MATH 12                                         BUTTE COLLEGE
FINITE MATH                                       SPRING 2015
3 UNITS                                          CTRL # 3322

**Instructor:** Ivan Zaigralin                   melikamp@melikamp.com

**Office:** TE 144, MWF 11 am - 11:30 am. You must make an appointment 48 hours prior to the meeting.

**Class Meetings:** TE 118, MWF 9:00 am - 9:50 am

**Required Materials:** *Finite Mathematics*, 8th edition, by Rolf (online portion not required). The students are responsible for reading every section covered by the course outline at the end of the syllabus.

**Catalog Description:** Linear functions, systems of linear equations and inequalities, matrices, linear programming, mathematics of finance, sets and Venn diagrams, combinatorial techniques and an introduction to probability. Applications in business, economics and social sciences.

**Objectives:** Upon successful completion of this course, the student will be able to

(1) Apply linear and exponential graphs and functions.
(2) Write a system of linear equations to solve applied problems.
(3) Solve a system of linear equations using Gauss-Jordan elimination and interpret the result.
(4) Find the inverse of a square matrix and use the inverse to solve a system of linear equations.
(5) Solve linear programming problems in at least three variables.
(6) Find unions, intersections and complements of sets and use Venn diagrams to solve problems.
(7) Apply basic combinatorial principles to enumeration problems.
(8) Determine the probability of a specified event.
(9) Find the conditional probability of an event.
(10) Solve applied problems in finance including simple and compound interest, future and present value, annuities, sinking funds, and amortization.

**Attendance:** To succeed in this course, it is crucial that you come to class every day, alert and prepared to learn. Roll will be taken at the beginning of each class session. If you arrive after the class has started, please enter the room quietly and sign the roster at the end of the class.

If you miss more than a half of a class session, you will be considered absent for that day. If you miss two or more classes during the first two weeks without notifying me or the department secretary in advance, you will be dropped from the class. **If you miss six or more class sessions any time during the semester, you will be dropped from the class.** Exceptions will be made for documented cases of grave illness and/or family emergency.

**Homework:** Homework serves as practice and will prepare you to do your best on quizzes and tests. Homework will be assigned (almost) every class period and collected on Fridays at the beginning of the class session. No make-up homework will be collected for any reason, but 2 lowest homework scores will be dropped. Homework will be graded for completeness and the amount of detail. **Homework is crucial for learning algebra as well as for succeeding in this class.** Doing all homework is probably the most effective way to raise your test grades. You are welcome to work in groups while solving the homework, but you must submit your own work.

**Quizzes:** There will be 5 quizzes given. No make-up quizzes will be given for any reason. The lowest quiz score will be dropped and the four highest scores together will be worth 10% of the class grade.

**Tests:** There will be 4 50-minute tests. Each test will be worth 15% of the class grade. Makeup tests will be given in documented cases of grave illness and/or family emergencies.

**Final:** The final exam will be given on Friday, May 29, 8:00am - 10:00am. It will be worth 20% of the class grade. **You must attend the final in order to pass the class. If you miss the final, then you will get an F for the class.**

**Grading:**

| Letter Grades | |
| --- | --- |
| A | 90-100% |
| B | 80-89% |
| C | 70-79% |
| D | 60-69% |
| F | 0-59% |

| Grade Breakdown | |
| --- | --- |
| Tests | 60% |
| Homework | 10% |
| Quizzes | 10% |
| Final | 20% |

**Getting Help:** If you have a question or a concern not addressed in this syllabus, please contact your instructor via email. Moreover, the campus provides some resources to help you study.

(1) free drop-in tutoring:
    https://www.butte.edu/cas/tutoring.html
(2) other helpful resources:
    http://www.butte.edu/currentstudents/help_on_campus/

**Cell Phones, Computers:** Cell phones are prohibited. The use of computers and tablets will be tolerated during regular class meetings as long as they are completely silent and don't distract other students. During quizzes, tests, and the final, only calculators will be allowed (but not required).

**Accommodations:** If you have a learning disability, a physical disability, or other special needs, please let me know as soon as possible if you need special accommodations (such as extra time for tests). I will do my best to accommodate all needs verified through Disabled Students Programs and Services.

Students have the right to request reasonable modifications to college requirements, services, facilities or programs if their documented disability imposes a functional educational limitation or impedes access to such requirements, services, facilities, or programs. A student with a disability who will be requesting modification, accommodation, or access to an auxiliary aid is required and responsible for identifying himself/herself to the instructor and, if desired, to the Disabled Students Programs and Services (DSPS office). In either event, the student is responsible for providing appropriate documentation of his/her disability. Students who consult or request assistance from the DSPS office regarding specific modifications, accommodations or use of auxiliary aid will be required to meet timelines and procedural requirements established by the DSPS office.

**Academic Honesty:**

All instances of plagiarism and cheating will result in the score of zero for that homework, quiz, or test, and will be reported to the Dean's Office.

**Important Dates:**
2/5 - last day to drop without "W", last day to add/drop classes
3/26 - last day to drop with "W"

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Tentative Outline: Changes will be announced in class.

| MONDAY | WEDNESDAY | FRIDAY |
|---|---|---|
| Jan 26th **1**<br>1.1 | 28th **2**<br>**Quiz 1**, 1.1 | 30th **3**<br>1.2 |
| Feb 2nd **4**<br>1.3 | 4th **5**<br>**Quiz 2**, 2.1 | 6th **6**<br>2.2 |
| 9th **7**<br>2.2 | 11th **8**<br>2.3 | 13th<br>**No Classes** |
| 16th<br>**No Classes** | 18th **9**<br>2.4 | 20th **10**<br>2.5 |
| 23rd **11**<br>2.6 | 25th **12**<br>**Review** | 27th **13**<br>**Test 1** |
| Mar 2nd **14**<br>3.1, 3.2 | 4th **15**<br>3.3 | 6th **16**<br>3.4 |
| 9th **17**<br>**Quiz 3**, 4.1 | 11th **18**<br>4.1 | 13th **19**<br>4.2 |
| 16th<br>**Spring Break** | 18th<br>**Spring Break** | 20th<br>**Spring Break** |
| 23rd **20**<br>4.3 | 25th **21**<br>4.3 | 27th **22**<br>4.4 |
| 30th **23**<br>**Review** | Apr 1st **24**<br>**Test 2** | 3rd **25**<br>5.1 |
| 6th **26**<br>**no power** | 8th **27**<br>5.2 | 10th **28**<br>5.3 |
| 13th **29**<br>**Quiz 4**, 6.1 | 15th **30**<br>6.2, 6.3 | 17th **31**<br>6.3, 6.4 |
| 20th **32**<br>6.5 | 22nd **33**<br>6.6 | 24th **34**<br>**Review** |
| 27th **35**<br>**Test 3** | 29th **36**<br>7.1 | May 1st **37**<br>7.2 |
| 4th **38**<br>7.3 | 6th **39**<br>7.4 | 8th **40**<br>7.5 |
| 11th **41**<br>7.5, **Review** | 13th **42**<br>**Quiz 5**, 10.1, 10.2 | 15th **43**<br>10.3, 10.4 |
| 18th **44**<br>**Review** | 20th **45**<br>**Test 4** | 22nd **46**<br>**Review** |
| 25th<br>Final week | 27th<br>Final week | 29th<br>**Final** (8:00 am - 10:00 am) |