



Loyola High School
Secondary 5 Math → Introduction to Calculus

Teacher: Mr. C. Taddeo

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Online Resources and Textbook:

- **Khan Academy** (<http://khanacademy.org>)
- [Google classroom](#) (students will be automatically enrolled)
- Pre-Calculus Textbook: Mathematics for Calculus by James Stewart. 3rd edition
- Calculus Textbook: Single Variable Calculus by James Stewart, 7th edition

Supplies: 3-ring binder, loose leaf, pencils, eraser, ruler, scientific calculator (non-graphing)

Class notes, worksheets, homework, and assignments will be posted in Google classroom. Students and parents are encouraged to access the classroom regularly to view information about the course, class notes, and grades.

Evaluation: The final grade for the course will be calculated as follows: Term 1 → 40%
 Term 2 → 60%

	Term 1	Term 2
Homework/Assignments	10%	10%
Quizzes	15%	15%
Class Tests	45%	45%
Mid-Year Exam (Dec. 13 th - 17 th)	30%	
Final Exam (TBD)		30%

Homework/Assignments: Weekly evaluations based on topics covered in class.

Quizzes: Weekly evaluations based on topics covered in class. At times, students will be responsible for uploading their answers and calculations (using their iPad or other electronic device) directly onto Google classroom.

Class Tests: Based on topics covered during the term and must be completed in pencil. Scientific (non-graphing) calculators may be permitted during these tests. Tests and other evaluations will take place in class and/or online.

Due to the fast paced nature and content of the course, students are required to review their notes on a daily basis and complete homework exercises to ensure they have understood the material presented to them. Students experiencing difficulty may attend tutorials (available times and location is posted in Google classroom) or by appointment.

Note: The intention of this course is to expose students to key concepts of Calculus and ease the transition into CEGEP level Math courses when applying to programs such as Pure and Applied/Health Sciences or Commerce at the CEGEP level. Given the competitive nature of these programs and the number of applicants, it is very important for students to be prepared for each class to obtain the best possible grade. Students who complete this course will not be exempted from any similar course at the CEGEP level.

Class Conduct and Rules:

- Homework will be assigned weekly and students will receive worksheets to re-enforce principles and concepts discussed in class. Students are responsible for completing all their work on time and should be attending tutorials if necessary.
- Students are also expected to complete Assignments (posted in Google classroom) each term showing detailed calculations. All work will need to be completed digitally, scanned and uploaded (as a pdf file) onto Google classroom. **NO LATE ASSIGNMENTS** will be accepted. Students who do not submit an assignment will receive a grade of 0%.
- If a student is absent for any quiz or class test because of an illness or unexpected reasons, **he must make arrangements to write an alternate test as soon as possible.**
- Students are expected to complete many quizzes and/or tests in class **without** the use of a calculator. The purpose of these evaluations is to improve students mental mathematics skills and increase their “number sense” when problem solving. At the end of each term, the quiz with the lowest grade will be omitted.

Course Content:

- Conics
 - Circles, Ellipse, tangent and secant lines
 - Hyperbola and Parabolas
 - Word problems and proofs (conjectures)
- Trigonometry
 - Sine, Cosine, Tangent, Cosecant, Secant, and Cotangent functions
 - Trigonometric identities and double angles
 - Inverse Trigonometric Functions
- Functions
 - Domain, asymptotes, composites, and inverses of functions
 - Rational and Piecewise functions
- Limits and Continuity of a Function
 - Definition of a limit
 - Evaluating limits (algebraically and graphically)
 - Evaluating limits to infinity (algebraically and graphically)
 - Using limit definition to prove continuity of a function
 - Identify different types of discontinuity
- Derivatives and differentiability rules
 - Using the definition of a limit to find a function's derivative
 - Understanding the derivative of a function
 - Finding derivatives to higher order functions
 - Using derivatives to find the slope and equation of tangent lines
- Applications of Derivative
 - Related rates and optimization, curve sketching

Any questions or concerns regarding these rules should be addressed to Mr. Carmine Taddeo as soon as possible. Thank you and the best of luck during this academic year.