## Instructor Information

- Mrs. Kelsey Casteel
- Office is FEM 1G (far corner of the Math Center)
- Office Hours: Mondays and Wednesdays 9:00 – 9:50 am, Tuesdays 3:00 – 3:50 pm, Thursdays and Fridays 10:00 – 10:50 am. If these times do not work for you, please talk with me before or after class or send me a message and we can easily find time to meet.
- The best way to get ahold of me is by sending a message through the messaging system in Canvas. You can also email me @ kelsey.casteel@reedleycollege.edu. When sending an email, use only your scccd email and include your full name and class. You can also call my office phone at 559-638-0300 x 3799.

## Course Information

Welcome to Math 45, Contemporary Mathematics! Our section number is 51604. We meet Mondays, Wednesdays, and Fridays from 11:00 – 11:50 am in Classroom Complex I (CCI) room 201.

## Course Description

This course provides an introduction to mathematical problem solving in diverse areas of contemporary life such as statistics, social choice, measurement, and management science for students in the arts, humanities, and social sciences.

- Advisories: Eligibility for English 1A or 1AH
- Prerequisite(s): Math 103 or equivalent
- Credits: 3

## Course Materials

Required: MyLab Access. This will give you access to assignments and an electronic copy of the full textbook. You can use a free temporary 14 day access at first if you wish. You find this option on the purchasing page when you are setting up your MyLab account **through Canvas (you will not set up your account through the external Pearson website. You will access it by clicking on the MyLab and Mastering Link on the left side of our Canvas page.)** The cheapest purchasing option is to use a credit or debit card through the website. You also can purchase a code in the bookstore, but that will be a bit more expensive. We are using *Excursions in Modern Mathematics* ninth edition by Peter Tannenbaum.

Required: Calculator, can be whatever you prefer. If you know you are going to take statistics or more math classes in the future, you may want to invest in a TI-84 or TI-89 (TI stands for Texas Instrument). For our class it

is enough to have a simple scientific calculator, such as a TI-30X IIS. Whichever calculator you choose, bring it to class with you.

Optional: A hard copy of the textbook. This is NOT required for the class. Your MyLab access comes with this book. We are using *Excursions in Modern Mathematics* ninth edition by Peter Tannenbaum.

Textbook ISBN-13: 9780134468372
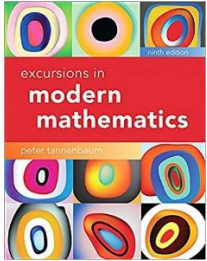


# Student Learning Outcomes

Upon completion of this course, students will be able to:

- Demonstrate problem solving skills by applying mathematical principles and techniques in real world areas.
- Apply the mathematics of finance to making consumer decisions.
- Examine statistical principles used to display, interpret and analyze data.

# Course Objectives

In the process of completing this course, students will:

- Characterize and compare different voting systems, using plurality, borda count, or pair-wise comparison.
- Derive the probability of succeeding at basic games of chance.
- Describe statistical data in a variety of methods such as in using mean, median, and standard deviation.
- Use the empirical numbers to answer statistical questions.
- Find the apportionment of a finite number of items.
- Use various procedures to divide items fairly.
- Find the terms of a sequence and series.
- Measure the rate of growth of different systems, example: linear vs. exponential growth.
- Solve problems from the area of management science by means of linear programming.
- Create geometric shapes using recursive construction rules.

# Lecture Content

A. Mathematics of Social Choice

      1. The mathematics of voting

      2. Weighted voting systems

3. Fair division

4. Apportionment

B. Management Science

1. Euler circuits

2. Hamilton circuits

3. Networks

4. Scheduling

C. Growth & Symmetry

1. Spiral growth & Fibonacci's Numbers

2. Linear & exponential growth

3. Symmetry

4. Fractals

D. Statistics & Probability

1. Collecting data

2. Descriptive statistics

3. Normal distributions

4. Probability

# Grading

You can see your assignment grades and overall class grade anytime in Canvas. Your overall class percentage is broken down as follows:

- Homework Assignments / In Class Work 30%
- Chapter Exams and Projects 70%

Example of class grade calculation: Let's say you have an 85% grade in homework / in class assignments and a 76% grade in exams. Then your overall class percentage would be

$$.30*85 +.70*76 =25.5+53.2=78.7$$

You would have a 78.7% as your overall class grade, and would thus have a C in the class. See the below grade distribution.

89.5 - 100%  A

79.5 - 89.4%  B

69.5 - 79.4%  C

59.5 - 69.4%  D

0 - 59.4%  F

# Homework

Most of the homework assignments are done through the online Pearson program called MyLab. Once we complete a section, an assignment will be created and will be due at 11:59 pm the day of the next class

meeting. For example, any section completed on Monday January 20th would be due Wednesday January 22nd at 11:59 pm. You will have unlimited time and attempts for all questions in every assignment. MyLab has many great resources, such as show me an example and help me solve this. Take advantage of these great tools!

**Late Homework Policy:** Once the due date and time have passed, an assignment is considered late. You can work on all late assignments and earn 60% of the credit (which is much better than a zero!) until the end of the semester.

# Extra Credit

There are no extra credit opportunities available for this course.

# In Class Assignments / Projects

In addition to assignments in MyLab, you will have activities and projects to work on both during and outside of class time. This class is active and the content very applicable!

# Exams

Chapter exams (free response) will be given throughout the semester. For each exam, you may use your calculator and one 3 inch by 5 inch card of notes, both sides OK, with whatever you want written on it – must by readable using normal vision (no magnifying glasses). Each question will be graded on work shown and correctness - partial credit is possible on most questions. All exams will have equal weight in your overall class grade percentage. If you know you will be absent when we have an exam, let me know so we can arrange for you to take it early. You can take one exam late that must be completed by the next class session after the class takes the exam.

# Final Exam

There is NOT a cumulative final exam for this class; the final exam is the last chapter exam. **The final exam for this class will take place on Wednesday May 20th from 11:00 am to 12:50 pm.**

# Technology

As a student of SCCCD, you are given a free student email account. Make sure you are able to login to this account and check it on a regular basis (at least once a day). You can also set it up through your smart phone if you have one and set up email alerts so that you never miss anything important. For example - you wouldn't want to come to campus when your class has been canceled. Your student email is the official way your instructors communicate with you outside of class. In addition to your email account, you also have a Canvas account set up by the college. Everything that has to do with our course will be on our Canvas page, so make sure you have access and sign in on a regular basis.

# Resources

- Your instructor
- Your fellow students
- Your textbook

- FREE tutoring in the Math Center located in FEM 1. Hours are Monday-Thursday 8 am to 4 pm and Fridays 8 am to 12 pm.
- FREE tutoring in the Learning Center (aka tutorial center) located in the library.
- Online resources: Khan Academy, YouTube, any other websites you find that are helpful (please share with the rest of the class).

# College Policies

*Accommodations for Students with Disabilities*

If you have a verified need for an academic accommodation or materials in alternate media (ie: Braille, large print, electronic text, etc.) per the American With Disabilities Act or Section 504 of the Rehabilitation act please contact me as soon as possible.

*Academic Dishonesty*

``Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences" (Reedley College Catalog pg 49).

*Cheating*

``Cheating is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another's work, supplying one's work to another, giving or receiving copies of examinations without an instructor's

permission, using or displaying notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely" (Reedley College Catalog pg 49).

*Disruptive Students*

Disruptions will not be tolerated. It is my goal to provide the most comfortable and welcoming environment in our class. Cell phones are only allowed in class when taking a picture of something on the board, researching a topic in class, or using them for activities during class (such as Kahoot!). ``Reedley College's Student Code of Conduct Policy (Board Policy 5520 and Educational Code 76032) authorizes an instructor to remove a disruptive student from his or her class for the day of the removal and the next class meeting. The instructor shall immediately report the removal to the Vice President of Student Services. During the period of removal, a student shall not be returned to the class from which he or she was removed without the concurrence of the instructor of the class" (Reedley College Catalog pg 49).

*Student Rights*

``Student rights are protected by federal and state laws, and by policies established by the trustees of the State Center Community College District. It is therefore essential for the protection of students' rights that

procedures be established and followed which would identify violations of student conduct standards and the resolutions of such violations. Students have a right to an oral or written notice (reasons for disciplinary action), an opportunity for a review, and a decision given orally or in writing. For more information contact the Vice President of Student Services' office. (Board Policy 5520, Administrative Regulation 5520)" (Reedley College Catalog pg 49).

# Drop Policies

*Student Drops:* If you wish to drop the course, it is your responsibility to do so in Webadvisor. Please see the important dates below to know when you can drop.

*Instructor Drops:* You will be dropped from the course if any of the following occur:

- Missing four days of class within the first three weeks of the semester without talking with me.
- Not having full, paid access to MyLab by 11:59 pm on Friday January 31$^{st}$ (please talk with me if there is an issue)
- Missing eight days of class within the first nine weeks of the semester, so between January 13$^{th}$ and March 13$^{th}$.

# Important Dates

- Monday January 13$^{th}$ : Start of the semester
- Monday January 20$^{th}$ : Martin Luther King, Jr. Day observed (no classes, campus closed)
- Friday January 24$^{th}$ : Last day to drop a full term (18 week) course for a full refund
- Sunday February 2$^{nd}$ : Last day to drop the class and NOT receive a W (withdraw). It is as if you were never in the class.
- Friday February 14$^{th}$: Lincoln Day observance (no classes held, campus closed)
- Monday February 17$^{th}$ : Washington Day observance (no classes held, campus closed)
- Friday March 13$^{th}$: Last day to drop a full term class and get a W (letter grades assigned after this date)
- April 6 – 10 : Spring recess and Good Friday Observance (no classes, campus closed on the 10$^{th}$)
- May 18-22: Final exam week. All work for this course is due by 11:59 pm on Wednesday May 20$^{th}$ and the final exam (last chapter exam) will take place Wednesday May 20$^{th}$ in our regular room from 11:00 am to 12:50 pm.

*** This syllabus is subject to change at the discretion of the instructor***