MATH 100 — LOS RIOS/CRC
ELEMENTARY ALGEBRA — FALL 2020
5 UNIT(S) — SECTION # 14854

THIS SYLLABUS WAS UPDATED ON OCTOBER 22, 2020

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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 inquiring about. Emails omitting this information may fail to be processed.

Online Instruction: All in-person meetings are conducted via Zoom: `https://zoom.us/j/4252516500`
If you would prefer not to use proprietary software while taking this class, contact the instructor as soon as possible, as there may be ways to accomodate.

Office: MTuWTh: 9:00 – 10:15 am. 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: MTuWTh 10:30 – 11:40 am (all meetings are held via Zoom)

Required Materials: *Basic Algebra with Applications*, 4th edition, by yours truly. The students are responsible for obtaining the text (digital/online version is OK) and reading every section covered in class and/or assigned for homework.
You are required to obtain a **printed** copy of *Basic Algebra Lab Manual*. You are also responsible for bringing the relevant portions of the lab manual to every class meeting.

Catalog Description: This course includes the fundamental concepts and operations of algebra with problem solving skills emphasized throughout. Topics include: properties of real numbers, linear equations and inequalities, integer exponents, polynomials, factoring polynomials. Rational expressions and equations, radical expressions and equations, rational exponents, systems of linear equations and inequalities, the rectangular coordinate system, graphs and equations of lines, and solving quadratic equations.

Prerequisites: MATH 30 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, quizzes/labs, and group assignments. The instructor may assign students into teams for group assignments, and reassign teams at any time during the semester.

Attendance: This course will host live Zoom sessions during the stated class times. Students are required to be present for the entirety of all classes via Zoom, and all tests/quizzes/labs are required to be taken when assigned during the class session. Students are required to be present on the first day of class via Zoom, with camera on. If a student is unwilling or unable to utilize Zoom, but would prefer a free and open-source replacement, the instructor will accommodate on a case-by-case basis.
To succeed in this course, it is crucial that you attend every class session, alert and prepared to learn. Roll will be taken for each class session, usually at the beginning of the class. If you arrive after the class has started, you may have to wait until the instructor has the time to admit you.
By default, only the students enrolled in this class can attend the class sessions. If you are planning on bringing a visitor, you should try to notify the instructor in advance. Exceptions will be made at the instructor's discretion on a case-by-case basis.

Participation: If you miss the total of 6% of class time or more, you may be dropped from the class (missing one whole week will put you over 6% in most cases). These absences need not to be consecutive, and **any** class time you miss may be added to the total. Exceptions to this policy will be made **at the instructor's discretion** for documented cases of grave illness and/or family emergency. In other words, the instructor reserves the right to drop you at any time after your unexcused absences total 6% or more, regardless of any other circumstances.

- If you miss more than a half of a class session for any reason, you will be considered absent for that whole session.
- If you miss the first class meeting without notifying the instructor or the division administrator in advance, you may be dropped from the class. If you have to be removed from the first class meeting due to a discipline issue, you may be dropped from the class.
- If you fail to submit an in-class assignment such as a quiz or a lab by the specified deadline, you may be marked as absent for that class meeting, due to the lack of participation.

`https://crc.losrios.edu/admissions/enroll-in-classes/grading-policies-and-academic-regulations`

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

Homework: Homework serves as practice and will prepare you to do your best on labs and tests. 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, your name, and your class. Solutions to exercises should be presented in the order they are assigned. Textbook sections must start a new page:

what the homework should look like

7.5, 7.6 ← **assigned section(s)** **your name, class, date** → Simpson, Lisa
Math 100
July 4

(7.5) ← **textbook section**

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

page ends here

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new page starts

(7.6) ← **next textbook section starts a new page of paper**

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

⋮

Homework in this class is not intended as the primary means of feedback. The students are expected to check and judge their own work by using answers, whenever the textbook provides them, and/or by discussing the homework with the instructor during the office hours. Typically, the instructor will only check a very small and somewhat random portion of the homework for accuracy.

Late homework will be accepted with a simple fixed 5% penalty per day past due. About 20% of the lowest homework grades will be dropped.

Quizzes/Labs: In-class assignments will be given during some class sessions, typically without any advance warning. **No make-up quizzes/labs will be given for any reason.** 20% or so of the lowest scores will be dropped.

Final: The 2 hour final exam will be given on the date determined by the official final exam schedule:
`https://crc.losrios.edu/admissions/academic-calendar-and-deadlines/final-exam-schedule`
The final date and time is determined by the College District before the semester starts. You must plan to be present at the final. If your schedule precludes you from being present at the final, you must inform the instructor in writing during the first two weeks of instruction. If you are not present at the final, "F" will be entered as your grade for the class.

Grading:

Grades versus %	
A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	0 – 59%

Grade Breakdown	
Homework	10%
Labs/Quizzes	60%
Final	30%

Extra Credit: One way to get extra credit in this class is to be first to point out a typo or an error in any of the typed materials created by your instructor. Getting more than 1% of the total class grade from extra credit is extremely rare. The instructor reserves the right to set or change the maximum allowed amount of extra credit per student, and can do so at any time during the semester.

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://crc.losrios.edu/student-resources`

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://crc.losrios.edu/student-resources/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://crc.losrios.edu/student-resources/tutoring/math-center-at-crc`

Computers: The use of computers and tablets during regular class meetings is OK as long as they are used for class work. While taking tests and the final, only the approved non-networked calculators and/or computers running approved software will be allowed. If in doubt, you should consult with the instructor and get your devices pre-approved prior to the test date. **Using tablets or computers for anything but the current assignment in this class may result in you being removed from the classroom until the end of the session, which will count as an unexcused absence.**

Required Tech: A basic arithmetic calculator, also known as **4-function calculators**, with operations $+$ $-$ $\times$ $\div$ and $\sqrt{\ }$. If your calculator has any advanced mathematical functions, consult the instructor and get it pre-approved.

This online course uses Canvas, a Learning Management System. Students must have access to the internet and Los Rios Gmail. To complete labs/quizzes/exams for this class, students must have access

to a laptop or a desktop, a webcam and microphone (built-in or external), and an internet connection with upload speeds of 0.092 Mbps - 0.244 Mbps.

Recommended Tech: A great way to type up your assignments is by using LibreOffice, a free and open-source productivity suite. If you would rather submit hand-written assignments, a scanner may be useful.

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 before we can accommodate**. 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://crc.losrios.edu/student-resources/support-services/disability-support-programs-and-services`

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://crc.losrios.edu/about-us/our-values/student-rights-and-responsibilities/plagiarism-and-cheating`

Meta: The instructor reserves the right to make changes to this syllabus throughout the semester. All relevant 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: This section is here for reference only. It may be useful to consult as you are preparing for the final exam. Upon successful completion of this course, the student will be able to

- Use increased computational skills and number sense, recognize the order of operations and properties of real numbers; include evaluating various mathematical formulas and extending operations to variable expressions and combining like terms.
  - Simplify expressions using the order of operations and basic properties of real numbers.
  - Compute with accuracy problems involving the basic operations of arithmetic (addition, subtraction, multiplication, division, exponents, order of operations) on signed numbers.
  - Multiply and divide numbers expressed in scientific notation.
  - Use and evaluate formulas with more than one variable.
- Solve first degree equations, inequalities and applications.
  - Identify the types of equations including conditional equations, contradiction and identity and techniques for their solution.
  - Solve linear inequalities and write the solution in both set-builder and interval notation.
  - Apply problem solving skills to construct equations and inequalities for application problems and solve the applications by solving the equations or inequalities and appropriately interpreting the results.
- Identify and analyze linear equations, and graphs of linear equations and linear inequalities.
  - Interpret the slope of a line as a rate of change and graph a line.
  - Generate an algebraic model for data that follows linear behavior and interpret the result of this model. Applications of linear models include linear growth, linear depreciations and rates.
- Apply mathematical terminology, symbols and operations to develop and extend arithmetic operations on polynomials and to evaluate polynomial expressions.
  - Evaluate and expand polynomial expressions and expressions written in scientific notation.
  - Apply rules of exponents (including negative exponents) to simplify algebraic expressions.
  - Demonstrate proficiency in all arithmetic operations on polynomials, particularly multiplying using FOIL.
  - Use operations on polynomials to solve certain polynomial equations and applications.
- Understand the concept of prime polynomials and factoring polynomials into primes using various techniques.
  - Factor out common factors and factor by grouping.
  - Factor the difference of two squares and factor trinomials including perfect square trinomials.
  - Solve polynomial equations by factoring and using the zero factor property.
  - Think critically and abstractly by modeling an application problem using a polynomial equation to solve and interpret the result.
- Simplify, combine and evaluate rational expressions using the operations of arithmetic.
  - Multiply and divide rational expressions and incorporate factoring to simplify to lowest terms.
  - Add and subtract rational expressions using the algebraic method and least common denominator.
  - Solve rational equations by multiplying by the least common denominator.
  - Use an appropriate rational equation to model an application problem to solve and interpret the results.
- Solve systems of linear equations and systems of linear inequalities as well as their applications and effectively organize, present, and summarize the quantitative information using algebraic, numerical and graphical methods.
  - Calculate the solution to a 2x2 system of linear equations using the methods of graphing, substitution, and elimination, and identify the types of 2x2 systems.
  - Construct a system of linear equations for applications and solve the applications by solving the system and appropriately interpret the solution.
  - Compute the solution to a system of linear inequalities using a graph and describe the meaning of this solution.
- Demonstrate with proficiency how to use arithmetic operations on radicals and simplify radical expressions.
  - Simplify different types of radicals, rationalize denominators and combine radicals when it is appropriate.
  - Solve radical equations and evaluate radical expressions.
  - Solve applied problems using radical equations and using the Pythagorean Theorem to solve triangles and applications.
  - Verify how to extend the definition of an exponent to a rational exponent and interpret a rational exponent as a radical.
  - Use radicals to solve quadratic equations by taking roots, completing the square and using the quadratic formula and employ quadratic equations in various applications.