

Course Syllabus (Spring 2015 Semester)

Math 101 — Mathematics for Veterinary Assistants and Technicians (3 Credits)

INSTRUCTOR: Navtej (Johnny) Singh

E-MAIL: navtej@hawaii.edu <Reference Your Name and Class Information When E-mailing>

OFFICE: Manaopono 110

OFFICE HOURS: T TH 10:00am – 11:30am and by appointment.

TELEPHONE: (808) 236 – 9278 <Use this during office hours for instant communication>

CRN	Class Meeting	Days	Classroom
63177	11:30am – 12:45pm	T	Manaopono 115

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.

Catalog Description - Course Content – Course Structure

Catalog Description: An introduction to clinical calculations used in veterinary medicine. Topics include the application of mathematical skills to solve applied problems in veterinary nursing and pharmaceutical dispensing with emphasis on dosage, concentration, dilution and drip rates. Also included is mathematical and laboratory terminology. This course is intended for students entering veterinary technology, veterinary assisting or other animal-related fields. Pre-Requisite(s): Grade of "C" or better in MATH 25 or MATH 28 or equivalent, satisfactory math placement test score, or consent of instructor.

Course Content: The course will begin with review of mathematical skills with emphasis on applications and terminology for veterinary assistants. Then core topics such as Measurements used in veterinary medicine, drug orders and medicine labels, dose calculations and syringe measurements, and calculating intravenous infusions will be covered. There will also be an emphasis on graphs and statistics in addition to calculation methods such as ratios and proportions.

Course Structure: Since this is a hybrid course, to make efficient use of class time, students are expected to take their quizzes at the testing center and complete preliminary reading before coming to the class. The mode of instruction is primarily presentation-discussion-problem solving where the initial portion of each class period will be utilized to discuss and clarify any questions from the preceding class meeting and/or assignments. Majority of the class time will be used to discuss new material. Lectures, directed student explorations, group work, and projects will be integrated into the course as needed.

Learning Resources and Materials

- **Required Textbook:** Math and Dosage Calculations for Medical Careers. 4th Edition. Kathryn Booth, James Whaley, Susan Sienkiewicz, & Jennifer Palmunen. McGraw-Hill. 2012. ISBN 978-0-07-746038-9.
- **Required Hardware:** A scientific calculator
- **Required Software:** Connect (come with textbook)
- **Suggested Resource Textbook 1):** Medical Mathematics and Dosage Calculations for Veterinary Professionals, 2nd Edition, Robert Bill, Wiley-Blackwell Publishing, 2009.
- **Suggested Resource Textbook 2):** Mathematics for Veterinary Medical Technicians: A Text/Workbook with Applications: 2nd Edition by Edward Stumpf, Carolina Academic Press, 2006.
- **Recommended Resources:** A reliable portable computer and home internet access.

Student's Responsibilities

Success in this course will be enhanced by:

1. A positive, inquiring attitude towards learning mathematics;
2. Setting aside adequate time for studying and working of problems;
3. Reading the text carefully and making use of other learning materials whenever necessary;
4. Seeking assistance from the instructor and the Math Lab personnel whenever necessary;
5. Completing assignments by the designated date;
6. Regular class attendance, participation and maintaining accurate class notes.

Course Level Student Learning Outcomes

Upon completion of the course, the student will be able to:

- Define terminology and abbreviations used in measurements and convert from one measurement to another with accuracy on the fly.
 - Understand oral and written requests to calculate dosages accurately and quickly.
 - Use mathematical formulas to calculate stock solutions to a desired concentration with accuracy.
 - Demonstrate proficiency in calculating infusion rates for fluid replacement therapy and for surgery.
 - Identify parts of a basic graph to understand medical charts.
 - Identify basic statistical terms to make informed decisions from numerical data and information.
 - Demonstrate proficiency in performing operations with fractions, decimals, percentages, ratios and proportions without the use of a calculator.
- All SLOs assessments are embedded in class activities, homework, quizzes, or exams.

Point Distribution and Grades

Grading Categories

Attendance/Class Participation	060 pts
Homework	120 pts
Quizzes	200 pts
Midterm	120 pts
Final Exam	200 pts

Grading Scale

A	90% or Higher
B	80% - 89.9%
C	70% - 79.9%
D	60% - 69.9%
F	Below 60%

Other grade options: CR - Credit, NC – No Credit, W - Withdrawn, I - Incomplete, and N grade. Note that all assignments in same category are of equal value unless specific otherwise.

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

Homework will be assigned during each class period on lecture presented in class. The CD that came with your textbook has various features to help you with homework but to receive additional help on the homework simply come to my office during office hours or make an appointment for consultation. I will also devote some class time to go over various homework problems. Note that all homework assignments are worth equal credit. Your homework will be graded based on neatness, competition, correctness, and organization. Each homework assignment must be turned in at the testing center at the time when you take your quiz on that assignment. Late homework will not be accepted.

Quizzes

There will be 12 quizzes during the semester. Your highest 10 quizzes will be used for grading. This will allow you to drop the lowest scores or replace a missed quiz. Primary purpose of these quizzes is for you to find out what you know and what need some work before the major exam. Students are required to take their quiz at WCC testing center (located in the library) during indicated time. Each quiz will be available at the testing center from Tuesday 1pm till Friday 4pm of the same week.

Exams

In this class there will be a midterm and a cumulative final. YOU MUST SCORE 70% OR HIGHER ON MIDTERM AND 60% or HIGHER ON FINAL IN ORDER TO PASS THIS CLASS. You will be given the entire class period to complete each exam. Best way to prepare for the exams is to study homework and quiz problems as well as examples presented in class. A review sheet will be provided before each exam and will be collected on the day of the exam. All exams must be taken within the classroom environment without any references unless otherwise stipulated by the instructor. Make up for the midterm and final exam is only allowed for students with excused absent and for students who did not achieve the 70% threshold on first attempt. A student can only receive a maximum of 70% on make-up test.

Basic Rubrics for Grading Multistep and Word Problems	
Full Credit	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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

Class Participation and Attendance

To earn participation points, students are required to attend class regular and be present in the class for the duration of the entire class period. A student should be consistently working and progressing on assigned tasks during the class. 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.

Math Help Outside of Class

In addition to visiting my office hours, I encourage you utilize the Math Lab located in the library. You do not have to make an appointment to use this resource. There is also free online 24 hours live tutoring available through Brainfuse via myuh.hawaii.edu (find Brainfuse link under tools or visit <http://windward.hawaii.edu/brainfuse> for further instruction). You can also access live local tutors online at <http://manoa.hawaii.edu/ola/>. I also encourage you to form a small study group with students from your class. There are many useful websites such as <https://www.khanacademy.org/> devoted to helping students in Math. I would be happy to assist you in locating the sites that fit your need.

Disabilities

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 (808) 235-7448, lemke@hawaii.edu, or you may stop by Hale 'Akoakoa 213 for more information.

Academic Dishonesty

Plagiarism and use of another's work without proper acknowledgment is not permitted. A student caught cheating, may receive a failing grade for the course. All students are required to follow the Student Conduct Policies described at http://www.wcc.hawaii.edu/Policies/5_3_Student_Conduct.php.

Remarks

Please check your WCC e-mail account frequently for important announcements. Note that this syllabus is subject to change in extenuating circumstances. When communicating via e-mail or leaving voice message for me, please include your name, course and contact information so that I can easily identify you and get back to you in a timely manner. Make up work will only be allowed upon showing proof of excused absence. For additional academic information, refer to WCC website www.windward.hawaii.edu or go to www.hawaii.edu for system wide information.

Tentative Math 100 Schedule for Spring 2015 Semester

Week	Dates (T)	Assignments and Tasks to Complete
1	1/13	Go Over the Syllabus; Review of Operations with Real Numbers (CH 1 + CH 2 + Handout) HW01: pg. 33 #1-33, pg. 53 #1-21, & Handout Problems
2	1/20	Relationships of Quantities (CH 3 + Handout) HW02: pg. 81 #1-20 & Handout Problems
3	1/29	Metric System (CH 4) and Other Measurement Systems (CH 5) HW03: pg. 95 #1-15 & pg. 105 #1-10
4	2/03	Unit Conversation (CH 6) and Temperature and Time (CH 7) HW04: pg. 117 #1-10 & pg. 129 #1-8
5	2/10	Statistics for Medical Professional (Handout) HW05: Handout Problems
6	2/17	Graphs (Handouts) and Roman Numerals (Handout) HW06: Handout Problems
7	2/24	Review for Midterm
8	3/03	Midterm (In-Class)
9	3/10	Go Over Midterm and $\frac{1}{2}$ - Semester Grades
10	3/17	Equipment for Dosage Measurement (CH 8) and Medical Abbreviations (Section 9.1) HW07: pg. 149 #1-21
11	3/24	Spring Break
12	3/31	Methods of Dosage Calculations (CH 12) HW08: pg. 291 #1-20
13	4/07	Oral Dosages (CH 13) and Parenteral Dosages (Part of CH 14) HW09: pg. 315 #3-24 (every 3 rd problem), pg. 329 #3-18 (every 3 rd problem), pg. 372 #1-9.
14	4/14	Intravenous Calculations (CH 15) HW10: pg. 413 #1-5, pg. 429 #3-30 (every 3 rd problem), and pg. 436 #1-13 (odd)
15	4/21	Preparation of Non-injectable Solutions (CH 16) HW11: pg. 469 #1-20
16	4/28	Critical Care IV Calculations (CH 19) HW12: pg. 566 #1-10 and pg. 570 #1-18
17	5/05	Review for Final & Discuss Pre-Final Grades
18	5/14 (TH)	Final Exam on Thursday May 14 th from 11:30am – 1:30pm in this classroom

Time Management – Set Your Weekly Schedule

To complete this course within a semester, students are expected to complete each module in about three weeks. To achieve this goal, you will need to devote at least 10 hours per week outside of the class on math work. To manage you time well, complete the following schedule with your class time, tutoring time, SI session, work time, math study time, commute time, and leisure time. Once complete, discuss your schedule with instructor and make appropriate adjustments.

Time/Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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