

FINITE MATHEMATICS
MATH-011-.67
WINTER 2018

Course Description: Application of linear equations, sets, matrices, linear programming, mathematics of finance, and probability to real-life problems. Emphasis on the understanding of the modeling process, and how mathematics is used in real-world applications

Course Objectives:

- A) Develop, throughout the course as applicable, systematic problem-solving methods
- B) Investigate linear and exponential models
- B) Investigate methods of solving linear systems using matrices
- D) Formulate linear programming models and solve them both graphically and using the simplex method
- E) Develop the concepts of the time value of money, and compute compound interest, future and present values, and periodic payments
- F) Examine sets, counting techniques and their applications
- G) Create probability models and investigate their applications
- H) Investigate stochastic processes and Markov chains
- I) Implement optimal strategy in game and decision theory problems
- J) Utilize technology as an aid in exploring, analyzing, understanding and solving problems
- K) Investigate, throughout the course as applicable, how mathematics is used as a human activity around the world

Prerequisites: Qualifying score on the Math Placement Test within the last calendar year, or Math or 114 (Intermediate Algebra)

Text: APPLIED FINITE MATHEMATICS,
 Third Edition, 2016
 Revised and updated by Roberta Bloom

Supplies: A) Scientific or Graphing calculator (TI-83 + or TI-84 +)
 B) .5 or .7 mm mechanical pencil
 C) Retractable pencil style eraser
 D) Binder paper – ripped out spiral bound notebook paper is unacceptable for any assignment in this class.
 E) Quarter inch graph paper
 F) Six inch straightedge
 G) Yellow highlighter

Schedule: MW 6:30 8:45pm in G2

Instructor: Joel Hansen

email: hansenjoel@fhda.edu

Office Hours: 8:45 9:15pm in G2

- Attendance: You are expected to attend all class meetings. If you miss 3 class meetings, whether excused or unexcused, you will be dropped from class roll or failed if beyond "last day to drop with a 'W' " date unless extenuating circumstances have prevented you from attending. **THIS IS AUTOMATIC.**
Each absence or tardy will result in the loss of points towards your final grade point total. Each absence or tardy 10 minutes after class starts will result in a loss of 5 points. If you leave the class after the break, you will incur a loss of 5 points
BONUS---If you have zero absences and zero tardies (with no exceptions!) for the duration of the class, you will be given a bonus of 25 points toward your grade point total.
- Cheating Any cheating on quizzes, tests or final exam will be reported to Dean of PSME Division and an additional report will be filed with Dean of Student Development. Cheating is grounds for dismissal and/or failure of class.
- Disruptive Behavior De Anza College will enforce all policies and procedures set forth in the *Standards of Student Conduct* (see catalog). Disruptive behavior can include, but is not limited to, the following: verbal abuse, physical abuse or threats, willful damage to person or college property, inordinate demands for time and attention, harassment, discrimination, or disruption in the classroom. **DISRUPTIVE BEHAVIOR WILL NOT BE TOLERATED** because it interferes with the educational process or deprives others of the right to learn, the right to service, and/or the right to feel safe.
Any student disrupting a class may be asked to leave that class for the day. Failure to vacate the premises will result in Campus Security immediately being called to remove the student from the class.
Administrative follow-up with the PSME Division Dean and/or Dean of Student Development will result.
- Class drop: **DROPPING CLASS IS THE STUDENT'S RESPONSIBILITY.** If you no longer wish to be enrolled in the class, you must drop by the deadlines listed below. Drop forms are not needed.
Failure to drop class might result in a failing grade, owed fees and other negative consequences. **BE SURE TO DROP CLASS IF YOU QUIT ATTENDING.**
Drop class online at: **myportal.fhda.edu**
- There will be no grade of record if class is dropped by January 21. From January 22 through March 2, a grade of "W" will be recorded. Students who have not dropped by final drop deadline (March 2) will receive the appropriate grade for their achievement in the course.

End of quarter drops are restricted by California state guidelines unless there are extenuating circumstances.

IT IS INCUMBENT UPON YOU TO INITIATE THIS DROP PROCEDURE; IF YOU DO NOT, YOU WILL BE GIVEN A FAILING GRADE FOR THE QUARTER GRADING PERIOD.

- Homework:** Homework assignments will be given in class and assignments are collected on a class meeting basis. A cover sheet is required for EACH assignment; this **MUST** list the particular problems assigned. All homework is done on **ONE** side of paper only. The assignment **MUST** be stapled in the **RIGHT-HAND** corner of packet and each answer is **YELLOW HIGHLIGHTED**.
If you have not finished or have not done assignment, you **MUST** still turn in cover sheet with the reason for not completing or doing assignment. If you are absent on the day assignment is to be turned in, it is due immediately upon your return to class. Turning in answers only is not considered completing the assignment and will not be graded. Incomplete assignments will not be graded. Further instructions per homework assignments will be given in class. **YOU MUST SET ASIDE A MINIMUM OF TWO TO THREE HOURS PER CLASS MEETING TO DO HOMEWORK. IF NOT, THE LIKELIHOOD OF YOUR SUCCESS IN THIS COURSE MAY BE JEOPARDIZED.**
- Labs:** A certain number of lab activities will be given. They are used to reinforce the information derived from the textbook. The difficulty of the assignment will determine the amount of points the lab is worth.
- Quizzes:** Quizzes and calculator activities will be given in class or as a take-home activity. Each quiz is worth 15 points. Calculator activities will be determined by the difficulty of the assignment. For every five quizzes given, a quiz with the lowest score will be eliminated. No makeup quizzes.
- Chapter exams:** There will be four chapter exams and each will be worth 100 points. The top three scores will count toward final grade. No makeup exams.
- Final exam:** The final exam for the class will be 50 questions and is comprehensive, multiple-choice and scantron corrected. The exam is worth 250 points. You must take final exam to pass class. If not, you will automatically fail the class.
- Final exam date:** 6:15 8:15pm Thursday, March 29, 2018

Grades:

Chapter exams	300 points
Quizzes & Calc. activities	___ points
Homework	___ points

Labs	___ points
Practice final	100 points
Final	<u>250 points</u>
Total	___ points

Distribution:

A+-	98 – 100% of total points.
A	93 – 97.99% of total points.
A	91 – 92.99% of total points.
B+	89 – 90.99% of total points.
B-	82 – 88.99% of total points.
B	80 – 81.99% of total points.
C+-	78 – 79.99% of total points.
C-	67 – 77.99% of total points.
D-	57 – 66.99% of total points.
F-	0 – 56.99% of total points.

Above grades are guaranteed, but a more lenient scale may be adopted, giving grades for lower percentages than indicated, if a member of the class demonstrates a dedication toward making the class a positive learning experience. Criteria such as attendance, completion of all assignments and quizzes, and class participation would then be brought into consideration.

Important dates:

January 20	Last day to add class
January 21	Last day to drop class with no record of grade
March 2	Last day to drop class with a "W"

IMPORTANT! PLEASE READ NEXT PARAGRAPHS!

There is no reason to have a CELL PHONE, SMART PHONE, TEXT MESSAGING DEVICE, PERSONAL LISTENING DEVICE (iPod, MP 3 player, etc) or PAGER in operation in class. Make sure the device is in an OFF mode when you enter class so as not to interrupt class when called or paged. If you have an emergency situation where you are expecting a call, please let me know before the class starts.

If you fail to put your phone, messaging device, listening device or pager in an OFF mode and it rings or vibrates in class, or if you are observed text messaging during class, you will lose 25 POINTS FOR EACH INTERRUPTION OR INFRACTION. The point loss is AUTOMATIC!

Lack of electronic device etiquette is neither condoned nor tolerated.

A graphing calculator and/or scientific calculator is the ONLY device used to compute work on tests or quizzes. Any smart phone, iPhone or iPad is NOT allowed for computational work.

Once you enter class you are expected to stay in your seat until class is dismissed or a ten minute break is given for a “two hour” class. Obviously, this also holds true during time allotted for a CHAPTER TEST OR FINAL EXAM. YOU ARE NOT ALLOWED TO POP IN AND OUT OF CLASS to deal with cell phone or messaging issues, smoke a cigarette or use the bathroom. Please take care of all the above before you come to class or during class break. If you have a physical problem where you might have to use the bathroom during class, please let me know before class starts.

(The above paragraphs are written so that you will have an appreciation for the rights of your fellow classmates. You do not have the right to disrupt the classroom education environment or education process nor deprive others of the right to learn or the right to service.)

You are expected to put your personal effort into your school work. If you are observed reading or copying another person's quiz or exam or talking to another person during such an exercise, the PSME Division Dean will immediately be notified of this behavior. An additional report will also be filed with the Dean of Student Development. **This behavior is neither condoned nor tolerated.**

Some thoughts on class...

- 1) No assignment will be accepted on RIPPED OUT SPIRAL BOUND notebook paper. If you MUST use this paper, remove(cut) the remaining nibs on the recently bound edge.
- 2) You should try to attend all class sessions. Mathematics is a skill building process, and in order to make progress in understanding these processes you have to be in an environment to ask questions. Try to be present for each and every session. See Attendance earlier in green sheet.
- 3) It is expected on the college level to do two to three hours of homework for every hour of class time. Some students can do a lesser amount of homework hours because of previous exposure to the subject material. Conversely, others will have to do three to five hours per class hour to master the subject material. You will have to determine your time requirements.
When doing your homework, make sure you are doing quality time and not mechanical repetition. This means not having external stimuli (TV, stereo, rock ‘n roll music, Walkman, iPod, friends, beach, etc.) distracting you. “Quality” time means concentrating 100% on the required material. In your study of mathematics, you should do the problems until the processes are learned by rote.
- 4) You should attempt to do your homework – section by section. Go completely through the section then check the answers that are provided for you at the end of the book. In other words do not do each problem then flip to the back of the book to check your answer. If you persist in this behavior, you will find you are simply “doing problems” without upgrading your skill level, much less gaining insights in problem-solving abilities. You might also find that you have to do a section’s problems a second or third time in order to fully master the material presented. You should walk into the next class meeting after homework is assigned knowing full well what the intent of the material is.

Student Learning Outcome(s):

*Identify, evaluate, and utilize appropriate linear and probability optimization models and communicate results.

*Compare, evaluate, judge, make informed decisions, and communicate results about various financial opportunities by applying the mathematical concepts and principles of the time value of money.