Syllabus for MAT 118
Mathematical Thinking
Fall 2016

1. About the Course

In this course, we will explore various applications of mathematics. It is designed to develop your mathematical thinking and problem solving abilities. During the semester, we will work on different real-life mathematical problems.

Major topics covered:

- Mathematics behind elections, power, and sharing
- Networks and graphs
- Population growth models
- Financial mathematics
- Fibonacci numbers and the golden ratio
- Probabilities and expectations

2. Lectures

LEC, MWF 9:00–9:53am, Javits Lectr 102, Sasha Tsymbaliuk
Email: oleksandr.tsymbaliuk@stonybrook.edu
Office: Simons Center for Geometry and Physics, Office 302
Office hours: MW 10:00–11:00am
MLC hours: F 10:00–11:00am

3. Recitations

R01, W 5:30–6:23pm, Physics P130, Aaron Ackbarali
R02, M 1:00–1:53pm, Library N4072, Ilyas Bayramov
R03, Th 1:00–1:53pm, Library W4072, Joseph Thurman

4. Textbook

"Excursions in Modern Mathematics" by Peter Tannenbaum (preferably 8th edition).

The book is available at the campus bookstore. However, there are many other stores where the same book can be obtained for a substantial lower price. You can also buy a used one or just rent it via various online bookstores.

The textbook is intended to be read!

5. Calculators

You may use a calculator when learning the material or doing homework. However, you also must be able to do calculations without it.

Calculators will be **forbidden on exams**.

6. Homework

Each week you will be assigned 5–7 problems on the Blackboard. The exercises will be from the course book and can be found at the end of the corresponding chapter. It is recommended that you read the corresponding chapters before doing the problems.

Also there will be some extra suggested problems which are not for grading.

Homework is due by the end of next Wednesday's lecture or can be handed at your recitation before.

No late homework would be accepted.

If you are having difficulty understanding a topic, we suggest that you go to your recitation section, meet with your TA, go to the Math Learning Center (a very useful facility, located in the basement of the Mathematics Tower), or meet your professor during office hours.

7. Recitations

Recitations are very valuable. There, your TA will go over the homework problems, answer your questions, and hand out the graded homework.

8. Exams

There are two midterms and the final. The schedule is:

- Midterm 1: Friday, September 30, 9:00–9:53 AM (in class).
- Midterm 2: Wednesday, November 2, 9:00–9:53 AM (in class).
- Final Exam: Wednesday, December 14, 8:30–11:00 PM (location TBA).

We will have the review sessions before each of the three exams.

We **do not give make-up exams** but instead replace an exam missed for a valid reason by a grade computed on the balance of the work in the course.

Note that the FINAL is at night, not in the morning!

9. Important Dates

- There are no classes on September 5 because of Labor Day weekend.
- There are no classes on November 23–25 because of Thanksgiving Break.
- Our last class will be on December 9.

- You may drop without tuition liability until September 4 at 4:00pm.
- You may withdraw without a "W", or add/swap classes until September 13 at 4:00 pm.
- You may move up or down in MAT/MAP courses until October 7 at 4:00 pm.
- You may withdraw with a "W" until October 28 at 4:00 pm.
- You may change the course to Grade/Pass/No Credit until October 28 at 4:00 pm.

10. How your grade will be calculated

Homework: 25%
Midterm 1: 20%
Midterm 2: 20%
Final Exam: 35%

We reserve up to 5% *for participation.*

11. Blackboard

Please check Blackboard regularly. Assignments, announcements, grades, etc. will be posted there. When items are posted, you will receive an email informing you of the fact.

12. Math Learning Center

The Math Learning Center (MLC) in Math S-240A is a great facility for you. During the week (M–Th 10:00–18:00, F 10:00–13:00), you will find instructors and TAs ready to help you (but do not expect them to solve a homework for you).

For more information go to http://www.math.stonybrook.edu/mlc.

13. Disability Support Services (DSS) Statement

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: http://www.stonybrook.edu/ehs/fire/disabilities.

14. Academic Integrity Statement

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academicintegrity/index.html.

15. Critical Incident Management Statement

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.

16. Conduct

Stony Brook University expects students to maintain standards of personal integrity that are in harmony with the educational goals of the institution; to observe national, state, and local laws and University regulations; and to respect the rights, privileges, and property of other people.