

Math 221: Introduction to Being a Math Major

Syllabus: Winter 2013

Professor: Michael Dorff, 310 TMCB, 422-1752

Email: mdorff@math.byu.edu

Office Hours: Th 3:00-3:40pm

Class Meetings: 1170 TMCB, Th 4:00-4:50pm

Course Objectives: This required course is to help math majors learn about:

- (a) internships, scholarships, undergraduate research, and summer programs available to BYU math majors;
- (b) some current research ideas in mathematics;
- (c) career options available to math majors; and
- (d) the culture of mathematics.

Attendance: To pass the class, you are required to attend at least 13 out of the 14 days (one extra missed class can be excused by attending a “Focus on Math” talk if that talk is not counted for the grade requirement listed below). Attendance will be recorded by on an attendance sheet that will be available for you to sign before and after class.

Activities: Students are expected to complete a certain number of activities. When you have completed an activity, send me an email at mdorff@math.byui.edu with your name, the activity you completed, and the date. The number of activities completed will determine the students’ final grade. Possible activities to complete are listed in the following categories:

1. Math talks: attend a “Focus on Math” talk for undergraduates; these talks are talks about general topics in mathematics and are suited for undergraduate students;
2. Undergraduate research: go to the BYU math dept webpage (<https://math.byu.edu/home/>), click on “Degree Programs,” then click on “Undergraduate Research” read about the undergraduate research program in the BYU mathematics Department, choose one of the research mentors listed in “Finding a Research Mentor”, and talk with him/her about undergraduate research;
3. Scholarships and summer programs: apply for one of the math scholarships or summer programs listed in the “Opportunities for Mathematics Students” handout;
4. Internships: Meet and talk with math department intern secretary, Michelle Angus, (intern@math.byu.edu) about internships;
5. Advising: Contact Miles Carter (ugradassistant@math.byu.edu) about setting up an appointment to meet with a math dept advisor and then meet with the advisor;
6. Math club: talk to the Math Club advisor about a math discussion topic and bring up the topic at a Math Club meeting;
7. Math videos: watch one of the NOVA shows “The Proof” (VC 11359 at the LRC in the HBLL) or the “Trillion Dollar Bet” (VC 5230 at the LRC in the HBLL);
8. Math books: read any of the following books:
 - *A Mathematician’s Apology* by G. H. Hardy
 - *Letters to a Young Mathematician* by Ian Stewart
 - *Mathematics: A Very Short Introduction* by Timothy Gowers
 - *The Millennium Problems: The Seven Greatest Unsolved Mathematical Puzzles of Our Time* by Keith Devlin

- *The Mathematical Century: The 30 Greatest Problems of the Last 100 Years* by Piergiorgio Odifreddi
 - *The Calculus Gallery* by William Dunham
 - *The Book of Numbers* by John H. Conway and Richard Guy
 - *Fermat's Enigma: The Epic Quest to Solve the World's Greatest Mathematical Problem* by Simon Singh
 - *101 Careers in Mathematics*, Andrew Sterrett, ed., 2nd edition.
9. Other appropriate activities approved by the instructor.

Grading: Grades will be earned in the way:

- A = attend at least 13 class periods AND complete 3 activities all from different categories;
- B = attend at least 13 class periods AND complete 2 activities all from different categories;
- C = attend at least 13 class periods AND complete 1 activity all from different categories;
- D = attend at least 13 class periods AND complete 0 activities all from different categories;
- F = attend less than 13 class periods.

Preventing Sexual Harassment: Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds. The act is intended to eliminate sex discrimination in education and pertains to admissions, academic and athletic programs, and university-sponsored activities. Title IX also prohibits sexual harassment of students by university employees, other students, and visitors to campus. If you encounter sexual harassment or gender-based discrimination, please talk to your professor; contact the Equal Employment Office at 801-422-5895 or 1-888-238-1062 (24-hours), or <http://www.ethicspoint.com>; or contact the Honor Code Office at 801-422-2847.

Students with Disabilities: BYU is committed to providing reasonable accommodation to qualified persons with disabilities. If you have any disability that may adversely affect your success in this course, please contact the University Accessibility Center at 422-2767. Services deemed appropriate will be coordinated with the student and instructor by that office.