UNIVERSITY of HAWAI'I®
WINDWARD
COMMUNITY COLLEGE

MATH 242 ONLINE – CALCULUS II
4 Credits (CRN 61148)

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|---|---|
| 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) |
| EMAIL: | jstorm@hawaii.edu (Preferred method of communication. Will respond within 24 hours excluding weekends and holidays) |
| 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

Differentiation and integration concepts of trigonometric, exponential, logarithmic and hyperbolic functions. Integration implements, infinite series, and applications of derivatives and integrals are also featured. (4 hours lecture)

Pre-Requisite(s): Grade of "C" or better in MATH 205 or MATH 241 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. Demonstrate proficiency in determining limits, derivatives, and integrals associated with the topics in the course
2. Use concepts from the course to solve applied problems
3. Demonstrate proficiency in working with sequences or series
4. Utilize precise mathematical language and symbols to effectively communicate mathematics in written and/or oral form

## 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 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:

| 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 |

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.

## COURSE CONTENT

- Logarithmic and Exponential functions
  - Inverse functions
  - Natural Logarithmic and Exponential Functions
  - Logarithmic and Exponential functions with Other Bases
  - Exponential Models
  - Inverse Trigonometric Functions
  - L'Hôpital's Rule and growth Rates of Functions
  - Hyperbolic Functions
- Integration Techniques
  - Integration by Parts
  - Trigonometric Integrals
  - Trigonometric Substitution
  - Partial Fractions
  - Numerical Methods of Integration
  - Improper Integrals
- Differential Equations
  - Direction Fields and Euler's method
  - Separable Differential Equations
  - Special First-Order Linear Differential Equations
  - Modeling with Differential Equations
- Sequences and Infinite Series
  - Sequences
  - Infinite Series
  - Divergence and Integral Tests
  - Comparison Tests
  - Alternating Series
  - Ratio and Root Tests
- Power Series
  - Approximating Functions with Polynomials
  - Properties of Power Series
  - Taylor Series
  - Working with Taylor Series

## REQUIRED MATERIAL

**Required Materials**
MyLab Math (MLM) Online Program. MLM comes with the eBook *Calculus* 3rd ed., by Briggs. MLM registration will be through IDAP.

*This course will be participating in the Bookstore's Interactive Digital Access Program (IDAP). Through this program, you will access your course material digitally, and it will be available to you by the first day of class.*

*A charge for the digital course material through IDAP will be added to your MyUH account. You have the option to opt-out of receiving your course material through IDAP. By opting-out, you will lose access to the course material and the charge will be refunded on your MyUH*

*account. If you do not opt-out, the charge will stay on your MyUH account. Any unpaid charges on your MyUH account will turn into a hold. Holds on your account will prevent you from accessing various services within the University.*

*You may opt-out by visiting your unique Inclusive Access Student Portal, which can be found in your IDAP welcome email (Subject Line: "IMPORTANT: You have enrolled in an IDAP Course").*

*For more information regarding IDAP, please contact your campus bookstore.*

## ADDITIONAL LEARNING RESOURCES

**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 for late homework 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 Laulima. 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 Laulima. 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 ʻĀkoakoa 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/.

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 242 – SPRING 2021 SCHEDULE | | |
|---|---|---|
| Week | Dates (Mon - Sun) | Assignments Due Sunday |
| 1 | 1/11 – 1/17 | MLM Registration<br>MLM: 7.1, Orientation (optional) |
| 2 | 1/18 – 1/24 | MLM: 7.2, 7.3 |
| 3 | 1/25 – 1/31 | MLM: 7.4, 7.5 |
| 4 | 2/1 – 2/7 | MLM: 7.6, 8.1<br>Graded Problem Set #1 |
| 5 | 2/8 – 2/14 | MLM: 8.2, 8.3 |
| 6 | 2/15 – 2/21 | MLM: 8.4, 8.5 |
| 7 | 2/22 – 2/28 | MLM: 8.8, 8.9, Exam 1 Review |
| EXAM 1: Available 3/1 – 3/7 | | |
| 8 | 3/1 – 3/7 | MLM: 9.1, 9.2 |
| 9 | 3/8 – 3/14 | MLM: 9.3, 9.4 |
| 10 | 3/15 – 3/21 | SPRING BREAK |
| 11 | 3/22 – 3/28 | MLM: 9.5, 10.1<br>Graded Problem Set #2 |
| 12 | 3/29 – 4/4 | MLM: 10.2, 10.3 |
| 13 | 4/5 – 4/11 | MLM: 10.4, 10.5 |
| 14 | 4/12 – 4/18 | MLM: 10.6, 10.7, Exam 2 Review |
| EXAM 2: Available 4/19 – 4/25 | | |
| 15 | 4/19 – 4/25 | MLM: 11.1, 11.2 |
| 16 | 4/26 – 5/2 | MLM: 11.3, 11.4<br>Graded Problem Set #3 |
| 17 | 5/3 – 5/9 | MLM: Final Review |
| 18 | 5/10 – 5/16 | Final Exam Week |
| FINAL EXAM: Available 5/10 – 5/13<br>Note: The final exam is not available Friday 5/14 | | |