

## MATH 231 – CALCULUS III (3 Credits)

INSTRUCTOR: Jody-Lynn Storm  
OFFICE: Mana'opono 105  
OFFICE HOURS: MW 10:00 am – 11:00 am  
TR 9:00 am – 10:00 am  
And by appointment  
TELEPHONE: (808) 236 – 9277  
EMAIL: [jstorm@hawaii.edu](mailto:jstorm@hawaii.edu)  
WEBSITE: <http://www.jodystorm.com>  
EFFECTIVE DATE: Spring 2015

CRN	Days	Time	Classroom
63337	MW	8:30 am – 9:45 am	Mana'opono 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.*

### COURSE DESCRIPTION

Vector-oriented study of functions of several variables; partial differentiation and *line integrals; multiple integrals*. (3 hours lecture)

Note: Italicized topics are optional and generally covered in Math 232. Other topics covered in Math 231 include parametric curves, polar curves, vector algebra, and vector calculus.

Pre-Requisite(s): Grade of "C" or better in MATH 206 or equivalent or consent of instructor.

### STUDENT LEARNING OUTCOMES

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

1. Analyze and apply principles, concepts, and properties from algebra, geometry, trigonometry, and calculus to solve problems.
2. Apply concepts and calculus properties of Cartesian space coordinates and vectors.
3. Apply principles and concepts from calculus to multivariable functions.
4. Use various strategies from this course to solve problems.
5. Utilize precise mathematical language and symbols and effectively communicate in written and/or oral form.

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

## LEARNING RESOURCES & MATERIALS

### REQUIRED MATERIALS:

- Textbook: Multivariable Variable Calculus for Scientists and Engineers, by Briggs & Cochran, bundled with MyMathLab
  - If preferred you may just use the ebook on MyMathLab
- MyMathLab (MML) Access Code with ebook
  - Register online at <http://pearsonmylabandmastering.com/>
  - Use Course ID: **storm79211**
- Calculator: TI-83, TI-83+, TI-84, or TI-84+

### LEARNING RESOURCES:

- Supplemental Instruction Leader (SIL): Elena Barbour  
Email: [ebarbour@hawaii.edu](mailto:ebarbour@hawaii.edu)
- Math Lab: La'akea (Library Learning Commons) Room 220  
[http://windward.hawaii.edu/About\\_WCC/Math\\_Lab/index.php](http://windward.hawaii.edu/About_WCC/Math_Lab/index.php)
- The Testing Center (TTC): La'akea (Library Learning Commons) Room 228  
Phone: (808) 235-7498  
[http://windward.hawaii.edu/Testing\\_Center/index.php](http://windward.hawaii.edu/Testing_Center/index.php)
- Brainfuse Online Tutors: <http://windward.hawaii.edu/brainfuse/>
- OLA (UH online tutoring program): <http://manoa.hawaii.edu/ola/>
- Kahn Academy Videos: <http://www.khanacademy.org>

### 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](mailto:lemke@hawaii.edu), or you may stop by Hale 'Akoakoa 213 for more information, or visit <http://windward.hawaii.edu/Disabilities/>

## COURSE TASKS & GRADING

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

3 unit exams @ 100 pts ea	300 pts	52% of possible pts
Final Exam	130 pts	22% of possible pts
Course Activity:		
Graded Problems	110 pts	19% of possible pts
MyMathLab	40 pts	7% of possible pts
Total	<u>580 pts</u>	

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
N	See below
CR	70% or above of the cumulative points possible
NC	Less than 70% of the cumulative points possible
W	Official Withdrawal
I	See below

Note: The N grade indicates that the student has worked conscientiously, attended class 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.

The N grade is an optional grade that instructors do not have to give. All requests for the N grade must be submitted by the student in writing and is contingent upon the instructor's approval.

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.

Note: 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.

A student may qualify for the I grade if (a) they are unable to take the final exam and (b) taking the final exam could possibly raise their course grade. The I grade is given by student request and must be approved by the instructor.

## **ADDITIONAL INFORMATION**

### ABSENCES

It is your responsibility to attend class. If you are absent, you are responsible for any important announcements or assignments given during the class you missed. It is your responsibility to meet with your instructor to review any missed lecture material. You may drop in during posted office hours or make an appointment to

meet one-on-one. Please do not send email requests for missed lecture material. If you are absent frequently or for an extended period of time, contact the instructor as soon as you can to discuss your situation. Frequent absences could negatively impact your grade.

### MAKE-UP POLICY

Exams will be available for 2-3 days in the Testing Center. If you know in advance that you will be unable to take an exam during the assigned period, discuss your situation with the instructor. It may be possible for you to take the exam earlier than the specified dates. If there is a documented emergency preventing you from taking an exam during the assigned period, a make-up exam will be scheduled. For each student, **ONLY ONE** make-up exam may be taken. There are no make-up opportunities for assigned graded problems.

### CALCULATORS

Some problems require the use of a graphing calculator. You are free to use any type of graphing device for homework problems, but may only use a TI-84+ or lower model graphing calculator on exams. You may not use higher models, such as the TI-89 or the TI-Nspire on exams as these come equipped with CAS.

### EXAMS

There are no retests for exams. The final exam is cumulative.

### SUPPLEMENTAL INSTRUCTION (SI)

For each hour of SI one point will be added to the Course Activity portion of your grade. Points cannot exceed the maximum Course Activity allotment of 150 points.

*This class is supported by the Supplemental Instruction (SI) program. SI is a FREE, collaborative, peer-study program that helps students succeed in difficult classes. Your SI Leader is a peer who has taken this class (or a higher level class) previously and has an understanding of the course material. In SI sessions, students will work together with the SI Leader name to explore important concepts, review class notes, discuss test taking strategies, and review for tests. All students in this class are encouraged to attend!*

**Note:** *At WCC, students who attend SI sessions earn A, B, and C grades at nearly a 20% higher rate than non-attendees and are less likely to withdraw from their courses. WCC data has also shown that the more sessions students attend, the more likely they are to pass.*

### HOMEWORK

There is one homework assignment per textbook section. Most of the assignments will be given in two parts:

- 1) MyMathLab Assigned problems
  - a) Submitted online
  - b) Due on the last day of each exam period
  - c) 20% point deduction for late submissions
- 2) Assigned graded problems (mostly from the textbook) to turn in.
  - a) 5 pts each
  - b) Must be turned in at the start of class
  - c) No late submissions

Assignments and due dates are posted on the instructor's webpage. You may need to do more than the assigned homework problems to become comfortable with the concepts and skills.

Note: Chapters 10, 11, 12 in the multivariable textbook (paperback) correspond to chapters 12, 13, 14 in the eBook.

### GRADING

To receive full credit for problems done on exams or graded homework, you must show sufficient work in a clear and organized manner. Your work must be neat and organized. "Messy" and/or disorganized work will not receive full credit.

### CELL PHONES & OTHER ELECTRONIC DEVICES

Cell phones and other electronic devices should be silenced and put away prior to the start of class.

### DISRUPTIVE BEHAVIOR

Please respect your fellow students and act accordingly. If a student takes part in disruptive behavior, the instructor reserves the right to exclude the student immediately from the class meeting. Examples are activated cell phones, texting, making offensive remarks, prolonged chattering, smokeless cigarettes, etc.

### ACADEMIC HONESTY

All exams must be done by your own individual effort. You may not consult with any classmates while taking exams. This would fall under the guidelines of academic integrity and any evidence of cheating will result in a score of 0 for all parties involved. An "F" will be assigned to students involved in cheating and will be reported to the Dean. See <http://windward.hawaii.edu/Policies/> for more information on the UH system-wide student conduct code.

Graded homework assignments may be discussed with your classmates and you may seek guidance from the instructor, the Math Lab tutors, the Trio tutors (if you are a Trio client), or the SIL (if assigned to your course). However, the write up of the solution for each problem must be done on your individual effort.

**MATH 231 – TENTATIVE SCHEDULE**  
**MW 8:30 AM – 9:45 AM**  
**STORM – SPRING 2015**

Important Dates	
JAN 16	Last day to register/add/drop and to receive 100% refund of tuition
FEB 2	Last day for 50% refund of tuition and to withdraw without a "W" grade.
MAR 31	Last day to withdraw with a "W" or choose CR/NC grade option. Last day to make up "I" grade from previous semester

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	Monday		Wednesday
JAN 12	Orientation	JAN 14	11.1
JAN 19	<b>No Class</b> Dr. Martin Luther King Jr. Day	JAN 21	11.2
JAN 26	11.3	JAN 28	11.4
FEB 2	12.1	FEB 4	12.2
FEB 9	12.3	FEB 11	Exam Review <b>EXAM 1 (Ch11, 12.1-12.3)</b>
FEB 16	<b>No Class</b> President's Day	FEB 18	12.4
FEB 23	12.5	FEB 25	12.6
MAR 2	12.6	MAR 4	12.7
MAR 9	12.8	MAR 11	12.9
MAR 16	Exam Review <b>EXAM 2 (12.4-12.9)</b>	MAR 18	13.1
MAR 23	<b>No Class</b> Spring Recess	MAR 25	<b>No Class</b> Spring Recess
MAR 30	13.2	APR 1	13.3
APR 6	13.4	APR 8	13.4
APR 13	13.5	APR 15	13.6
APR 20	Exam Review <b>EXAM 3 (13.1-13.6)</b>	APR 22	13.7
APR 27	13.7	APR 29	13.8
MAY 4	13.9	MAY 6	Final Exam Review
MAY 11	<b>FINAL EXAM</b> In Testing Center 5/11 - 5/14	MAY 13	