Calculus II F25

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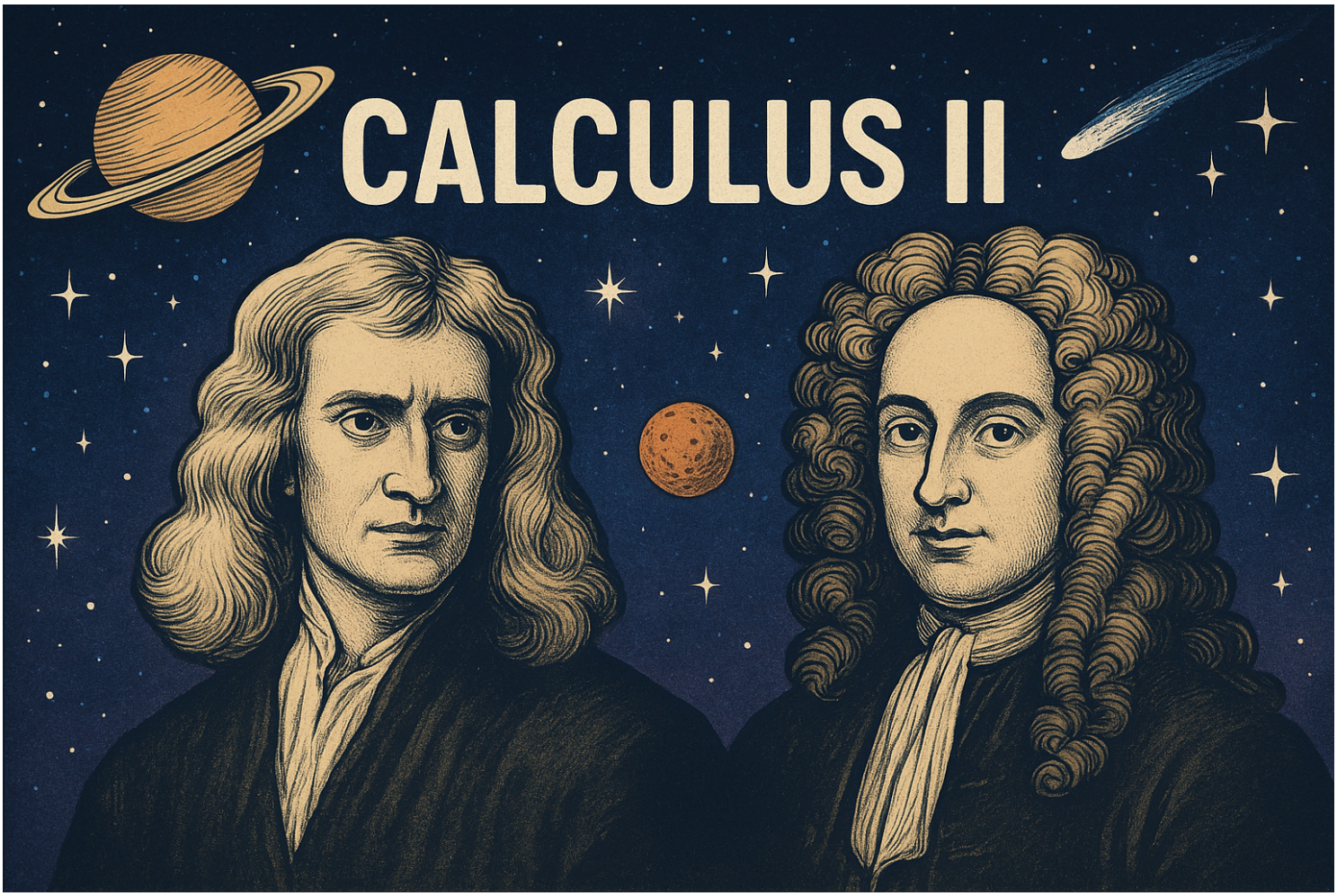

(Attribute for the image: AI generated- This is Isaac Newton and Brook Taylor (of Taylor series).

Course Description:

A continuation of Mathematics 125, covering techniques for computing indefinite integrals, applications of the definite integral, infinite sequences and series, Taylor polynomials and power series.

Course Instructor Details:

- Prof. Douglas Hundley
- Office: Olin Hall, Room 222
- Email: hundledr@whitman.edu

- Office hours: To be announced (should be available through your MyWhitman page, but it will be updated here as well)

Websites

- We'll be navigating through three websites. One will be this Canvas site, one will be Webwork, and I'll also maintain an external website here:
- External Website: **http://people.whitman.edu/~hundledr/courses/M126.html (http://people.whitman.edu/~hundledr/courses/M126.html)**
- On the external website, I'll post the course materials (syllabus, handouts, etc). This makes them accessible to you should you ever need to access them in the future without Canvas.
- We'll discuss homework below, but we'll have a few problems to do online in "Webwork" (linked from the Assignments page), and some problems to do on your own.

Student Learning Outcomes:

Upon successful completion of the course, students will be able to:

- construct the antiderivative of a function.
- evaluate an integral by using its definition.
- evaluate an integral geometrically or by using symmetry.
- evaluate integrals using a variety of integration techniques including integration by parts, partial fraction decomposition, trigonometric substitution and others.
- evaluate improper integrals.
- prove convergence or divergence of sequences and series such as alternating series, harmonic series, Maclaurin and Taylor series, and power series and determine radius and intervals of convergence.
- construct power series representations of functions, derivatives, and integrals.
- Time permitting, we may also look at differential equations.

This course satisfies the College's Quantitative Analysis requirement. In particular, the learning goal is: "Perform computations associated with a model and make conclusions based on the results". This learning outcome will be assessed as part of the course.

Course Content:

We'll be covering sections 1.1-1.6, 2.1-2.6, 3.1-3.7, 5.1-5.6, and 6.1-6.4. Time permitting, we'll also look at some of Chapter 4.

Textbook:

Your textbook for this class is available for **free** online (something new we're trying out):

Calculus, Volume 2 from OpenStax (https://openstax.org/details/books/calculus-volume-2), ISBN 1-947172-14-X

You have several options to obtain this book:

- View online (https://cnx.org/contents/1d39a348-071f-4537-85b6-c98912458c3c) (Links to an external site.)
- Download a PDF (https://d3bxy9euw4e147.cloudfront.net/oscms-prodcms/media/documents/CalculusVolume2-OP.pdf) (Links to an external site.)

You can use whichever formats you want. Web view is recommended -- the responsive design works seamlessly on any device. It is possible to get a printed version of the book- Amazon sells them at a relatively low price, for example.

Use of technology

- **Calculators**: No calculators will be allowed on exams or quizzes, but you can use them for homework.
- **Use of AI (Large Language Models, like ChatGPT)**: There are appropriate ways to use this technology. We'll discuss this in class more in depth on the first day, and that will be followed up with an addendum to this syllabus (by the end of the first week).

Grading:

Grading for the class will be based on homework, quizzes, and exams.

- Homework: There will be two homework sets per section. One will be online using Webwork (we'll discuss this in class, and some other problems are from our text. Your grade will come from Webwork, and the homework is due within one week of being assigned (no late homework will be accepted). If you miss some of the Webwork assignments, you'll be given an opportunity during the last week of class to do them. This homework is worth 10% of your overall score.
- Quizzes: In addition to Webwork, I'll give you a few problems each section to look at (see the course calendar, and I'll announce them in class). The quiz each week will be directly from this set of problems, so it is important to do them as they are assigned. Quizzes are typically 15-20 minutes at the end of class on Wednesdays (except week 1 and exam weeks). You may drop

your two lowest quiz scores, and the average of the remaining quizzes will be worth 20% of your overall score.

- Exams: There will be three exams during the course. I'll pass out some review material beforehand (typically old exams). The average of the three exams will be 50% of your overall score (so each exam is about 16.6% of your overall score).
  - **Dates:** The exams will be on Sep 24, Oct 24 and Nov 21 (See schedule below).
- Final Exam: The final exam will be cumulative (I'll give you review material) and will be taken at the date/time set by the Registrar (we'll discuss this on the first day of class, and see the schedule below). The score on the final exam will be worth 20% of your overall score.
- **Grade cutoffs:** See the table below

A+: 99-100	B+: 88-89	C+:78-79	D+: 68-69
A: 92-98	B: 82-87	C: 72-77	D: 55-67
A-: 90-91	B-: 80-81	C-: 70-71	F: 54 and below

  - At times, I have lowered the points by a small amount, but will never raise them (so for example, to guarantee yourself a B or better, aim for at least 82%).

Other Class Policies

Absence from class

It is very important that you attend every class session, especially on days that assessments are made. If you are very ill, you should stay home and let me know immediately. If you are feeling a bit under the weather, then you should practice good hygiene and wear a mask to class, wash your hands frequently, and still come to class. If you miss more than one assessment, you may get a penalty on that assessment (waived for athletics). At the beginning of the semester, I won't be taking attendance, but that may change with advance notice.

Religious Accommodations Policy:

In accordance with the College's Religious Accommodations Policy, I will provide reasonable accommodations for all students who, because of religious observances, may have conflicts with scheduled exams, assignments, or required attendance in class. Please review the course schedule at the beginning of the semester to determine any such potential conflicts and let me know by the end of the second week of class about your need for religious accommodations. While I am happy to provide such accommodations, I understand that asking a faculty member for assistance can be intimidating; if that's the case, you can contact your academic advisor or Whitman's Interfaith Chaplain, for support in making this request. If you believe that I have failed to abide by this policy, here is a link to **the grievance policy (https://www.whitman.edu/human-resources/grievance-policy)** where you can pursue this matter.

Academic Honesty and Plagiarism

Academic standards will be *strictly adhered* to as outlined in your student handbook. This means that cheating will not be tolerated. Looking at another student's exam or quiz (whether or not you mean to copy answers) while taking it will be considered cheating. Any incidents will be referred to the Dean of Students, as outlined in your student handbook. In general, if you turn something in for a grade using work that is not your own (that includes something that is AI generated), that constitutes a violation of the academic honesty policy of the College.

Academic Resource Center (ARC):

If you need any assistance studying, tutoring is available. There may be individual tutors available through the ARC, and we will also have Calculus tutors available on a couple of nights per week at the STEM hub (in the Science building). This usually takes a couple of weeks to set up, so I'll let you know when it's available.

Disability Support Services

Some students qualify for accommodations for assessments. These need to be arranged well in advance through the Disability Support Services office (new this semester).

Assistance

Please come by my office (Olin 222) if you have any questions about anything. I'll definitely be around during the posted office hours, but generally, any time my office door is open (and I'm not already talking to someone), then feel free to come in and chat.

How will the course be organized?

- **Before class:** Read the section, work through some examples.
- **During class:** There may be some short recaps, but primarily this time is for discussion and problem solving- it will be important that you're prepared for the topic before coming to class!
- **After class:** Do the Webwork assignment, and take a look at the other 2-3 problems assigned for the quiz. That way, the day before the quiz, you just need to quickly look them over.

Course Schedule

The proposed course schedule is given below. It may change during the semester, but this is generally where we should be- I will announce which sections we're covering each day in class.

	Monday	Wed	Fri
Week 1	9/1 No class	9/3 Syllabus Calc 1 Review	9/5 Calc 1 Review Sect 1.1

Week 2	9/8 Sect 1.1	9/10 Sect 1.2	9/12 Sect 1.3
Week 3	9/15 Sect 1.4	9/17 Sect 1.5	9/19 Sect 1.6
Week 4	9/22 Catch up/Review	9/24 **Exam 1**	9/26 Sect 2.1
Week 5	9/29 Sect 2.2	10/1 Sect 2.3	10/2 Sect 2.4
Week 6	10/6 Sect 3.1	10/8 Sect 3.2	10/10 No Class Oct Break
Week 7	10/13 Sect 3.3	10/15 Sect 3.3/4	10/17 Sect 3.4
Week 8	10/20 Sect 3.7	10/22 Midsemester Catchup/Review	10/24 **Exam 2**
Week 9	10/27 Sect 5.1	10/29 Sect 5.2	10/31 Sect 5.3
Week 10	11/3 Sect 5.4	11/5 Sect 5.4/5	11/7 Sect 5.6
Week 11	11/10 Sect 6.1	11/12 Sect 6.2	11/14 Sect 6.3
Week 12	11/17 Sect 6.3	11/19 Catchup/Review	11/21 **Exam 3**
Week 13	12/1 Sect 6.4	12/3 4.1/4.2	12/5 Pickup Ch 2
Week 14	12/8 Pickup Ch 2	12/10 Integration Practice	12/12 Final Exam Review

Final Exam Schedule:

The times for the final exams are scheduled by the Registrar's office. Currently, these times are:

- Section A (9AM MWF): Wed, Dec 17th, 2-4PM
- Section B (10AM MWF) : Tue, Dec 16th, 9-11AM

These will be given in the same room as always.