Class Hours & Location: TuTh 10:00am – 12:15pm, Tu Rm 311, Th Rm 322

Instructor: Kelly Pernell  Office: Rm 353 BCC  Email: kpernell@peralta.edu

Office Hours: Room 353 BCC, Mon & Tue 1:30 – 3pm, Thu 1:30 – 2:30pm, Mon – Thu 12:15 – 12:30pm (after class)

Instructor Web Site for additional class info: http://www.berkeleycitycollege.edu/wp/kpernell

Textbook and Required Materials
The textbook used to present the course material is:

Calculus, Early Transcendentals, 7th Edition
by James Stewart
Brooks/Cole Publishing

Chapters 6 – 11 will be covered.

You will need a non-graphing scientific calculator that can do trigonometric and logarithmic calculations. Access to a graphing calculator for homework is encouraged and sometimes suggested but not required.

Electronic devices such as cell phones, smart phones, and mobile tablets, are not permitted during exams.

Course Schedule
Each chapter is divided into sections. We will cover about two sections per class period. It is your responsibility to attend class regularly to stay on top of the course material.

There are four midterm exams and one comprehensive final exam for this class. (Exam 1 - Ch 7, Exam 2 - Ch 6 & 8, Exam 3 - Ch 11, Exam 4 - Ch 9 & 10, Final – Ch 6 – 11).

Please review the tentative calendar/schedule of topics provided at the end of the syllabus.

To be successful in this course, you should spend about 15 hours per week outside of class time, studying the material and completing exercises. Some may need more time to do well.
Grading Policy

A: 90 – 100%; B: 80 – 89%; C: 70 – 79%; D: 60 – 69%; F: 0 – 59%

Your course grade is based on in-class exams, homework verification activities, and participation. The percentage breakdown for each component is as follows:

- **Midterm Exams**: 60%
- **Final Exam**: 20%
- **Homework**: 20%

At the end of the course I will drop your lowest midterm exam score.

Exams

Midterm exams will include material and examples presented in lecture, examples from the textbook, and the exercises you are assigned in homework and for practice.

Midterm exams are worth 60% of your course grade. At the end of the course, I will drop your lowest midterm exam score.

The Final Exam will be a comprehensive exam, covering all topics presented in the course. It is worth 20% of your course grade. The Final Exam will take place on the Tuesday of Final Exam week during class time 10am – 12:15pm.

Absolutely no make-up exams will be given.

You are allowed to use a non-graphing scientific calculator during each exam. Other electronic devices such as smart phones and mobile devices and tablets are NOT permitted during exams.

Homework

Homework is worth 20% of your course grade. In order to receive full credit on homework, you must show your work to arrive at your answers (i.e. write out your steps). You must explain how you arrived at your answer if a question does not require calculation.

Homework problems will be assigned for each chapter. They can be found on my BCC faculty page. As part of your homework, you are expected to read the textbook and attend class regularly. You will have a chance to work on homework at the end of some lectures.

Please practice your mathematics writing skills. In order to succeed in future math courses, it is critical to know how to express yourself mathematically.
The best way to learn the material is to regularly attend class and DO YOUR HOMEWORK:

1. Prepare for class. Read all sections from the text in advance of when they are covered in class. Consult the Tentative Calendar of Topics at the end of the syllabus to stay on track with the course.
2. Take notes during lecture. Ask questions in class or in office hours.
3. Try homework problems and problems from the book on your own at home. Ask questions during the question/answer period at the end of class. Work on homework problems during the question and answer period.
4. Supplement these activities with study groups, tutoring, and/or Internet tutorials and videos.
5. Most importantly, study your calculus a little every day, not just once per week. If you need to, review trigonometric, exponential, and logarithmic functions while you are learning the calculus.

Tutoring is available in BCC’s Learning Resources Center, located on the first floor. I encourage you to form study groups with other classmates and help each other with homework.

Please save all homework problems you complete neatly in a file, folder, binder, or ringed notebook. Never throw away the work you do for homework.

Please keep all of your exams. This work is the only evidence outside of attending class of your efforts to succeed in the course.

Your attendance is an important part of your success in this course. Students who regularly miss class are not fully participating in homework activities in class and may therefore lose Homework percentage points.

Participation

While attending class, please help to maintain a decent learning environment. Please be considerate of others. Turn off your cell phones. Try to arrive on time. Sit close to the door if you must leave early. If you are late, please try to find a seat as quickly and quietly as possible.

Students who miss more than one consecutive week of class without contacting me to explain their absences may be dropped from the course. Those who perform poorly on an exam then fail to take the next one will be dropped.

Cheating Policy

Cheating is a very serious offense that I will not tolerate. If you are caught cheating on an exam I will give you a grade of 0% for that exam and also drop your overall course grade by 10%. Both, or all, parties involved will be charged. (No one caught or involved in cheating will earn an A in the course.)
**Student Learning Outcomes**

Upon completion of this course, students will:

1. Evaluate definite and indefinite integrals using a variety of integration formulas and techniques;

2. Apply various techniques of integration to finding areas, volumes, surface areas, and lengths of curves (arc length) and to solving work problems;

3. Solve some types of differential equations; apply them to solve real life problems

4. Manipulate, test, and apply various series, including Taylor and Maclaurin series;

5. Graph, differentiate and integrate functions in polar and parametric forms.

**Justification for the Course:**

Satisfies the General Education and Analytical Thinking requirement for Associate Degrees. Provides foundation for more advanced study in mathematics and related fields, such as physics, engineering, and computer science. Satisfies the Quantitative Reasoning component required for transfer to UC, CSUC, and some independent four-year institutions. Acceptable for credit: CSU, UC.
Tentative Calendar of Topics

Wk 1 – Aug 19, 21st
Review of Fundamental Theorem of Calculus
7.1 Integration by Parts
7.2 Trigonometric Integrals

Wk 2 – Aug 26, 28
7.3 Trigonometric Substitution
7.4 Integration of Rational Functions by Partial Fractions
7.5 Strategy for Integration
7.6 Integration Using Tables

Wk 3 – Sep 2, 4
7.7 Approximate Integration
7.8 Improper Integrals
Review Chapter 7

Wk 4 – Sep 9, 11
EXAM 1 – Ch 7 - Tuesday, Sep 9th
6.1 Areas Between Curves
6.2 Volumes

Wk 5 – Sep 16, 18
6.3 Volumes by Cylindrical Shells
6.4 Work
6.5 Average Value of a Function

Wk 6 – Sep 23, 25
8.1 Arc Length
8.2 Area of a Surface of Revolution
8.3 Applications to Physics and Engineering
8.4 Applications to Economics and Biology

Wk 7 – Sep 30, Oct 2
Review Chapters 6 & 8
EXAM 2 – Ch 6 & 8, Thursday, Oct 2

Wk 8 – Oct 7, 9
11.1 Sequences
11.2 Series
11.3 The Integral Test and Estimates of Sums
11.4 The Comparison Tests
**Wk 9 – Oct 14, 16**  
11.5 Alternating Series  
11.6 Absolute Convergences and the Ratio and Root Tests  
11.7 Strategy for Testing Series

**Wk 10 – Oct 21, 23**  
11.8 Power Series  
11.9 Representations of Functions as Power Series  
11.10 Taylor and Maclaurin Series

**Wk 11 – Oct 28, 30**  
Review for Exam 3  
*EXAM 3– Ch 11 – Thursday, Oct 30*

**Wk 12 – Nov 4, 6**  
9.1 Modeling with Differential Equations  
9.2 Direction Fields and Euler’s Method  
9.3 Separable Equations

**Wk 13 – Nov 13**  
9.4 Models for Population Growth  
9.5 Linear Equations

**Wk 15 – Nov 18, 20**  
10.1 Curves Defined by Parametric Equations  
10.2 Calculus with Parametric Curves  
10.3 Polar Coordinates  
10.4 Areas and Lengths in Polar Coordinates

**Wk 14 – Nov 25**  
10.5 Conic Sections  
10.6 Conic Sections and Polar Coordinates

**Wk 16 – Dec 2, 4**  
Review for Exam 4 – Ch 9 & 10  
Exam 4 – Ch 9 & 10 – Thursday, Dec 4

**Wk 17 – Dec 9**  
*Finals Week – No Classes Held*  
*FINAL EXAM Tuesday, Dec 9th, 10am – 12:15pm*