Teacher's Name: Mr. Lee Blankenship-Brown   **Room Number: 110**
Email: rblanken@lexrich5.org   **Website: www.blankenship-brown.com/irmo**
Phone: 803 – 476 - 3093

I   Course Description

(from the district course catalog) This course is designed to provide a stronger math foundation for students who want to major in mathematically oriented fields in college. Students will develop mathematical knowledge, concepts and principles; develop logical, critical and creative thinking; and employ and refine their powers of abstraction and generalization. Students will be encouraged to appreciate the international dimensions of mathematics and the multiplicity of its cultural and historical perspectives. While the focus is on rigorous mathematical concepts, students will be introduced to real-world applications and interdisciplinary connections of these concepts. Students will use modern technology and standard international notation throughout the course. Students will do preliminary work towards the course project (which will be completed in the senior year). This course goes into greater depth than the Standard Level course in these topics: trigonometry, statistics and calculus. Students will need a graphing calculator for class.
Course Standards Link: http://www.ibo.org/globalassets/publications/recognition/5_mathhl.pdf

Students need a graphing calculator (not a CAS model). I recommend a three-ring binder because it offers maximum flexibility for organizing and retaining all materials

•The primary mode of instruction is lecture and demonstration followed by guided practice and assigned independent practice. Students may be called on to respond in class or to go to the board to work problems. If time permits, guided practice may be conducted with students working in pairs.
•Students are expected to take notes in class and to keep all notes, and handouts. Homework and classwork should be completed on paper and should not be done on the same sheet of paper as notes (so that if work is collected, you still have your notes). Homework should be your desk when the bell rings.
•All class notes, assignments and handouts are posted on the class website. Students who are absent should consult the website and (if at all possible) attempt the homework before returning to class.
•All students must complete a mathematical exploration paper as for their internal assessment. Discussion of paper topics will begin after completion of the statistics topics. The finished product will be due February 15 and will be graded as a major test. Grades will also be given for steps in the process of writing the paper.

II   Fees & Explanation: A fee of $25.00.

III   Textbook & Supplemental Resources: *Mathematics Higher Level* (Oxford University Press, 2012) and *Mathematics Higher Level: Calculus* (Oxford University Press, 2012)

IV   Course Grading Polices, Assessments, & Procedures

South Carolina Grading Scale: 90-100 = A   80-89 = B   70-79 = C   60-70 = D   0-59 = F

Grades are computed using a points system. A student's average is obtained by dividing the total number of earned points by the total number of possible points. Tests, quizzes, and daily assignments are assigned a number of points based on the amount of material covered. Quizzes may be announced or unannounced. Homework is assigned daily and is checked periodically for completeness and quality. Final grades are computed according to school policy.

If a student scores less than 75% on a test or quiz, he or she will have an opportunity to retake that assessment for a maximum mark of 80%. (The 80% ceiling is to encourage students to make their best attempt on the first test instead of gaming the system for more study time.) Late homework is generally not acceptable because many times the homework is gone over in class and thus a student can no longer complete it as independent practice; however, at least one homework grade will be dropped each nine weeks. Assignments and class notes are available on the class website and every attempt should be made to complete assignments even when the student is absent.

V Absences and Make-Up Policies for Irmo High School
Students will be permitted to make-up work missed due to an absence. If the student misses 1 day, the make-up work must be completed within 2 school days. If the student misses 2 or more consecutive days, the make-up work must be completed with 5 school days.

Students who miss a test or quiz due to a one-day absence from this class will be expected to make it up during the following class.

VI Classroom Expectations
[a] Rules
1. Be in your seat when the tardy bell rings with HW out.
2. Stay on task until the class is dismissed; hence, <u>no phones, no earphones/earbuds, and no other unauthorized electronic device usage</u>.
3. Listen and follow directions the first time.
4. Obey all school rules.
   I reserve the right to clear calculator memory at any time.

Consequences
First time - Verbal warning
Second time - detention with the teacher
Third time - detention with the teacher
 and parent contacted
Fourth time – Referral

[b] Electronic device expectations
You may use an electronic device only with permission for a specific academic purpose. <u>If your phone or earbuds are visible during class, you will be assigned detention</u>. Furthermore, <u>do not charge your devices in the classroom</u>.

VII Academic Assistance and Suggestions for Success
Students are strongly encouraged to come to me during Advisory (homeroom) time. Assistance is also available after school. The days for after school help will be announced in class and may change from time to time.

VIII Material Covered

First Nine Weeks:
⬧Probability -- descriptive statistics, measures of central tendency, measures of spread, theoretical and experimental probability, Venn diagrams, probability trees, conditional probability, independent and mutually exclusive events, Bayes' theorem
⬧Probablity Distributions – discrete distributions, the binomial distribution, the Poisson distribution, continuous distributions, the normal distribution, applications
Second Nine Weeks:
⬧Begin the Exploration
⬧Vectors – geometric representations, equations of lines and planes, the scalar product and angles between vectors, the vector product, equations of lines and planes, angles, distances, and intersections
⬧The Complex Numbers – complex numbers and 2-D vectors, the complex plane, modulus-argument form and DeMoivre's theorem
Third Nine Weeks:
⬧Complete the Exploration
⬧Theoretical aspects of the calculus -- Limits of sequences, squeeze theorem and sequence convergence, limits of functions, indeterminate forms and L'Hôpital's rule, continuity and differentiability, intermediate calue theorem, extreme value theorem, Rolle's theorem, the mean value theorem
⬧Begin Review
Fourth Nine Weeks:
⬧Review