COURSE SYLLABUS
Math 3B--Calculus II  Spring 2018
(Class Code: 29033)

Class Hours & Location: TuTh 10:00am-12:15pm, Room: 424
Instructor: Chunfang Zhang (Kacie)

   Email: cfzhang@berkeley.edu

   Office Hours (Offered by Kelly Pernell): TuTh: 9:00-9:50 am &
   MW: 1:30-2:30 pm   Rm 353

Textbook (Required):
   James Stewart," Calculus, Early Transcendentals, 8th Edition

Course Content:
   Chapters 6 – 11 will be covered. The three main topics are integration
techniques and their applications, parametric equations and infinite
sequences/series.

Grading Policy:
Your overall score (maximum 100) will be a weighted average based on
   • [5%] Participation
   • [15%] Homework
   • [60%] Three (3) Midterm exams
   • [20%] Final exam

   At the end of the course I will drop your lowest midterm exam score.
   A letter grade is assigned based on the following scale:
   A: 90 – 100%; B: 80 – 89%; C: 70 – 79%; D: 60 – 69%; F: 0 – 59%

Participation
   Participation is worth 5% of your course grade. It includes:
   • Attending class regularly and consistently
   • Ask and answer questions during lecture time
   • Turning in homework assignments on time

   Students who miss more than two consecutive weeks 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.
Homework

- **HW link:** [http://www.berkeleycitycollege.edu/wp/kpernell](http://www.berkeleycitycollege.edu/wp/kpernell)
- Homework is worth 15% 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). If a question does not require calculation, you must explain in words (describe) how you arrived at your answer.
- You will lose points on a homework assignment if you fail to attempt/complete several problems, fail to show/write steps on problems, submit a messy/unorganized assignment that is hard to grade, and/or turn in an assignment very late (more than a week past its due date)
- Homework problems will be assigned for each chapter. As part of your homework, you are expected to read the textbook and attend class regularly.
- **Please save all homework assignments** in a file, folder, or binder. Never throw away any work you do for this course.

Midterms:

Three midterms. No make-up exams will be given. A missed midterm will receive a zero. 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 homework. **The lowest midterm exam score will be dropped at the end of course.**

(Exam 1 - Ch 7, Exam 2 - Ch 6 & 8, Exam 3 - Ch 11)

Final Exam:

- The Final Exam is worth 20% of your course grade.
- It will be a comprehensive exam, covering all topics presented in the course.
- It will contain a slight focus on Chapters 9 & 10 because they are the last chapters covered in the class.
- **The Final Exam will take place on the Tuesday of Final Exam week during class time 10am – 12:15pm.**
- Everyone must take the Final Exam.

To be successful in this course, you should spend about 10 hours per week outside of class time, studying the material and completing exercises. Some may need more time to do well.

Important Dates:

- **Midterms**
  - **Exam1:** (Tu, Feb 20)  **Exam2:** (Th, Mar 15)  **Exam3:** (Th, Apr 19)
- **Final exam:**
  - Tuesday May 22 10:00am—12:15pm In class Rm:424
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 and you will lose all Participation points. I will also drop your overall course grade by 10%. In other words, no one caught or involved in cheating will earn an A in the course. Both, or all, parties involved in a cheating incident will be charged.

Classroom Etiquette:

- Cell phones should be turned off or set to vibrate. Never conduct a phone conversation in the classroom. To answer an urgent or important call, step outside immediately.
- Do not listen to music on iPod or similar devices during class sessions.
- Please be supportive, encouraging, and respectful to everyone in the class.

Where to Find Help:

- Please come to office hours if you have specific questions that can’t be fully addressed in class.
- Tutoring is available in BCC’s Learning Resources Center. The LRC is located on the first floor in room 112.
- Study groups: Students usually find it extremely helpful to form study groups. Don’t be isolated!

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, 25
5.3 Fundamental Theorem of Calculus (Review)
5.5 The Substitution Rule (Review)
7.1 Integration by Parts

Wk 2 – Jan 30, Feb 1
7.2 Trigonometric Integrals
7.3 Trigonometric Substitution

Wk 3 – Feb 6, 8
7.4 Integration of Rational Functions by Partial Fractions
7.5 Strategy for Integration
7.6 Integration Using Tables

Wk 4 – Feb 13, 15
7.7 Approximate Integration
7.8 Improper Integrals
Review Chapter 7

Wk 5 – Feb 20, 22
EXAM 1 – Ch 7 - Tuesday, Feb 20th
6.1 Areas Between Curves
6.2 Volumes

Wk 6 – Feb 27, Mar 1
6.3 Volumes by Cylindrical Shells
6.4 Work
6.5 Average Value of a Function

Wk 7 – Mar 6, 8
8.1 Arc Length
8.2 Area of a Surface of Revolution
8.3 Applications to Physics and Engineering

Wk 8 – Mar 13, 15
Review Chapters 6 & 8
EXAM 2 – Ch 6 & 8, Thursday, March 15th
Wk 9 – Mar 20
11.1 Sequences
11.2 Series

Wk 10 – Mar 27, 29
11.3 The Integral Test and Estimates of Sums
11.4 The Comparison Tests
11.5 Alternating Series
11.6 Absolute Convergences and the Ratio and Root Tests

Wk 11 – Apr 3, 5
SPRING BREAK

Wk 12 – Apr 10, 12
11.7 Strategy for Testing Series
11.8 Power Series
11.9 Representations of Functions as Power Series
11.10 Taylor and Maclaurin Series

Wk 13 – Apr 17, 19
11.10 Taylor and Maclaurin Series
Review for Exam 3
EXAM 3 – Ch 11 – Thursday, Apr 19th

Wk 14 – Apr 24, 26
9.1 Modeling with Differential Equations
9.2 Direction Fields and Euler’s Method
9.3 Separable Equations
9.5 Linear Equations

Wk 15 – May 1, 3
9.5 Linear Equations
10.1 Curves Defined by Parametric Equations
10.2 Calculus with Parametric Curves

Wk 16 – May 8, 10
10.3 Polar Coordinates
10.4 Areas and Lengths in Polar Coordinates

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

WK 18 – May 22
Finals Week – No Classes Held

FINAL EXAM Tuesday, May 22nd, 10am – 12:15pm, room 424