
Instructor: Dr. Laura Taalman**E-mail:** taal@math.jmu.edu**Office:** Roop 123**Instant Message:** ask laura math**Phone:** 568-3355**Class Website:** www.math.jmu.edu/~taal/103_2006.html

Class Times

Section 11: Tuesdays and Thursdays 11:00–12:15 in Burruss 034.

Section 13: Tuesdays and Thursdays 3:30–4:45 in Burruss 126.

Office Hours

Mondays and Wednesdays 1:00–3:00 in Roop 123. Also available by email, instant message, phone, appointment, and whenever you can catch me.

Required Course Materials

There are three required items for this course, all of which will be available from the JMU bookstore:

1. the card game *Set*,
2. a Japanese puzzle book called *PenpaMIX*, and
3. a small custom-published book titled *Nature of Mathematics*, by Scheinerman.

Course Objectives

In this course you will explore the nature of mathematics, and discover for perhaps the first time what it is like to do mathematical research on a topic. This semester, for my classes the topics are games and puzzles, in particular the card game *Set* and a variety of Japanese pencil-puzzles. As the Math 103 course description says, this course is “intended to give students insight into what mathematics is, what it attempts to accomplish, and how mathematicians think.”

Grades

Roughly 1/3 of your grade will be determined by the in-class tests, 1/3 by the final exam, and 1/3 by the other components of the course. All of the following will contribute to your grade:

- attendance and participation in class;
- group work both in and out of class, as evaluated by both myself and your group members;
- presentations you and your group members make to the class;
- homework assignments;
- daily attendance quizzes;
- three 1-hour exams worth 100 points each;
- a 2-hour cumulative final exam worth 200 points; and
- some small pre-defined opportunities for extra credit (see below).

How to rock this class: The single most important thing you can do for this course is simply to show up to class every day. When in class you should be an active and enthusiastic participant both when working in groups and when the class as a whole is having a discussion. You should also be prepared for class; if there are assignments or readings to complete before class, be sure that you have completed them. If your group is supposed to meet before class, then be sure that you do so. Don't split up group work; make sure to do all parts of any group assignment together. Bring the relevant materials to class every day. In general, be enthusiastic about learning, and learning will follow.

Extra credit opportunities: You will be able to earn extra credit points for attending talks in the colloquium series of the Department of Mathematics and Statistics and handing in short writeups about the talks. Colloquiums are usually held on Mondays, from 3:45–4:45 in Roop G10 (with tea/refreshments available at 3:30). You can also earn extra credit by attending the Shenandoah Undergraduate Mathematics and Statistics (SUMS) Conference at JMU on Saturday, October 28, and by attending the opening

reception for the Contemporary Mathematical Photography and New Media exhibit at the New Image Gallery at JMU on Friday, October 27. If you want to take advantage of these extra credit opportunities, set your schedules accordingly.

Various legalities: Do not expect to coast through this class on the shoulders of your group members, or by physically showing up to class but never participating. Participation will be a large part of your final grade. In addition, a minimum average exam score of D will be required for you to get a D or higher in this class. Please note that the last day to drop a class with a W is on Thursday, October 26. After that time it is my policy to offer grades of WP or WF if requested, up until Thursday, November 9. After that date, no W-type grades will be given in my classes. I will only give a grade of WP if you have a C- or better. I don't bend on these rules and deadlines, so make a note of these dates now! I will not grant special extra credit assignments for you to raise your grade. And one last warning: I know that there may be a few of you in this class who just need to pass the course for graduation credit, and that is fine by me. However, in my experience, when students go into a course thinking that they "just need a D," they invariably shoot too low and end up with an F instead. Don't let that happen to you!

Attendance

You are expected to attend every class. You also are expected to be on time to class, and to stay for the entire class period. I will not allow students to regularly come late or leave early, even if they have courses on the other side of campus before/after class. (You are supposed to set your schedule so that you have enough time to travel between classes.) You do not have to get my permission to be absent from class (except on test days and presentation days), but you have to be responsible when it happens. In particular, it is your responsibility to find out from fellow classmates about any announcements or assignments mentioned in class. I will assume that if I have announced something in class, then even those who are not there will find out from a classmate. Please avoid asking *me* what you missed; ask a classmate if at all possible. Be sure that you do not miss more than one or two classes, or your participation grade could suffer dramatically.

Getting Help

Please feel free to contact me during office hours or by instant message, email, phone, or appointment (those options are in order as to what I most prefer). For questions on group work, the absolute best option would be for the entire group to come to my office at the same time. You may also seek help at the Math and Science Learning Center in 102 Wilson Hall; however, they have been instructed to help you *only* on general mathematics questions (such as those in the Sheinerman custom book) and *not* on questions regarding the game of Set or the Japanese pencil-puzzle games. The hours of the Learning Center are 10am–8pm Monday–Thursday, 10am–2:30pm Friday, and 5pm–8pm Sunday.

Exam Times

To be announced.

Important: See the note on attendance and announcements above.

Final Exam Times

Section 11: 10:30–12:30 Tuesday, December 12.

Note: You may not reschedule your final exam,

Section 13: 4:00–6:00 Tuesday, December 12.

so please schedule travel plans accordingly.

General Education Requirements

Math 103 is part of Cluster Three, Track 1 of the General Education requirements (Groups 1 and 3). This course will satisfy General Education objectives 1, 2, 5, and 6:

- Objective 1: Describe the methods of inquiry that lead to mathematical truth and scientific knowledge.
- Objective 2: Use theories and models as unifying principles that help us understand phenomena and make predictions.
- Objective 5: Use graphical, symbolic, and numerical methods to analyze, organize, and interpret phenomena.
- Objective 6: Discriminate between association and causation, and identify the types of evidence used to establish causation.