

Instructor: **Dr. Art Duval**

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phone: **747-6846**/office (24hrs./day; if I'm not in, please leave a message)
545-1788/home (9am–9pm only, please)

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<http://www.math.utep.edu/Faculty/duval/home.html>

Office hours: **Mon, 2:30–3:30, Wed, 1:30–2:30; Tue, Thu, 10–11.** Please feel free to come by my office any time during scheduled office hours. You are welcome to come at other times, but in that case you might want to make an appointment, just to make sure that I will be there then. You can make an appointment simply by talking to me before or after class, by calling me at my office or at home, or by sending e-mail.

You may also ask any questions directly via phone or e-mail. If I'm not in when you call, please leave a message on the voice-mail or answering machine with your name, number, and a good time for me to call you back. I will try to respond to your phone or e-mail message as soon as possible.

Website: <http://www.math.utep.edu/Faculty/duval/class/3308/051/home.html>

Here you will find this syllabus with relevant links, including homework and reading assignments for the whole semester, as they are announced. Other resources may become available.

Course Objectives: The purpose of this course is for you to become involved with a wide variety of situations and contexts which give rise to mathematical concepts essential for teaching grades 4–8. Specific topics include the (sometimes surprisingly deep) mathematics underlying factoring, divisibility, fractions, ratios, functions, congruence, similarity, and geometric transformations. A common theme will be finding relationships between algebra and geometry.

Another goal is for you to become adept at, and comfortable with, analyzing, solving, and explaining rich mathematical problems that you do not necessarily immediately know how to solve.

Textbook: **Mathematics for Elementary Teachers via Problem Solving, Masingila, Lester, Raymond, Chs. 4, 6–10.** Note that there is both a Student Activity Manual and a Student Resource Handbook. Bring the Activity Manual to every class; you may leave the Resource Manual at home, if you like.

Class Activities: Classes will be structured around selected activities from the Activity Manual. The Resource Manual will serve primarily as a source for background material (introduction, definitions, examples) for you to consult. The activities are engaging and conceptually rich, and are designed to force you to confront the relevant mathematical concepts.

I will briefly introduce each activity. Then, working in small groups with your classmates, you will engage each problem or situation in the activity, and will attempt to describe and explain the results of that engagement first to each other, and then to the rest of the class in a classwide discussion.

GRADES:

Participation (10%): Your active engagement with the material is required throughout the activity process, from introduction to class discussion. Active engagement does not require knowing all the answers all the time. Active engagement does require an honest effort, and contributing to the ongoing conversation (at the group and classwide levels) at all times.

You will not be able to get a good participation grade if you are absent too much.

Homework (30%): Individual homework, directly related to material relevant to the class activities, will be assigned regularly, and due approximately weekly. You are allowed to work together on homework (in fact, I strongly encourage you to do so), but the paper you turn in you must write yourself. Homework is due at the *beginning* of class (12:00 sharp); if you cannot make it to class, arrange to either deliver the homework to me early, or have someone else bring it to class for you.

Your lowest homework score will be dropped.

Activity Reports (60%): You will write written reports for selected activities (approximately six throughout the semester), after we complete them (including the classwide discussion) in class.

Reports will be graded not only for answers, but also for explanations, and descriptions of the process by which you arrived at your answers (see separate handout for details).

You must write your report yourself, except for occasional projects that will require group reports (one report for the whole group). You may not consult any outside resources (including the internet) without my approval.

Attendance: On-time attendance at all classes is required. Classes will begin promptly at the starting time. Though there is no direct grade penalty for absence or tardiness, it will affect your participation grade. Furthermore, reports and homework will likely make little sense without fully participating in the class activities.

Drop date: The deadline for student-initiated drops with a W is Fri., 18 Mar. After this date, you can only drop with the Dean's approval, which is granted only under extenuating circumstances.

I hope everyone will complete the course successfully, but if you are having doubts about your progress, I will be happy to discuss your standing in the course to help you decide whether or not to drop. You are only allowed three enrollments in this course, so please exercise the drop option judiciously.