Portland Community College / Rock Creek Campus
17705 NW Springville Rd,
Portland Oregon 97229

Term/Course:	Spring 2017, Math 251 CRN:21510 Calculus I and Lab: 4 credits
Class meets:	T/Th 9am-10:20am(lecture) and 10:30am-11:50pm(Lab) in Bldg 2, RM 248
Instructor/e-mail:	Jeff Pettit, jeffrey.pettit@pcc.edu
Office:	Rock Creek Campus, Building 2, Room 244
Office Hours:	M/W 11:30am-1:30pm room 244 room 244; T/Th noon-1pm or by appointment
Contact phone:	503-867-2455(cell) Please text or leave a detailed message (include a summary of the problem for fastest reply). I return calls as soon as I can. I can only give "non-math question" replies via pcc.edu email.
Text:	Calculus Concepts and Contexts, 4 th edition by James Stewart

Important Dates:

Last day to select Audit grade option:	Fri, April 7
Last day to drop the class on-line with full refund:	Sat., April 8
Lab Set 1 (Select problems from Lab Chapters 1 & 2)	Thursday, April 20
Exam 1	**Thursday, April 27**
Written Portion of Project Submitted	Thursday May 11
Lab Set 2 (Select problems from Lab Chapters 3 - 6)	Thursday, May 18
Last day to change to P/NP or withdraw and receive a W	Sat, May 27
Exam 2	**Thursday, June 1**
Project Presentations/Displays	Tuesday, June 6 (& 8)
Final Exam / Lab Set 3 (Lab Chapters 7-9)	**Tuesday June 13**
Final grades posted no later than:	Tuesday, June 20

Course Content: The student will develop an understanding of limits, continuity, derivatives and applications of derivatives. Students will communicate their results in oral and written form. See the following link for detailed course content: http://www.pcc.edu/ccog/default.cfm?fa=ccog&subject=MTH&course=251

Lab Course Content: Lab time will be used by students to work on labs from the on line lab manual located at http://spot.pcc.edu/math/clm/. If a student has completed all assigned labs to date, lab time should be used for work on group projet work and/or textbook homework problems. Labs may be worked on together, however, students will individually write up their own formal lab sets on selected problems assigned the week before by the Instructor. An example of a formal lab set write-up will be provided.

Calculator & Materials: A graphing calculator is also required, a TI-89, TI-92+, or Voyage 200 is recommended. Casio Claspad is also acceptable. GeoGebra is also an acceptable alternative; Desmos can be used but does not include a Computer Algebra System. Other requirements include engineering graph paper and a stapler and the capacity to work with on-line math software.

Prerequisite: Successful completion of MTH 112 or CMET 131 and placement into WR121. Co-requisite: MTH 251 Lab.

Extra help: The Student Learning Center offers free tutoring. The Center is located in Bldg. 2, Rm. 212. Additional office hours are available by request. Also, feel free to contact me via text, email or telephone for additional help. PCC takes part in On-line tutoring where you can receive assistance from tutors via email and/or chat. Please see the following link for more information: http://www.pcc.edu/resources/tutoring/

Course Assessment: Grades will be based on the following:

Part 1 (Lowest score is dropped)	Part 2 (Service Learning (optional) can count for additional 10% of Final Exam)
Exam 1 (20% of final grade)	Lab Work* (20% of final grade) (See below for Lab grading criteria)
Exam 2 (20% of final grade)	Final Exam (20% of final grade)
Project (20%: of final grade)	• Assuming the final exam is passed, Service Learning (SL) which is optional would count for 10% of final exam score. • See SL section for more details • Consult instructor before beginning SL
The lowest grade of Exams 1 or 2 will be replaced by the final exam if it is higher.	
To pass the course:, each student **must earn a 100% on the Derivative Skills Test**, a 10-question no-notes, no-calculator proctored quiz. You may take the Derivative Skills Test as many times as is feasible during the term, but regardless of your overall grade, you must earn a 100% in order to pass.	

***Lab work is based on Participation (25%), and Lab write-ups (75%)** Lab Write-ups are formal written explanations for each of the three sets of labs. A sample Lab Set Write-Up will be provided during the first weeks of the course and details in addition to those provided in this document (see Lab Course Content above) will be provided separately.

Final Course Grade: Grading is based on Exams 1&2, homework/attendance, lab work, Project and the final exam as outlined above. Grades will be posted on MyPCC no later than the Monday following the Final Exam. PCC does not use "+" or "-" for final grades.

90%-100% = A
80%-89% = B
70%-79% = C
60%-69% = D
below 60% = F

Two alternative grading options (instead of the usual A – F letter grade):

1. You may opt for a grade of **Pass/No Pass (P/NP)** for this course. To opt for a Pass/No Pass, you must change your grading option at my.pcc.edu before the end of the **eighth week** of the term. You must receive a final percentage of 70% or better (C grade) to receive a Pass. Percentages under 70% will result in a No Pass. Check with an advisor if you are not sure if a P/NP is your best option.
2. An **Audit (AU)** is allowed if you attend at least two-thirds of the class meetings. Requests for an Audit must be submitted in a signed and dated letter by the third week of the term. Requests will be granted at the instructor's discretion based on class enrollment.

Note: If you are considering either of these grading options consult your academic advisor to determine if either the Pass/No Pass or Audit option is recommended for your degree/certification/transfer/etc. Also, if you are receiving financial aid check with the financial aid department to see if the Pass/No Pass or Audit option is advisable.

An **Incomplete (I)** may be given when the quality of work is satisfactory (C or better), but for some minor, yet essential requirement, the course has not been completed. An Incomplete is reserved for emergency situations only. Requests for an Incomplete shall be made in a signed and dated letter stating the reasons why an Incomplete would be appropriate. The letter should also contain the conditions needed for completion of the work. In addition, an "Incomplete Grade Completion Procedures" form needs to be filled out by both the student and instructor. This form will then be filed in the Mathematics, Aviation and Industrial Technology Division office. Requests will be granted at the instructor's discretion.

Withdrawal from a Course: It is the student's responsibility to drop the course if they are no longer planning on attending. In order to drop the course you must use TRAIL (phone), MyPCC, or file an Add/Drop form with the registration office. You may receive a full refund if you drop the course by the second Friday of the term. If you do not properly withdraw from a course, you may receive an F for the course. The following link has additional information on PCC's grading policy:
http://www.pcc.edu/registration/grading-policy/
The following link has additional information on PCC's Add/Drop/Withdraw policies:
www.pcc.edu/registration/dropping.html

Homework and Attendance: Textbook practice problems are not collected. Textbook practice problems are assigned after completion of each text section and discussed at the beginning of the following class but are not formally collected as part of your grade. Exam questions will draw from the textbook practice problems. Unlike many math classes at PCC, for our Math 251 course, neither attendance nor textbook homework is required. If for any reason you discover that you will miss a significant number of classes, please see the instructor as soon as you find this out to discuss options that will insure your understanding of the material. If you finish homework assignments with complete correctness, you will be well prepared for exams. Do more or less of the assignments as you see fit, but do as much as needed in order to become an expert with the material. Come prepared with homework questions for the next class. Most students need to attend all classes and complete all homework and lab assignments in order to earn an A. Some students do very well in this class with partial completion of textbook practice homework and partial attendance. Some believe they will do well with little effort, but discover too late that they will not. If you believe you need the added encouragement of required attendance and/or required homework, please take the responsible step of transferring to another class.

Class Participation: All students are expected to participate in classroom discussions, labs, group activities and practice problems. Learning from peers is often the best way to understand new material and solidify concepts. Studies find that one of the best ways to learn is to discuss concepts with others. When practice problems are given, share solution(s) with classmates and discuss your individual methods for solving the problem. There are a variety of benefits to be gained from this activity. By communicating orally, you can quickly determine if you are on the right track and get immediate assistance if you are not; in addition, you will have the opportunity to observe and discuss alternative methods of approaching math problems. Also, teaching or being taught by a "peer" has benefits to both people; for the learner, you will have one-on-one assistance from someone who is also new with the concept and may be able to fill in the details/gaps that are causing confusion. The student-teacher has the benefit of abstracting understanding. Students learn concepts on a much deeper level when they teach a concept. These are the same benefits gained from participating in a study group outside of class. The first part of class time will be used to answer homework questions. I encourage everyone to ask questions, so please come prepared. If you do not get all of your questions answered, please contact me outside of class, during break, during my office hours, get help in the Learning Center, or ask other students.

Exams: See tentative schedule. PCC requires Final Exams be given with no notes. Parts of Exams 1, 2 and the Final Exam may be calculator-free. Show your work on exams for full credit. Exams will be returned with each problem marked with a check mark (correct, full credit), a "1/2" mark (at least one step was correct, at least one step was incorrect, half credit), an "X" (no steps were correct, no credit) or occasionally an "OK" (full credit given, but a minor aspect merits attention).

Exam Corrections: For problems on an exam that were given partial or no credit, you have the option to submit corrections for any or all of the incorrect problems. The reason for this option is that you will learn more fully and more deeply if you correct an incorrect problem than if you were to get the problem correct on your first attempt. For this reason, corrections should be made soon after the test is returned, though I will accept corrections up until the Friday before Final Exam Week. Submit corrections to me directly, to the secretary in room 244 with my name clearly visible on the first page, or to the secretary/after-hours drop box in room 230.
Guidelines for submitting test corrections:

- Do not erase your original answer or work
- On a separate piece of paper or (preferably) on the same page in a different color, do the problem correctly, showing your steps.
- Write sentence(s) describing what you did incorrectly and what you did to correct the problem.
- You may use any available resources to do corrections (course text, tutor, peer help, etc.) other than direct copying of other student's work, or direct copying of an explanation (from the teacher or otherwise). In other words, your corrected work should be your own.
- Submit corrections to the instructor with your original work and original answer.
- You will receive 50% of the points missed for correct answers that show clear and correct steps and accurate sentence explanations.

Project: Projects will consist of a written component and either an oral, visual or Service Learning component. The written component is an outline of the important aspects of your project and is submitted as a way to get formal feedback from the Instructor. You will choose a topic to explore using the concepts in this course. Once an appropriate topic is chosen: 1) Find accurate data related to your topic; 2) Use the difference quotient to examine the data; 3) Examine functions that fit the data by doing a linear regression, polynomial regression, exponential regression, trigonometric regression, etc. (The instructor will likely provide a significant amount of guidance and assistance with this aspect of the project); 4) Decide (using your logical understanding of the topic and mathematical evidence) which regression fits best; 5) Compare the insight you gained from the difference quotient (applied to the data) to the derivative of the regression (the derivative of the regression function) – concentrate on positive vs. negative values, zeroes and maximum/minimum tangents. Explain your findings clearly and completely using an oral presentation or visual display (participating in a Service Learning project related to your project can replace the oral/display if your group briefly explains your Service Learning experience). If you choose service learning as an evaluation component, you need to complete approximately 8 hours of service related to your topic. Further details will be outlined in class.

Second opportunity for Service Learning (also optional): Service Learning is a method of education requiring volunteer work in the community with extensive written reflection on the part of the volunteer. Service Learning for this class consists of arranging a 1-hour per week tutoring session with a local grade school or middle school for the duration of the term. At the end of the term, students submit a daily journal and typed summary along with final paperwork outlining hours spent. If you wish to participate, please see the instructor during the first week of class for details and appropriate forms. Do

not begin Service Learning without meeting with the instructor first. Your tutoring location needs to be arranged no later than the second week of class, barring any special circumstances. Successful completion of the Service Learning component will count for an additional 10% added to the final exam. E.g., if you successfully complete the Service Learning option (i.e. you earn a 100%) and you earn a 70% on the final, your score on the final would be 80% (70%+10%=80%). If you do not pass the final exam with at least 70%, no additional points will be added from the Service Learning option.

Cell Phones: If you need to keep your cell phone on during class for emergency contact reasons, please let the instructor know.

Student Rights/Code of Conduct: For your convenience, feel free to use the following link for a description of your student rights:
http://www.pcc.edu/about/policy/student-rights/student-rights.pdf#academic-integrity
http://www.pcc.edu/about/policy/student-rights/student-rights.pdf#code-of-conduct

ADA Statement: Students who experience disability-related barriers should contact Disability Services www.pcc.edu/disability. If students elect to use approved academic adjustments, they must provide in advance formal notification from Disability Services to the instructor.

Title IX Statement: Portland Community College is committed to creating and fostering a learning and working environment based on open communication and mutual respect. If you believe you have encountered sexual harassment, sexual misconduct, sexual assault, or discrimination based on race, color, religion, age, national origin, veteran status, sex, sexual orientation, gender identity, or disability please contact the Office of Equity and Inclusion at (971) 722-5840 or equity.inclusion@pcc.edu