Math 53.109: College Algebra

Section 32: MTWTh, 3:20 - 5:00, BCH 202

Instructor: Dr. Kokoska
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Texts:
2. Lecture Notes.
3. A graphing calculator, TI-84 Plus is great.

Secondary Texts:
2. College Algebra, by Gustafson and Frisk.

Prerequisites:
At least 1 1/2 years of high school algebra.

Written Assignments:
There will be a homework assignment following each section covered in class. These problems from the text should be considered in detail. I also suggest that you try other remaining problems. Little class time will be used to clarify difficulties with the homework. The primary time to assist you with the text problems will be during my office hours. Homework solutions are due the class meeting following the assignment but, in general, will not be collected. However, 5-6 (or more) random problem sets will be collected and graded during the semester. There is a solutions manual in my office. From time to time there may be an extra credit assignment. Late homework: same day late: −2, one day late: −5, two days late: −10.

Class Attendance:
There is no formal penalty for absence from a lecture. You are responsible for all classwork missed.

Class Participation:
Please ask questions in class whenever you believe this will help you to understand a particular concept. Learning is not a passive activity and I consider sustained interaction an essential component of the learning process.

Course Grade:
There will be two or three one-hour approximately 60 point exams. Graded homework will be worth approximately 100-140 points. There will also be a final comprehensive exam worth approximately 100 points. The final exam will be held on the last day of class at the regular class time.

Generally, there are no extra credit problems. Mathematical form (or content) is important, only partial credit will be given for a correct (bald) answer. I expect you to use a calculator during exams and to complete homework problems.

Your course grade will be determined from the hour exams and final exam, graded homework assignments, and any extra credit assignments (approximately 350-400 points). No additional work will be given during the semester so that you may improve a test grade, final exam grade, or course grade.

Extra Help:
MHSC 1109, Solutions Manual, Secondary texts, Extra help session, Calculator sessions.
## Homework Problems:


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Frequently Asked Questions

1. What do I have to do in order to get an A in this class?
   If you come to class, participate by asking and answering questions, stay current (read the text and do the homework on time), and, of course, do well on the exams, you will excel in this class.

2. What do I have to do in order to fail this class?
   If you have no interest in learning the material and/or show little enthusiasm, then you are not likely to succeed. Bluntly, don’t do the homework and never ask or answer a question.

3. Is the professor out to flunk everyone?
   Of course not. The faculty-student relationship is not adversarial. I want you to learn the material, share my enthusiasm for the subject, and to succeed. I will do anything (within reason) to help you succeed. That includes extra help sessions, extra problems, and extra office hours. However, you must show some initiative.

4. Is there a curve in this class?
   Absolutely not! It is possible for everyone in the class to get an A. It is also possible for everyone in the class to fail.

5. What sorts of questions should I ask in class and during office hours?
   There is no bad question or answer in this class. We all learn more by making mistakes. You simply cannot remain passive about learning. I have no alternative but to interpret silence as understanding. Even if you do not know what question to ask, stop me, indicate in some diplomatic (or blunt) way that I am going to fast, and we will retrace our steps.

6. What else can I do to help me succeed in this class?
   Make use of the resources available, especially my office hours. I enjoy this material. I realize you may never share my enthusiasm for the subject, but if you do not make an effort to succeed, then there is no doubt you will fail.

7. How do I know if I should I withdraw from this class?
   The first test in my College Algebra class is usually the easiest of the exams (2 or 3 one-hour exams, 1 final exam). If you fail miserably on the first exam, then you should think seriously about withdrawing from the class.

8. Well, how hard are these exams anyway?
   Despite anything you may have heard, my exams are very straightforward. I do not put trick questions on tests and I do not test the most minute detail. The questions on my exams are very similar in style and difficulty to the problems assigned for homework and the examples we discuss in class.

9. So what makes this class so difficult?
   One reason you may have difficulty with this class is because College Algebra (and mathematics in general) requires a lot of work and forces you to think logically. In many problems, you must learn to translate the words into a mathematical question, and then solve the problem.

10. What if I absolutely need a C in order to play on the golf team next semester?
    Please do not tell me that you need a certain grade in order to maintain your eligibility for financial aid, or a sports team, or for a specific program. I do have compassion for extreme situations, but nobody likes a whiner. A gentle reminder: a course grade is not a negotiable entity.

11. So what’s really on the tests?
    Do not ask me “Is (blank) going to be on the test?” That’s an indication that you are not interested in learning and only concerned with getting a grade, and besides it’s aggravating.
12. Does the collected, graded homework really count for approximately 1/3 of my grade?
    You bet! For emphasis: homework is due the class meeting following the assignment. The purpose of this is to help keep you current and to give you the opportunity for some easy points toward your final grade. If you choose not to do the homework, then you must accept the consequences.

13. Can I do any extra work in order to raise my grade?
    Absolutely not! There is never any extra work given to an individual during the semester so that a course grade may be raised.

14. What is the real purpose of this class?
    The purpose of this class is to learn a little about algebra, mathematics, how to reason, and to have some fun along the way.

15. If I study for a long time, will I get an A?
    Although difficult to accept, effort is not always rewarded with good grades. In other words: long hours studying do not guarantee an A.

16. Does the professor really play basketball at 5:45 am two days a week and at 6:30 am on a third?
    Yes, and he can be very cranky if he did not win any of the pick-up games.

17. Do I really need to buy a graphing calculator?
    You should have a graphing calculator in this class. Hand calculations are unnecessarily tedious and calculators are much more accurate and quicker. Wherever possible I will use a graphing calculator to solve problems, especially for graphing. If you already have a graphing calculator and feel you know how to use it to graph, etc., then you may certainly use it. However, if you do buy a TI-84 Plus just for this class I will try to sell your used calculator for you.

18. Can I get a tutor for this class?
    It is unlikely, though possible, that you will be able to find a tutor through academic services. The Department of Mathematics, Computer Science, and Statistics maintains a list of majors who are interested in tutoring. Contact the Department Secretary (MCHS 1105) or the KME Adviser, Dr. John Riley, if you are interested. Remember that these tutors expect and deserve to be paid. If you feel you need a tutor, you should probably be camped outside my office door - and that’s fine. I enjoy the material, and I am happy to help as long as you show some effort.

19. What if I miss a class?
    You are responsible for all classwork missed. I advise you to get the notes from someone in the class, and find out if you missed any important announcements concerning tests or collected homework.

20. Where did the professor get that odd accent?
    That is called a Boston accent. He puts r’s where they do not belong, and takes them away where they do belong. You will quickly learn the slang, and if you do not understand something, simply ask for another explanation.

21. Why is the professor so demanding? I only need this course to fulfill some silly requirement, and I will never use college algebra again anyway.
    To paraphrase Polya: A teacher of mathematics has a great opportunity. Drilling students in routine operations kills their interest, hampers their intellectual development, and misuses this opportunity. However, if he challenges the curiosity of his students by setting demands proportionate to their knowledge and expects excellence, students will develop a means for logical, independent thinking, and a desire to excel in any endeavor.
22. What is *classroom etiquette*?

Classroom etiquette is a set of natural courtesies extended to the professor and fellow students. Here are some reasonable guidelines.

(a) Don’t sleep in class. If you absolutely cannot keep your eyes open, have no desire to participate, then don’t come to class. Nodding off in class is unbelievably annoying.

(b) Pay attention! Don’t stare off into the distance, or at the bulletin board, or at the floor, or out the window.

(c) Don’t fiddle with your pencil, hair, drawings, or bits of paper. Concentrate, even late in the afternoon!

(d) Turn your cell phone off in the classroom.

(e) Don’t mumble questions to a neighbor. Ask me!

(f) Come prepared to participate and learn. Ask and answer questions. Be an active learner.

(g) Don’t be habitually late to class. If you are always 10 or 15 minutes late, that action reflects your commitment to this class and learning.

23. What is *homework protocol*?

Homework protocol is a collection of reasonable expectations for the presentation of solutions.

(a) Put your name on your homework. Staple pages together. Don’t fold corners using an ancient Etruscan rip technique in order to hold pages together.

(b) Homework should not have any rough or frayed edges. Don’t rip pages out of a spiral notebook.

(c) Write legibly, logically, and neatly. Use a ruler to carefully sketch graphs and use graph paper where applicable.

(d) The late homework policy is firm, period. Class day late: $-2$, One day late: $-5$, Two days late: $-10$. If you forget your homework and bring it to me after class, it’s class day late: $-2$.

24. What is the professor’s ultimate objective?

I really want you to succeed! However, excellence takes hard work, dedication, and sacrifice. Just as an athlete is willing to practice until actions are committed to muscle memory, a student must practice solving problems with the same passion and desire to succeed.

**Graphing Calculators**

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<tr>
<td>TI-83 Plus</td>
<td>Okay.</td>
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<tr>
<td>TI-84</td>
<td>Okay</td>
</tr>
<tr>
<td>TI-85</td>
<td>No!</td>
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<tr>
<td>TI-86</td>
<td>No!</td>
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<tr>
<td>TI-89</td>
<td>Overkill.</td>
</tr>
<tr>
<td>TI-82</td>
<td>Definitely not.</td>
</tr>
<tr>
<td>Scientific Calculator</td>
<td>Absolutely, definitely not.</td>
</tr>
<tr>
<td>Casio, Sharp, HP</td>
<td>Use at your own risk.</td>
</tr>
</tbody>
</table>

**The Socratic Method**

*I cannot teach anybody anything. I can only make them think.*  – Socrates

Read: The nobleman, servant, Socrates, and the unit square.