

**Item #6510**  
**Spring 2017**

**Math 254**  
**17-101**

**Multivariable Calculus**  
**M – F: 10 – 10:50am**

**Instructor:** Dusty Wilson  
**Office:** 29-341  
**Phone:** 206-592-3338  
**Fax:** 206-870-4803  
**Office Hours:** Monday: 8-9:50, Tuesday: 9-9:50, and Thursday 8-9:50 (9am in MRC)  
**home page:** <http://people.highline.edu/dwilson>  
**e-mail:** [dwilson@highline.edu](mailto:dwilson@highline.edu)  
**facebook:** [facebook.com/dustywwilson](https://www.facebook.com/dustywwilson)

**Course Description:** (5 credits) Multivariable calculus. Topics include partial derivatives, multiple integrals, cylindrical and spherical coordinates, line and surface integrals, Green's Theorem, Stokes' Theorem, and the Divergence Theorem.

**Course Objectives:** *The student will be able to ...*

- Calculate partial derivatives
- Calculate the gradient and directional derivatives
- Evaluate line and surface integrals
- Apply Green's Theorem, Stokes' Theorem, and the Divergence Theorem
- Evaluate multiple integrals in rectangular, polar, cylindrical, and spherical coordinate systems

**Text:** *Calculus, Early Transcendentals* (8th ed.), by James Stewart.

**Prerequisite:** Math 153 with a minimum grade of 2.0.

**Schedule:** We will cover three chapters in this course with group quizzes midway through each chapter and an exam around the end of each topic. Most sections in chapters 14 and 15 will be covered in 1 class day with two class days allotted to sections in chapter 16. To maintain this pace, you will need to read the beginning of each section carefully and skim it in its entirety. There are reading guides for many sections.

**Calculators:** A graphing calculator is required for this course.

- i. The TI-84 is recommended. The use of symbolic calculators such as the TI-89 or *nSpire* CAS will not be allowed during exams. Furthermore, the use of all calculators may be prohibited during some 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 on a first come first serve basis.

**Reading Assignments:** There are recommended readings for this class.

- i. This class moves quickly. Most students will benefit by reading the text ahead of the lectures.
- ii. To help with the readings, I will supply guides to direct you to relevant and understandable parts of the text.
- iii. These are not graded, but I believe will help you get the most from the course (in terms of both understanding and enjoyment).

**Intro Assignment:** The first section in each chapter is introductory. I will supply a reading guide and assign homework exercises, but will not lecture on sections 14.1, 15.1, and 16.1.

**Online Homework:** The format and grading criteria for the online homework is as follows.

- i. **Enhanced Web Assign:** Graded homework will be administered online thru EWA. The website is: <https://www.webassign.net/login.html>  
**EWA Class Key:** highline.cc.wa 9938 7173 (You can try it out for two weeks).
- ii. **Many submissions:** You may make up to five submissions on most problems.
- iii. **Bonus:** If you complete homework exercises 24\*/48\*\*/72\*\*\* hours in advance of the deadline, you will earn a 5% bonus on the problem.
- iv. **Extensions:** 24 hour extensions are available *for two weeks after the original due date* (no later than the final exam). There is a 20% penalty on exercises completed with the extension.

**Homework Quizzes:**

- i. Homework quizzes will assess you on questions *exactly like* homework exercises (though the numbers may change) and will be based upon recently completed online homework.
- ii. Homework quizzes are open note (you may use your completed homework to help answer the questions).
- iii. Homework quizzes will last at most five minutes, begin at the outset of class, and may not be made up or taken late.
- iv. Your lowest score will be dropped to account for illness or other absences.
- v. Spoken and written communication as well as sharing of calculators is prohibited.

**Quizzes:** See the schedule for the tentative dates and times.

- i. It is very important that you are on time for group quizzes. If you are more than five minutes late, there will be a penalty. 5 minutes => 5% penalty. 6 minutes => 6% penalty ...
- ii. There are no make-up quizzes. If you miss a quiz, 75% of your next quiz will be used in its place (you must remind me). If you miss a second quiz, a score of 0% will be assigned.

**Tests:** There will be three tests given during the quarter.

- i. The exams will be cumulative, but will emphasize the material covered since the last test.
- ii. If you miss a test, a score of 0% will be assigned. All tests must be taken during the scheduled class time. *No make-up tests.*
- iii. Spoken and written communication as well as sharing of calculators during exams is prohibited.

**Final Exam:** A comprehensive final exam will be held in the regular class meeting room. The date and time of the final are listed in the quarterly. 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.

**Grading:** Homework: 10%, Homework Quizzes: 5%, Quizzes: 5%, Exams: 50%, 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:** The use of non-human smart gadgets in class is discouraged (except when requested).
- iii. **Math Resource Center:** Cost-free mathematics tutoring is available at the MRC. The MRC is located in building 26, room 319.
- 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. **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.
- vi. **Special Concerns:** If you have any special concerns about this class, please talk to me personally in my office. The more I know about you individually, the more I can help you be successful in this course. If you need course adaptations or accommodations because of dis-Ability; if you have emergency medical information to share with me; or if you need special arrangements in case the building must be evacuated, please provide me with the Letter of Accommodation you have received from the Office of Access Services. Access Services is located in Building 99 in the Student Development Center.
- vii. **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/>).
- viii. **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.
- ix. **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. April 7<sup>th</sup>: Last Day for 100% Tuition Refund
  - ii. April 6<sup>th</sup>: Financial Aid Applications for Summer Quarter are due and April 10<sup>th</sup>: Financial Aid Applications for Fall Quarter are due. For more information about Financial Aid, see <https://financialaid.highline.edu/>
  - iii. April 21<sup>st</sup>: The last day to drop without incurring a "W"
  - iv. May 9<sup>th</sup>: The beginning of registration for Summer and Fall Quarters
  - v. May 26<sup>th</sup>: The last day to officially withdraw with a "W"