Tentative Schedule for MTH 483/583
Spring 2020

	Monday	Tuesday	Wednesday	Thursday	Friday
Mar./Apr.	**30** Introduction	**31**	**1** Algebraic properties of complex numbers	**2**	**3** Geometric representation of complex numbers
Apr.	**6** Powers and roots of complex numbers	**7**	8 **HW 1 due** Quadratic formula, complex roots of polynomials, exponential function	**9**	**10** Exponential, sine, cosine function of complex variables
Apr.	**13** Argument and logarithm as multi-valued functions	**14**	**15** **HW 2 due** Single-valued branches of multi-valued functions, domain, branch points, branch cuts	**16**	**17** Inverse trigonometric functions of complex variables
Apr.	**20** Limit of functions of complex variables	**21**	**22** **HW 3 due** Continuity, curves on complex plane	**23**	**24** Derivative of functions with complex variables
Apr./May	**27** Cauchy-Riemann equations, holomorphic functions	**28**	**29** **HW 4 due** Differentiation rules, mapping properties of holomorphic maps	**30**	**1** Midterm review
May	**4** Midterm (In class)	**5**	**6** Antiderivative of zero function, finding antiderivative	**7**	**8** Complex integration
May	**11** Computing complex integrals, geometric interpretation	**12**	**13** **HW 5 due** Fundamental theorem of Calculus for complex variables	**14**	**15** Cauchy - Goursat theorem
May	**18** Cauchy's Integral formula	**19**	**20** **HW 6 due** Applications of Cauchy's Integral formula	**21**	**22** General Cauchy's Integral formula; complex series
May	**25** No class (Memorial Day)	**26**	**27** **HW 7 due** Taylor series of complex-variabled functions	**28**	**29** Analyticity and holomorphicity; Laurent series
June	**1** Application of Laurent series in complex integration; Cauchy's Residue theorem	**2**	**3** **HW 8 due** Laurent series; Calculus of Residue	**4**	**5** *(last day of class)* Final review
June	**8**	**9** **Final exam** **12:00-1:50 PM**	**10**	**11**	**12**