## The University of Memphis Department of Mathematical Sciences

MATH 7361	<b>Complex Analysis</b>	Fall 2015
Instructor:	Dr. Thomas Hagen, Professor Dunn Hall 367, Phone: 678-2481, <b>Email:</b> <u>thagen@mem</u>	phis.edu
Class Time/Location:	TR 1:00pm to 2:25pm, Dunn Hall 231	
Office Hours:	By appointment (please let me know ahead of time if you want to see me)	
Text:	I will base the course on the following text. However, I will not shackle myself to the material provided there. Instead I want to leave enough freedom to explore other topics and to use different proof strategies or even notation. <b>Complex Variables (2<sup>nd</sup> edition)</b> by R.B. Ash and W.B. Novinger, Dover Publications, 2007, <b>ISBN: 0486462501</b> The book is also available for free download at http://www.math.uiuc.edu/~r-ash/CV.html	
Course description:	Complex Analysis is one of the two classical branches of analysis, the other one being Real Analysis. Its central objective is the study of differentiable functions of the complex plane. The results obtained are breathtakingly elegant and powerful and find applications in many other fields inside and outside of mathematics. Main contributors to the classical theory include such giants as Cauchy, Gauß, Riemann and Weierstraß. Topics are taken from Chapters 1-6 in the textbook.	The mapping $w = \frac{1}{z}$
Prerequisites:	MATH 6351 (Real Analysis II) or equivalent Complex Analysis is heavily driven by proofs. If you are not fluent in proof writing/reading or lack the required level of mathematical maturity, you should consider taking another class.	Theorem: $1 = -1$ Proof: $1 = 1^{1/2} = (e^{2\pi i})^{1/2} = e^{\pi i} = -1$
Work:	Homework will be given regularly and will be due a week later ( <b>NO</b> late work). Not all homework will be collected or graded. Submit your homework in a thin 3-prong folder.	
Grades:	<ul> <li>The grade range is from A to F. The plus-minus system will not be used.</li> <li>To earn an A (100 points), you must submit <i>serious</i> solution attempts to 80% of all homework problems, must give an acceptable presentation of a correct solution of at least one <i>selected</i> homework problem, and must <i>fully</i> attend 80% of all lectures.</li> <li>To earn a B (80 points), you must submit <i>serious</i> solution attempts to 60% of all homework problems and must <i>fully</i> attend 80% of all lectures.</li> <li>To earn a C (60 points), you must submit <i>serious</i> solution attempts to 40% of all homework problems.</li> <li>To earn a D (40 points), you must submit <i>serious</i> solution attempts to 20% of all homework problems.</li> <li>In all other cases you earn an F (20 points).</li> <li>The final exam (worth 100 points) is <i>optional</i> and, if taken, makes up 50% of your final grade. Class participation can be taken into account at the instructor's discretion.</li> </ul>	