Course Syllabus

Math 101 — Mathematics for Veterinary Assistants and Technicians
(Credits: 4 / CRN#: 63481 / Mode: Online)

Instructor: *Navtej (Johnny) Singh*

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Office Location: *Manaopono 110*

Office Hours: *M F 9:00am – 10:00am; W F 12:00pm – 1:30pm, & by appointment*

Office Telephone #: *(808) 236 – 9278 << Use this during office hours for elaborate help>>*

Effective Date: *Fall 2016 Semester*

Website: https://laulima.hawaii.edu/

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 Math 75X or Math 82 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. Furthermore, this course help prepares students for the mathematical portion of the Veterinary Technician National Examination (VTNE).

Course Structure: Since this is an online course, students are expected to watch uploaded lecture video on each lesson, read the appropriate chapters in the textbook, study the provided handouts, and complete weekly homework assignments. Throughout the semester, I will offer various individual and group video conferences to conduct orientation (go over the syllabus), answer homework questions, hold exam reviews, and go over exams. Your UH email will be primary mode of communication and all documents will be uploaded to class's laulima website.

Learning Resources and Materials

- **Required Textbook:** <u>Math and Dosage Calculations for Medical Careers.</u> 5th Edition. Kathryn Booth, James Whaley, Susan Sienkiewicz, & Jennifer Palmunen. McGraw-Hill. ISBN 978-0-07-351380-5. (Binder Edition)
- **Suggested Resource Textbook 1)**: <u>Medical Mathematics and Dosage Calculations for Veterinary Professionals,</u> 2nd Edition, Robert Bill, Wiley-Blackwell Publishing, 2009.
- **Suggested Resource Textbook 2):** <u>Mathematics for Veterinary Medical Technicians: A Text/Workbook with Applications:</u> 3rd Edition by Edward Stumpf, Carolina Academic Press.
- **Required Hardware**: A scientific calculator, scanner, and a reliable PC or Mac computer with access to broadband internet.
- **Lecture Videos:** http://files.wcc.hawaii.edu/vetadec/MATH-101
- **Handouts and Other Resources:** http://laulima.hawaii.edu
- **Recommended Software:** Excel or similar program

Student's Responsibilities

Responsible students take ownership of their actions by exhibiting the following behaviors in this class:
- Take an active role in learning and seek immediate help when needed.
- Maintain a positive and inquiry attitude towards learning.
- Set aside adequate time for doing assignments and not waiting till the last minute to do assigned work.
- Complete assignments by the designated dates with attention to quality of work.
- Stay current and don't procrastinate since new concepts are built on previously learned material.
- Actively communicate with instructor and reach out for help immediately.

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**.**

Tasks and Grading

Point Distribution		
Consultations	Four Online Meetings @ 5 points each	020 pts
Homework	12 assignments @ 10 points each	120 pts
Review	Three @ 10 points each	060 pts
Midterms	Two @ 100 points each	200 pts
Final Exam	Combination of Everything Learned in Class	200 pts
Total Points		600 pts

Letter grades will be assigned based on the following standard scale:
A $\Rightarrow$ 90% ↑ ; B $\Rightarrow$ 80% ↑ ; C $\Rightarrow$ 70% ↑ ; D $\Rightarrow$ 60% ↑ ; F $\Rightarrow$ below 60%;

Other grade options include N, CR, NR, I, and W. See the following information for detail:

"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 in this class, you must provide a formal letter of request to me no later than the time of final examination addressing how you have met the criteria for N grade. Then I will make a decision on whether or not you qualify for the N grade.

The CR/NC grades require written instructor consent. Overall score of 70% or higher is consider CR and below 70% is NC. Students must apply for CR/NC grading option at the Admissions Office by the posted deadline. If a student does not apply for CR/NC grading option at the Admissions Office by the required deadline and if s/he does not withdraw, a letter grade (A, B, C, D, F, N) will be assigned for the course.

The W grade is given only when the student officially withdraws from the course by the posted deadline.

The "I" grade is a temporary grade given at the instructor's option when a student has failed to complete a small part of a course because of circumstances beyond his or her control. The "I" grade is given by student request and must be approved by the instructor.

Basic Rubrics for Grading Multistep and Word Problems	
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

Midterms and Final Exam

There will be two proctored midterms and a comprehensive final for this course that students must take at UH Maui College Learning Center. Detail information about this testing center, such as hours of operation and proctoring rules, can be found at http://maui.hawaii.edu/tlc/testing. Midterm and final exam dates are provided in the weekly calendar on last page of the syllabus.

YOU MUST SCORE 70% OR HIGHER ON EACH MIDTERM, AND 60% or HIGHER ON THE FINAL EXAM IN ORDER TO PASS THIS CLASS. You will be given 1.5 hours to complete each midterm and two hours to complete the final exam. Best way to prepare for the exams is to study homework and provided handouts in addition to participating in exam review session. A review sheet will be provided before each exam and will be collected on the day of the exam by the proctor. In addition, a brief review session via virtual blackboard collaborate will be conducted before each midterm and the final. 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.

Homework Assignments

Homework is an essential part of learning; therefore, students are required to complete one homework assignment per lesson per week. Homework assignments consist of problems from the handouts as well as problems assigned from the textbook. Homework assignment topics, due dates, and textbook part of the homework are listed on the last page of this syllabus under schedule. I will inform you which handout problems to do as part of your homework as they become available under resources in laulima. Note that all homework assignments are worth equal credit. Use separate papers to write out each homework assignment. Your homework will be graded based on neatness, competition, correctness, and organization. **Each completed homework assignment must be uploaded as scanned pdf to Drop Box in laulima by the due date (see schedule page for detail). Make sure that you include your name and assignment number as part of the flie name (e.g. Assigment#2_John_Smith). You will encounter one-point penalty for each day your assignment is late.** Students are allowed to work together on assignments but each student must turn in their own interpretation of the work for grading. I encourage you to utilizing the online tools such as message board to communicate with each other and visit Math Lab at UH campus near you. Feel free to call my office during office hours or make an appointment for consultation to get help. I recommend that you start on your assignments early and ask for help if needed. Do not wait till the last minute to get starts since it may be overwhelming.

Important Information

Note that this syllabus is subject to change in extenuating circumstances. Due to the nature of the subject, you need to know the pervious information in order to understand the next topic. All assigned tasks are due by the due date indicated on the assignment and there is no make-up opportunity for missed work unless specified by the instructor. For important academic information refer to WCC website www.windward.hawaii.edu or go to www.hawaii.edu for system wide information. Plagiarism, or copying and using others work without proper acknowledgment, is not permitted and may result in failing grade for the course.

Consultations

There are four required consultations for this class worth mentioned points that will be done using virtual blackboard celebrate available through laulima on designated dates.
1. First Consultation (Date reserved: Monday, August 22, 2016) will be used as an orientation. During this consolation, I will go over the syllabus, laulima website, homework assignments, answer your questions, and direct you where to find useful information.
2. Second Consultation (Date reserved: Monday, September 19, 2016) will be used to conduct midterm #1 review and answer any questions students may have.
3.   Third Consultation (Date reserved: October 31, 2016) will be used to conduct midterm #2 review and answer any questions students may have.
4. Last Consultation (Date reserved: Monday, December 5, 2016) can be used to get help on the final project. The time can also be used to discuss your projected grades in the course.
I will send out doodle pole to prior to first day of instruction to find out best possible time to hold these consolations. Note that you can connect to virtual blackboard from comfort of your home. Students can request personal meeting time to get help on HW and go over completed midterms.

Communication

Since this is a distance learning class, communication is an important part of this course. Email will be the preferred method of communication for this class, so please check your @hawaii.edu e-mail account frequently for important information. I will do my best to response to your email within 24 hours on instructional days (perhaps much sooner). This is an effective method of communication if you expect a short response. If you need to speak with me, you can call me at my office (808) 236 – 9278 during my office hours or leave a message for me to return your call. If visual communication is necessary, an arrangement can be made to connect either via virtual blackboard collaborate, Skype (ID: nsj006), or UH google video chat (ID: navtej). At last but not least, online discussion board can be used to interact with classmates by asking homework questions and answering previously posted problems. I will post hints, announcements, and answers to commonly occurring questions or mistakes at Laulima discussion board. I also encourage you to use the discussion board to posting helpful comments, questions, and response. Whenever you post something to the discussion board or other online forums or write an email, you are expected to follow proper netiquette.

Math Help Outside of Class

In addition to reaching out to me for help, I encourage you utilize the Math Lab located at UH campus near you. You do not have to make an appointment to use this free 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 Accommodation

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 your 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.

Week	Dates	Assignments and Tasks to Complete
1	8/22 – 8/26	Go Over the Syllabus; Review of Operations with Real Numbers (CH 1 + CH 2 + Handout)
		HW01: pg. 34 #1-18, pg. 53 #1-21, & Handout Problems
2*	8/29 – 9/2	Relationships of Quantities (CH 3 + Handout)
		HW02: pg. 79 #1-20 & Handout Problems
3	9/5 – 9/9	Metric System (CH 4) and Other Measurement Systems (CH 5)
		HW03: pg. 93 #1-15 & pg. 102 #1-10
4^	9/12 – 9/16	Unit Conversation (CH 6) and Temperature and Time (CH 7)
		HW04: pg. 114 #1-10 & pg. 122 #1-8
5	9/19 – 9/23	**Review Session for Midterm #1 (Conducted on September 19th Via Blackboard)**
		Midterm #1 (Available at UH Maui Testing Center from September 20th through 23rd)
6*	9/26 – 9/30	Statistics for Medical Professional (Handout)
		HW05: Handout Problems
7	10/3 – 10/7	Graphs (Handouts) and Roman Numerals (Handout)
		HW06: Handout Problems
8*	10/10 – 10/14	Equipment for Dosage Measurement (CH 8) and Medical Abbreviations (Section 9.1)
		HW07: pg. 142 #1-24
9	10/17 – 10/21	Methods of Dosage Calculations (CH 12)
		HW08: pg. 281 #1-20
10	10/24 – 10/28	Oral Dosages (CH 13) and Parenteral Dosages (Part of CH 14)
		HW09: pg. 304 #3-18 (every 3rd problem), pg. 318 #3-18 (every 3rd problem), pg. 359 #1-9.
11*	10/31 – 11/4	**Review Session for Midterm #2 (Conducted on October 31st Via Blackboard)**
		Midterm #2 (Available at UH Maui Testing Center from November 1st through 4th)
12	11/7– 11/11	Intravenous Calculations (CH 15)
		HW10: pg. 418 #1-5, pg. 431 #3-30 (every 3rd problem), and pg. 437 #1-13 (odd)
13	11/14 – 11/18	Critical IV Calculations (CH 17)
		HW11: pg. 502 #1-12, pg. 512 #3-15 (every 3rd problem) and pg. 523 #1-18
14	11/21 – 11/25	Calculations for Compounding (CH 19)
		HW12: pg. 569 #1-10, pg. 575 #1-10, and pg. 579 #1-15 odd
15	11/28 – 12/2	Calculations for Compounding (CH 19)
		HW12: pg. 569 #1-10, pg. 575 #1-10, and pg. 579 #1-15 odd
16	12/5 – 12/9	Distribute Final Exam Review Sheet
		Conduct Final Exam Review Session on December 5th via Blackboard Collaborate
17	12/12 – 12/16	**Final Exam (Available at UH Maui Testing Center from December 12th through 15th)**
Note that all assignments are due by Sunday midnight (HW01 is due by 8/28, HW02 is due by 9/4, etc.)		

^Drop Dates: September 12, 2016 – Last day to withdraw without a W grade

*Holidays: September 5, 2016 – Labor Day

                  November 8, 2016 – Election Day

                  November 11, 2016 – Veterans' Day

                  November 24-25, 2016 – Thanksgiving Break