

Santa Rosa Junior College

Syllabus for SPRING 2018

Course name and number: Math 4 / Discrete Mathematics

Section code: 6026

Class Meeting Days/Times: TR 5:00PM—7:00PM

Class Location: Shuhaw 1737

Instructor: Dr. Ying Lin

Instructor's webpage: <http://www.santarosa.edu/~ylin>

Office: Shuhaw 1702

Email: ylin@santarosa.edu

Phone/Voicemail: 707-521-6912

Office hours: see the calendar on the instructor's webpage

Key dates for the traditional 18-week semester:

Day Class Begins: January 17, 2018

Drop/refund deadline: January 28, 2018

Last Day to Drop without W: February 4, 2018

Last Day to Drop with W: April 22, 2018

Final exam date: Tuesday, May 22, 4:00pm – 6:45pm

Course Description:

A lower division discrete mathematics course including formal logic, Boolean logic and logic circuits, mathematical induction, introduction to number theory, set theory, principles of combinatorics, functions, relations, recursion, algorithm efficiency and graph theory

Course Objectives:

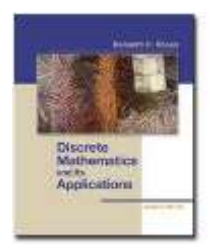
Upon completion of the course, the student will be able to do the following:

1. Properly structure mathematical algorithms and proofs.
2. Prove theorems by induction.
3. Apply algorithms from elementary number theory.
4. Use set theory to solve mathematical problems.
5. Apply combinatorics to counting problems, including use of Pigeonhole Principle, permutations, combinations, and probability.
6. Analyze functions, inverse functions, and finite state automata.
7. Solve recurrence relations.
8. Analyze the efficiency of algorithms.
9. Recognize relations and their properties.
10. Use graph theory to develop and analyze appropriate models.

Prerequisite:

Completion of MATH 27 or higher; OR Course Completion of MATH 25 and MATH 58; OR Qualifying Test Score in Math Algebra and Course Completion of MATH 58; OR Qualifying Test Score in Math Trigonometry and Course Completion of MATH 25; OR Qualifying Test Score in Math Algebra and Qualifying Test Score in Math Trigonometry

Textbook:

	Discrete Mathematics with Applications, 7th Edition, by Kenneth Rosen, 2012. ISBN: 0073383090
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Class website in Canvas:

There is a course website hosted by the college. You must have access to the course website in order to read the announcements, online discussions and grades. Additional problem sets, handouts and files will also be distributed through the course website. The class website is linked to the instructor's webpage, and you can log into your Canvas course using your SRJC ID number and PIN code. You can also directly access the login page through <https://santarosajc.instructure.com>

Class Attendance:

Absences, arriving to class late and leaving class early are counterproductive to learning. If you need to leave class early, notify the instructor **before** class starts, sit close to the exit and leave without disturbing the instructor or other students. You are responsible for obtaining any notes, announcements, etc. If you are absent, arrive late to class or leave early during more than 10 percent of the classes, in addition to deduction to your attendance points, you may be withdrawn from the course without notice. Missing the first class may also result in you being withdrawn from the course to allow other students to enroll. Students are responsible for officially withdrawing from the course if they stop attending.

Graphing Calculators and Software:

A graphing calculator such as ones used in the Calculus sequence is required. Free software may be necessary for completing some assignments. No purchasing of software is necessary for this class.

Email:

Email is checked twice a day during business hours only. Please include your course number and class time in the subject of your email. Please type your email using complete sentences in a respectful manner to ensure a timely response.

ADA Compliance Statement:

If you need disability related accommodations for this class, such as a note taker, test taking services, special furniture, use of service animal, etc., please provide the Authorization for Academic Accommodations (AAA letter) from the Disability Resources Department (DRD) to me as soon as possible. You may also speak with me privately during office hours about your accommodations. If you have not received authorization from DRD, it is recommended that you contact them directly. DRD is located in Analay Village on the Santa Rosa campus, and Petaluma Village on the Petaluma Campus.

Grading Policies

Grades		Final Grades	
Individual Homework	13%	90% or higher	A
Class Participation	2%	80% - 90%	B
Quizzes	10%	70% - 80%	C
Tests (3X100pts)	45%	60% - 70%	D
Final Exam (200 pts)	30%	Less than 60%	F

Incompletes:

The grade of "I" (incomplete) may be requested only with a valid, verifiable excuse and only if the student has successfully completed all but a small portion of the required coursework with a passing grade (at least 70% of the coursework must be complete). A student requesting an incomplete must do so by 24 hours after the final exam. An incomplete may be given only at the discretion of the instructor.

Homework will be assigned from the textbook and collected once a week. The list of homework problems can be downloaded from the class webpage. Late homework will not be accepted.

Quizzes: weekly quizzes will be given either in class to test understanding of the homework assignments. Each quiz must be completed within the specified time limit. Quizzes cannot be made up, but the lowest quiz will be dropped from the overall score.

Tests: The three tests will be given either in the testing center or in class on the dates noted in the syllabus. All tests are closed-book, but calculator or limited notes may be allowed, depending on the test. **Tests cannot be made up!** If you miss a test, your comprehensive final exam score can replace the score of up to one missed test.

Final Exam will be a comprehensive exam. It is **not** optional and must be taken on the week of classes during the class time. Make your vacation plans accordingly. The final exam replaces your lowest test score, if the percentage is higher.

- Example 1: you have scored 80% in all of your tests and 90% in your final. Then your total test/final scores will be $80+80+90+180=430$ out of 500 points.
- Example 2: you have scored 80% in all of your tests and 70% in your final. Then your total test/final scores will be $80+80+80+140=380$ out of 500 points.

If you receive less than 60% in the Final Exam, your final letter grade will be lowered by one full letter grade (e.g. from C to a D).

Extra Credit: Students may participate in the AMATYC Student Math contest to earn extra credit. The time for the AMATYC contest will be announced in the Mathematics department.

Student Withdrawal "W" Grades

Students may **withdraw** from class without instructor permission and without incurring any grade penalty until the W deadline. This grade may be requested by the student only during the first two-thirds of any session and may be given by the instructor on or before the official census reporting date to students who have ceased attending class before that date. Students who stop attending class after this date may receive a grade of "F."

Help:

- Your questions are welcomed both in and out of class. If you cannot resolve your questions in class, I strongly recommend you coming to see me during office hours.
- Assistance can be found in the Mathematics Computer Lab, the MESA center, and the Tutorial Center in the Library.
- The Math Department office has a list of private tutors. This list can also be found on the Math Department web site at www.santarosa.edu/mathematics.

Student Conduct

We will conduct ourselves in a manner which reflects our awareness of common standards of decency and the rights of others. All students are expected to know the Student Conduct Code (http://www.santarosa.edu/for_students/rules-regulations/scs/section1.shtml) and adhere to it in this class. Students who violate the code may be suspended from 2 classes and referred to Vice President of Student Services for discipline.

Respect

The best way to learn is through active participation; therefore, we respect others when talking by being on-time, listening actively, and by being polite even when we disagree with another's viewpoint. Please turn off all electronic devices. If you use a laptop for note taking, please sit in the front row with the sound off. No food in class please.

Academic Integrity

All written work is to be original; plagiarism of any kind will result in a failing grade on that assignment. Students who plagiarize or cheat may be suspended [for one or two class meetings by the instructor] and referred to the Vice President of Student Services for discipline sanction, in cases of egregious violation. Please read the college policy/procedure on academic integrity at: <http://www.santarosa.edu/polman/3acadpro/3.11P.pdf>

Emergency Evacuation Plan

In the event of an emergency during class that requires evacuation of the building, please leave the class immediately, but calmly. Our class will meet on the lawn in front of Shuhaw to make sure everyone got out of the building safely and to receive further instructions. (If the class is on a second or higher floor, provide clear directions to the stairs). If you are a student with a disability who may need assistance in an evacuation, please see me during my office hours as soon as possible so we can discuss an evacuation plan.

Caveat:

The instructor reserves the right to make changes to the syllabus and will notify students of those changes in class.