

GEOMETRIC FUNCTION THEORY GRADUATE COURSE, SPRING 2018

ALAN SOLA AND FREDRIK VIKLUND

TENTATIVE SCHEDULE

Lecture	Topics	Section
January 25	Half-plane and disk; Fatou's theorem and maximal functions	I.1, I.2
February 1	Fatou's theorem (cont'd); Carathéodory's theorem	I.2, I.3
February 15	Distortion and hyperbolic metric	I.4
February 22	Multiply connected domains; Green functions and Poisson kernels	II.1, II.2
	Homework 1 due in class	
Fri March 1	Green functions and Poisson kernels (cont'd); Conjugate fncs	II.2, II.3
March 8	Boundary smoothness	II. 4
March 15	Capacity; Logarithmic potentials	III.1, III.2
	Homework 2 due in class	
March 22	Energy integral; Equilibrium distribution	III.3, III.4
March 29	Polar sets; Estimates on harmonic measure	III.8, III.9
April 5	Definition of extremal distance; uniqueness of extremal metrics	IV.1, IV.2
April 12	Extremal length	IV.3, IV. 4
April 19	Extremal length and harmonic measure	IV.5, IV. 6
	Homework 3 due in class	
April 26	The Loewner equation	
May 3	Quasiconformal maps and Teichmüller theory I	A. Fletcher,
May 17	Quasiconformal maps and Teichmüller theory II	V.Marković
	Homework 4 due in class	
May 24	Quasiconformal maps and Teichmüller theory III	"QC maps & Teichm. theo."
June 1st and 7th	Oral examinations	OUP, 2007

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