



Math 101 (Mathematics for Veterinary Assistants and Technicians) - Syllabus

(Credits: 3 / CRN#: 62026 / Mode: Hybrid - Asynchronous / Semester: Spring 2024)

Instructor: Navtej (Johnny) Singh || Office Location: Manaopono 110

E-Mail: navtej@hawaii.edu << This is the best way to get in touch. Provide name & class information >>

Websites: <https://laulima.hawaii.edu> << Access to everything you need for this course is here >>

Zoom Video Link: <https://hawaii.zoom.us/j/2025344398> <<Meeting ID: 202 534 4398 >>

Zoom Office Hours (subject to change): M 11am – 1pm, W 2:30pm – 4:30pm, & by appointment

Telephone #: (808) 236 – 9278 << If I don't answer leave a message with contact information >>

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 the Ko'olau region of O'ahu 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): C or better in MATH 75X or higher 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: This course is designed for mostly online instruction. All necessary course material (video lectures, assignments, and handouts) for this course is available at <https://laulima.hawaii.edu>. On average, students need to complete one lesson worth of work per week (see detailed schedule on last page of syllabus). Students are expected to watch the lesson video and examine the resources (links, PowerPoints, and handouts) mentioned in the video, and then work on the assignments related to the lesson.

Growth Mindset

No one is born with Math brain. Everyone can develop skills necessary to learn Math. Mathematics helps create multiple connections in your brain, which lead to tremendous brain growth as supported by various research. I recommend you watch this short video before starting the course: <https://youtu.be/bxrPy1fjVU4>.

Learning Resources and Materials

- **Recommend Resource Textbook 1):** Math and Dosage Calculations for Medical Careers. 5th edition by Kathryn Booth. A copy of the textbook is available at WCC library for short term use.
- **Suggested Resource Textbook 2):** Medical Mathematics and Dosage Calculations for Veterinary Professionals. (Any Edition) by Robert Bill, Wiley-Blackwell Publishing, 2009. Here is a free link to free ebook: <http://wccproxy.lib.hawaii.edu:2048/login?url=http://ebookcentral.proquest.com/lib/wcc-ebooks/detail.action?docID=5596888>
- **Additional Resource Textbook 3):** Mathematics for Veterinary Medical Technicians: A Text/Workbook with Applications: (Any Edition) by Edward Stumpf, Carolina Academic Press.
- **Required Hardware:** A scientific calculator & compatible computer with reliable internet.
- **Handouts, Homework, and Other Resources:** <http://laulima.hawaii.edu>
- **Recommended Software:** Excel or similar program
- **WCC Library** (<https://library.wcc.hawaii.edu/home>) – Provide help with additional resources.

Course Level Student Learning Outcomes

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

- Identify information needed for dosage calculations and perform dosage calculations.
- Utilize appropriate techniques to solve applied problems in the veterinary profession.
- Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form.
- Demonstrate proficiency in calculating infusion rates for fluid therapy.
- All SLOs assessments are embedded in class activities, homework, quizzes, or exams.

Tasks and Grading

Point Distribution		
Assignments	12 HW + 2 Exam Reviews @ 10 Points Each	140 pts
Consultations	Orientation and/or Consultation	010 pts
Midterm	On First Six Lessons	150 pts
Final Exam	Combination of Everything Learned in Class	200 pts
Total Points		500 pts

Letter grades will be assigned based on the following standard scale
A ⇒ 90% ↑ ; B ⇒ 80% ↑ ; C ⇒ 70% ↑ ; D ⇒ 60% ↑ ; F ⇒ 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	<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

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 set aside adequate time for doing assignments
- Maintain a positive and inquiry attitude towards learning.
- Complete assignments by the designated dates with attention to quality of work.
- Actively communicate with instructor and seek immediate help when needed.
- Be proactive and do not procrastinate since new concepts are built on previously learned material.

Assignments

All assignments (homework and exam reviews) are available through laulima.hawaii.edu under assignments tab. Note that all homework assignments are worth equal credit. Each homework assignment must be completed on a separate sheet of paper and then **uploaded to laulima dropbox as a single pdf file with appropriate file name by the indicated due date** (see the schedule page of the syllabus). Your assignments will be graded based on neatness, competition, correctness, and organization. Late assignment will not be accepted beyond five days after the due date and there will be one-point penalty per late day.

Exams

There will be two written exams, a midterm and a cumulative final, in this class. Best way to prepare for the exams is to study lecture videos, homework, and handouts. A review sheet will be provided before each exam to further assist you in studying for the exam. All exams must be taken in proctored environment (without any references unless stipulated by the instructor) through one of the University of Hawaii System testing centers (<https://www.uhonline.hawaii.edu/testcenters>). WCC testing center will be the designated testing center for all Oahu student. Neighbor Island students can use the link above to find a testing center near them that can proctor in person written exams. Let the instructor know your preferred testing site by the end of the fourth week. I will share additional information about each exam via email later in the semester. **There is no make up for the midterm and final exam.**

Consultation(s)

Instructor will schedule an orientation session at the beginning of the term that will count as consultation with 10 points. During the orientation, I will go over the course syllabus and answer any questions or concerns students may have about this class. If a student is unable to attend the orientation session he/she can connect with me during my dedicated office hours or scheduling a meeting at a time that is convenient for both of us to get consultation points. Even though only one consultation is required, I encourage you to reach out to me for help as often as needed.

Communication

The following methods will be used to communicate:

- E-mail will be our primarily mode of communication (make sure to check your UH email frequently). I will do my best to response to your emails within 24 hours on instructional days (perhaps much sooner). This is an effective method of communication if you expect a short response.
- You can connect with me via Zoom Video using the ID 202 534 4398 during dedicated office hours (or via an appointment) to get elaborative help.
- If you go to windward community college or live nearby, an in-person meeting can also be arranged with an appointment or advance notice.
- You can also connect with me via my office phone (808) 236 – 9278 during my office hours or leave a message for me to return your call.
- Online discussion board can be used to interact with classmates by asking homework questions and answering previously posted problems.

Math Help Outside of Class

In addition to reaching out to me for help I encourage you to utilize the following free resources:

- [Ka Piko Center](#) - Provides online tutoring via WCC Math Lab
- <http://www.hawaii.edu/tutor> – Provides 24/7 online tutoring (use your UH credentials to login).
- <http://www.khanacademy.org> – Provides tutorial videos with interactive feedback on selected topics

Foundations Quantitative Reasoning Hallmarks

Math 101 fulfills 3 credits of the General Education requirements for both an A.A. degree at WCC and a Bachelor's degree at 4 year UH institutions. Consequently, it meets the hallmarks of the quantitative reasoning requirement. This course will:

1. provide students with theoretical justifications for, and limitations of, mathematical or statistical methods, and the formulas, tools, or approaches used in the course.
2. include application of abstract or theoretical ideas and information to the solution of practical quantitative reasoning problems arising in pure and applied research in specific disciplines, professional settings, and/or daily and civic life.
3. provide opportunities for practice and feedback that are designed to help students evaluate and improve quantitative reasoning skills by including a course component at least once per week with a maximum 30:1 student-to-teacher ratio.
4. be designed so that students will be able to
 - a. identify and convert relevant quantitative information into various forms such as equations, graphs, diagrams, tables, and/or words;
 - b. select appropriate techniques or formulas, and articulate and evaluate assumptions of the selected approaches;
 - c. apply mathematical tools and perform calculations (including correct manipulation of formulas);
 - d. make judgments, create logical arguments, and/or draw appropriate conclusions based on the quantitative analysis of data, the assumptions made, the limitations of the analysis, and/or the reasonableness of results; and
 - e. effectively communicate those results in a variety of appropriate formats.

Sex Discrimination and Gender-Based Violence Resources (Title IX)

Windward Community College is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. If you or someone you know is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, as well as receive information and support, please contact one of the following:

UH Confidential Advocate
Phone: (808) 348-0663
Email: advocate@hawaii.edu

Desrae Kahale, Mental Health
Counselor & Confidential Resource
Phone: (808) 235-7393
Email: dkahale3@hawaii.edu

Karen Cho, Title IX Coordinator
Phone: (808) 235-7474
Email: kcho@hawaii.edu

As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how your case will be handled. My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need. For more information regarding sex discrimination and gender-based violence, the University's Title IX resources and the University's Policy, Interim EP 1.204, go to manoa.hawaii.edu/titleix/

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.

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 you succeed in this class. You can reach Jodi Asato (located in Hale Kako'o 105) , Disabilities Counselor, at (808) 235-7472 or at wccdsso@hawaii.edu.

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. If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office (located in Alakai 121) at (808) 235-7422 or email wccaa@hawaii.edu. If you stop attending this class for any reason, it is your responsibility to drop it.

Math 101 Spring 2024 Tentative Schedule		
Week	Dates (M-F)	Assignments and Tasks to Complete
1	1/8 – 1/12	Orientation - Go Over Course Syllabus, and Get Started with the Course
2*	1/15 – 1/19	Lesson 1: Arithmetic Review (Due: 1/18)
3	1/22 – 1/26	Lesson 2: Ratio, Proportions, and Linear Equation (Due: 1/27)
4^	1/29 – 2/2	Lesson 3: Measurement Systems (Due: 2/3)
5	2/5 – 2/9	Lesson 4: Unit Conversation (Due: 2/10)
6	2/12 – 2/16	Lesson 5: Statistics (Due: 2/17)
7*	2/19 – 2/23	Lesson 6: Graphs (Due: 2/24)
8	2/26 – 3/1	Midterm Review (Due: 3/2)
9	3/4 – 3/8	Midterm Exam: Available 4-March & Must Complete by 8-March
10	3/11 – 3/15	Lesson 7: Equipment for Dosage Measurement and Roman Numerals (Due: 3/23)
11**	3/18 – 3/22	Spring Break
12*	3/25 – 3/29	Lesson 8: Dosage Calculations (Due: 3/30)
13	4/1 – 4/5	Lesson 9: Oral and Parenteral Dosages (Due: 4/6)
14	4/8 – 4/12	Lesson 10: Intravenous Calculations (Due: 4/13)
15	4/15 – 4/19	Lesson 11: IV Fluid Needs (Due: 4/20)
16	4/22 – 4/26	Lesson 12: Calculations for Compounding (Due: 4/27)
17	4/29 – 5/3	Final Exam Review (Due: 5/4)
18	5/6 – 5/10	Final Exam: Available on 6-May & Must Complete by 9-May

^Drop Dates:

January 31, 2024 – Last day to withdraw without a W grade

*Holidays:

January 15, 2024 – Martin Luther King Junior Day

February 19, 2024 – Presidents' Day

March 26, 2024 – Prince Kuhio Day

March 29, 2024 – Good Friday