

MAT 543, Stony Brook University, Fall 2015

Times and places:

Lectures: TuTh 11:30-12:50 Math 4-130

Text: *Harmonic Measure* by John Garnett and Don Marshall (Cambridge University Press, ISBN 978-0-521-72060-1). There may be some supplementary handouts.

Class Webpage: <http://www.math.sunysb.edu/~bishop/classes/math543.F15>

Tentative Schedule: The table lists the sections we will cover in each lecture. Revisions may be made during the semester.

Week	Lecture	Topic	Book Section
1	Tu Aug 25	Half-plane and disk	I.1
1	Th Aug 27	Fatou's theorem	I.2
2	Tu Sept 1	Distortion	I.4
2	Th Sept 3	Hayman-Wu theorem	I.5
3	Tu Sept 8	No Class	
3	Th Sept 10	Schwarz alternating method	II.1
4	Tu Sept 15	Green's function	II.2
4	Th Sept 17	Conjugate functions	II.3
5	Tu Sept 22	Extremal length	IV.1
5	Th Sept 24	Four rules	IV.3
6	Tu Sept 29	Extremal metrics	IV.4
6	Th Oct 1	Harmonic measure estimates	IV.5
7	Tu Oct 6	The $\int 1/\theta$ estimate	IV.6
7	Th Oct 8	The Riesz theorem	VI.1
8	Tu Oct 13	Privalov and Plessner	VI.2
8	Th Oct 15	Accessible points	VI.3
9	Tu Oct 20	Midterm (Chapters I,II, IV)	VI.4
9	Th Oct 22	McMillian's theorem	VI.4
9	Tu Oct 27	Compression and expansion	VI.5
10	Th Oct 29	Pommerenke's extension	VI.6
10	Tu Nov 3	Bloch functions	VII.1
11	Th Nov 5	Bloch and univalent functions	VII.2
11	Tu Nov 10	Quasicircles	VII.3
12	Th Nov 12	Chord-arc curves	VII.4
12	Tu Nov 17	Makarov's LIL	VIII.1
13	Th Nov 19	Hausdorff dimension	VIII.2
13	Tu Nov 24	Brennan's conjecture and integral means	VIII.3
14	Th Nov 26	No Class	
14	Tu Dec 1		
15	Th Dec 3		

Important Dates (Fall 2015):

August 24: first day of class

Aug 30: last day to drop or withdraw without tuition penalty

Sept 1, 2 : Labor Day, no class

Sept 4: last day to drop without a W

Oct 2: last day to drop-down or move-up MAT classes

Oct 20: Midterm

Oct 23: last day: for section changes, to P/NC, to withdraw from a course with a W

Nov 25-29: Thanksgiving break, no class

Dec 4: last class

Dec 9: MAT 543 Final Exam, 5:30-8:00pm, room TBA

Grades: There will be several problem sets, one midterm and a final exam; the problem sets will be worth 50% of the grade and each exams worth 25%. Exams will emphasize knowledge of the definitions, theorems and proofs from the text.

Homework: Problem sets will be posted on the class website. Tentative due dates are listed below, but may change depending on the pace of the course.

Contact information and office hours:

Prof. Bishop: Math 4-112, Tu 9-10,11:30-12:30,Th 11:30-12:30, bishop@math.sunysb.edu

Grader: David Hu, office and office hours ???, David.Hu@stonybrook.edu

DSS notice: If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services at (631) 632-6748 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.sunysb.edu/>

Academic Integrity: 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 and 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/uaa/academicjudiciary/>

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.