Textbooks: Complex numbers and Geometry, by L.-s. Hahn (required)
Modern Geometries (Chap. 1–10), 2nd Ed., by M. Henle
(photocopy on reserve in Bailey-Howe Library)

Class Meets: MWF: 9:35 – 10:25 a.m. (361 Votey)

Instructor: Dr. Taras I. Lakoba
Mathematics & Statistics Bldg. (16 Colchester Ave.), Room 405
656-2610, tlakoba@uvm.edu, http://www.cems.uvm.edu/~lakobati

Office Hours: MW: 11:40 – 1:00, Th: 10:10 – 11:30, and by appointment

Important deadlines: Add/Drop and Pass/no Pass: Monday, September 12;
Class withdrawal: Monday, October 31.

Course summary:
This course will consist of two parts.

In Part 1, we will establish some background material for, and explore the geometric features of, complex numbers. This material is covered in Chap. 1 of the text by L.-s. Hahn. Then we will use our knowledge of complex numbers to prove theorems in Euclidean geometry, some of which are well beyond the scope of a high school course in Geometry. This material is covered in Chap. 2 of the same text.

In Part 2, we will study certain functions of a complex variable known as Möbius transformations and see how these can be used to construct a model of a non-Euclidean geometry (Poincaré model of the hyperbolic geometry). This material is covered in Chap. 3 of the text by L.-s. Hahn and in Chapters 1–10 of the text by M. Henle.

Homework:
There will be 11 or 12 homework assignments throughout the semester. Your assignments should be neatly prepared and must be submitted by the due date. An assignment submitted on the due date but later than at the beginning of class will be graded out of 80%; an assignment submitted no later than 48 hours after the due date will be graded out of 50%; any assignment submitted later than that will be given a score of 0. Exceptions from this policy will be made only in exceptional cases and on individual basis.

You are encouraged to seek my help during the office hours and/or work with other students. However, the assignment you submit must be written entirely on your own without consulting or using any outside source. Violations of this rule will be considered academic cheating and dealt with accordingly. Both the person(s) who copied other person’s work and the person whose work was copied will be given the same penalty.

Tests:
(a) There will be two in-class tests during the semester. The approximate (within a week or so) dates of these tests are October 12 and November 18. The exact dates will be announced in class at least one week before each test. Make-up exams will be given only to those students who have documented excused absence.
(b) The final exam will be on Monday, December 12, at 10:30 a.m. – 1:15 p.m. in Votey 361.

Grading Policy:
Each in-class test will be worth 22% of the final grade. All homework assignments combined will be worth 30% of the final grade. The final exam will be worth 26% of the final grade.

Note: I do NOT drop your lowest grade. Thus, ALL the grades that you earn during the semester will contribute to your final grade, as detailed above.

Academic integrity:
You are expected to read and understand the UVM Academic Honesty policy, found at http://www.uvm.edu/~uvmppg/ppg/student/acadintegrity.pdf.

Special accommodation: Students with disabilities who require special accommodation must notify the instructor of their needs within the first two weeks of the semester. They must also provide a formal letter from the Office of Specialized Student Services.