Syllabus.
MATH-192-5361: Calculus I, Fall 2021.

Instructor Information Including Contact Information.

Instructor Name: Kit Newton.
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Office: MA-128
Phone: 925-969-2674

Office Hours and Location:
Monday 2:30 PM – 4:00 PM (Zoom)
Tuesday 11:15 AM – 12:30 PM (in person)
Wednesday 12:35 PM – 1:35 PM (in person)
Thursday 11:15 AM – 12:30 PM (in person)
In person office hours will be held in my office on Diablo Valley College's Pleasant Hill Campus, room MA-128. Zoom office hours will be held in my personal Zoom room, the meeting number is 697 290 8082 with the passcode "officehour", or you can use the link here.

General Course Information.

Course #: 192
Section: 5361
Days/Times: Monday,   9:30 AM – 11:00 AM
                Wednesday, 9:30 AM – 11:00 AM
Location/Instruction Mode: Off Campus/Online
Units: 5
Semester: Fall
Year: 2021

Textbook/Materials/Supplies Required.

Our recommended book is "Calculus: Early Transcendentals" by James Stewart, 8th edition, 2015. You do not necessarily have to purchase the book to participate in the class, it is available through the library. Reading will be recommended from the book. Please note that we are not using WebAssign. Homework assignments will be distributed through Canvas, no WebAssign or WebWork is required. Calculators are not required, we will use the CAS "SageMath" available free, as needed. You must wear a face mask to come to campus if you want to come to the in-person office hours. Face masks must cover the nose and mouth and fit snugly to the sides of the face, under the chin, and nose. Single layer scarfs or gaiters, masks with valves, or masks made out of mesh are not acceptable. Please see the CDC guidelines for masks if you have questions. If you do not have a mask, disposable masks will be provided. If you refuse to wear a mask or

comply with the mask guidelines, you will be required to leave campus, I will record your name and student ID number, and you will be subject to the Student Code of Conduct sanctions.

Technology: your computer needs to support synchronously joining our class over Zoom. Ideally, you have a webcam, microphone, and strong enough internet connection that we can video chat. If this isn't feasible for you, please email me and we can figure out how you can participate in the class.

Course Description.

Students will learn the elements of analytic geometry, differentiation and integration of algebraic and transcendental functions with applications. Use of a graphing calculator or a computer algebra system is required.

Course Outline.

A. Definition and computation of limits using numerical, graphical, and algebraic approache
B. Continuity and differentiability of functions
C. Derivative as a limit
D. Interpretation of the derivative as: slope of tangent line, a rate of change;
E. Differentiation formulas: constants, power rule, product rule, quotient rule and chain rule
F. Derivatives of transcendental functions such as trigonometric, exponential or logarithmic
G. Implicit differentiation with applications, and differentiation of inverse functions
H. Higher-order derivatives
I. Graphing functions using first and second derivatives, concavity and asymptotes
J. Maximum and minimum values, and optimization
K. Mean Value Theorem
L. Antiderivatives and indefinite integrals
M. Area under a curve
N. Definite integral; Riemann sum
O. Properties of the integral
P. Fundamental Theorem of Calculus
Q. Integration by substitution
R. Indeterminate forms and L'Hopital's Rule

Prerequisites.

Placement through the assessment process or MATH-191, or equivalent.

Attendance Policy.

We have synchronous class meetings online at the scheduled meeting time for our class. We will do graded activities during class that will be counted towards "Participation". If you must miss a class, please email me as soon as possible. We may be able to work out other arrangements for you to complete the graded activity.

Communication Plan for Faculty and Students.

I aim to respond to email within 24 hours during the week (not including evenings and weekends). Course related announcements will be posted on the Announcement Page on Canvas and sent to the class email list. Although I will try to make the same announcements during our class time, it will still be important for you to check your student email account and Canvas regularly to make sure you're not missing anything.

Homework and Late Submission Policies

We will have three midterm exams, twice weekly homework, twice weekly quizzes, and a final exam. During synchronous classes, we will have graded activities that will be counted towards "Participation". We will have Canvas discussion that will also count towards "Participation". If you have school or career obligations that conflict with tests, email me at least a week ahead of time for possible accommodations. If you have an emergency and must miss a test, email me as soon as possible.

Exam 2 will be an oral exam, meaning one-on-one and synchronous. I will provide a way to schedule the exam, but is the student's responsibility to schedule it. We can have the exam over Zoom, or if internet issues prevail, we can have the exam by phone. You may use a translator during the exam if needed. You may type in the chat or write answers on paper and show me, if needed.

In case of emergency, extensions on assignments may be possible. Please contact me about an extension **before** the due date/time. I will let you know if an extension has been granted and provide you with the updated due date/time. Assignments submitted after the due date/time without prior approval will receive zero credit.

Submission of Assignments

Assignments will be turned in on Canvas.

Student Learning Outcomes.

Students will be able to:

A. Compute the limit of a function at a real number.

B. Determine if a function is continuous at a real number.
C. Find the derivative of a function as a limit.
D. Find the equation of a tangent line to a function.
E. Compute derivatives using differentiation formulas.
F. Use differentiation to solve applications such as related rate problems and optimization problems.
G. Use implicit differentiation.
H. Graph functions using methods of calculus.

I. Evaluate a definite integral as a limit.
J. Evaluate integrals using the Fundamental Theorem of Calculus.
K. Apply integration to find area.

Support and Resources.

- MathLab (available remotely, see video for instructions!)
- Online Learning at DVC
- Counseling (available remotely)
- Disability Support Services (for students seeking accommodations)
- Library
- Multicultural Center
- Financial Aid (including COVID assistance)
- Basic Needs (food, shelter, health services)

Evaluation Criteria and Grading Standards.

Assignment	Percentage of Final Grade
Homework	10
Quizzes	15
Participation	10
Exam 1	15
Exam 2	15
Exam 3	15
Final Exam	20
Total	100

Grading Scale:

Grade	A	B	C	D
Score	90-100	80-89	60-79	50-59

Final grades are recorded as A=4.0, B=3.0, C=2.0, D=1.0, F=0. Grade totals will be rounded to the nearest whole number to determine the final letter grade assigned.

Syllabus Changes.

I may modify the syllabus or schedule with reasonable notice to you. Look for an Announcement in Canvas and an email.

ADA.

Diablo Valley College has Disability Support Services available. For information about accommodations for this and other courses, please visit the DSS page at the DVC website. If approved for accommodations, DSS will provide you with an accommodation plan. Please share your accommodation plan with me and discuss your approved accommodations as early in my class as possible. If your accommodation needs are not being met, please inform me and Disability Support Services as soon as possible.

Equity and Inclusion.

This class aims to be a safe and affirming learning space for all students, regardless of age, race, ethnicity, citizen status, gender, sex, sexual orientation, parental status, religion, ability, or socioeconomic status. As an instructor, I pledge to respect all students based upon these factors, including the use of preferred names and pronouns, and I encourage open communication. Students are welcome and encouraged to share any/all viewpoints relevant to course material.

Academic Integrity.

Academic dishonesty, including cheating and plagiarism, is a violation of the DVC Student Code of Conduct and will not be tolerated. This includes giving or receiving assistance on any assignment, quiz, or exam unless specifically authorized by your instructor. These actions are grounds for academic consequences, such as receiving no credit for the assignment or a reduced grade in the class, and disciplinary consequences from the college. If you have any questions about academic dishonesty or plagiarism, please see the DVC Academic Integrity Policy. Unless otherwise specified, your work in this class is individual work; helping or being helped on assessments is cheating; the penalty is up to a zero on the test for one offense, and an F in the class for a second offense.

Covid.

You do not have to attend campus to participate in this class. If you would like to come to in-person office hours, these guidelines are for you:

Please review the district COVID-19 Safety Guidelines before coming to campus:

https://www.dvc.edu/about/safety/health-advisories/covid-19-safety-faq.html

All students are required to wear a mask that covers both the nose and mouth while on campus. If a student forgets to bring or wear a mask, they will be able to get a standard surgical paper mask in labs, classrooms, division deans' offices and the Student Services Center. If a student refuses to comply with mask requirements, they will be required to immediately leave campus and may be subject to the college's code of conduct.

You are required to complete a self-assessment prior to coming to campus each day. Please review **the student self-assessment checklist.**

You are not permitted to enter the campus if:

- you are experiencing any COVID-19 symptoms. You must leave the classroom if you develop symptoms while on campus or
- you have been in close contact with, or otherwise exposed to, a known or suspected case of COVID-19 and you should not come to campus until you have been cleared to do so by a medical professional (negative test result) following current guidance from the CDC.

Tentative Schedule.

Generally, we will follow our book listed above.

Week:	Topic:	Reading:
8/23-8/27	**No class – late start class**	
8/30-9/3	Tangent lines and limits	2.1, 2.2
9/6-9/10	Calculating limits, definition of a limit, Labor Day	2.3, 2.4
9/13-9/17	Continuity, limits at infinity	2.5, 2.6
9/20-9/24	Definition of the derivative, rate of change	2.7, 2.8
9/27-10/1	**Exam 1**	
10/4-10/8	Differentiation rules	3.1 – 3.3
10/11-10/15	Chain rule, implicit differentiation, logs	3.4 – 3.6
10/18-10/22	Applications of derivatives, **Exam 2**	3.7 – 3.9
10/25-10/29	Min/max problems, mean value theorem	4.1, 4.2
11/1-11/5	Graphs, L'Hopital's rule	4.3, 4.4, 4.5
11/8-11/12	Optimization, Antiderivatives, Veterans Day Holiday	4.7, 4.9
11/15-11/19	Integrals	5.1, 5.2, 5.3
11/22-11/26	Indefinite integrals, Thanksgiving holiday	5.4
11/29-12/3	Substitution	5.5
12/6-12/10	Review and **Final Exam (Wednesday, 12/8)**	

Deadlines.

September 3rd: Last day to drop and be eligible for refund of fees.

September 6th: Last day to add, or drop without a "W"

September 23rd: Last day to request P/NP

November 12th: Last day to withdraw with a "W"