Course Guide Math 331: Fall 2024: DH 2054, T-R 2:15-3:30 PM

Date	Topic	Lecture Notes	Saff and Snider	Assignment
T: 8-20	Complex numbers, algebra and geometry, arg and Arg, polar form	Chapter 1	1.1, 1.2, 1.3	
R: 8-22	Functions of a complex variable, examples and their properties	Chapter 2	1.4, 1.5	
T: 8-27	Complex exp, log and Log, Root Functions, Polynomial Algebra	Chapter 2	2.1	
R: 8-29	Euclidean Topology and limits,	Chapter 3	1.6, 2.2	Mission 1
T: 9-3	Differential Calculus of maps, continuously diff. map Thm,	Chapter 4	Don't read 2.3-2.4	
R: 9-5	Definitions of complex derivative and theory of complex diff. maps	Chapter 5	Don't read 2.3-2.4	
T: 9-10	Definitions of complex derivative and theory of complex diff. maps	Chapter 5	Don't read 2.3-2.4	Mission 2
R: 9-12	Properties of complex functions, polynomial, rational, trig. and logs		3.1, 3.2, 3.3	
T: 9-17	Inverse Function Theorem and inverse trig functions		3.5	
R: 9-19	Harmonic Functions, Washers & Wedges		2.5, 3.4	Mission 3
T: 9-24	The conformal mapping technique & FLTs		7.1 – 7.4	
R: 9-26	Discussion (Quiz 1 is due at the start of class)			Quiz 1
T: 10-1	Test 1			
R: 10-3	Contour Integration and the FTC for complex integrals, ML-theorem	Chapter 7	4.1, 4.2	
T: 10-8	Path independence, Cauchy's Integral Formula	Chapter 7	4.3, 4.4b, 4.5	
Fall Break	no class 10-10 & 10-11			
T: 10-15	Cauchy-Goursat Theorem, Cauchy's Integral Formula	Chapter 7	4.3, 4.4b, 4.5	
R: 10-17	Max mod theorem, Liouville's Thm & FTA, Dirichlet's Problem	Chapter 7	4.6, 4.7	Mission 4
T: 10-22	Theory of complex power series		5.1-5.4	
R: 10-24	Laurent Series, Zeros and Singularities		5.5, 5.6	
T: 10-29	Point at infinity, analytic continuation		5.7, 5.8	
R: 10-31	Residue Theorem & Applications to Integration	Chapter 10	Chapter 6	Mission 5
T: 11-5	Residue Theorem & Applications to Integration	Chapter 10	Chapter 6	
R: 11-7	Integration along branch cuts, fractional residues etc.	Chapter 10	Chapter 6	
T: 11-12	Argument Principle and Rouche's Theorem, Winding number	Chapter 11	6.7	
R: 11-14	Argument Principle and Rouche's Theorem, Winding number	Chapter 11	6.7	Mission 6
T: 11-19	Discussion (Quiz 2 is due at the start of class)			Quiz 2
R: 11-21	Test 2			
	Thanksgiving Break			
T:12-3	Additional topic			
R: 12-5	Additional topic			
	Final Exam			

1. Grading: usual 1000pts scale with:

   Missions 1-6= 300pts*, Quizzes 1-2 = 100pts*, Tests 1-2 = 360pts**, Final = 200pts, Participation = 40pts.

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*If a mission or quiz is missed then the percentage grade from the corresponding test is used to replace the grade for the assignment.

** If a test is missed then the percentage grade from the Final Exam may replace the missed test grade. In certain circumstances the percentage grade of the Final Exam may also be used to replace missions and quizzes (but this is not guaranteed).

2. Participation means coming to most classes and using the time wisely. Easy way to make participation grade zero include such activities as texting in class habitually, not taking notes and not paying attention, sleeping a lot, watching sports of any kind on your phone, playing video games on your laptop, doing homework for any class on your laptop during class, admitting a love for Taylor Swift's "music" publicly etc.
3. Once I post a solution to an assignment no make-up or late work is allowed except in extreme circumstances. However, I will add weight to another assignment or final as described in point 1 above.