SYLLABUS
MATH 220 Sections 901, 902, 904
Spring 2015

*section **901:** TR 09:35 am -10:50 am* (Blocker 148)
*section **902:** TR 11:10 am - 12:25 pm* (Blocker 148)
*section **904:** TR 02:20 pm - 03:35 pm* (Blocker 148)

Instructor: *Oksana Shatalov*

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Web page: http://www.math.tamu.edu/~shatalov/(check regularly for class announcements, class notes, important information, etc.)

Office Hours: click here.

CATALOG DESCRIPTION: Foundations of mathematics including logic, set theory, combinatorics, and number theory. Prerequisite: MATH 172.

TEXTBOOK: Bond and Keane, *An Introduction to Abstract Mathematics*, 2007, Waveland Press, ISBN 1577665392.

<u>**This is a W (writing) course**</u>, which means that close attention will be paid to students' ability to write mathematical statements and proofs mathematically and grammatically correctly. About one third of the grade will depend on the writing. The instructor will be providing examples and recommendations concerning math writing.

The following little books(**not required)** is a good source for many such recommendations:

Donald E. Knuth, Tracy Larrabee, *Mathematical Writing*, The Mathematical Association of America 1989. ISBN 978-0883850633.

Some other books of this kind:

Norman E. Steenrod,, Paul R. Halmos, et al, *How to Write Mathematics*, Amer. Math. Soc. 1973. ISBN-13: 978-0821800553. (A collection of articles by famous mathematicians concerning writing.)

Nicholas J. Higham, *Handbook of Writing for the Mathematical Sciences*, SIAM 1998. ISBN-13: 978-0898714203

Steven Krantz, *A Primer of Mathematical Writing: Being a Disquisition on Having Your Ideas Recorded, Typeset, Published, Read & Appreciated*

And here is the timeless treasure: a tiny beautiful book on writing:

William Strunk Jr., E. B. White, *The Elements of Style*, Longman 1999 (there are zillions of other editions). ISBN-10: 020530902X, ISBN-13: 978-0205309023.

LEARNING OBJECTIVES: The purpose of the course is to provide students with important foundational skills that will prepare them to be successful in higher level courses. The main thrust is to teach students how to understand, create, and communicate proofs. Some frequently used types of proofs will be introduced. Several mathematical topics from logic, set theory, etc. will be addressed, where the newly learned techniques can be applied.

TENTATIVE WEEKLY SCHEDULE posted here.

GRADING: First note that this course is an official Writing Course. Hence about 1/3 of the grade is based on your ability to communicate your ideas. The most obvious way in which the "1/3" will be manifested is through specific assignments, and papers in which writing will play an integral part. However, writing communication skills will also be taken into account in the normal course of grades on other homeworks and exams. Course grades will be based on the following:

1. **Two midterms**, each worth 20%. Dates: To be announced.
2. **Weekly Homework** and **quizzes** (total of 17%) will be assigned approximately once per week. It must be turned in on time. For full credit on the homework, you must show all work and justify your answers (see *Homework Submission Guidelines*). Emphasis will be placed on writing carefully and precisely.
3. **Term Paper** (total of 18%) must be at least 8 pages without figures, tables and references . You will be required to turn in a draft as well as a final paper. A list of possible topics, deadlines and directions posted *here*.
4. **Final Exam** (25%) will be given according to the schedule posted here. Remember *to bring your ID with you for all exams.*
5. **Attendance** is important. If you must miss class on days something is to be turned in, please contact me as soon as you know. Attendance and participation may also count as 3% of the final grade. Attendance and participation will only be used to help a student's grade, and it will be determined by judgment of the instructor. If class attendance and participation are insufficient, the final grade will be averaged without. The percentages for the other elements will be reduced proportionately if class participation is averaged in.

Note: *No student can pass the course without a passing grade on the writing portion*, numbers 2&3 above.

Letter Grades: A(90-100%), B(80-89%), C(70-79%), D(60-69%), F(0-59%).

Class Announcements, E-Mail Policy and Communications: Class announcements will be posted on my homepage. It is your responsibility to check them daily. Some important course announcements might be sent to your NEO e-mail account. It is your responsibility to check the NEO account and get familiar with the announcements. E-mail (shatalov AT math.tamu.edu) is the preferred way to leave private messages for me. I usually respond within 24 hours. When writing to me, please include your full name and Math 220 and section number. Use your NEO e-mail account to send me e-mail. Otherwise please indicate your UIN. The phone number above is for the main office for the Math Department in Blocker. You can leave a message for me there. You will probably get a faster response by using email.

Make-ups and Excused Absences: Make-ups are only given if written evidence of an official University excused absence is provided in a timely manner. (See University Student Rules., http://student-rules.tamu.edu/). Let me know what is going on in writing, in advance, if possible. If there is an accident or an emergency that precludes advance notice, call me immediately and get me documentation of the emergency in writing as soon as you can. If I don't hear from you within 2 working days of the absence, I will not allow a make-up. It is your responsibility to schedule a make-up! The "explanatory statement for absence from class" form is not sufficient written documentation for an excused absence. If you are ill or injured, you need to provide me with a note from a health care professional excusing you from work or school. You may go to

your own doctor or to the Student Health Center in Beutel and obtain such a note. The note should provide me with all information I need to confirm that your absence is excused, i.e., phone numbers and email addresses.

Grade Complaints: Any questions regarding grading/scoring of exams must be made before the exam leaves the room or no change in grade will be made. If you need more time to look at an exam and do not want to lose your right of protest, hand it back to me at the end of class, and arrange to come to office hours. *Because of privacy rights, I cannot discuss grades over email or phone.*

Electronic Device Policy: Cell phones, laptops, and other electronic devices must be silent and put away during class. If you are unable to comply with this policy, you will be asked to leave class and will not be allowed to make-up any assignments missed in class that day.

Scholastic Dishonesty: "An Aggie does not lie, cheat, steal, or tolerate those who do." Visit *http://student-rules.tamu.edu/aggiecode* and follow the rules of the Aggie Honor Code. There will be many opportunities (homework and recitations) for you to work together in an appropriate manner. However, each student is responsible for turning in their own unique work. During exams and quiz, you are not allowed to receive any kind of assistance from anyone. Any instance of scholastic dishonesty will be handled according to the processes outlined on the Honor Code website at *http://www.tamu.edu/aggiehonor/Processes/reportingandadjudication.html* .

Students With Disabilities: The Americans with Disabilities Act (ADA) is a federal anti-

discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Services for Students with Disabilities (Cain Hall, Room B118, or call 845-1637).

Copyright Policy: All printed materials disseminated in class or on the web are protected by Copyright laws. One copy (or download from the web) is allowed for personal use. Multiple copies or sale of any of these materials is strictly prohibited.

 Note: This syllabus is subject to change at the instructor's discretion. The instructor reserves the right to make any changes she considers academically advisable. It is your responsibility to attend classes and keep track of the proceedings.

GOOD LUCK IN YOUR STUDIES!