MATH 6353 – Complex Analysis and Geometry II – Spring 2017
Syllabus

Instructor: Dr. Gordon Heier
Contact Information:
Office: 666 PGH
Office Hours: M 3:30pm-4:30pm, F 11am-12noon or by appointment
Email: heier@math.uh.edu
Web: www.math.uh.edu/~heier and www.math.uh.edu/~heier/teaching.html

Lecture: MW 1pm-2:30pm, Room: SW 423

Prerequisites: Math 6352 (Complex Analysis and Geometry I), or equivalent, or consent of instructor

Exams: Midterm Exam: take home exam, March 24 - March 31
Final Exam: take home exam, May 1 - May 5
Note: The above exam dates are tentative and subject to change.

Texts: Positivity in Algebraic Geometry I, II, by Lazarsfeld (not required)
Principles of Algebraic Geometry, by Griffiths-Harris (not required)
Diophantine Geometry--An Introduction, by Hindry-Silverman (not required)

Homework will be assigned in the form of "recommended problems" during class. Your solutions are not to be turned in for grading, but these problems serve as your preparation for the exams. Students are encouraged to come to office hours and discuss the recommended problem with me.

Attendance: Attending classes and taking exams is mandatory for all students. Missing class makes a student liable to missing important information. Substantial documentation is necessary to receive any kind of excuse or make-up privilege.

Grades: The midterm exam and final exam will each account for 50 percent of your grade.

Disability: If you think or know that you have a disability that needs special accommodation, please see me at the beginning of the semester so that the proper steps can be taken.

Academic Dishonesty will not be tolerated and dealt with appropriately.

Course Content: This is the second semester of a two semester introductory course in complex analysis and algebraic geometry. We will approach the matter from the point of view of line bundles, linear series and positivity. As far as time will permit, we will also discuss applications in complex differential geometry and diophantine geometry.
Likely topics include: projective varieties, divisors, line bundles, linear series, positivity, curvature, vanishing theorems, classification and structure theorems based on curvature, rational and integral points.