**MATH 226-W01, M01, W101 – Calculus and Analytic Geometry II**
**Spring 2024 Syllabus**

**Instructor:** Grant Kopitzke
**Office:** 087-B (Wausau Branch Main Building)
**Phone:** None
**Email:** gkopitzk@uwsp.edu

**Classroom:** Wausau 191, Marshfield 126
**Class Meeting Time:** 8:00 – 8:50 MTWRF

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**Office Hours:** Office hours are a time I set aside each week for any of my students to come to my office to meet with me and get their course-related questions answered. My office hours this semester will be 12:00-1:00 MTWR in my office (location listed above). If attending office hours in person, you can drop in unannounced. Some Wednesdays I will be at the Marshfield campus. You'll be notified of these dates in class. When I'm in Marshfield, students in section M01 can feel free to meet with me in person.

If you are not attending classes physically at the Wausau campus, then please feel free to attend office hours virtually via Zoom. To do so, please send me an email asking to meet, and I'll send you the link to the Zoom room.

**Textbook:**
*Calculus, Early Transcendentals, 8th ed.*, (7th or 9th edition is okay too) by James Stewart.
ISBN#: 978-1-305-27003-6. You can also use the "enhanced" textbook that includes the chapters for Calc III with ISBN#: 978-1-285-74155-0.

**Calculators:**
A graphing calculator is recommended for this course. Calculators with a Computer Algebra System (CAS) will not be allowed on exams because they allow students to bypass the learning process and write down answers to problems without understanding the full solution. This includes the TI-89, TI-Voyage 200, TI Nspire CAS CX, and TI Nspire CAS CX II. Calculators that are permissible include the TI-83 and TI-84. The most cost-effective graphing calculator that I am aware of is the Casio fx-9750GIII (about $45).

**Course Content:**
- We first develop integration techniques beyond simple substitution: integration by parts, trigonometric substitution, partial fractions, dealing with improper integrals, the use of Computer Algebra Systems and Numerical Methods. Next, we use integration to solve problems of arc-length, areas of surfaces of revolution, centers of mass of thin plate objects, probability, and some problems from economics, e.g., consumer surplus and measures of economic inequality.
- Next, we discuss parametric and polar representation of curves in the plane and how to obtain tangent lines, compute areas bounded by curves, arc lengths and volumes and surface areas of solids of revolution. We also study conic sections in rectangular and polar form.
- Thirdly we will study infinite sequences and series and convergence tests. We define functions by power series and compute their intervals of convergence, their derivatives and antiderivatives and learn how to obtain power-series representations for most common types of functions.
- Finally, we will study the use of differential equations for modeling and solving separable and linear first-order differential equations. We will also begin the study of vector algebra and lines and planes in 3-space as time allows.

**Grades:**

| | |
|---|---|
| **Attendance** | **5%** |
| **Quizzes** | **10%** |
| **Four Exams** | **60%** |
| **Final Exam** | **25%** |
| **Total** | **100%** |

**Communication:** All communication will be conducted in class, on Canvas, or via email. I expect you will all check Canvas and your UWSP email at least once a day at minimum, but preferably twice a day. I recommend downloading the Microsoft Outlook app on your phone and logging into your UWSP email on there so you will be notified immediately when you receive an email or Canvas message.

**Attendance (5%):**
There are two sections of this course:
W01 – students who are enrolled in the course at the Wausau campus.
M01 – students who are enrolled in the course at the Marshfield campus.

I will generally be teaching from the classroom at the Wausau campus but will occasionally drive to Marshfield to teach from there on a Wednesday.

Students enrolled in section W01 will be expected to attend class in-person at the Wausau campus, and actively participate in class. Students enrolled in section M01 will be expected to attend class in-person at the Marshfield campus, and actively participate in class.

I have taught this class a number of times and have found that most students who do not get a passing grade all share one thing in common – they had poor attendance. For that reason, attendance will be incentivized by counting as 5% of your grade in the course.

**Homework (Extra Credit):**
Appropriate problems from the text will be assigned as concepts are covered and will be posted to Canvas. You should attempt all of these in an organized homework/notes notebook and bring any questions or comments for discussion at the start of the next class. Your homework from each unit will be spot checked each week (checked for completion – not correctness). You will need to download a PDF scanner app to upload your homework solutions – only PDF files will be accepted on Canvas. If you have an iPhone, I recommend using Evernote Scannable. If you have an Android phone, I recommend using Microsoft Lense or Adobe Scan.

If you have attempted at least 80% of the homework problems in the unit immediately prior to a given exam, and I have confirmed that proportion in a homework spot check (prior to the exam), then you will receive 5 points of extra credit toward the corresponding unit exam. Homework checks will be conducted on Canvas, and scans of your homework must be uploaded as PDF files.

**Quizzes (10%):**
There will be a take-home quiz (available on Canvas) that you will be expected to do (roughly) each week – except for weeks in which we have an exam. These quizzes will contain questions that are closely related to concepts covered in the previous few days' homework and topics covered during class. Paying attention and doing assigned homework problems should prepare you well for these quizzes. The quizzes will be available on Canvas for a few days. Once you begin the quiz, you'll have 90 minutes to complete all the problems on scratch paper and upload a picture/scan of your solutions to Canvas. Uploads must be as JPG, PNG, DOC, DOCX, TEX or PDF files. These are the only file formats that Canvas will accept. If I cannot open the file, you'll receive a 0% on that quiz. There will be no rescheduled quizzes except for extenuating circumstances. The

quizzes are open-book and open-note, but you will not be allowed to use the internet, phone apps, or help from others. If I determine that one of those unallowed resources has been used, then you'll receive a 0 for that quiz. Repeated incidents will be reported to the school, and disciplinary action may be taken.

**Midterm Exams (60% - 15% each):**
There will be (approximately) four in-class one-hour exams given on or near the dates listed in the course schedule on the opposite page. There will also be a two-hour comprehensive final exam at the date and time listed in the schedule at the end of this document. All exams will be closed-book and closed-note. You may use a non-CAS graphing calculator on your exams, but no other resources will be allowed. For students enrolled in the W01 section, you will be expected to take all exams in-class at the Wausau campus at the scheduled times. For students enrolled in the M01 section, you will be expected to take all exams in-class at the Marshfield campus at the scheduled times.

**Final Exam (25%)**:
We will have a two-hour cumulative final exam that will take place at the date and time scheduled by the Registrar. You will be able to use a 1-page, 1-sided note sheet on this final exam and a non-CAS graphing calculator. There will be no extra credit opportunities on the final exam.

**Policy on Missed Exams:**
If a conflict prevents you from taking an exam, you should contact me well before the exam, if possible, and arrange for an early exam. Not all absences will be excused. The following list is the most common excused absences that may be accommodated:
1. An illness with a doctor's note submitted to the instructor prior to the date of the exam.
2. A documented school athletics event.
3. Jury duty or a court date, with documentation.
4. Military obligations, with documentation.

**Canvas Closure:**
Our course Canvas page is set to automatically deactivate at midnight on the day of our final exam. To see your final grade in the course, you will need to look on accesSPoint.

**Academic Misconduct:**
All students are expected to know the UWSP Community Rights & Responsibilities, and the Student Academic Standards and Disciplinary Procedures found on the Dean of Students webpage at

https://www.uwsp.edu/dos/Pages/Student-Conduct.aspx

Any instances of perceived academic misconduct will be investigated following the Student Academic Disciplinary Procedures:

https://www3.uwsp.edu/dos/Documents/UWS%2014-1.pdf

**Grading Scheme:**

| Course Grade (%) at or above a: | 93% | 90% | 87% | 83% | 80% | 77% | 73% | 70% | 67% | 60% |
|---|---|---|---|---|---|---|---|---|---|---|
| Will receive at least a grade of: | A | A- | B+ | B | B- | C+ | C | C- | D+ | D |

If I feel your grade in the gradebook on Canvas is not reflective of your true performance in the class, I reserve the right to bump up your grade by a small amount. This happens very rarely, and only in extenuating circumstances. Under no circumstances will a final course grade be lower than the grade shown in the Canvas gradebook.

**Tentative Schedule for the Semester (subject to change)**

| Week | Sections | Content |
|---|---|---|
| Jan 22 | 7.1, 7.2 | Preview of the course, Integration by parts, Trigonometric Integrals. |
| Jan 29 | 7.2-7.4 | Trig. Integrals, Trig-Substitution, Partial Fractions |
| Feb 5 | 7.5-7.8 | Approximation & Improper Integration |
| Feb 12 | 9.1-9.3 | ODE's, Slope Fields, Separable Equations |
| Feb 19 | 9.4, 9.5, **Exam I** | Linear Equations, Exam 1 |
| Feb 26 | 81-8.5 | Arc Length, Surfaces of Revolution, Applications in Physics, Econ & Probability |
| Mar 4 | 10.0-10.4 | Parametric and Polar Equations |
| Mar 11 | 10.5, **Exam II** | Conic Sections & Exam 2 |
| Mar 18 | Spring Break | XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX |
| Mar 25 | 11.1-11.3 | Sequences & Series |
| Apr 1 | 11.4-11.6 | Tests for Convergence |
| Apr 8 | 11.7, **Exam III** | Absolute Convergence, Exam 3 |
| Apr 15 | 11.8-11.10 | Power Series, Power Series Representations |
| Apr 22 | 11.10-12.2 | Taylor's Theorem, Taylor's Inequality, Intro to Vectors |
| Apr 29 | 12.2-12.5 | Vectors in two and three-space, dot products and cross products. |
| Apr 06 | **Exam IV,** Final Exam Review | |
| Apr 13 | **Final Exams** | |

**Religious Beliefs:** Students' sincerely held religious beliefs will be reasonably accommodated with respect to all examinations and other academic requirements. According to UWS 22.03, you must notify the instructor within the first three weeks of classes about specific dates which require accommodation. See the link below: https://www.uwsp.edu/dos/Documents/UWS CHAPTER 22.docx

**UWSP Technology Support:**
• Seek assistance from the IT Service Desk
o IT Service Desk Phone: 715-346-4357
o IT Service Desk Email: itsvdesk@uwsp.edu

**University Policy Regarding Students with Disabilities:** Information regarding Section 504 of the Rehabilitation Act or the Americans with Disabilities Act can be found at the UWSP Disability and Assistive Technology Center site: https://www.uwsp.edu/datc