



MATH 244 ONLINE – CALCULUS IV
3 CREDITS (CRN 61212)

INSTRUCTOR:	Jody-Lynn Storm
OFFICE:	Windward CC, Hale Mana'opono 105A
VIRTUAL OFFICE HOUR:	TBA via Zoom
OFFICE TELEPHONE:	(808) 236 – 9277 (email is preferred)
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EFFECTIVE DATE:	Spring 2021

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

Math 244 is the fourth course in the calculus sequence. Topics include multiple integrals, line integrals, Green's Theorem, surface integrals, Stokes' Theorem, Gauss' Theorem and differential equations. (3 hours lecture)

Pre-Requisite(s): Grade of "C" or better in MATH 231 or MATH 243 or equivalent or consent of instructor.

STUDENT LEARNING OUTCOMES

As a result of taking this course, students can expect to attain the following outcomes:

1. Compute multiple integrals in various coordinate systems.
2. Use multiple integrals or vector calculus techniques to solve applied problems.
3. Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form.

Note: All SLO assessments are embedded in class activities, homework, quizzes, or Exams.

IS ONLINE LEARNING BEST FOR YOU?

Usually students take online courses with the assumption that it will be easier than face-to-face classes. Unfortunately, this is not correct. Online courses actually require more discipline and individual effort on the part of the student. The focus is on you learning rather than the teacher lecturing.

STUDENT RESPONSIBILITIES

- Have access to a reliable high-speed internet connection
- Have adequate computer skills.
- Check emails regularly
- Be self-motivated
- Set aside adequate study time

COURSE CONTENT

- Multiple Integration
 - Double Integrals over Rectangular Regions
 - Double Integrals over General Regions
 - Double Integrals in Polar Coordinates
 - Triple Integrals
 - Triple Integrals in Cylindrical and Spherical Coordinates
 - Integrals for Mass Calculations
- Vector Calculus
 - Vector Fields
 - Line Integrals
 - Conservative Vector Fields
 - Green's Theorem
 - Divergence and Curl
 - Surface Integrals
 - Stoke's Theorem
 - Divergence Theorem
- Differential Equations
 - Direction Fields and Euler's Method
 - Separable Differential Equations
 - Special First-Order Linear Differential Equations
 - Modeling with Differential Equations
 - Second-Order Homogeneous Differential Equations

COURSE TASKS AND GRADING

Grades are posted on the Laulima gradebook. Grades for this course are based on the following course tasks:

Assignment	Occurrences	Total Points
2 Unit Exams	100 points each	200
Final Exam	100 points	100
MLM Homework Assignments		200
3 Graded Problem Sets	10 points each	30
4 Forum posts	5 points each	20
Total		550

Each letter grade for the course will be assigned according to the level of achievement as provided in the table below:

<u>Letter Grade</u>	<u>Definition</u>
A	90% - 100% of the cumulative points possible
B	80% - 89% of the cumulative points possible
C	70% - 79% of the cumulative points possible
D	60% - 69% of the cumulative points possible

F	Less than 60% of the cumulative points possible
CR	70% or above of the cumulative points possible
NC	Less than 70% of the cumulative points possible
W	Official Withdrawal

Note: CR/NC grades require written instructor consent. 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.

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

LEARNING RESOURCES

Required Materials

- MyLab Math (MLM) Online Program. MLM comes with the eBook *Calculus for Scientists and Engineers*, by Briggs. You may purchase the MLM access code from our bookstore or directly online from the publisher.
 - If purchasing through our bookstore you will receive an MLM access code bundled with a paperback copy of the textbook.
 - If you are purchasing the access code directly online you will have access to the eBook, but will not have a hardcopy of the textbook.

WCC Resources

- The Math Lab: <https://windward.hawaii.edu/kapiko/math/>

UH System Resources

- OLA (UH online tutoring program): <http://manoa.hawaii.edu/ola/>
- Tutor.com: <https://windward.hawaii.edu/tutor.com/>
- Distance Learning Homepage: <http://www.hawaii.edu/dl/home>

Other Online Resources

- Symbolab: <https://www.symbolab.com>
- Wolfram Alpha: <http://www.wolframalpha.com>
- Desmos Calculator: <https://www.desmos.com>
- Professor Leonard Videos: <https://www.youtube.com/user/professorleonard57>
- Khan Academy Videos: <http://www.khanacademy.org>
- Numerade: <https://www.numerade.com/courses/>

ADDITIONAL INFORMATION

Attendance and Class Preparation

This is an online class and students are expected to keep pace with module assignments. Students are required to complete assignments by the posted deadlines, and interact with the instructor and other members of this online class with professionalism. There will be no make-up work and no extensions of due dates.

Final Exam: There will be one cumulative computer-based final exam. The exam is timed (4 hours). The exam will be available for 4 days.

Unit Exams: There will be two computer-based exams. The exams are timed (3 hours per exam). The exams will be available for 3 to 5 days. There are no re-takes, make-ups, or extensions for the exams. Students who fail to take an exam during the assigned period will receive a zero score on the exam.

Note: If the score earned on the final exam is higher than the lowest unit exam score, then the lowest unit exam score will be replaced with the score earned on the final exam.

- If a student misses an exam, then that exam will be counted as the lowest exam score.
- Only one exam score can be replaced by the score earned on the final exam.

MyLab Math (MLM) Homework: Computer-based homework submitted online through the MLM program. Homework is due on Sundays by 11:59 pm. There will be a 20% deduction for problems submitted after the due date. Final submission will be Sunday, May 9 at 11:59 pm.

Graded Problem Sets: There will be three graded problem sets to turn in. You will work the problems on separate paper and upload them to Lulima. To receive full credit, you must show sufficient work neatly, with proper notation, and in an organized manner. Messy or disorganized work will not receive full credit.

Forum Posts: Throughout the semester forum topics will be posted on Lulima. You will be graded on your responses to 4 forum posts. Each post is worth 5 points.

Extra Credit: There will be 2 exam reviews and a final exam review. Each review is worth 5 points of extra credit. Additionally, the end of semester student survey (CES) is worth 5 points of extra credit.

DISABILITIES ACCOMMODATIONS

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 'Ākoakoa 213 for more information.

TITLE IX

Title IX prohibits discrimination on the basis of sex in education programs and activities that receive federal financial assistance. Specifically, Title IX prohibits sex discrimination; sexual harassment and gender-based harassment, including harassment based on actual or perceived sex, gender, sexual orientation, gender identity, or gender expression; sexual assault; sexual exploitation; domestic violence; dating violence; and stalking. For more information regarding your rights under Title IX, please visit: [https://windward.hawaii.edu/Title IX/](https://windward.hawaii.edu/Title_IX/).

Windward Community College is committed to the pursuit of equal education. If you or someone you know has experienced sex discrimination or gender-based violence, WCC has resources to support you. To speak with someone confidentially, contact the Mental Health & Wellness Office at 808-235- 7393 or Kaahu Alo, Designated Confidential Advocate for Students, at 808-235-7354 or kaahualo@hawaii.edu. To make a formal report, contact the Title IX Coordinator, Karla K. Silva-Park, at 808-235-7468 or karlas@hawaii.edu.

ALTERNATE CONTACT 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:

Location: Alakai 121

Phone: 808-235-7422

Email: wccaa@hawaii.edu

MATH 244 – SPRING 2021 SCHEDULE		
Week	Dates (Mon - Sun)	Assignments Due Sunday
1	1/11 – 1/17	MLM Registration
2	1/18 – 1/24	MLM: 16.1, 16.2
3	1/25 – 1/31	MLM: 16.3
4	2/1 – 2/7	MLM: 16.4 Graded Problem Set #1
5	2/8 – 2/14	MLM: 16.5
6	2/15 – 2/21	MLM: 16.6
7	2/22 – 2/28	MLM: 16.7, Exam 1 Review
EXAM 1: Available 3/1 – 3/7		
8	3/1 – 3/7	MLM: 17.1
9	3/8 – 3/14	MLM: 17.2, 17.3
10	3/15 – 3/21	SPRING BREAK
11	3/22 – 3/28	MLM: 17.4 Graded Problem Set #2
12	3/29 – 4/4	MLM: 17.5
13	4/5 – 4/11	MLM: 17.6
14	4/12 – 4/18	MLM: 17.7, Exam 2 Review
EXAM 2: Available 4/19 – 4/25		
15	4/19 – 4/25	MLM: 17.8
16	4/26 – 5/2	MLM: DE1 Graded Problem Set #3
17	5/3 – 5/9	MLM: DE2, Final Exam Review
18	5/10 – 5/16	Final Exam Week
FINAL EXAM: Available 5/10 – 5/13 Note: The final exam is not available Friday 5/14		