

## SYLLABUS

Foundations of Geometry, MATH 535

Spring 2015

INSTRUCTOR:	Dr. Krzysztof Chris Ciesielski
OFFICE HOURS:	M, W 5:30-6:50pm
OFFICE:	308G Armstrong Hall
CLASS MEETING TIMES:	M, W 7:00-8:15pm
CLASS MEETING PLACE:	415 Armstrong Hall
OFFICE PHONE NUMBER:	293-4367
WEB PAGE:	<a href="http://www.math.wvu.edu/~kcies/teach/current/CurrentTeaching.html">http://www.math.wvu.edu/~kcies/teach/current/CurrentTeaching.html</a>
TEXT:	<i>The Foundations of Geometry and the Non-Euclidean Plane</i> by George Edward Martin, Springer Verlag, ISBN: 0387906940. I will use the 4th edition of 1998, but there seems to be little difference between this addition and earlier additions. Our bookstore will <b>not</b> have this book. So, order this on line from either <a href="http://www.springer-ny.com">http://www.springer-ny.com</a> or <a href="http://www.amazon.com">http://www.amazon.com</a>
TENTATIVE GRADING SCHEME:	Homework & Quizzes 30% Mid Term Test 30% Final Test 40%
FINAL EXAM:	The final exam will be comprehensive.
TENTATIVE GRADING SCALE:	A 85-100% B 75-85% C 64-75% D 55-65% F below 55%

Excerpt from Graduate catalog:

*Math 535: (Designed especially for secondary mathematics teachers; others admitted with departmental approval obtained before registration.) Incidence geometrics with models; order for lines and planes; separation by angles and by triangles; congruence; introduction to Euclidean geometry.*

The main goal of the course is to teach its participants a good understanding of the axiomatic approach to the *Euclidean geometry*. To achieve this goal, we will discuss in some generality what the *axiomatic theory* is and what it means that its axioms are *consistent* and *independent*. Our main concern will certainly be the Euclidean axioms. But to understand them well we will be introducing the axioms very slowly, one by one, and will discuss in details the geometrical theories based on these few axioms. To show that the axioms are independent (and consistent) we will discuss many different geometrical *models*, referred often as the *incidence geometrics models*.