Syllabus

Course description: The goal of the course is to introduce the student to logical reasoning and proofs. This course serves as an introduction to rigorous mathematics used in upper-division mathematics courses. We will first discuss logical language and operations, and methods of proof in general. We will then focus on sets and maps between them - the foundational objects of mathematics. Finally, we study cardinality. We will apply the rigorous language to systematically define and study some notions of number theory, elementary analysis, and Euclidean geometry.

Credits: 3.

Instructor: Julia Viro. e-mail: julia@math.sunysb.edu
Office hours: TuTh 10am-11:30am and 4:30pm-5:30pm in MLC.

Grader: Mu Zhao. e-mail: muzhao@math.stonybrook.edu
Office hours: M 12:30pm-2:30pm in MLC and M 2:30pm-3:30 in 2-122.

Textbook: Peter J. Eccles, *An Introduction to Mathematical Reasoning*, Cambridge University Press.

Meetings: TuTh 11:30pm-12:50pm in Earth and Space 079.

Homework: will be assigned weekly through the Blackboard and collected in class on Tuesdays. The emphasis of the course is on writing proofs, so please try to write legibly and explain your reasoning clearly and fully. You are encouraged to discuss the homework problems with others, but your write-up must be your own work. Suspiciously similar papers won't be graded.

Grading system: your grade for the course will be based on: homework 10%, quizzes 10%, two midterms 20% each, final exam 40%.

Make-up policy: Make-up examinations are given only for work missed due to unforeseen circumstances beyond the student's control. Late home work will not be accepted.

STEM+: A grade of C or better in this course fulfills the Science, Technology, Engineering, and Mathematics (STEM+) objective in the Stony Brook Curriculum.

QPS Learning objective: Learning Outcomes for "Master Quantitative Problem Solving" includes the following:
1. Interpret and draw inferences from mathematical models such as formulas, graphs, tables, or schematics.
2. Represent mathematical information symbolically, visually, numerically, and verbally.
3. Employ quantitative methods such as algebra, geometry, calculus, or statistics to solve problems.
4. Estimate and check mathematical results for reasonableness.

5. Recognize the limits of mathematical and statistical methods.

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 (631) 6326748 or http://studentaffairs.stonybrook.edu/dss/. They will determine with you what accommodations 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/asp.

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 instance of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary

Critical incident management: 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, and/or inhibits students' ability to learn.