and needs to score a minimum of 70% of the possible points. Once the student has achieved a minimum of 70% of the possible points for each module on either the Pre- or Post-Test, the student will take an Exit Exam for the course. The student must score a minimum of 60% of the possible points on the course Exit Exam to pass the class. Note that all Pre-/Post-Tests as well as the Exit Exams must be taken in supervised environment without any references unless otherwise stipulated by the Instructor. Students may be required to go to The Testing Center (TTC) located in the library. Do not wait till the last minute to take your test since many things can go wrong (e.g. long waiting line at the testing center, software glitch, power outage, etc.). Information on the TTC and hours of operation can be found on http://windward.hawaii.edu/testing_center. You are strongly encouraged to complete exams outside of class time. Calculators are not permitted for any exam.

Basic Rubrics for Grading Multistep and Word Problems for Exit Exam
    Full Credit
    - Shows complete understanding of a problem's mathematical concepts and procedures
    - Performs algorithms correctly using appropriate notation and precise mathematical language
    - Gives an elaborate and effective explanation of the solution process in an organized way
    Partial Credit
    - Shows near understanding of the problem's mathematical concepts and procedures
    - Using appropriate notation, performs algorithms completely that may contain minor errors.

- Identifies most relevant information and shows a general understanding
- Selects an appropriate strategy for solving the problem
- Shows effective explanation and some evidence of a systematic solution process

Very Little Credit
- Shows some understanding of a problem's mathematical concepts and procedures
- Performs algorithms that may contain major computational errors
- Identifies some relevant information and shows limited understanding
- Shows little evidence of a solution process or use of appropriate mathematical language
- Gives some explanation of the solution process but may be vague or difficult to interpret

No Credit
- Shows no understanding of a problem's mathematical concepts and procedures
- Identifies no relevant information, algorithmic pattern, or evidence of a solution process
- Fail to explain significant parts of the problem or omit it altogether

ATTENDANCE

The student must be present in the class for the duration of the entire class period. A student must also be consistently working and progressing on assigned tasks during each class session. A student may be required to attend SI sessions outside of the class time upon request from Instructor. Attendance is mandatory in this class to ensure that students spend sufficient amount of time on tasks and receive on-demand assistance. More than one week (3 MWF classes or 2 MW/TR classes) of unexcused absence in regular semester or one day of unexcused absence in six week summer classes may result in failing grades in this course. Proof is required for an excused absence. To create a comfortable learning environment in the classroom, all students are expected to come to class on time with positive attitude and respect everyone that is present in the classroom. Students are not allowed to leave the class during the session without the Instructor's approval because it is considered a sign of disrespect to everyone attending the class. As a courtesy to your classmates, please turn off your cell phones and do not distract them from doing their work. If you have trouble understanding a concept or problem, ask for help by raising your hand. If you are absent from the class, it is your responsibility to check on announcements made while you were absent. If you stop attending this class for any reason, it is your responsibility to drop it.

ADDITIONAL ACTIVITIES OUTSIDE OF CLASS TIME

To stay on schedule, students are expected to complete part of the assigned guided study workbook material and MML homework outside of class time, either in a computer lab or at home. In addition, students are expected to take their tests either at the testing center or math center. The SI session is embedded into Monday-Wednesday-Friday class schedule but for Tuesday-Thursdays classes, the SI session will be during designated time outside of class. Students are expected to attend the SI sessions. If the SI hours do not fit your schedule, you may substitute Trio or Math Lab hours with instructor's consent.

MATH HELP OUTSIDE OF CLASS

To get additional help on class assignments you can utilize various tutoring services:
- Math Center, Mana'opono 103

- TRiO, Alaka'i
- Brainfuse, free online 24 hours live tutoring available through myuh.hawaii.edu under Brainfuse link under tool
- http://manoa.hawaii.edu/ola/, live local tutors online
- https://www.khanacademy.org/, online videos of covering various topics including all levels of math
- If you're having trouble with something specific in the homework, Google the topic. Then, don't bother with the web results, switch to images and look for a picture. Odds are that someone has uploaded an example and pictures are easier to navigate than text.
- Social media can be very useful when getting help, feel free to send me pictures of your work over Instagram (David.William.KWL.Donlin) or Facebook Messenger (David William KWL Donlin) and I can reply to help you out.
- You are all encouraged to form small study groups with students from your class; get to know your fellow classmates, they are going through the same thing that you are and struggling through this class just like you. Make a friend, help each other out.

MYSUCCESS PROGRAM

At Windward Community College we want every student to be successful. MySuccess is a system-wide effort that seeks to support students early in the semester when they first begin experiencing difficulty in a class. If I feel that you are having difficulty in my class within the first few weeks of the semester (e.g. missing class, missing assignments, or low test scores), and working together to address your challenges shows that you would really benefit from being connected to resources outside of the classroom, I may refer you to your assigned counselor. Once referred, MySuccess will:

- Send an email to your hawaii.edu account to let you know about my referral; and
- Have a counselor follow-up with you by phone or by email to find out what kinds of help you might need, to connect you with the necessary resources, and to help you devise a strategy for success.

I will not refer you without telling you. However, if I do refer you, know that I am doing so in an effort to connect you with all the help you may need to do well this semester.

COURSE CONTENT – MODULES

Module #R: Introduction to Expressions and Equations with Whole Numbers and Integers	
a. Identify an exponent and a base	d. Translate phrases from words to algebraic expressions
b. Use the rules for order of operations	e. Identify solutions of equations
c. Evaluate algebraic expressions given values for the variables	f. Translate sentences to equations
	g. Distinguish between expressions and equations
Module #1: Fractions	
a. Write mixed numbers as fractions and vice-versa	g. Multiply fractions and mixed numbers
	h. Divide fractions and mixed numbers

b. Find factors of a number	i. Solve application problems
c. Use tests for divisibility	j. Add and subtract like fractions and mixed numbers
d. Find prime factorizations	k. Find the least common multiple
e. Write fractions in lowest terms	l. Write a fraction with an indicated denominator
f. Determine whether two fractions are equivalent	m. Add and Subtract unlike fractions and mixed numbers
	n. Order Relations and Order of Operations

Module #2: Decimals

a. Read and write decimals in words	f. Multiply decimals, including applications
b. Write decimals as fractions or mixed numbers	g. Divide decimals, including applications
c. Rounding numbers and estimation	h. Order of operations with decimals
d. Round decimals to any given place	i. Write fractions as equivalent decimals
e. Add and subtract decimals, including applications	j. Order relations

Module #3: Geometry

a. Geometric terms and angles	d. Find circumference and area of circles
b. Find the perimeter of polygons	e. Find the perimeter and area of composite figures
c. Find the area of polygons	f. Find volume and surface area

Module #4: Ratios and Proportions, Percents, and Similar Triangles

a. Scientific notation and applications (5.3)	i. Write percent as fractions and vice-versa
b. Write ratios using a faction, colon or "to"	j. Write percent proportions
c. Write proportions	k. Solve percent problems using proportions
d. Determine whether proportions are true or false	l. Using the percent equation
e. Solve proportions using cross-products	m. Solve percent application problems
f. Solve application problems using proportions	n. Solve simple interest problems
g. Solve similar triangle problems using proportions	o. Solve compound interest problems
h. Write percent as decimals and vice-versa	

Module #5: Introduction to Real Numbers (including basic roots, signed numbers and properties) and Algebraic Expressions (including Geometric formulas)

a. Classify Numbers and Graph them on a Number Line	h. Simplifying Expressions
b. Order Relations	i. Find the Perimeter and Area of Polygons (rectangle, square, parallelogram, trapezoid and triangles) and Composite
c. Find the Opposite and Absolute Value of Real Numbers	

d. Add Real Numbers	Figures
e. Subtract Real Numbers	j. Find Circumference and Area of Circles
f. Multiply and Divide Real Numbers; Order of Operations	k. Find Volume and Surface Area
g. Properties of Real Numbers	l. Square Roots and the Pythagorean Theorem

Module #6: Linear Equations and Inequalities in One Variable

a. Addition Property of Equality and Applications	d. Applications of Linear Equations
b. Multiplication Property of Equality and Applications	e. Formulas and Additional Applications from Geometry
c. More on Solving Linear Equations	f. Solving Linear Inequalities

Module #7: Linear Equations and Inequalities in two Variables

a. Interpret Graphs	e. Slope of a Line
b. Solutions of Linear Equations; Intercepts	f. Equations of Lines
c. Plot Ordered Pairs	g. Graph Linear Inequalities in Two Variables
d. Graph linear Equations in Two Variables; Intercepts	

Module #8: Selected Topics – Quadratic Formula, Parabola, Systems of Equations and Inequalities, Scientific Notation, and Variation

a. Scientific Notation and Applications	f. Solving System of Linear Inequalities
b. Solving system of equations by graphing	g. Solving quadratic equations by the Quadratic Formula
c. Solve system of equations by substitution	
d. Solve system of equations by elimination	h. Graphing Quadratics Equations – Parabola
e. Application of Linear Systems	i. Variation

Module #9: Exponents and Polynomials

a. Adding and subtracting polynomials	d. Special Products
b. The Product Rule and Power Rules for exponents	e. Integer exponents and the Quotient Rule
c. Multiplying polynomials	f. Dividing Polynomials

Module #10: Factoring Polynomials and Applications, and Functions

a. Factoring polynomials: GCF	d. Solving quadratic equations by factoring
b. Factoring polynomials: Trinomials	e. Applications of quadratic equations
c. Factoring polynomials: Special Techniques	f. Functions

Module #11: Rational Expressions and Equations

a.	The Fundamental Property of Rational Expressions	d.	Complex fractions
b.	Multiplying and dividing rational expressions	e.	Solving equations with rational expressions
c.	Adding and subtracting rational expressions	f.	Applications of rational expressions

Module #12: Roots and Radicals (including the Square Root Property)

a.	Evaluating roots	d.	Rationalizing the denominator
b.	Multiplying, dividing and simplifying radicals	e.	More simplifying and operations with radicals
c.	Adding and subtracting radicals	f.	Solving equations with radicals
h.	Solving Quadratic equations using the Square Root Property	i.	Rational Exponents

HOW TO REGISTER AND ENROLL IN MYMATHLAB

To register for Math 21 – Spring 2016:
1. Go to www.pearsonmylabandmastering.com (MyMathLab.com should also work).
2. Under Register, select **Student**.
3. Confirm you have the information needed, then select **OK! Register now**.
4. Enter your instructor's course ID: **donlin73458**, and **Continue**.
5. Enter your existing Pearson account **username** and **password** to **Sign In**.
    You have an account if you have used a Pearson product, for example: MyMathLab, MyITLab, MyPsychLab, MySpanishLab or Mastering, such as MasteringBiology.
    a. If you don't have an account, select **Create** and complete the required fields.
6. Select an access option.
    a. Use the access code that came with your textbook or that you purchased separately from the bookstore.
    b. Buy access using a credit card or PayPal account.
    c. If available, get 14 days temporary access. (The link is near the bottom of the screen.)
7. From the confirmation page, select **Go To My Courses**.
8. On the My Courses page, select the course tile **Math 21 – Spring 2016** to start your work.

To sign in later:
1. Go to www.pearsonmylabandmastering.com (or MyMathLab.com).
2. Select **Sign In**.
3. Enter your Pearson account **username** and **password,** and **Sign In**.
4. Select the course tile **Math 21 – Spring 2016** to start your work.

To upgrade temporary access to full access:
1. Go to www.pearsonmylabandmastering.com.
2. Select **Sign In**.
3. Enter your Pearson account **username** and **password,** and **Sign In**.
4. Select **Upgrade access** from the course tile **Math 21 – Spring 2016**.
5. Enter an access code or purchase access with a credit card or PayPal account.

GUIDED SCHEDULE TO COMPLETE MATH 21 DURING SPRING 2016
DONLIN –Spring 2016; TR 5:30 – 7:10 PM (CRN 61397)
All students are required to pass Review Module Post Test before the drop date without W.

Week	Dates	Assignments to Complete
1	1/12 & 1/14	Syllabus, Sign into MyMathLab, Course Overview Module R: *Pre-Test*, Lecture Video, Homework
2	1/19 &1/21	Module R: Lecture Video, Homework, Post-Test Module 1: *Pre-Test*
3	1/26 & 1/28	Module 1: Lecture Video, Homework
4	2/2 & 2/4	Module 1: Lecture Video, Homework, Post-Test
5	2/9 & 2/11	Module 2: *Pre-Test*, Lecture Video, Homework
6	2/16 & 2/18	Module 2: Lecture Video, Homework
7	2/23 & 2/25	Module 2: Lecture Video, Homework, Post-Test Module 3: *Pre-Test*, Lecture Video, Homework
8	3/1 & 3/3	Module 3: Lecture Video, Homework
9	3/8 & 3/10	Module 3: Lecture Video, Homework, Post-Test
10	3/15 & 3/17	Module 4: *Pre-Test*, Lecture Video, Homework
11	~~3/22 & 3/24~~	**Spring Break**
12	3/29 & 3/31	Module 4: Lecture Video, Homework
13	4/5 & 4/7	Module 4: Lecture Video, Homework
14	4/12 & 4/14	Module 4: Lecture Video, Homework, Post-Test
15	4/19 & 4/21	Complete Make-up Work
16	4/26 & 4/28	*Exit Exam Review*
17	5/3	Last Day of Instruction (This will be the last day of class unless you still have the Exit Exam to complete)
18	5/12	Exit Exam

" $-$ "

What does this symbol represent?

$$-8 - \left(\frac{9}{5}\right)^{-3} = 42$$

Symbol here will
invert the fraction.

This signifies that the
number 8 is negative.

A pair of lines
denotes equivalency.

$$-8 - \left(\frac{9}{5}\right)^{-3} = 42$$

Represents the
subtraction operation.

This is one way to show
the division operation.

How do you solve the following problem?

Find the Volume of the Prism.

48 in.

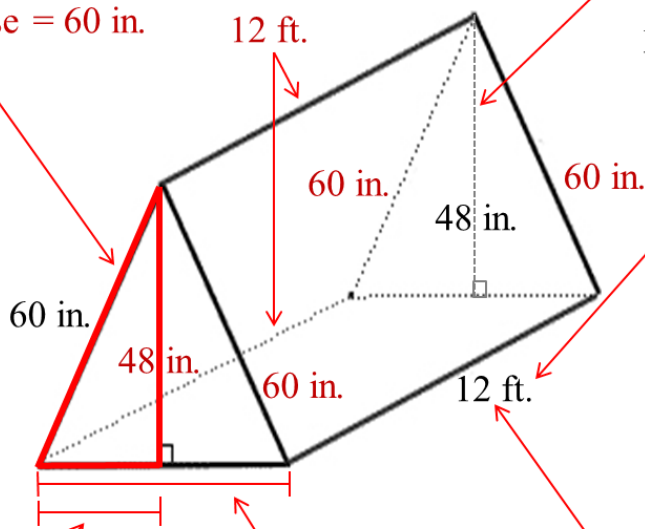60 in.

12 ft.
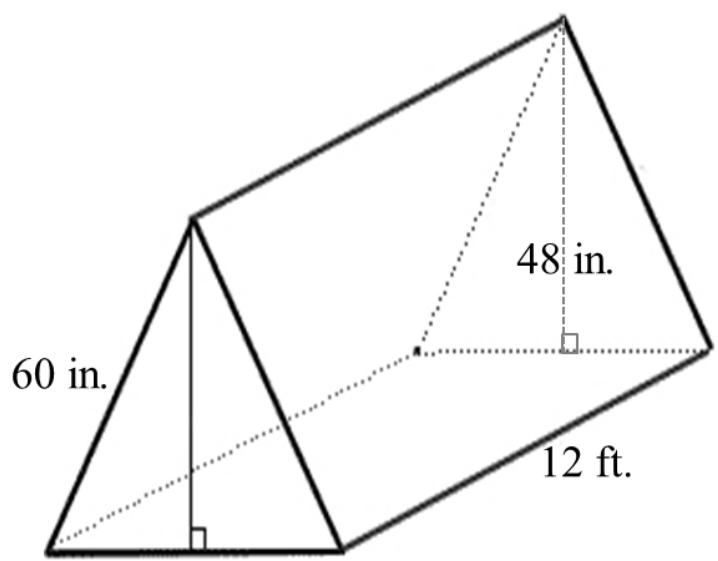
$$V = Bh$$

There is a Right Triangle here and Pythagorean Theorem can be applied.
Leg 1 = 48 in.
Leg 2 = unknown
Hypotenuse = 60 in.

Height of the Triangle, but not Height of the Prism.

Prism is a Triangular Prism and the Base of the Prism is a Triangle.

12 ft.

60 in.

48 in.

60 in.

60 in.

48 in.

60 in.

12 ft.

Find the Volume of the Prism.

h = Height of the Prism (this is different from the Height of the Triangle)

$$V = Bh$$

B = the Area of the Base (The Base is a Triangle, so the Area Formula for a Triangle is needed: $A = \frac{bh}{2}$ where 'b' is the Base of the Triangle and 'h' is the Height of the Triangle.)

This is the Length of the Base of the Triangle and is needed to calculate the Area of the Base of the Prism.

Units here are in 'feet' but other measurements are in 'inches'. All measurements need to be converted to the same Units of Measure, either feet or inches.

Pythagorean Theorem ($a^2 + b^2 = c^2$, solve for 'a' or 'b') must be used to find this length, then multiply that value by 2 in order to find the Length of the Base of the Triangle.