

**Spring 2020**  
**Math 3B – Calculus II (Class Code 20504)**

**Class Hours & Location:** TuTh 10:00am – 12:15pm, Rm 424, 4th floor of BCC main building

**Instructor:** Kelly Pernell                      **Office:** Rm 353 BCC                      **Email:** [kpernell@peralta.edu](mailto:kpernell@peralta.edu)

**Office Hours:** Monday through Thursday 9 – 10am, and Thursday 1:00 - 2:00pm

**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, 8<sup>th</sup> Edition*  
*by James Stewart*  
*Brooks/Cole Publishing*  
*ISBN 978-1-285-74155-0*

Chapters 6 – 11 and a few sections from Chapter 5 will be covered. Please see the calendar of topics at the end of this syllabus for the specific sections and topics covered in the course.

To save textbook costs, you may use previous editions of the Stewart text as a reading/study/learning tool. If you plan to study from a previous edition or an entirely different calculus text, please make sure the title of the book includes "Early Transcendentals" because, throughout this course, we will work on problems that involve trigonometric, exponential, and logarithmic functions.

Desk copies of the 8th edition text are available from the campus Library and Learning Resources Center on the first floor.

Though a graphing calculator is not required for this course, I strongly encourage students to use one as a learning tool. Mobile graphing calculator apps are decent and can be purchased at low costs (\$2 - \$10).

You *will* need access to a non-graphing scientific calculator that can do trigonometric and logarithmic calculations. Mobile devices (ie phones, tablets, laptops, etc) are not permitted during quizzes. I will bring several scientific calculators for students to borrow for the quiz.

For in-class/homework assignments and the development of your portfolios, you will need loose college-ruled notebook paper and *two* 2-pocket folders (one folder for Ch 5 - 8, and one for Ch 9 - 11).

## Course Schedule

Each chapter of the text is divided into sections. Approximately three to four sections will be discussed per week.

To prepare for class, please read the sections of the text in advance of the class period we will discuss them. Take notes on areas where you may have questions.

To be successful in this course, you should spend about 10 hours per week outside of class time, studying the material and completing assignments. Some students may need *more* time to do well (especially those who have not studied or taken a trigonometry course). Course material requires a strong understanding of algebra and trigonometry.

## Quizzes

For this class, there will be four midterm quizzes and one Final quiz. Tentative dates are available in the Calendar of Topics at the end of the syllabus.

Quiz 1 - Ch 7

Quiz 2 - Ch 6 & 8

Quiz 3 - Ch 11

Quiz 4 - Ch 9 & 10

Final Quiz - Ch 6 – 11

You will be given one hour to complete each midterm quiz. The one-hour time limit is a strict one - *no exceptions*. The Final Quiz will be a two-hour test.

Once you begin a quiz, you will not be permitted to leave the room for any reason (i.e. no bathroom breaks). Once you leave, you will not be allowed to continue working on the quiz.

Quizzes will only include problems that appear in assignments, in-class examples I present in lecture, or problems from the list of suggested textbook problems to study.

*There are NO MAKE-UP quizzes. In order to pass the class, you must take 3 of the 4 midterm quizzes, and you must take the Final Quiz.*

## Take-Home Quizzes

Part of an effective learning process includes reviewing your work, identifying where you make mistakes, and making an effort to correct those mistakes. Therefore, after you submit an in-class quiz, you will receive a blank copy of it to complete as a take-home assignment.

*In order to pass the class with a grade of A, B, or C, you must do **all four** of the take-home quizzes for the course.*

**Extra Benefit:** Completing and submitting a take-home quiz *on time* gives you the opportunity to add up to 50% of the points you lost on the in-class quiz. For example,

- If you earn a 70% on an in-class quiz, then you missed 30 points.  $50\%$  of 30 =  $0.5 \cdot 30 = 15$  pts.
- If you earn 80% on the take-home quiz, then I will add 80% of half of the 30 missed points (i.e.,  $0.8 \cdot 0.5 \cdot 30 = 12$  points) to your 70% in-class score.
- Your overall quiz score for this midterm quiz will then be  $70 + 12 = 82\%$ .

***A Take-home quiz is due the very next time the class meets after taking it in class.***

If an in-class quiz is taken on Tuesday, then the take-home is due Thursday. If an in-class quiz is taken on Thursday, the take-home is due the following Tuesday.

I *will* accept late submissions of take-home quizzes because you must complete all of them in order to pass the course. However, late submissions carry a penalty — your opportunity to earn back up to 50% of the missed points on the in-class quiz will drop to an opportunity to earn back up to 25% of those missed points. In the above example, your overall quiz score for the midterm quiz would be  $70 + (0.8 \cdot 0.25 \cdot 30) = 70 + 6 = 76\%$ .

If you are absent for an in-class quiz, you will earn an overall quiz score of 0%. However, even though you lose the opportunity to earn back missed points, please remember you must still complete its take-home quiz in order to pass the class with an A, B, or C grade. Please make sure to request a blank copy of any quiz you miss so you may complete your take-home quiz requirement.

There is no take-home quiz for the Final. The Final Quiz will be twice the length of a midterm quiz and will, instead, contain a choice of problems to do.

Your Overall Quiz Average will include your three highest quiz scores and twice your Final quiz score. In other words, I will drop the lowest midterm quiz score, count your Final quiz twice, and then calculate the average of the five scores.

**Weekly In-Class/Homework Assignments**

For each section of the text we cover in this course, you will be assigned a few problems to turn in. Each week, you will be given time in class to start or work on an assignment. During this time, you are encouraged to work with others and ask questions. I will be happy to collect completed assignments at the end of class. Any unfinished weekly assignment should be finished at home.

Weekly In-class/homework assignments are due by Thursday the following week.

I will accept late submissions of homework assignments throughout the course. However, the highest grade you may receive on a late assignment will be a  $\checkmark = 2$  points (No  $\checkmark+$  for late homeworks).

If you want to improve your grade on an assignment, I will accept resubmissions of homework assignments. I will need you to submit the original assignment along with the new/additional work attached on a separate piece(s) of paper. I will need to see a difference/improvement in order to increase your grade.

Please see the end of the syllabus for the list of Weekly In-Class/Homework assignments.

- Please *only* use college-ruled notebook paper to complete your assignments, and staple all pages in the upper left corner.
- Please print your FULL name on the first page, write the title of the assignment number, and write "MW Math 3B." For example:

Kelly Pernell  
Week 1 Homework  
MW Math 3B

- Please start each assignment on a separate (new) piece of paper and title it appropriately.

On each assignment, I will provide you with a grade of  $\sqrt{+}$ ,  $\sqrt{}$ , or  $\sqrt{-}$ .

Grade	Point Value in Gradebook	Rubric/Criteria to Earn It
$\sqrt{+}$	3 points	<ul style="list-style-type: none"> <li>You completed/attempted all problems.</li> <li>Your written work (steps to arrive at your answers, including any necessary graphs or diagrams) is thorough, organized and clear.</li> <li>Your approach to solving all problems is correct; you have the correct solutions.</li> </ul>
$\sqrt{}$	2 points	<ul style="list-style-type: none"> <li>You completed/attempted all problems.</li> <li>Your written work is satisfactory yet not quite thorough, complete or organized (e.g. missing a few steps, a graph, or diagram, a little sloppy or unorganized)</li> <li>Your approach to solving most problems is correct. Most calculations are correct.</li> </ul>
$\sqrt{-}$	1 points	<ul style="list-style-type: none"> <li>Assignment is incomplete.</li> <li>Insufficient written work (e.g. not enough work shown on problems, missing diagrams and graphs)</li> <li>Incorrect approach to solving most problems. Incorrect calculations.</li> </ul>

The maximum grade you can receive on late submissions is a  $\sqrt{}$ .

To pass the class with an A, B, or C, you must finish the course with an Assignment Average of 2.0 or higher. The point values for  $\sqrt{+}$ ,  $\sqrt{}$ , and  $\sqrt{-}$  are listed in the table above. Missing assignments carry 0 points and will be included in your overall Assignment Average. Please make a commitment to do all of the assignments.

Never sit on an incomplete assignment. Turn in incomplete assignments on time, receive a grade, and then resubmit them to be considered for a  $\sqrt{+}$  score.

**Please** practice your mathematics writing skills. In order to succeed on quizzes for this course, it is critical to know how to communicate mathematically and effectively. In addition to accurate calculations, representation, analysis, and communication are important skills to develop for future success in mathematics and science fields.

At the end of the syllabus I also provide a Suggested List of Practice Problems. You will notice that all problems from your weekly homework assignments are embedded within the Practice Problems. You are not required to formally write up and turn in the problems from the Suggested List of Practice Problems. You are only expected to write up and turn in the In-Class/Homework assignments.

Your quizzes will include problems from the Suggested List of Practice problems. Therefore, I strongly recommend you study and work out the problems on the Suggested List of Practice Problems. Please use this list as a study guide for your quizzes.

## Portfolio Development & Peer Review Sessions

Using 2-pocket folders, you will develop two portfolios for the course:

### Portfolio 1 - Ch 5 - 8

- Weekly In-Class/Homework assignments for Ch 5 - 8
- Trigonometry Assessment
- Midterm quizzes for Ch 7 and Ch 6 & 8
- Take-Home quizzes for Ch 7 and Ch 6 & 8
- Completed Peer Review Forms for Ch 7 and Ch 6 & 8

### Portfolio 2 - Ch 9 - 11

- In-Class/Homework assignments for Chapter 9 - 11
- Midterm Quizzes for Ch 11 and Ch 9 & 10
- Take-Home quizzes for Ch 11 and Ch 9 & 10
- Completed Peer Review Forms for Ch 11 and Ch 9 & 10

To develop your portfolios, please save ALL of your weekly in-class/homework assignments into the 2-pocket folders as described above. Please place stapled assignments, grouped by midterm quiz, into the two pockets (one midterm group of assignments for each side).

You are expected to bring your current weekly assignment to class for in-class activities.

During the class period before each midterm quiz day, we will hold a Peer Review session just for that midterm quiz' content. You must bring your current portfolio folder to participate in Peer Review sessions. However complete or incomplete your assignments are for the upcoming quiz, please bring ALL of them with you to class for the Peer Review session. You will not be able to participate in the Peer Review session without your own portfolio of assignments to share.

*In order to pass the class with a grade of A, B, or C, you must participate in at least 3 of the 4 Peer Review sessions.*

You **will not** be able to make up a Peer Review, so please do not miss class, and do not forget to bring your assignments on Peer Review days. Dates for Peer Review sessions appear in the Tentative Calendar of Topics at the end of this syllabus.

In a Peer Review session, you will evaluate the assignments of *one* other student in the class. I will provide you with a Peer Review form to complete. On it, you will provide constructive feedback and suggestions for improvement — for each assignment in the current portfolio.

At the end of the session, you will return the portfolio folder to the student and submit the Peer Review form to me. You may briefly share your Peer Review form with the student whose assignments you evaluated. However, please make sure to submit the Peer Review form to me before the end of class so you may receive credit for participating in the session. I will return graded PR forms for you to place into your portfolios.

*Please also remember to bring your portfolio(s) with you to your required office hour session with me.*

## Required Office Visit

To pass the class with a grade of A, B, or C, you are required to stop by my office (Room 353) at least one time to have a quick conference with me.

This conference visit must take place sometime *after* the date of the first midterm quiz for Chapter 7 and *before* the date of the Final Quiz at the end of the term. *No exceptions!*

You are required to bring your portfolio(s) with you to this conference. I will need to see your work to-date in order to give you personalized feedback on your progress as well as any guidance for the grade you'd like to earn in the course.

My conference session with you will be brief. It will last approximately five to seven minutes.

Please drop by during my scheduled office hours. These hours are listed on my faculty web site and at the top of this syllabus. It is not necessary for you to schedule a specific time with me during these hours. However, if you are unable to attend any of my scheduled office hours because of conflicts with other classes or with work, then please do request an appointment with me. The best times for these exceptions will be right after class.

## Cheating Policy

Cheating is a very serious offense that I will not tolerate.

*Both, or all, parties involved in a cheating incident for an in-class quiz, take-home quiz, or homework assignment will be charged (both cheater and cheatee).*

If you are caught cheating on an in-class quiz, you will receive a grade of 0% for that quiz.

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

For in-class quizzes, cheating offenses include, *but are not limited to*, looking at another student's quiz, using your phone or other electronic device to look up solutions or communicate with other classmates, using prohibited notes during the quiz, and talking to another student during the test.

If you are caught copying a take-home quiz, you will lose the opportunity to earn back any missed points on its respective in-class quiz. If you are caught doing so a second time you will need to hold a second conference session with me to discuss the incidents. Failure to do so will result in a grade of D or F in the course.

If you are caught copying in-class/homework assignments from another student, or if it is clear you are consistently directly copying solutions from a web site or solutions manual, you will not receive credit for that assignment (i.e. you will earn 0 points for that assignment).

To avoid cheating claims on homework assignments and take-home quizzes, please write up your own solutions to problems:

- I do encourage you to use online sites and solutions manuals as learning tools. However, please avoid directly copying solutions from them. Take the time to write up steps in your own words. Include extra algebra calculations that demonstrate to me you understand how to calculate and/or work with the expressions.
- I do encourage you to work together with other classmates on assignments and other problems. However, please stick to discussing solutions with each other. But, write up solutions *in your own words, ON YOUR OWN*.
- I also encourage you to ask others to check over your work to make sure it is correct.

## Grading Policy

We will use a grading system in this course that maximizes your ability to grow as a critical thinker and mathematician while minimizing the stress of earning a letter grade based on a few high stakes exams.

Below, you will see in the contracts for grades of A, B, or C. Your overall course grade is mostly dependent on the amount of effort you put into assignments for this class and the commitment you make to attending class and engaging in in-class activities. While your overall course grade does depend on your overall average quiz scores, you do have greater control (choice) to earn the grade you desire.

Your greatest opportunity to earn an A or a B in this course is consistently submit  $\sqrt{+}$  quality homework assignments on time and to thoroughly and thoughtfully complete (on time) the take-home quizzes.

Please note, this is a 5-unit course that expects students to commit at least 15 hours per week of study in order to excel (ie earn an A). If this is your goal, then each week, please schedule this much time to study for this class. If struggle with algebra, trigonometry, or problem solving, please schedule more than 15 hours per week.

It is very easy to fall behind in this course. It is also very difficult to catch up. Please make the commitment to always come to class, and to consistently work on homework, even if you are behind. Come see me in office hours the moment you feel you are falling behind. Never be afraid to ask for help.

### How to Earn an A

You will earn an A in this class if you:

1. Attend class and actively engage in class activities, missing no more than 3 classes over the course of the semester.
2. Satisfactorily complete the Weekly In-Class/Homework assignments with an overall Assignment Average of 2.5 or higher  
( $\sqrt{+}$  = 3pts each,  $\sqrt{}$  = 2pts each,  $\sqrt{-}$  = 1 pt each, Missing Assignment = 0 pts each.)
3. Participate in all four Peer Review sessions.
4. Take 3 of 4 midterm quizzes and the Final Quiz, and earn a Quiz Average of: 87% or higher.
5. Complete all take-home quizzes.
6. Attend at least one office hour conference session.

### **How to Earn a B**

You will earn a B in this class if you:

1. Attend class and actively engage in class activities, missing no more than 4 classes over the course of the semester.
2. Satisfactorily complete the In-Class/Homework assignments with an overall Assignment Average of 2.3 or higher ( $\checkmark+$  = 3pts each,  $\checkmark$  = 2pts each,  $\checkmark-$  = 1 pt each, Missing Assignment = 0 pts each.)
3. Participate in 3 of 4 Peer Review sessions.
4. Take 3 of 4 quizzes and the Final Quiz, and earn a Quiz Average of:
  - a) 87% or higher if Overall Assignment Average is between 2.0 and 2.29.
  - b) 80 - 86% if Overall Assignment Average is 2.3 or higher.
  - c) 70 - 80% if Overall Assignment Average is 2.5 or higher.
5. Complete all take-home quizzes.
6. Attend at least one office hour conference session.

### **How to Earn a C**

You will earn a C in this class if you:

1. Attend class and actively engage in class activities, missing no more than 5 classes over the course of the semester.
2. Satisfactorily complete the In-Class/Homework assignments with an overall Assessment Average of 2.0 or higher ( $\checkmark+$  = 3pts each,  $\checkmark$  = 2pts each,  $\checkmark-$  = 1 pt each, Missing Assignment = 0 pts each.)
4. Participate in at least 3 of the 4 Peer Review sessions.
5. Take 3 of 4 quizzes and the Final Quiz, and earn a Quiz Average of:
  - a) 70 - 79% if Overall Assignment Average = 2.0 or higher
  - b) 60 - 69% if Overall Assignment Average = 2.3 or higher
  - c) 50 - 59% if Overall Assignment Average = 2.5 or higher
6. Complete all take-home quizzes.
7. Attend at least one office hour conference sessions.

## **Attendance Policy**

Coming to class regularly, reading/studying the material, and practicing problems is vital to your success in mathematics. It is not a subject that you can study sporadically.

To pass the class, you must attend class regularly, on time, and participate in various class activities. The above absence limits for A, B, and C grades are strict ones.

Missing 4 classes in this course means you will have missed more than 12% of the course. Missing 6 classes means you will have missed 20% of the course. Students who, in general, earn A's in their classes rarely miss class, and most certainly never miss more than 3 classes if they do.

Therefore, *if you have 6 absences* before the last day to drop classes with a W (April 24, 2020), I will drop you from the course. After this date, you will automatically receive a grade of D or F unless you schedule a special one-on-one conference with me to discuss your progress and potential for passing the class.

## **Learning Resources**

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.

You will find practice problems on my faculty web site at <http://www.berkeleycitycollege.edu/wp/kpernell/>.

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, Activities, and Quizzes

### **Wk 1 – Jan 21, 23**

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

### **Wk 2 – Jan 28, 30**

7.1 Integration by Parts (continued)  
7.2 Trigonometric Integrals  
7.3 Trigonometric Substitution  
*Trigonometry Assessment Due Thursday*

### **Wk 3 – Feb 4, 6**

7.3 Trigonometric Substitution (continued)  
7.4 Integration of Rational Functions by Partial Fractions  
7.5 Strategy for Integration

### **Wk 4 – Feb 11, 13**

7.6 Integration Using Tables  
7.7 Approximate Integration  
7.8 Improper Integrals  
*Ch 7 Peer Review Session (Thursday)*

### **Wk 5 – Feb 18, 20**

*Quiz Ch 7 (Tuesday, first hour of class)*  
6.1 Area Between Curves  
6.2 Volumes by Disk and Washer Methods  
6.3 Volumes by Cylindrical Shells

*Begin Required Office Hour Sessions*

### **Wk 6 – Feb 25, 27**

6.3 Volumes by Cylindrical Shells (continued)  
6.4 Work  
6.5 Average Value of a Function

### **Wk 7 – Mar 3, 5**

8.1 Arc Length  
8.2 Area of a Surface of Revolution  
8.3 Applications to Physics and Engineering

### **Wk 8 – Mar 10, 12**

8.3 Applications to Physics and Engineering (continued)  
*Ch 6 & 8 Peer Review Session (Tuesday)*  
*Quiz Ch 6 & 8 (Thursday, first hour of class)*  
11.1 Sequences  
11.2 Series

### **Wk 9 – Mar 17**

11.2 Series (continued)  
11.3 The Integral Test and Estimates of Sums  
11.4 The Comparison Tests  
*Thursday March 19th is a Flex Day, no classes meet*

**Wk 10 – Mar 24, 26**

- 11.4 The Comparison Tests (continued)
- 11.5 Alternating Series
- 11.6 Absolute Convergences and the Ratio and Root Tests
- 11.7 Strategy for Testing Series

**Wk 11 – Apr 2**

*Tuesday, March 31st is Cesar Chavez Holiday, no classes meet*

- 11.8 Power Series
- 11.9 Representations of Functions as Power Series

**Wk 12 – Apr 7, 9**

- 11.10 Taylor and Maclaurin Series
- 11.11 Applications of Taylor Polynomials
- Ch 11 Peer Review Session (Monday)*
- Quiz Ch 11 (Thursday, first hour of class)*
- 9.1 Modeling with Differential Equations
- 9.2 Direction Fields and Euler's Method

**Wk 13 – SPRING BREAK**

*No classes in Peralta April 12 - 18, 2020*

**Wk 14 – Apr 21, 23**

- 9.2 Direction Fields and Euler's Method (continued)
- 9.3 Separable Equations
- 9.5 Linear Equations

**Wk 15 – Apr 28, 30**

- 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 16 – May 5, 7**

- 10.4 Areas and Lengths in Polar Coordinates (continued)
- 10.5 Conic Sections
- 10.6 Conic Sections and Polar Coordinates
- Ch 9 & 10 Peer Review Session (Thursday)*

**Wk 17 – May 12, 14**

- Review for Ch 9 & 10 Quiz
- Quiz Ch 9 & 10 (Thursday, first hour of class)*
- Review for Final Quiz

**Wk 18 – May 21**

- Final Quiz - Thursday, May 21, 2020, 10am - 12:00pm
- (Finals Week, No Classes Meet, so no class on Tuesday, May 19th)*

## Math 3B Calculus II Weekly Assignments

### Week 1 Assignment (Due Thursday Jan 30)

Trigonometry Assessment

### Week 2 Assignment (Due Thursday Feb 6)

#### Section 5.5 The Substitution Rule

1, 4, 9, 60

#### Section 7.1 Integration by Parts

3, 28, 38

#### Section 7.2 Trigonometric Integrals

4, 22, 43

### Week 3 Assignment (Due Thursday Feb 13)

#### Section 7.3 Trigonometric Substitution

5, 9, 21

#### Section 7.4 Integration of Rational Functions by Partial Fractions

11, 19, 23

#### Section 7.5 Strategy for Integration

6, 15, 16, 18

### Week 4 Assignment (Due Thursday Feb 20)

#### Section 7.6 Integration Using Tables

8, 24

#### Section 7.7 Approximation Integration

10, 20

#### Section 7.8 Improper Integrals

9, 13, 31

### Week 5 Assignment (Due Thursday Feb 27)

#### Section 6.1 Areas Between Curves

4, 14, 18, 50

#### Section 6.2 Volumes

1, 9, 12, 17

### Week 6 Assignment (Due Thursday Mar 5)

#### Section 6.3 Volumes by Cylindrical Shells

9, 19, 42

#### Section 6.4 Work

3, 8, 9, 15, 20, 21, 24

## Math 3B Calculus II Weekly Assignments

### Week 7 Assignment (Due Thursday Mar 12)

#### Section 6.5 Average Value of a Function

7, 17

#### Section 8.1 Arc Length

15, 19, 21

#### Section 8.2 Area of a Surface of Revolution

7, 8, 15, 27

#### Section 8.3 Applications to Physics and Engineering

3, 4, 31, 34, 44

### Week 8 Assignment (Due Tuesday Mar 24)

#### Section 11.1 Sequences

33, 41, 45, 71

#### Section 11.2 Series

21, 23, 29, 36, 52, 69

### Week 9 Assignment (Due Thursday Mar 26)

#### Section 11.3 The Integral Test and Estimates of Sums

8, 23, 39

#### Section 11.4 The Comparison Tests

7, 10, 14, 26

### Week 10 Assignment (Due Thursday Apr 2)

#### Section 11.5 Alternating Series

7, 12, 23, 28

#### Section 11.6 Absolute Convergence and the Ratio & Root Tests

3, 16, 28

#### Section 11.7 Strategy for Testing Series

8, 16, 21

### Week 11 Assignment (Due Thursday Apr 9)

#### Section 11.8 Power Series

6, 12, 19

#### Section 11.9 Representation of Functions as Power Series

4, 16, 26

#### Section 11.10 Taylor and Maclaurin Series

8, 9, 40, 58

#### Section 11.11 Applications of Taylor Polynomials

5, 7, 15

## Math 3B Calculus II Weekly Assignments

### Week 14 Assignment (Due Thursday Apr 30)

**Section 9.1 Modeling with Differential Equations**

1, 3

**Section 9.2 Direction Fields and Euler's Method**

19(a, c), 23

**Section 9.3 Separable Equations**

7, 10, 45, 48

**Section 9.5 Linear Equations**

8, 13, 16, 18

### Week 15 Assignment (Due Thursday May 7)

**Section 10.1 Curves Defined by Parametric Equations**

2, 5, 12, 18

**Section 10.2 Calculus with Parametric Equations**

7, 12, 41, 61

**Section 10.3 Polar Coordinates**

8, 20, 24, 56

**Section 10.4 Areas and Lengths in Polar Coordinates**

3, 6, 47

### Week 16 Assignment (Due Thursday May 14)

**Section 10.5 Conic Sections**

6, 11, 29, 40

**Section 10.6 Conic Sections in Polar Coordinates**

3, 9

## Math 3B Calculus II Suggested Practice Problems

### Chapter 5 & 7 Techniques of Integration

#### Section 5.5 The Substitution Rule

1, 4, 9, 13, 25, 40, 44, 49, 60, 81, 82, 87

#### Section 7.1 Integration by Parts

2, 3, 4, 6, 10, 12, 18, 19, 20, 27, 28, 38

#### Section 7.2 Trigonometric Integrals

1, 2, 4, 6, 11, 13, 20, 22, 23, 29, 43, 44

#### Section 7.3 Trigonometric Substitution

1, 5, 6, 8, 9, 14, 19, 21, 23, 27

#### Section 7.4 Integration of Rational Functions by Partial Fractions

2, 5, 11, 18, 19, 23, 31, 40, 42, 53, 57

#### Section 7.5 Strategy for Integration

6, 7, 8, 11, 15, 16, 18, 21, 22, 46, 74, 79

#### Section 7.6 Integration Using Tables

1, 8, 12, 23, 24, 29

#### Section 7.7 Approximation Integration

1, 3, 10, 20, 27

#### Section 7.8 Improper Integrals

1, 5, 9, 13, 22, 31, 33

### Chapters 6 & 8 Applications of Integration

#### Section 6.1 Areas Between Curves

4, 8, 14, 18, 24, 27, 50, 53

#### Section 6.2 Volumes

1, 3, 5, 7, 9, 12, 13, 17, 45, 63

#### Section 6.3 Volumes by Cylindrical Shells

4, 9, 13, 19, 20, 21, 25, 29, 42

#### Section 6.4 Work

1, 3, 4, 5, 8, 9, 12, 13, 15, 18, 20, 21, 24, 28

#### Section 6.5 Average Value of a Function

2, 7, 10, 15, 17

#### Section 8.1 Arc Length

5, 11, 15, 19, 21, 39, 41

#### Section 8.2 Area of a Surface of Revolution

3, 7, 8, 12, 15, 27

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