UNIVERSITY OF GUAM
UNIBETSEDÅT GUAHAN

COLLEGE OF NATURAL & APPLIED SCIENCES
Division of Mathematics & Computer Sciences

Course:	MA204-02 Calculus II (5-credits)
Semester:	FALL 2024
Meetings:	MTWTh 12:30 – 1:45
Room:	Warehouse B, Rm. 1
Instructor:	Dr. Raymond Paulino
Office:	Warehouse B, Rm. 9
Telephone:	735-2826
Email:	paulinor4388@triton.uog.edu
Office hours:	MW: 10:00-12:00 TTh: 1:50-2:50

All other times by appointment upon request *(subject to change with advance notice)*

Moodle Key: ma20402stu2024

Catalog Description:

This is the second semester of a standard calculus course. Topics include techniques and applications of integration, differential equations, power series, and Taylor series.

Course Content:

The course covers: techniques and applications of integration, improper integrals, Taylor's formula, infinite series, Fourier series, topics from analytic geometry, plane curves and polar coordinates.

Text: *Single Variable Calculus Early Transcendentals, 7th edition or 8th edition, by James Stewart*

Rationale for Course:

The basic content of the course is needed by any student who is planning to continue in mathematics. The ideas introduced in this course provide a foundation for all upper division mathematics courses. It is a continuation of MA203 that covers the fundamental ideas of calculus: limits, derivatives and the definite integral. Though not highly stressed, the mathematical foundations of these ideas are provided, so that students receive an introduction to mathematical precision and rigor. Calculus is then used to investigate ideas from physics, such as velocity, acceleration, centers of mass, from geometry, such as areas and volumes, from finance, such as capital formation, and other disciplines. Students thus receive an introduction to mathematical modeling and applied mathematics, that is, how mathematics is used to study the physical world.

Prerequisites:

Grade of C or better in MA203 or placement or equivalent.

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Calculator:
You are required to have a **standalone** scientific calculator for this course, and a graphing calculator is strongly recommended. Students are expected to have a working scientific calculator for quizzes and tests, for those times when a calculator will be allowed. No calculator swapping is permitted during testing periods, and **you are still expected to show all required work to receive full credit**. **I will let you know if you may use your calculator or not during quizzes and exams**.

Attendance:
Your attendance in class is encouraged and is directly related to your grade. Please inform the instructor if you will be absent. We will run into occasions when we absolutely cannot make it to class. However, we must make it a point to attend all class sessions as much as possible. *A student who has missed 20 class sessions (excused or unexcused), will be automatically given a course grade of an F.*

Student Responsibility:
You are expected to spend at least 2-3 hours of outside study for each hour inside the classroom. Do not commit the two cardinal sins in a mathematics course: falling behind and leaving unanswered questions unanswered. **Please ask questions and come to office hours.**

***Skills and Background Required and Expected*:**
Students should have passed MA 203: Calculus I with a grade of C or better, or placement or equivalent.

ASSIGNMENTS, QUIZZES, EXAMS: You will have to ***read the textbook for each class in advance*** **and review the section**. You need to attempt *all homework assignments. Do not copy online solutions without understanding the work. If you only copy online hw solutions, then you will have a very hard time during quizzes and exams. You need to understand what you are writing.*

You are encouraged to choose one or more *study partners* to learn together. Please note that all work, quiz or test you hand in must reflect *your own individual efforts*. Keep in mind that the scores, including your overall semester score that you earn, will be in direct correlation with the individual effort you invest in studying your subject.

You will be occasionally assigned **in-class work**. There will be **quizzes** to prepare you for the exams. There will be three **midterm exams**. A preliminary time schedule is listed below. Timing may change depending on the progress we make with the course material. Exams are in listed in the schedule and a reminder will be announced approximately a week or two before the exam is administered. The **Final Exam** is cumulative. During the last week of class, I use the average of your midterm exams as the grade for your final exam, and with this, I can compute your current grade going into the final exam. This current grade can be your final course grade in the case that it is already favorable.

Please come to **Office Hours** after you get your quizzes and exams back so we can go over your mistakes. Various **extra credit opportunities** are given throughout the course and announced in class.

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Homework:

Homework problems will come from the textbook (7th edition) ***and will be assigned but not collected.***

There will be suggested practice problems identified for each section of the textbook (7th edition), see below. You may need to do additional problems from the textbook to fully master a topic, even if those problems were not assigned. You can ask homework questions at all class meetings or during office hours. Keep in mind that quizzes and tests are based on homework and suggested practice problems.

Quizzes

Quiz problems will be based on (but not necessarily the same as) suggested practice problems from the textbook. There will be one or two quizzes every week.

Evaluation:

Midterm Exams:	45% =3 x 15%
Final Exam:	15%
Quizzes:	25%
Worksheets, In Class Work, Participation:	15%
Total:	100%

Grading Scale:

Letter grades will be assigned as follows:

98 – 100%	A+	4.0
93 – 97%	A	4.0
90 – 92%	A-	3.67
87 – 89%	B+	3.33
83 – 86%	B	3.00
80 – 82%	B-	2.67
77 – 79%	C+	2.33
70 – 76%	C	2.00
60 – 69%	D	1.00
0 – 59% F	F	0

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Make-up policy:

For Extenuating circumstances that you need to miss a quiz or exam, then I will allow you to do make-up if I decide that you have a valid excuse. If your excuse is valid then I will let you know how to make-up. **You must notify me at least one week before you do the make-up.** ←VERY IMPORTANT, do not wait till the last day of class.

Remember, **MA204 is a five-credit course**. We meet four times a week and we will cover a lot of topics this semester. To succeed, you will need to put in the appropriate amount of time outside of class. So, read the textbook before class, work as many practice problems as you can, write down questions you have as you read or work problems, and ask your questions in class. You will feel a sense of confidence and accomplishment for all problems you complete and attempt. And, since this is a gateway to upper-level math and science courses, practice is the best way to build your math intuition and ensure you have a solid foundation. **Your grade is a direct reflection of the amount of time you put into this class.**

Please ask questions and come to office hours.

The following are some important notes concerning student responsibilities:

- Please see the course notes on Moodle when you are absent. Employ the buddy system to get copies of any notes you might need. It's probably a good idea to start exchanging phone numbers (or e-mail addresses) with classmates *now* in the event of such a need *later*.
- If you are absent, it is your responsibility to pick up anything handed out or passed back during your absence, and in a timely manner. Please see me before or after class--or during office hours--to obtain these items, though--not during the day's lesson.
- It is your responsibility to keep hold of any supplemental material distributed in class. It is also your responsibility to retain all quizzes and tests passed back to you.
- It is your responsibility to keep an accurate record of your graded work. Again, do not assume I always have my to-the-moment grade sheets ready.
- If you are ill, **STAY HOME** and take care of the more important business of getting yourself well. If you are exhausted, PLEASE go home and get in the needed rest, for coming to class feeling sleepy isn't going to help you much with the day's lesson.
- Lastly, it is your responsibility to keep, read and know the contents of this syllabus.

Special Accommodations:

UOG Disabilities Policy

In accordance with the Americans with Disabilities Act (ADA) of 1990 and the Rehabilitation Act of 1973, the University of Guam does not discriminate against students and applicants on the basis of disability in the administration of its educational and other programs. The University offers reasonable accommodations for a student or applicant who is otherwise qualified, if the accommodation is reasonable, effective and will not alter a fundamental aspect of the University's program nor will otherwise impose an undue hardship on the University, and/or there are not equivalent alternatives. Students are expected to make timely requests for accommodation, using the procedure below.

ADA Accommodation Services

If you are a student with a disability who will require an accommodation(s) to participate in this course, please contact the Student Counseling and Advising Service Accommodations office to discuss your specific accommodation needs confidentially. You will need to provide Ms. Sallie Sablan with an accommodation letter from the Student Counseling and Advising Service Accommodations counselor. If you are not registered, you should do so immediately at the Student Center, Rotunda office #4, Ph/TTY.: 735-2460, to coordinate your accommodation request.

Academic Integrity Policy:
Academic Integrity is about performing in your role as student in ways that are honest, trustworthy, respectful, responsible, and fair (see www.academicintegrity.org for more information). As a student, you will complete your academic assignments in the manner expected by the instructor. Academic dishonesty, including but not limited to cheating and plagiarism may result in suspension or expulsion from the University. Refer to the UOG Student Handbook and Code of Conduct for more information.

Notification of Rights Under FERPA:
The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights for students, parents and school officials can be viewed at http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html.

Tobacco-free/Smoke-free/Vaping-free campus:
UOG is a tobacco-free/smoke-free, vaping/e-cigarette free campus. Thank you for not using tobacco products or e-cigarettes on campus, for helping to fight cancer, and for helping make UOG a healthy learning and living environment.

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MA204 – Student Learning Outcomes

Ever wondered why we require certain courses for general education, or for a given major, or as a prerequisite for another course? Read on below to see what the MA204 student learning outcomes are (what you should expect to learn in this course), how they tie into the Math Program Learning Outcomes, and how they tie into the bigger picture – the University's Institutional Learning Outcomes.

MA204 Course Student Learning Outcomes (SLOs)

Course SLOs:	**Program Learning Outcomes (PLOs)**	**University Learning Outcomes (ILOs)**	**Method of Assessment**
SLO-1: Apply integrals to compute areas, volume and arc length.	MA PR-1 MA PR-3 MA PR-4	ILO-1 ILO-2	Questions on homework, workshops, quizzes and tests.
SLO-2: Identify and **perform** various techniques to evaluate integrals.	MA PR-1 MA PR-3 MA PR-4	ILO-1 ILO-2	Questions on homework, workshops, quizzes and tests.
SLO-3: Solve simple differential equations.	MA PR-1 MA PR-3 MA PR-4	ILO-1 ILO-2 ILO-5	Questions on homework, workshops, quizzes and tests.
SLO-4: Describe objects in both rectangular and polar coordinate systems.	MA PR-1 MA PR-3 MA PR-4	ILO-1 ILO-2 ILO-5 ILO-6	Questions on homework, workshops, quizzes and tests.
SLO-5: Construct Taylor series for different classes of functions.	MA PR-1 MA PR-3 MA PR-4	ILO-1 ILO-2 ILO-6	Questions on homework, workshops, quizzes and tests.

(Note: Student Learning Outcomes for MA204 are undergoing revisions.)

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Math Program Learning Outcomes:

MA PR-1: *demonstrate critical thinking*, *problem solving skills* and ability to use mathematical methods by *identifying, evaluating, classifying, analyzing, synthesizing* data and abstract ideas in various contexts and situations.
MA PR-2: *exhibit a sound conceptual understanding* of the nature of mathematics, and *demonstrate advanced mathematical skills* in mathematical analysis, modern algebra and other mathematical discipline(s).
MA PR-3: *argue and reason* using mathematics, *read, create* and *write down* logically correct mathematical proofs, *use exact mathematical language* and *communicate mathematics efficiently* orally, in writing and using information technology tools.
MA PR-4: *apply abstract thinking, mathematical methods, models* and *current practices* in the sciences, including state-of-the-art mathematical software, to solve problems in theoretical mathematics or in a diverse area of mathematical applications.
MA PR-5: *show maturity in mathematical knowledge and thinking* that prepares and encourages students to pursue graduate studies in mathematics or in related fields.
MA PR-6: *demonstrate an appreciation of* and *enthusiasm for* inquiry, learning and creativity in mathematical sciences, a sense of exploration that enables them to *pursue lifelong learning* and *up-to-date professional expertise* in their careers through various areas of jobs, including governmental, business or industrial jobs in mathematics, related sciences, education or technology.
(Note: Math Program Learning Outcomes are undergoing revisions.)

Institutional Expected Student Learning Outcomes:
UOG Expected Student Learning Outcomes December 2008

Some of the expected fundamental knowledge, skills, and values that the University of Guam student will have demonstrated upon completion of any degree are:

ILO1: Mastery of critical thinking & problem solving
ILO2: Mastery of quantitative analysis
ILO3: Effective oral and written communication
ILO4: Understanding & appreciation of culturally diverse people, ideas & values in a democratic context
ILO5: Responsible use of knowledge, natural resources, and technology.
ILO6: An appreciation of the arts & sciences
ILO7: An interest in personal development & lifelong learning

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MA204 – Tentative Schedule

This is a tentative schedule, and is subject to change, should a topic require more or less time in class.

Week of (Mondays)	***Topics/Section/Quiz or Exam***
8/12	*First Day of Classes is 8/14 Wednesday* Gen. Info Syllabus Review of FTC and some problems from Sections 5.3 and 5.4. Sections 5.5
8/19	Ch. 6: Applications of integration Secs. 5.5, 6.1, 6.2 **Quiz 1**
8/26	Continue Ch. 6 Sec. 6.2 and 6.3 **Quiz 2**
9/2	**Holiday: Labor Day No Class on Mon. 9/2** Secs. 6.3, 6.4, 6.5 **Quiz 3**
9/9	Finish 6.5, Start Ch. 7: Techniques of Integration Sec. 7.1 **Quiz 4 and Quiz 5**
9/16	Sec. 7.2 and 7.3 **Exam 1** on Sec. 5.3, 5.4, 5.5, 6.1 to 6.5
9/23	Sec. 7.3, 7.4 **Quiz 6**
9/30	Sec. 7.4 and 7.5 **Quiz 7**
	Fanuchanan Break 10/7-10/12 (No Class)
10/14	7.5 and 7.8 **Quiz 8**
10/21	7.8 **Quiz 9**
10/28	**Quiz 10** **Start Ch. 8: Further Applications of integration** Sec. 8.1 and 8.2, 9.1, and Start Ch. 10: Parametric Equations and Polar Coordinates Sec. 10.1 ***Holiday: 11/2 All Soul's Day***
11/4	**Exam 2** on Sec. 7.1 to 7.5, 7.8 **(Exam 2 is two parts Part 1 in class and Part 2 take home)** Sec. 10.1, 10.2
11/11	***Holiday: 11/11 Veteran's Day*** Sec. 10.3, 10.4, 10.5, and 9.1 **Quiz 11**
11/18	**Exam 3 (Take Home)** on Sec. 8.1, 8.2, and sections we covered in Ch. 10 Sec. 11.1, 11.2, 11.3

11/25	Sec. 11.3, 11.4 **Quiz 12** ***Holiday: Thanksgiving Holiday and Break 11/28-11/30***
	Faculty Evaluations: 11/22 – 12/13
12/2	11.4 and maybe do 11.5 if there's still time **Review for the FINAL EXAM** **The Final Exam is cumulative with more questions from Ch. 11.**
	Last day of Instruction for MA 204 is 12/5 Thursday
	Holiday: 12/9 Our Lady of Camarin Day
5/9	Final Exams Week (12/10-12/12) **FINAL EXAM** Date and Time TBA

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MA 204 SUGGESTED Homework Problems

Section	Numbers
5.3	7 to 48
5.4	5 to 18, 21 to 46, 59 61
5.5	1 to 48 all, 53-73 odd
6.1	1, 4, 6, 12, 30, 32
6.2	2, 10, 12, 18, 20, 54
6.3	6, 10, 15, 19
6.4	5, 7, 14, 19
6.5	3, 9, 14, 15
7.1	3, 5, 9, 11, 18, 24, 25, 28
7.2	1, 2, 10, 21, 22, 31, 32, 41, 42, 43
7.3	4, 10, 11, 13, 14, 16, 24, 27,
7.4	7, 10, 12, 20, 24, 26, 39, 47
7.5	1, 3, 5, 7, 17, 23, 41, 45, 49, 57
7.8	7, 8, 13, 21, 28, 29, 31, 49, 52, 57
8.1	4, 6, 7, 11, 13, 19, 20
8.2	6, 7, 8, 14, 15
10.1	5, 7, 9, 11, 13, 15, 24
10.2	1, 4, 12, 17, 29, 33, 41, 62, 64
10.3	2, 4, 6, 8, 10, 12, 13, 16, 17, 24, 25, 27, 28, 47, 54, 56, 57, 61, 62
10.4	1, 2, 7, 10, 17, 23, 31, 41, 47
10.5	2, 4, 6, 8, 10, 12, 14, 17, 18, 20, 22, 24, 32, 36, 38, 42, 44, 46
9.1	1 to 5
11.1	8, 10, 14, 16, 18, 24, 28, 34, 40, 42, 46, 53, 56, 72, 74, 76, 78
11.2	15, 17,18, 20, 22, 23, 25, 27, 30, 32, 36, 38, 40, 43, 44, 45, 46, 52, 54, 58, 60, 68
11.3	5, 7, 11, 17
11.4 and 11.5	TBD

UOG Station, Mangilao, Guam 96923
T: 671.735.2006 | F: 671.734.4600 | www.CNAS-RE.uog.edu

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REDO and REVISION Policy for MA 204:

- You can redo a total of **Seven problems** from any of the Quizzes. I decide on what count as "One problem". This depends on certain quizzes. It can be number labeling, or if a quiz consists of many parts (letter labeling a,b,c,), then I will let you know which counts as "One" problem".

- You are not allowed to redo True/False questions and not allowed to redo Multiple Choice questions. You can only redo questions with computational work.

- Redo is different from Make-Up work. For Excused Absence, you can make up the work first and then redo a problem later if it is not passed the deadline to redo.

- You can redo "One problem" in Exam 1 and another in Exam 2. But no redoes on the Final Exam. I decide on what counts as "One problem".

- To submit your redo, you must first discuss with me during class or during my office hours, and then you can submit the correction.

- The deadline for redoes for a quiz or exam will be announced in class.

Learning is all about revision.