MATH 300 — LOS RIOS/CRC
INTRODUCTION TO MATHEMATICAL IDEAS — SPRING 2017
3 UNITS — SECTION # 14368

THIS SYLLABUS WAS UPDATED ON JANUARY 19, 2017

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Email is the primary and the most reliable way of contacting the instructor. Either address should work. When emailing, please always specify your real name (the same one as in the roster) and which class you are taking.

Office: LRC 150, MTWTF 12 - 1 pm, (916) 691-7086. Please let the instructor know if these hours do not work for you, and we can try to set up an appointment (allow 2 business days for reply).

Class Meetings: L 110, MW 10:30 am - 11:50 am.

Required Materials: *Mathematical Excursions*, 3rd edition, by Aufmann, Lockwood, Nation, Clegg. Online portion is not required, so you may be able to get the correct edition at a steeply discounted price, if you buy used. **The students are responsible for reading every section covered in class.**

Catalog Description: Introduction to Mathematical Ideas allows liberal arts students to meet general education mathematics requirements while exploring concepts and objects of mathematics in a meaningful way. This course is designed to show some of the essence and quality of mathematics, and to enhance precision in the evaluation and expression of ideas, thereby developing a student's quantitative reasoning skills. It is recommended primarily for students who do not plan to major in a math-related field, but may be of interest to others as well. Course content may include topics from numeration systems, logic, geometry, probability, statistics, algebraic modeling, number theory, consumer mathematics, graph theory, voting and apportionment, and perhaps others; concepts of contemporary mathematics may be covered. Emphasis is placed on the deductive process.

Prerequisites: MATH 120 or 125 with a grade of "C" or better; or equivalent skills demonstrated through the assessment process.

Methods of Instruction: Class meetings will feature a mix of lecture, discussion, short quizzes, and group assignments. Several in-class tests will be given.

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 get on 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 the first class meeting without notifying me or the division administrator in advance, you will be dropped from the class. If you miss the total of 6% of instruction any time during the semester, you may be dropped from the class. These absences need not to be consecutive. Exceptions will be made at the instructor's discretion for documented cases of grave illness and/or family emergency.**
https://www.crc.losrios.edu/catalog/geninfo/regulations

Written Assignments: All written assignments, including but not limited to the homework, tests, quizzes, and the final, should be done in **dark pencil or pen**; black, dark gray, dark blue, and deep purple are preferred. Fancy colors such as green or red can only be used for graphs and illustrations.

Homework: Homework serves as practice and will prepare you to do your best on quizzes and tests. Late homework will be accepted for 50% credit if it is less than 1 week late, and for 25% credit otherwise. About 20% of the lowest homework grades will be dropped. Homework is crucial for learning the material 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.

The title page should list the homework name. Solutions should be presented in the order they are assigned, with page breaks between textbook sections.

what the homework could look like

HW 4 ← **HW name** **your name →** Simpson, Lisa

(4.5) ← **textbook section number**

15. $1+2=3$
17. $(2x^2)' = 4x$

page ends here

(4.6) ← **textbook section number**

1. $(x+1)^2 = x^2+2x+1$
2. $(-0.5x^{-2}y^{-1})^{-3} = -8x^6y^3$

⋮

Quizzes: Short quizzes will be given at the beginning of some class sessions. **No make-up quizzes will be given for any reason.** 20% or so of the lowest quiz scores will be dropped, and the highest scores together will be worth 10% of the class grade.

Tests: There will be several tests. Together they will be worth 60% of the class grade. **No make-up tests will be given for any reason.** If you miss a test due to a documented case of grave illness and/or family emergency, you will have an option to use your final exam grade to replace that zero, but only at the instructor's discretion.

Final: The 2 hour comprehensive final exam will be given Monday, May 15 at 10:15 am and will be worth 20% of the class grade. **You must earn at least** 60% **on the final in order to pass this class. There is no make-up final exam.**

Grading:

Grades versus %	
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%

Extra Credit: Get some extra credit during the first 4 weeks of instruction by

(1) responding to an email the instructor has sent via the college email system.
(2) visiting the instructor's office hours.

Getting Help: If you have a question or a concern not addressed in this syllabus, please contact your instructor via email (allow 2 business days for reply). Moreover, the campus provides some resources to help you study:
`https://www.crc.losrios.edu/services`

Tutoring: The CRC Tutoring Center provides academic support services to CRC students. The Center facilitates drop-in tutoring, study skills coaching, study groups, and more.
`https://www.crc.losrios.edu/services/tutoring`

Additional tutors are available at the Math Center, which helps students to develop confidence and proficiency in their math skills. You must enroll in a variable unit course in order to use the Math Center.
`https://www.crc.losrios.edu/services/mathctr`

Cell Phones, Computers: Cell phones are prohibited. The use of computers and tablets during regular class meetings is OK as long as they are used for class work and are completely silent. While taking quizzes, tests, and the final, only non-networked calculators and/or computers running approved software will be allowed.

As the only exception, you are welcome to use whatever device to surf the net after you are done with a quiz, while you are waiting for your classmates to finish.

Accommodations: Disability Support Programs & Services (DSP&S) provides equal educational opportunity for students with physical, psychological, or learning disabilities. Counseling, support services, and academic accommodations are provided to students who are eligible for the program.

The Cosumnes River College Learning Disabilities Program can provide support services and academic accommodations to students who have documentation of a specific learning disability from another school or professional. In addition, Diagnostic Assessment may be available for appropriately referred students who come to the DSP&S program for an orientation appointment.

If you have a learning disability, a physical disability, or other special needs, please let the instructor know as soon as possible if you need special accommodations.

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 (DSP&S office). In either event, the student is responsible for providing appropriate documentation of his/her disability. Students who consult or request assistance from the DSP&S office regarding specific modifications, accommodations or use of auxiliary aid will be required to meet timelines and procedural requirements established by the DSP&S office.
`https://www.crc.losrios.edu/services/dsps`

Academic Honesty: Any instance of plagiarism and/or cheating will result in the score of zero for that homework, quiz, or test, and will be reported to the Vice President's office.
`https://www.crc.losrios.edu/catalog/geninfo/integrity`

Meta: The instructor reserves the right to make changes to this syllabus throughout the semester. All changes will be announced in class, and an updated version of the syllabus will be published online. Students are responsible for keeping up with these changes.

Student Learning Outcomes: Upon successful completion of this course, the student will be able to

- Categorize and analyze mathematical objects and apply them to real life problems
  - define and setup tables, diagrams, graphs, and matrices
- Solve mathematical problems from different branches of mathematics
  - manipulate and solve problems relating to algebra
  - apply basic geometric axioms, definitions, and theorems to solve geometric problems
  - recognize principles of counting techniques to determine number of ways to select members from a group for a specific task
  - compute mean, median, mode, range, standard deviation, and variance of a set of data
- Interpretations of mathematical objects in a variety of analytical settings and performing different operations to combine these objects
  - recognize different representations of sets and performing different set operations to combine sets
  - apply the logic properties to assess the validity of an argument
- Apply the mathematical concepts or objects to assess a situation , make decisions, and solve the real life problems
  - assess the risks and rewards of credit cards and investments, and select the optimal path for a delivery route
  - create an efficient schedule, select a fair method for dividing valuable assets, and evaluate the efficiency of an algorithm
- Defend some aspects of the mathematics used in real life applications
  - investigate and solve real life problems such as home mortgage loans and student loans
  - pursue the meaning of mathematics through the history of different numeration system and the progression of mathematics