Class Hours & Location: MW 10:00am – 12:15pm, Rm 53, BCC

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

Office Hours: MW 2 – 3:30pm, TTh 9 – 9:55am, Rm 353

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, 8th Edition*
by James Stewart
Brooks/Cole Publishing

Chapters 6 – 11 will be covered.

Mobile graphing calculators are strongly recommended. A non-graphing scientific calculator that can do trigonometric and logarithmic calculations is required.

Please see the calendar of topics at the end of this syllabus. Previous editions of the above text are fine to read and study. Other Early Transcendental Calculus texts are also fine to read and study. You are not required to purchase the text. Desk copies are available from the campus Library and Learning Resources Center on the first floor.

Course Schedule
Each chapter is divided into sections. Approximately two sections of the textbook will be covered per class period. Please see the Tentative Calendar of Topics at the end of the syllabus.

For this class, there will be three midterm exams and one final exam. Tentative dates are available in the Calendar of Topics at the end of the syllabus.

- Exam 1 - Ch 7
- Exam 2 - Ch 6 & 8
- Exam 3 - Ch 11
- Final Exam - Ch 6 – 11 with focus on Ch 9 & 10

To be successful in this course, you should spend 10 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 exams, homework, and participation. The percentage breakdown for each component is as follows:

- **Midterm Exams**: 60%
- **Final Exam**: 25%
- **Homework**: 15%

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

**Exams**

Midterm exams are worth 60% of your course grade. They will include material and examples presented in lecture, examples from the textbook, and the exercises you are assigned in class and for practice.

The Final Exam is worth 25% of your course grade. Half of the Final Exam will focus on Ch 9 & 10; the remaining half will be comprehensive, comprising chapters 6 – 8 and 11.

*The Final Exam will take place on the Tuesday of Final Exam week during class time 10am – 12:15pm, in the classroom.*

*Absolutely no make-up exams will be given.*

At the end of the course, I will drop your lowest midterm exam score. The average of the two highest scoring midterm exams will make up your Midterm Exam grade.

Everyone must take the Final Exam.

Everyone is allowed to use a *non-graphing* scientific calculator during exams. Other electronic devices are NOT permitted.

*Please keep all of your exams and take the time to review your mistakes.*

**Cheating Policy**

Cheating is a very serious offense that I will not tolerate. If you are caught cheating on an exam, you will receive a grade of 0% for that exam. Your overall course grade will also be lowered by 10%.

Both, or all, parties involved in a cheating incident will be charged (both cheater and cheatee).

*No one caught or involved in a cheating incident will earn an A in the course.*

Students are allowed one bathroom break during an exam. If you need a second bathroom break, YOU FORFEIT THE EXAM. You will not be able to continue working on the exam.
**Homework & Assignments**

Assignments are worth 15% of your course grade.

During class, I will provide a few problems for you to complete during the class session. Your work will be assessed/”graded” by another classmate as we review the problems in the same class session. I will collect your work and return it to you the following class period. You will receive full credit for trying the problems and participating in the assessment/review of your peers’ work (i.e. your Assignments grade will not be based on the feedback your peers give you).

I will provide solutions to the problems in the assignment to assist you in assessing/”grading” your peers’ work. You will be asked to provide feedback on the following student learning outcomes for the course (likely a numerical point value or comment on how to improve):

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<tbody>
<tr>
<td>1</td>
<td><strong>Representation:</strong> Represent relevant information in various mathematical or algorithmic forms. (conversion of words to mathematical symbols, diagrams, and/or graphs)</td>
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<tr>
<td>2</td>
<td><strong>Calculation:</strong> Calculate accurately and comprehensively.</td>
</tr>
<tr>
<td>3</td>
<td><strong>Interpretation:</strong> Interpret information presented in mathematical or algorithmic forms. (for example, interpretations of equations, graphs, diagrams, tables)</td>
</tr>
<tr>
<td>4</td>
<td><strong>Application/Analysis:</strong> Draw appropriate conclusions based on the quantitative analysis of data, while recognizing the limits of this analysis. (problem solving)</td>
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<tr>
<td>5</td>
<td><strong>Communication:</strong> Explain quantitative evidence and analysis. (conversion of mathematical symbols and graphs to words)</td>
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Assignments will be given almost every class period when we do not have an exam or exam review session – please expect 20 - 24 of them. To earn credit, you must attend class. There are no make-ups if you miss class. At the end of the term, I will drop a total of four assignments in calculating your Assignments grade.

*Please* practice your mathematics writing skills. In order to succeed on exams for this course, and in future math and science courses, it is critical to know how to express yourself mathematically. In addition to accurate calculation, representation and communication from the rubric above are important to your future success.

As part of your homework, you are expected to read the textbook, attend class regularly, and do the practice exercises to prepare for exams. I often provide time for students to ask questions on practice problems during the class, during the class break, and towards the end of class.

You will find practice problems on my faculty web site at [http://www.berkeleycitycollege.edu/wp/kpernell/](http://www.berkeleycitycollege.edu/wp/kpernell/).

Solutions can be found on the last page of each practice problem set. You are not required to write up solutions to the practice exercises. They are not included as part of your Homework grade. However, exams will consist of problems very similar to what you find in these exercise sets. To best prepare for exams, it is best to try all of the problems.
**Learning Resources**

The best way to learn the material is to regularly attend class and DO YOUR HOMEWORK.

Tutoring is available in BCC’s Learning Resources Center. The LRC is located on the first floor in room 112.

My faculty web site also contains a few online resources, sample problems, and lecture notes that may be helpful to you.

Please come to my office hours if you have specific questions that cannot be fully addressed in class.

**Disability Statement**

Berkeley City College is committed to providing reasonable accommodations for all individuals with disabilities. This syllabus and the course materials are available in alternate formats upon request. If you have a disability that may have some impact on your work in this class and for which you may need accommodations, please see a staff member in Programs & Services for Students with Disabilities (PSSD) to request accommodations. For students that receive accommodation letters, please meet with me to discuss academic arrangements as early in the term as possible. PSSD can be found in Room 261 of the Main 2050 Center Street campus or by phone at (510) 981-2812 or 2813.

**Student Learning Outcomes**

Representation: Represent relevant information in various mathematical or algorithmic forms.

Calculation: Calculate accurately and comprehensively.

Interpretation: Interpret information presented in mathematical or algorithmic forms.

Application/Analysis: Draw appropriate conclusions based on the quantitative analysis of data, while recognizing the limits of this analysis.

Communication: Explain quantitative evidence and analysis.

**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 – Jan 23
5.3 Fundamental Theorem of Calculus (Review)
5.5 The Substitution Rule (Review)

Wk 2 – Jan 28, 30
7.1 Integration by Parts
7.2 Trigonometric Integrals
7.3 Trigonometric Substitution

Wk 3 – Feb 4, 6
7.4 Integration of Rational Functions by Partial Fractions
7.5 Strategy for Integration
7.6 Integration Using Tables

Wk 4 – Feb 11, 13
7.7 Approximate Integration
7.8 Improper Integrals
Review Chapter 7

Wk 5 – Feb 20
EXAM 1 – Ch 7 - Wednesday, Feb 20th
February 18th, President’s Day Holiday, No Class

Wk 6 – Feb 25, 27
6.1 Areas Between Curves
6.2 Volumes
6.3 Volumes by Cylindrical Shells

Wk 7 – Mar 4, 6
6.4 Work
6.5 Average Value of a Function
8.1 Arc Length

Wk 8 – Mar 11, 13
8.2 Area of a Surface of Revolution
8.3 Applications to Physics and Engineering
Review Chapters 6 & 8
Wk 9 – Mar 18, 20
EXAM 2 – Ch 6 & 8, Monday, March 18th
11.1 Sequences
11.2 Series
March 21st, Professional Development Day, no classes for students

Wk 10 – Mar 25, 27
11.3 The Integral Test and Estimates of Sums
11.4 The Comparison Tests
11.5 Alternating Series

Wk 11 – Apr 2, 4 SPRING BREAK – NO SCHOOL

Wk 12 – Apr 8, 10
11.6 Absolute Convergences and the Ratio and Root Tests
11.7 Strategy for Testing Series
11.8 Power Series

Wk 13 – Apr 15, 17
11.9 Representations of Functions as Power Series
11.10 Taylor and Maclaurin Series
Review for Exam 3

Wk 14 – Apr 22, 24
EXAM 3 – Ch 11 – Monday, April 22nd
9.1 Modeling with Differential Equations
9.2 Direction Fields and Euler’s Method

Wk 15 – Apr 29, May 1
9.3 Separable Equations
9.5 Linear Equations
10.1 Curves Defined by Parametric Equations

Wk 16 – May 6, 8
10.2 Calculus with Parametric Curves
10.3 Polar Coordinates
10.4 Areas and Lengths in Polar Coordinates

Wk 17 – May 13, 15
10.5 Conic Sections
10.6 Conic Sections and Polar Coordinates
Review for Final Exam

Wk 18 – May 20
Finals Week – No Classes Held
FINAL EXAM Monday, May 20th, 10am – 12:15pm, in the classroom