

MTH 299 Transitions, Fall 2014 Course Syllabus

Instructor:	Tsvetanka Sendova
Lectures:	MWF 12:40-1:30 p.m. in A303 WH
Instructor's Office:	C-137 WH
Instructor's Office Hours:	Tu noon - 2:00 p.m., Th 10:30 - 11:30 a.m., and by appointment
Instructor's e-mail:	tsendova@math.msu.edu
Recitation:	Th 12:40 - 2:00 p.m. in 126 Chemistry
Learning Assistant (LA)	Garrett Sides
LA's e-mail:	sidesgar@msu.edu
Course Web Page:	http://math.msu.edu/~tsendova/MTH299_F14/MTH299_F14.html

Required Course Materials

- Textbook: Chartrand, Polimeni, and Zhang. *Mathematical Proofs: A Transition to Advanced Mathematics*, Third Edition (2012).

Topics

MTH 299 Transitions is an introduction to higher mathematics. You will learn about basic logic, set theory, integers, natural numbers and induction. You will learn to use mathematical proof to tackle problems in number theory and analysis. The course will prepare you for the core courses of a mathematics degree: linear algebra, analysis and algebra.

Attendance

Students are expected to attend all class meetings and are responsible for all of the material covered in class and in the homework. Any changes in this syllabus or in the scheduling of exams, quizzes, etc. will be announced during class meetings (usually at the beginning of class so please don't be tardy).

Policy for Missing a Required Assignment

- Excused absences will be given only with documentation and only for valid medical reasons, university business, or appearances in court.
- Any unexcused exams will be counted as a 0, including the final exam.
- Any student with a valid reason to be excused from an exam must contact the instructor prior to the exam and present documentation in the next class session attended. If a student misses an exam due to a medical emergency, then s/he will take the exam the next day s/he is back at school at a time chosen by your instructor; documentation of the emergency must be provided.

Class Expectations

1. You are expected to come to every class.
2. You are expected to own the book.
3. You are expected to check the class website on a regular basis. This is where homework assignments, supplementary reading materials and class announcements will be posted.
4. You are expected to pay attention and participate in class.
5. You are expected to spend at least 90 min between each lecture working on your homework and reading the book and supplementary materials.

Exams and Other Important Dates

Last day to drop the class with tuition refund	Monday, September 22
Midterm Exam I	Thursday, October 2, during recitation
Last day to drop the class	Wednesday, October 15
Midterm Exam II	Thursday, November 13, during recitation
Final Exam	Wednesday, December 10, 3:00 - 5:00 p.m.

Graded Components

Homework	25%
Quizzes	15%
Midterms Exams (2)	$2 \times 15\%$
Final Exam	30%
Total grade out of	100%

Grading Scale

(x is your percent score)

4.0	$90 \leq x$
3.5	$85 \leq x < 90$
3.0	$80 \leq x < 85$
2.5	$75 \leq x < 80$
2.0	$70 \leq x < 75$
1.5	$65 \leq x < 70$
1.0	$60 \leq x < 65$
0.0	$x < 60$

Grading Criteria

All of your work in the course will be graded according to three criteria.

1. Does your work **effectively communicate** your reasoning and methods?
2. Does your work **completely answer** the question posed?
3. Does your work **correctly answer** the question posed?

Solutions which ineffectively communicate your ideas, which omit or incompletely address the questions posed, or which include inaccuracies or errors will be penalized.

Homework

Homework will be assigned daily and collected in class after the next. That is, excepting weeks with holidays, homework assigned on Monday is due Friday; homework assigned on Wednesday is due on Monday, and homework assigned on Friday is due on Wednesday.

Late homework is not accepted without an excused absence (e.g. medical emergency, official university business, court appearance, etc., with documentation and advance notification if possible). Each homework assignment is worth 20 points. Not every homework problem will be graded; but using those which are graded a score from 0 to 20 will be determined.

Your submitted work must include a clear and complete statement of each problem that you attempt to solve. Often the most difficult step in solving a mathematical problem is correctly recognizing the nature of the problem and choosing methods which are likely to be applicable. If you do not know how to solve a particular problem, try to write a partial solution or try to express which aspect of the problem you are struggling with.

Solutions to some problems will be posted, while others may be discussed in class.

Quizzes

There will be 12 quizzes, each lasting about 20 minutes. Quizzes are given in recitation on days in which there is not an exam. Each quiz is worth 15 points. There are no make-up quizzes except in the case of a medical emergency; you must provide documentation.

Ungraded Work

You will not be successful in this course if you only complete the graded assignments. You must, in addition, regularly test your understanding by attempting exercises in the textbook and by attempting problems which we work on as a class during lecture and recitation. If you have not mastered the material, then you should not expect to achieve a high exam score. Moreover, if you are unable to solve at least half

of the recommended textbook exercises without making multiple or serious errors, then you should not expect to receive a passing grade on exams.

Students with Disabilities:

MSU has a Resource Center For Persons with Disabilities (RCPD): <http://www.rcpd.msu.edu/> Please contact the RCPD if you require special accommodations, and then schedule an appointment to meet with your instructor and accommodations can be provided.

Academic Honesty

Cheating in any form will not be tolerated and will be reported. You will receive a zero on any assignment in which there is a case of cheating. This includes, but is not limited to, plagiarism, failure to give proper citations, and copying another's work.

If you are preparing an assignment and have a question about whether you are adhering to this policy, please ask your instructor. If you work on an assignment with other students, you must give credit to your collaborators.

MSU's policy on academic integrity can be found at the following URL:
<https://www.msu.edu/~ombud/academic-integrity/index.html>.

Student Responsibilities

Attend class & arrive prepared. Regular attendance is required. Before attending the lecture, read the current textbook section. At minimum, attempt to work through the first several examples in each current section, and write down any questions you have. Work through the textbook exercises for the current sections and keep a notebook to record your progress.

Read outside of class. You should always have paper and pencil (and eraser!) readily available when reading mathematical text. Work through the examples by writing the steps out yourself until it is clear to you that the solution in the textbook is correct. Once a topic has been introduced in lecture, you should re-read the corresponding sections from the text. You should work on the exercises at the end of these sections until you are proficient. I encourage you to work with other students and to help one another succeed in the course.

Participate in class. Be attentive and stay alert. Work with your classmates, especially those adjacent to your seat. Take careful notes on those topics which are unfamiliar. Ask questions! Don't be shy: we all are here to learn!

Complete the homework assignments. Start homework assignments early and discuss these with your classmates. Write your attempts to solve the homework on scratch paper. You must re-write—carefully and neatly—your solutions according to the requested format. When your homework is returned with a grade, compare your solutions to the posted answers and solutions; you might learn a new technique or another way to understand a concept.

Work through the textbook exercises. Attempt these problems and test your understanding. Ask questions about these exercises. Ask your classmates, your LA, your instructor, your roommate, your lab partner, etc. Part of the fun of mathematics is that you can discuss mathematical problems with others and together you can discover a solution.

Attend recitation. You are required to attend the recitation. Prepare for recitation by making a list of specific problems or concepts with which you would like additional help. Please keep in mind that if time runs out before your question is answered that you can send questions via e-mail to either your instructor or your LA.

What is recitation? Recitation is a problem solving session lead by your Learning Assistant (LA). The recitation will typically consist of a question and answer session followed by an opportunity to solve problems suggested by the LA. Additionally, there will usually be a quiz administered at the end of each recitation.

Utilize office hours. Please consider bringing your questions to office hours. Office hours are times set aside specifically as an opportunity for you to get additional help. If your schedule conflicts with the scheduled office hours, please make an appointment by sending a request by e-mail.

Please do not think of this as an inconvenience to your instructor; additional help is available if you seek it out. However, it is your responsibility to come to office hours only after first making a sincere effort to answer questions on your own. Learning is difficult: work hard, try new ideas, and ask questions. If you do this, you will see definite progress.

Send questions via e-mail. When e-mailing your instructor, be sure to state your question clearly. If you are asking about a specific exercise or example in the text, be sure to restate the problem in its entirety.

Final Thoughts

The best way to learn mathematics is to write down solutions to specific mathematical problems. If you are able to solve most of the assigned problems, then I am confident that you will do very well in the course. But don't limit yourself to the assigned problems; the textbook offers a variety of interesting problems. Challenge yourself! Try working out problems that sound interesting to you. If you want more practice or want more challenging problems, please drop by my office during office hours or make an appointment to meet with me.

If you are falling behind in the course, please seek help ASAP. There is help available during office hours, from your classmates (just ask them!), and in the Math Learning Center.

I want you to succeed in this course, and I'm here to facilitate this goal. But the burden is upon you to work hard, to set aside realistic amounts of time for study, and to seek out help when you need it.

Some final advice: read the textbook. Then work some problems and read the textbook again. I cannot emphasize this enough. Learn to read the textbook. It is the key to being able to learn and apply mathematical techniques to problems you encounter outside of this class and down the road.