Math 2890/3890: Honors Add-on
Jeff Mermin's Section:
Competitive and recreational mathematics

Tuesdays, 2:00-2:50, MSCS 445

Instructor: Jeff Mermin
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Course web page: https://math.okstate.edu/people/mermin/3890/

Office Hours   TBA or by appointment.

Subject matter   The course will cover a wide variety of mathematical topics that fall through the cracks of the usual high school and college curriculum. Most, but not all, of these will fall under the umbrellas of "number theory", "combinatorics", or geometry.

We'll take inspiration from two sources:

- Magic tricks. These generally allow a practitioner to leverage a neat mathematical idea to do something that an audience perceives as impossible or at least very unlikely. We'll analyze what's going on under the hood.

- High school and college level competitions. These are a great source of interesting and surprising techniques.

As I run out of material in the first category, the second will take on a greater role. But the goal in all cases will be to learn the underlying (and, frequently, unifying) techniques.

My ulterior motive in teaching this class is the hope that some of you might take an interest in this spring's intercollegiate "Math Jeopardy" competitions.

Textbook   None.

Grading   To earn a grade of A, you must do two things:

- Attend class regularly and engage with the material.

- Solve (and turn in) a few homework problems.

All other grades are possible, but I expect to award Bs and Cs only in very special circumstances. These expectations are formalised as follows:

Attendance during the semester	160 points
Attendance at the final exam period	20 points
Homework	120 points
Total	300 points

A total score of 270 will guarantee an A, 240 will guarantee a B, etc.

Homework
Each class I will distribute a collection of problems to work on in medium-sized groups; this will include at least one problem to solve and turn in for the next week as homework. If you are enrolled in Math 3890 each problem will be worth 10 points; if you are enrolled in Math 2890 each problem will be worth 15 points. Once you earn 120 points this way, you don't have to do any more homework.

At the end of the semester, you may also replace one or two homework assignments by teaching me an (appropriate) new trick.

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Illness policy   If you cannot attend a regular class meeting due to illness or another emergency, no documentation is necessary. If you aren't sure whether or not you're too ill to attend class, please see a doctor. If you need to miss *several* classes, let me know as soon as possible, so that I may plan how to accommodate the situation.

Academic integrity   Don't cheat, or help other students cheat. Please read my "rules for written assignments" at

https://math.okstate.edu/people/mermin/3890/airules.pdf.
(This document is part of the course syllabus.)
If, after reading this, you aren't sure whether or not something is allowed, ask me before you try it.

Don't violate academic integrity in any other way, either. Participating in a behavior that violates academic integrity (e.g., unauthorized collaboration, plagiarism, multiple submissions, cheating on examinations, fabricating information, helping another person cheat, unauthorized advance access to examinations, altering or destroying the work of others, and fraudulently altering academic records) will result in your being sanctioned according to the OSU academic integrity process. If you have further questions, contact the Office of Academic Affairs, 101 Whitehurst, 405-744-5627, http://academicintegrity.okstate.edu.

Links and attachments   The course syllabus consists of three documents; please read them all.
This course information sheet may be found at

https://math.okstate.edu/people/mermin/3890/courseinfo.pdf

The document on academic integrity is available at

https://math.okstate.edu/people/mermin/3890/airules.pdf

Finally, the OSU syllabus attachment is on the web at

http://academicaffairs.okstate.edu/sites/default/files/Fall 2018 Syllabus Attachment.pdf

This has a lot of important information, including instructions about disability accomodations. Please contact me privately during the first week of the course if you need accommodations as the result of a disability.