

# Math 163: Calculus III in Fall 2023

10-10:50am in 17-101 M – F (Item #23841)

11-11:50am in 17-101 M – F (Item #23844)

## Syllabus

### Instructor Information

- i. Instructor: Dusty Wilson
- ii. Office: 26-306
- iii. Phone: 206-592-3338
- iv. Office Hours (also available by drop in or by appointment):
  - Monday: 8-9:50 am (My office: 26-306)
  - Tuesday: 8:40-9:30 am (MRC: 25-6)
  - Wednesday: none
  - Thursday: 8:40-9:30 am (MRC: 25-6)
  - Friday 8:40-9:30 am (MRC: 25-6)
- v. home page: <http://people.highline.edu/dwilson>
- vi. e-mail: [dwilson@highline.edu](mailto:dwilson@highline.edu)

### Course Description

Third quarter of the Calculus sequence. Topics include calculus of parametric equations, lines, planes and vectors in  $R^3$ , the calculus of vector-valued functions power series, and Taylor expansions, partial derivatives, gradient vector and introduction to double integrals.

### Student Learning Outcomes

- i. Compute equations of lines and planes.
- ii. Solve applications of space curves, including arc length, curvature, and the tangential and normal components of acceleration.
- iii. Calculate power series expansions and approximate functions using Taylor polynomials.
- iv. Determine domain and level curves for functions of several variables.
- v. Calculate gradients, partial, and directional derivatives for functions of several variables and interpret their meaning.
- vi. Construct and evaluate double integrals in rectangular coordinates.
- vii. Compute numerical approximations using linearization of functions of several variables.

### Text

*Calculus, Early Transcendentals (8<sup>th</sup> ed.)*, by James Stewart.

### Prerequisite

Math 152 with a minimum grade of 2.0.

### Calculators

A graphing calculator is required for this course.

- i. The TI-84 calculator is recommended. The use of symbolic calculators may not be allowed during assessments/exams. Furthermore, the use of all calculators may be prohibited during some assessments/exams (forewarning will be given).
- ii. Very limited class time will be spent explaining the use of calculators.
- iii. Calculators may be rented from the Math Department through the Library.

### Check your understanding

- i. **Enhanced Web Assign:** You can practice and check your understanding with questions administered online thru EWA. The website is: <https://www.webassign.net/wa-auth/login>
- ii. **Login:** You should be able to access WebAssign through Canvas.
- iii. **Cost:** There is a free two-week trial period. You will need to purchase access to the platform when the trial period ends.

### Attendance

- i. Most of our time will be spent working questions together on the whiteboards. This is active thinking time.
- ii. Attendance will be taken many (but not all) class days.
- iii. To receive full attendance, you must be on time and stay for the duration.
  - i. Two absences are allowed without penalty. You can get a little extra credit if you miss less than this.
  - ii. Please talk to me if you are sick: You shouldn't come to school if you are sick and we will find a way to excuse days missed due to illness.

### Discussion Seminars

- i. There will be an opportunity to read an article or watch a video related to math, philosophy, history, studenting, etc. You will respond in writing to provided prompts and then discuss the article/video and your writing with your peers.
- ii. Half the credit in this category will be for preparation for the seminar (measured through submitting notes online before class) and the other half for attendance (this portion cannot be made up because it involves discussion).
- iii. One assignment score will be dropped.

### Assessments

There will be (near) weekly assessments:

- i. The assessments will be cumulative, but will emphasize recent material.
- ii. The length/value of the assessments will vary but will typically be about 30 minutes.
- iii. Your lowest assessment score will be dropped.
- iv. All assessments must be taken during the scheduled class time.
  - Other arrangements can be made under special circumstances.
- v. Spoken and written communication as well as sharing of calculators during exams is prohibited.

### Slack Assignments

- i. We will Slack to communicate, share work, coordinate schedules, and for reminders. Slack is sort of like Discord, but is often used in professional settings which is why I've chosen to use it. Other classes use discussion boards, we are using Slack.
- ii. Slack: There are four channels we will use on Slack.
  - General: This is where I will make announcements and you should ask general questions about the class (i.e., What sections are on the Assessment?).
  - Check: This is where you will post questions and answers to check your understanding.
  - Study groups: This is where you can post about upcoming study groups.
  - Random: You can post about club meetings, off campus gatherings, and fun stuff.
- iii. At least once each week you will make a post on Slack regarding homework. This can be a "check understanding" question, "check understanding" solution, or a response to a classmate's question.

- These are graded for completion.
  - There is a 10% bonus if you respond to a classmate's question.
  - Take a screenshot of your response (including your name and date). Save it as a pdf, and upload this into Gradescope.
  - You will be posting "Check my understanding" questions/responses. This is also where I will make announcements and can best be asked questions outside of class.
- iv. Assignments will be submitted in Gradescope. One assignment score will be dropped.

### **Gradescope**

- iv. Some work will be submitted (and returned) through a free program called Gradescope. It is similar to uploading into Canvas, but is designed for math/science classes and so easier for me to administer.
- iii. Weekly Slack Assignments (explained below) are submitted via Gradescope.
- iv. Assessment and discussion seminar work will be graded and returned via Gradescope.

### **Working remotely and illnesses**

It is a brave new world where we face new challenges such as Covid-19 while also having many new tools and skills in the areas of teaching and learning:

- i. Attending class in person is a good thing.
- ii. Lessons will generally be available online:
- For when you are sick and unable to attend class 😞.
  - For when you want to review a lesson 😊.
  - For when you can't (or don't want to) make it to class 😊.
  - For when face-to-face class is cancelled because I am sick or otherwise unable to teach 😞.
- iii. Assessments, exams, and discussion seminars must be attended face-to-face. Plan accordingly. These cannot be completed remotely.<sup>1</sup>
- iv. Because assessments must be completed in person, one score is dropped. Special circumstances can be addressed on a case-by-case basis.

### **Final Exam**

A comprehensive final exam will be held in the regular class meeting room. See the quarterly class schedule for dates and times. The final exam is mandatory and a grade of 0.0 may be assigned at the instructor's discretion to those who fail to take the final exam.

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<sup>1</sup> Perhaps it goes without saying, that remote options would be available should on campus classes be cancelled. Similarly, please talk to me if you have a prolonged illness (or the like).

## Grading

Attendance: 5%, Slack Assignments: 5%, Discussion Seminars: 5%, Assessments: 55%, and Final Exam: 30%. GPA's will be given according to:

95-100%	4.0	%%	GPA	%%%	GPA	%%	GPA	%%	GPA
93-4%	3.9	81%	3.1	73%	2.3	65%	1.5	57%	0.7
91-2%	3.8	80%	3.0	72%	2.2	64%	1.4	0-56%	0.0
89-90%	3.7	79%	2.9	71%	2.1	63%	1.3		
87-8%	3.6	78%	2.8	70%	2.0	62%	1.2		
85-6%	3.5	77%	2.7	69%	1.9	61%	1.1		
84%	3.4	76%	2.6	68%	1.8	60%	1.0		
83%	3.3	75%	2.5	67%	1.7	59%	0.9		
82%	3.2	74%	2.4	66%	1.6	58%	0.8		

## Policies and Notes

- i. **Attendance:** You are responsible for all material covered in class including all announced changes to the schedule and assigned course work. (If you miss class, *you* are still responsible for everything in class).
- ii. **Devices:** Smart non-human devices are banned during assessments and tests.
- iii. **Math Resource Center:** Cost-free mathematics tutoring is available at the MRC. The MRC is located on the sixth floor of the library (Bldg 25).
- iv. **Faculty Advising:** Highline College instructors are a wonderful resource for students at any stage of the academic process. Many Highline instructors have career experience, are knowledgeable about campus resources, and can assist students in reaching their educational goals through degree planning. If you have an advising question, feel free to approach your instructor. If your instructor cannot answer your question, s/he will help you find someone who can.
- v. **Honors:** Highline College offers opportunities for students to participate in an Honors Program tailored to their pathways. Students who fulfill all Honors Program requirements may become eligible for a scholarship during their final quarter and receive recognition at Highline's commencement ceremony.  
If you are interested in the Honors Program, I invite you to pursue an honors project in this class. Please approach me within the first three weeks of the quarter, and we will work together to develop a plan for completing an advanced academic or professional project. After completing the project and earning a 3.5 GPA in this course, an "honors" notation will appear on your official Highline transcript.
- vi. **Academic Dishonesty:** Cheating, plagiarism, and other forms of academic dishonesty are unacceptable at Highline College and may result in lower grades and/or disciplinary action. It is both your right and responsibility to be familiar with the document entitled: Student Rights and Responsibilities code WAC 132I-1210 adopted by the Board of Trustees of Community College District 9 on December 13, 2007. This is available in the counseling center.
- vii. **Access Services:** Your experience in this class is important to me. If you have already established accommodations with Access Services, please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs in this course. If you have not yet established services through Access Services but have a temporary health condition or permanent disability that requires accommodations (conditions include but are not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact Access Services at 206-592-3857, access@highline.edu or access.highline.edu. Access Services is located on the 5th floor of the Library, Building 25, Room 531.

- viii. **Emergency Procedures:** In the event of an emergency, follow your instructor's directions. If you are told to evacuate the building, take your valuables because you may not be allowed to re-enter. Do not leave campus until your instructor or another campus official tells you to do so. If you may need assistance evacuating, notify your instructor today. To prepare yourself for an emergency, review the evacuation map on the last page of the emergency placard in your classroom and subscribe to HC Alert at <https://hctextalerts.highline.edu/>.
- ix. **Final Exams:** Your completed final exam will not be returned to you. It belongs to the instructor. However, you may (and should) review your final exam by stopping by the instructor's office the next quarter.
- x. **School Policies:**
  - i. The Student Rights and Responsibilities Code: A legal document that describes college expectations, students' rights, and outlines the process for resolving disciplinary matters and Code violations. <http://studentservices.highline.edu/srr.php>
  - ii. The College Catalog: Lots of fine print about grades, deadlines, and resources can be found in the catalog at: <http://catalog.highline.edu/>
- x. **Important Dates (dates should be verified online):**
  - i. September 29<sup>th</sup>: Last Day for 100% Tuition Refund
  - ii. October 4<sup>th</sup>: FAFSA/WASFA deadline for Winter financial aid
  - iii. October 6<sup>th</sup>: The last day to drop without incurring a "W"
  - iv. November 2<sup>nd</sup>: The beginning of registration for Winter Quarter
  - v. November 17<sup>th</sup>: The last day to officially withdraw with a "W"