

General Information

There will be no written final exam in Math 301, instead each student will be responsible for researching, producing and presenting a poster project. You are to work in groups consisting of **exactly 3 students**. The presentation session will be held during the final exam period, in one of two time-slots:

- **Tuesday December 10, 8:30 – 11:30am** (doors open at 8:00 for set-up); or
- **Wednesday December 11, 8:30 – 11:30am** (doors open at 8:00 for set-up)

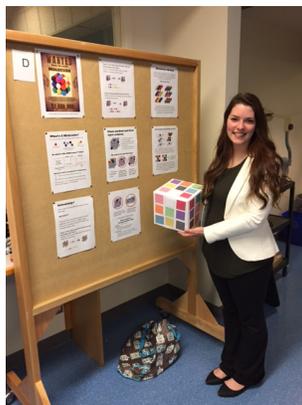
Presentations will start on-time, doors will be open 30 minutes early for you to set-up your posters.

Project Format

The poster presentation will consist of

1. an 8-page physical poster (4-pages if also creating a website or mobile app), and
2. a 3-minute verbal presentation (each member of the group must give their own 3-minute verbal presentation)

Poster: The physical poster should be a large font presentation — that is, have the look of a *powerpoint* document (printed on paper). Your presentation should have a story/application/context that is explainable to an audience of your classmates, and include a connection to content covered in this course. The mathematical part of your poster must include an interpretation of the mathematical symbols used within your story, and a statement of at least one theoretical or computational result. See the following image for an example.



Verbal Presentation: Since each team member must give their own 3-minute verbal presentation related to the poster, you can either

- (i) each give the same presentation, covering the same ideas and elements of the poster, or
- (ii) each focus on one aspect of the poster.

In this case, each of your presentations will have an overlapping component (the introduction) but then you may diverge to different parts of the poster. For example, let's say your topic was understanding some twisty-puzzle other than Rubik's cube. One of your team members could talk about what moves are **impossible** to perform and how the theory of permutations supports this, while another team member could talk about what moves are **possible** and how you developed some basic move sequences using ideas from the course. The third member could talk about a solution strategy which incorporates the results of what moves are possible, and what moves are impossible (a **fundamental theorem** of the puzzle).

Details of Presentation Day: Each student is to attend the 3-hour period on one of the dates listed above. This will be *your* presentation day. All members of your group DO NOT need to present on the same day, however the same poster must be used for all team member's presentations.

On your presentation day, there will be multiple bulletin boards in the room and you will be responsible for displaying your poster on your assigned board. If you are developing a website or mobile app you'll need to bring a computer as part of your demonstration. During this 3-hour period, you will be assigned a 1-hour block where you must stand in front of your poster and practice your 3-minute verbal presentation for students that gather around your poster. (No two team members will be assigned to present in the same hour.) Therefore, you will be giving your 3-minute presentation many times over this 1-hour block. You should answer any questions your audience has about your topic. Dr. Mulholland will come by your poster once during this one hour block to hear your presentation and ask some exciting questions.

For the other 2-hours of the session you will be circulating the room listening to other students presenting their posters, and grading the presentations that have been assigned to you. You will be assigned to grade three poster presentations each hour, for a total of six poster presentations in all.

A complete schedule for the presentation period will be released on Monday, December 9.

Grading

- This project is worth 20% of the final course grade.
- Your final grade will be determined using a combination of evaluations from Math 301 special guests, your TA, Dr. Mulholland, and six of your peers (not your team members). Sample evaluation criteria is included on the next page.
- Critical Thought Award — Bonus points to those students who show critical thinking in their grading, by assigning grades to their peers that are closest to the grades assigned by Dr. Mulholland and the TA.

Posters will be evaluated partly on the following criteria: *creativity* of topic, *clarity* and *conciseness* of the presentation (including good graphics), *clear connection* to the mathematics, and *energy* of presentation. Paper copies of your poster will be collected at the beginning of the session: print two copies - one to display, and one to submit.

Schedule of Events

- due wed 13 nov: A proposal identifying group members and a written description (1-page max) of your topic that includes at least three mathematical references (links, books, articles, images, etc). Your topic needs to be approved at this time. Submission is online, any reference links should be posted in the appropriate discussion board so that your instructor can follow them when needed — you may update this list up to the presentation date. If you are not approved, then you have until the following Wednesday office hours to make adjustments.
- due mon 02 dec: Draft of your 8-page poster presentation (or 4-page poster, and website or app). By draft, I mean a description of what is on each of your 8 pages (layout & content). Theoretical or computational results should be complete at this time, and you should have worked through all examples that will be included in your presentation. It is ok if you still haven't filled in all of the details, but I need to be comfortable that you have definite references that you will be following. This final week should be spent polishing your verbal presentation to fit within the 3-minute time period, and polishing your poster/website/app (organization, clarity, readability, use of graphics, and overall visual appearance). Again, if you are not approved, then you have until the end of the week to make adjustments.
- due tue 10 / wed 11 dec: Attendance at the poster session with your poster pages mounted on the presentation stands, and any other demonstration items ready to go.

Evaluation Sheet:

- in this hour you will evaluate three posters, one in each timeslot: 00-20, 20-40, 40-60. If one of your posters is a no-show, see the TA for a replacement poster to grade.
- at the end of this hour, over the three posters, you must distribute 13 total points (no fractions)

poster #	points
total	13

I have, to the best of my ability, fairly evaluated three posters.

_____ signature

Sample evaluation criteria:

- X:00-X:20 presenter & poster #: _____

What question is the presenter trying to answer in this poster?

question: _____

How well was this question addressed in the presentation? (grade: A B C)

What mathematical idea/result from this course was the most important for this presentation?

idea/result: _____

How clear was the connection between mathematics and the topic? (grade: A B C)

What question did YOU ask the presenter at the end of their presentation?

question: _____

answer: _____

How easy was it to understand the presenters response? (grade: A B C)

points: