



Calculus 2/IB Mathematics HL
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Course Summary:

The objective of this course is for students to learn the fundamentals of Calculus 2, vectors and probability, complex numbers, and statistical topics. This is an IB course, upon completion of which students will be ready for the Mathematics HL IB examination. The material covered in this course is comparable but not identical to a 2nd semester college level Calculus course. Students are advised to check with individual colleges to see what, if any, requirements may be fulfilled. There is one internal assessment in the form of a math exploration assigned during the course that students may use to fulfill requirements for the Mathematics HL program. The exploration is a mathematics paper written about a topic of the student's choosing. The complete curriculum and syllabus is specified by the IB Organization and a detailed course guide is available online. The expectation is that all students have successfully completed a calculus course or its equivalent prior to enrollment.

I. Units of Study

The following units are covered in this course throughout the year:

- Volume and Surface Area
- Integration Methods
- Sequences and Series
- Complex Numbers
- Probability
- Statistics
- 2-D and 3-D Vectors
- Equations of Parallel, Perpendicular, and Skew Lines and Planes
- Differential Equations

III. Standards and IB DP Assessments

It is the aim of all IB Diploma courses to develop logical, critical and creative thinking as well as patience and persistence in problem solving.

IV. Text/Resources

The text for this class is *Calculus of a Single Variable Seventh Edition – Larson, Hostetler, and Edwards*. Check out our Schoology page and Mr. Anderson's faculty page (<http://highlandsr.spps.org/AndersonCalculus2.html>) for other helpful resources.

Additional required materials are pen/pencil and folder/notebook and a graphing calculator. A limited number of TI-84+ graphing calculators are available for check out. These materials are to be brought to class daily.

V. Methodology

In this course the students will have the opportunity to understand and appreciate both the practical use of mathematics and its aesthetic aspects. They will be encouraged to build on knowledge from prior learning in mathematics and other subjects, as well as their own experience. Students will develop mathematical intuition and understand how they apply mathematics in life.

VI. Methods of Assessment

Grades will be based upon the percentage of points earned. Points may be earned through both **formative (30%)** and **summative (70%)** assessment. The formative assessment will consist of homework and notebook checks while the summative assessment will include quizzes, tests, and projects. For additional details please see the school grading policy which can be found on Highland's website under student resources.

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VII. Other Course Information

This is a college level course and it is expected that all students will act in a safe, respectful, and responsible manner. All Highland Park school and district policies dealing with absences, tardiness, late work and other issues will be followed. For more information on the grading scale, make-up work, retakes, and/or late work see the "*Highland Park Senior High School Grading and Assessment Policy*". Students can access scores, grades, missing work, and/or attendance on the "parent/student portal" tab at www.highlandsr.spps.org

VIII. Helpful Hints:

- I am available for help after school on many days, **JUST MAKE THE EFFORT & ASK!!** (email/in person). I **want to help** you be successful in this course – however, your effort is \int to our success as a team! ☺
- If you are injured – do you wait for days/weeks to obtain help? **NO!** Ask questions / seek help early! ☺
- Google, classmates, worked problems, textbook, YouTube, teacher, WolframAlpha, Khan Academy, SymboLab, Paul's Online Math Notes ... There are countless tools in your 'tool box'. Use them!! ☺