GMS 91, Intermediate Algebra

Fall 2008, 2:20-3:35 MW, LA-4

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Office hours: 3:35–4:35 MW, 5–6 Tu.

Prerequisites: Completion of GMS 90 or appropriate score on the Entry Level Mathematics Exam.

Required text: Kolman, Shapiro: Intermediate Algebra for College Students, 5/e.

Course objective: This is a review course on intermediate high school mathematics. It covers polynomials, rational and radical expressions, complex numbers, linear and quadratic equations (and graphs), systems of equations, set and function notation, conic sections, exponential and logarithmic functions, and sequences and series. You will be expected to develop a facility with these topics that permits you to enroll in college-level math courses.

I will assume that you have seen this material in high school already and you need practice to refresh and hone your skills. The course will be very much based on problem solving. We will solve some problems together in class, but you will also have to solve lots of problems outside of class. Problem solving skills are developed by practicing a lot, not by watching other people solving problems.

Credit in General Mathematics Studies 91 satisfies the Mathematics Placement Examination, Part IA and Entry Level Mathematics Examination requirements.

Website: www.rohan.sdsu.edu/~ituba/gms91F08. I will also use Blackboard to post your exam grades periodically.

Class attendance This is not distance education. You are expected to attend and participate in every class. I will assume that you are an adult and are here to learn. I will not be policing your attendance, but if you keep skipping classes, you will find me unsympathetic to your cause.

Homework and reading will be posted on the class website regularly. You will be able to follow the progress of the course using the website. HW is an essential part of your learning. Take it very seriously. It is extremely important that you keep up with the HW. If you do not, you will quickly find yourself lost in class and at a great disadvantage during exams. Expect to spend about 8 hours a week on studying outside of class. (This is why 12 units are considered a full course load.) Treat the HW as a learning opportunity, rather than something you need to get out of the way. Reread, revise, and polish your solutions until they are correct, concise, efficient, and elegant. This will really deepen your understanding of the material. You are unlikely to succeed in a math class without doing all of the HW. Attending class and reading your textbook are necessary but not enough to pass the course. Expecting to learn math without doing exercises on your own is like expecting to learn to ride a bicycle without ever sitting on a bicycle.

Half of every exam will consist of exercises straight from the HW. A thorough familiarity with the exercises will obviously be an immense asset in doing them correctly on the exam.

This gives you an obvious winning strategy. Do the HW, seek feedback on it, revise it, and keep your HW notes neat and organized. The familiarity you gain with the exercises by doing this will let you complete half of each exam with ease and move quickly onto the other half of the exam. The experience you gain by keeping up with your HW will be invaluable in doing the other half of the exam. On the other hand, if you do not keep up with your HW, you will face the challenge of solving many unfamiliar problems under time pressure during the exams. You will likely find this

an impossibly daunting task.

Collaboration on the HW: Limited collaboration with your fellow students in the class is OK. The idea is to let you discuss and critique each other's ideas and not to let you split the workload. Keep collaboration constructive and reasonable. You should fully understand the solution and write it up on your own. Your understanding of the material will be tested on the exams.

If you are approached by another student from the class who wants to copy your HW, keep in the mind that the class is curved. By sharing your work with your friend, you raise the curve which determines your grade.

Discussion sections: I strongly encourage you to organize a weekly session to work with your fellow students on problems in class and on the homework. This will help you keep up with your work and get ideas and feedback from others who are grappling with the same exercises as you. You will find that the sense of companionship motivates and encourages you to work.

Exams: There will be two in-class exams as well as a final exam. The in-class exams will be on Oct 13 and Nov 10. If you skip an exam, you will normally not be able to make it up, unless you have a compelling (e.g. medical) and documented excuse. Forgetting that there is an exam or being unprepared for it are not considered compelling excuses.

Final exam: Time and place TBA.

Problem of the fortnight: The Mathematics Department in San Diego posts an interesting problem every two weeks. I will give you extra credit for every problem to which you submit a correct solution to the organizers of the contest. You can also win a t-shirt and, if your solution is deemed the best, a book. You will find a link to these problems on the class website.

Grading scheme:

Homework	40%
In-class exams	15% each
Final exam	30%
Problem of the fortnight	4% each

A score of 80% or more will guarantee an A, 60% a B, 40% a C, and 20% a D. The curve may be adjusted somewhat lower than this.

Quality of work: It is important that you work neatly on the assignments. The quality of your work will affect your grades on the exams. Quality has to do with how easy it is for someone else to read your solution to a problem. It is not enough to do the math right, you must also communicate it well.

Students with disabilities: If you need special arrangements, let me know <u>well in advance</u> so we can plan to accommodate your needs.

On independent work: Learning math is much like learning to ride a bicycle in that you learn by doing it and not by watching someone else do it. Attending class and reading the textbook won't be enough to do well on the exams. You should work through every example and proof in the book and in your class notes and expect to have to re-read everything several times. It's slow, but then your reading list for this class is short.