MATH 232 – CALCULUS IV (3 Credits)

INSTRUCTOR:	Jody-Lynn Storm
OFFICE:	Mana'opono 105A
OFFICE HOURS:	MTWRF 11:30 am – 12:30 pm
	And by appointment
OFFICE TELEPHONE:	(808) 236 – 9277
EMAIL:	jstorm@hawaii.edu
WEBSITE:	http://www.jodystorm.com
EFFECTIVE DATE:	Spring 2017

CRN	Days	Time	Classroom
64392	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

Math 232 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): "C" or better in Math 231 or equivalent or consent of instructor.

STUDENT LEARNING OUTCOMES

Upon completion of the course, the student will be able to:
1. Compute multiple integrals in various coordinate systems.
2. Use multiple integrals or vector calculus techniques to solve application and/or theoretical problems.
3. Solve basic differential equations and applications.
4. 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: <u>Multivariable Variable Calculus for Scientists and Engineers</u>, 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/

o   Use Course ID: **storm87258**
- Calculator: TI-83 or TI-84 (any model)

LEARNING RESOURCES:
- Math Lab: Laʻakea (Library Learning Commons) Room 220
  http://windward.hawaii.edu/About_WCC/Math_Lab/index.php

- The Testing Center (TTC): Laʻakea (Library Learning Commons) Room 228
  Phone: (808) 235-7498
  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/

- Khan Academy Videos: http://www.khanacademy.org

- WolframAlpha: https://www.wolframalpha.com

- Professor Leonard: https://www.youtube.com/user/professorleonard57

COURSE TASKS & GRADING

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

3 unit exams @ 100 pts ea	300 pts	60% of possible pts
Final Exam	100 pts	20% of possible pts
Course Activity:		
Graded Problems	85 pts	17% of possible pts
MyMathLab	15 pts	3% of possible pts
Total	500 pts	

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

Letter Grade	Definition
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
I	Incomplete Grade

Note: CR/NC grades require written instructor consent. Students must apply for CR/NC grading option at the Admissions Office by the posted deadline.

Note: The W grade is given only when the <u>student officially withdraws</u> 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.

The I grade is given by <u>student request</u> and must be approved by the instructor. 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.

ADDITIONAL INFORMATION

<u>ABSENCES</u>
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. Please do not send email requests for missed lecture material.

<u>CALCULATORS</u>
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.

<u>EXAMS</u>
There are no retests for exams. The final exam is cumulative. Exams will be available for at least 3 days in the Testing Center. If you know in advance that you will be unable to take an exam during the assigned period, it may be possible for you to take the exam earlier than the specified dates. If the score on your final exam is higher than your lowest exam score, then your lowest exam score will be replaced with the score you earned on the final exam.

<u>SERVICE LEARNING</u>
For each hour of service learning one point will be added to the Course Activities portion of your grade. A maximum of 105 Course Activity points may be earned, 5 points over the 100 points allotted.

<u>HOMEWORK</u>
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 first 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 14 and 15 in the multivariable textbook (paperback) correspond to chapters 15 and 16 respectively 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.

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 or the Math Lab tutors. However, the write up of the solution for each problem must be done on your individual effort.

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, or you may stop by Hale 'Akoakoa 213 for more information, or visit http://windward.hawaii.edu/Disabilities/

STORM – SPRING 2017
MATH 232 – TENTATIVE SCHEDULE
MW 8:30 AM – 9:45 AM

IMPORTANT DATES	
JAN 13	Last day to register/add/drop and to receive 100% refund of tuition
JAN 30	Last day for 50% refund of tuition and to withdraw without a "W" grade.
APR 3	Last day to withdraw with a "W" or choose CR/NC grade option. Last day to make up "I" grade from previous semester.

	Monday		Wednesday
JAN 9	Orientation, 5.1	JAN 11	15.1, 15.2
JAN 16	**No Class** Martin Luther King Jr. Day	JAN 18	15.2
JAN 23	15.3	JAN 25	15.3, 15.4
JAN 30	15.4, 15.5	FEB 1	15.5
FEB 6	**EXAM 1 (15.1-15.5)** In Testing Center 2/6-2/10	FEB 8	15.6
FEB 13	15.6, 15.7	FEB 15	15.7
FEB 20	**No Class** President's Day	FEB 22	16.1
FEB 27	16.1, 16.2	MAR 1	16.2
MAR 6	16.3	MAR 8	16.3, 16.4
MAR 13	**EXAM 2 (15.6, 15.7, 16.1-16.3)** In Testing Center 3/13-3/17	MAR 15	16.4
MAR 20	16.5	MAR 22	16.5, 16.6
MAR 27	**No Class** Spring Recess	MAR 29	**No Class** Spring Recess
APR 3	16.6	APR 5	16.7
APR 10	16.7, 16.8	APR 12	16.8
APR 17	**EXAM 3 (16.4-16.8)** In Testing Center 4/17-4/21	APR 19	DE 1st order
APR 24	DE 1st, DE 2nd order	APR 26	DE 2nd order
MAY 1	Final Exam Review	MAY 3	Final Exam Review
MAY 8	**FINAL EXAM** In Testing Center 5/8-5/11	MAY 10	
MAY 15		MAY 17	