

**Notre Dame Catholic High School**  
**Catholic District School Board of Eastern Ontario**

COURSE TITLE: College and Apprenticeship Mathematics, Grade 12,  
COURSE CODE: MAP 4C  
LEVEL OF DIFFICULTY: College Preparation  
AREA OF STUDY: Mathematics  
PREREQUISITE: Mathematics of Personal Finance, Grade 11, College Preparation **OR**  
Functions, Grade 11, University/College Preparation  
**OR** Functions and Relations, Grade 11, University Preparation  
NUMBER OF HOURS: 110  
FACILITATORS: Mrs. K. Turner  
WRITERS: The Math Department  
DATE: September, 2006  
MINISTRY GUIDELINES: The Ontario Curriculum, Mathematics, Grade 11 &12  
TEXT: Mathematics: Preparing for College and Apprenticeship,  
(Addison-Wesley)

**COURSE DESCRIPTION:**

This course equips students with the mathematical knowledge and skills they will need in many college programs. Students will use statistical methods to analyse problems; solve problems involving the application of principles of geometry and measurement to the design and construction of physical models; solve problems involving trigonometry in triangles; and consolidate their skills in analysing and interpreting mathematical models.

**UNITS OF STUDY:**

**A. MATHEMATICAL MODELS**

By the end of this course, students will:

1. evaluate powers with rational exponents, simplify algebraic expressions involving exponents, and solve problems involving exponential equations graphically and using common bases;
2. describe trends based on the interpretation of graphs, compare graphs using initial conditions and rates of change, and solve problems by modelling relationships graphically and algebraically;
3. make connections between formulas and linear, quadratic, and exponential relations, solve problems using formulas arising from real-world applications, and describe applications of mathematical modelling in various occupations.

**B. PERSONAL FINANCE**

By the end of this course, students will:

1. demonstrate an understanding of annuities, including mortgages, and solve related problems using technology;
2. gather, interpret, and compare information about owning or renting accommodation, and solve problems involving the associated costs;
3. design, justify, and adjust budgets for individuals and families described in case studies, and describe applications of the mathematics of personal finance.

### **C. GEOMETRY AND TRIGONOMETRY**

By the end of this course, students will:

1. solve problems involving measurement and geometry and arising from real-world applications;
2. explain the significance of optimal dimensions in real-world applications, and determine optimal dimensions of two-dimensional shapes and three-dimensional figures;
3. solve problems using primary trigonometric ratios of acute and obtuse angles, the sine law, and the cosine law, including problems arising from real-world applications, and describe applications of trigonometry in various occupations.

### **D. DATA MANAGEMENT**

By the end of this course, students will:

1. collect, analyse, and summarize two-variable data using a variety of tools and strategies, and interpret and draw conclusions from the data;
2. demonstrate an understanding of the applications of data management used by the media and the advertising industry and in various occupations.

## **How This Course Supports the Ontario Catholic School Graduate Expectations:**

This course encourages the Catholic learner to promote growth towards her/his personal responsibilities, faith, and moral and ethical decision making in order to make better and more informed career choices. The classroom environment should foster mutual and self-respect and individual self-discipline, along with the practice of cooperative learning and the ability to work in groups or as part of a team. Students develop an awareness of their own strengths, along with tolerance and compassion for the weaknesses and inability of others. Collectively, these expectations are significant to our goal of our students becoming well-rounded apprentices, professionals, employees, or business leaders in society.

### **COURSE EVALUATION:**

Student achievement will be based on the achievement chart categories outlined below and individual demonstration of the specific expectations. All major assessment will be evaluated by levels. Grades will be determined using the students' most consistent and most recent levels of achievement. For purposes of reporting, the percentages grade range will be mapped to the following levels as defined by the board:

## The Achievement Chart for Mathematics

The Achievement Chart identifies four categories of knowledge and skills in Mathematics:

Knowledge and Understanding	The degree to which the student demonstrates understanding of the concepts
Application	The degree to which the student can apply proper mathematical concepts and procedures.
Thinking, Inquiry, Problem Solving	The degree to which the student utilizes proper problem solving techniques, strategies, resources, technology, and tools
Communication	The degree to which the student represents information properly; written, graphical, chart, numerical, and symbolic forms. Effective communication implies timeliness, presentation, and completeness.

According to the provincial standard for assessment, Level 3 is the provincial standard, Level 4 indicates a level of achievement beyond the standard, Level 2 indicates the student is slightly below the provincial standard, and Level 1 indicates limited understanding of the material. The achievement chart helps to determine the students' most consistent level of achievement of the curriculum expectations as reflected in his or her course work.

Level	Pegged Mark
4++	100
4++	98
4+	94
4	90
4	86
4-	82
3+	79
3	75
3-	72
2+	69
2	65
2-	62
1+	59
1	55
1-	52

Summative Evaluation (70%)

Knowledge and Understanding  
 Communication  
 Thinking and Inquiry  
 Application

Final Assessment (30%)

Culminating Project (15%)  
 Final Exam

## MAP 4C CLASSROOM EXPECTATIONS:

1. Adhere to all school policies including attendance, dress, punctuality and behaviour.
2. You are responsible to bring the following materials to EVERY CLASS:

binder with extra paper	pen and pencil (with eraser)
textbook	calculator
centimeter ruler	
3. I expect notebooks and textbooks to be organized and free from graffiti. All work should be clearly titled and dated. Page numbers and question numbers should be clearly indicated.
4. When homework is assigned it is to be completed for the next class – no excuses. If you foresee difficulties, you are required to come for extra help. I am available for extra help at lunch, before and after school. I encourage you to ask questions.
5. I do not tolerate copying in any form. A mark of zero will be assigned for copied work.
6. If you are absent, YOU are responsible to catch up on work missed. Absence for a test/quiz/performance task results in a zero, unless proper documentation is provided. I must be notified ahead of time for any exceptional circumstances causing you to be absent on these days.
7. RESPECT, RESPECT, RESPECT! Respect your classmates and your teacher. Unacceptable behavior will not be tolerated. Respect others' property. Return borrowed materials, clean up after yourself, do not deface property. Respect yourself. zed.
8. Students may, for legitimate reasons, negotiate an extension or due date change with the teacher prior to the original due date (Notre Dame Contract). Approval for such a change will be at the discretion of the teacher. Computer printing problems will not be accepted as legitimate reasons for late assignments. If such a situation should occur the student must either present a hand written assignment or a computer disc that the teacher can read on a computer compatible with the Notre Dame computer system. This must be done on the day the assignment is due. This policy does not include renegotiation of culminating activity due dates.

Dear Parent/Guardian,

Welcome to MAP4C, Grade 12 Math! I am looking forward to a great semester with a lot of parent interaction. I think that it is very important for parents to be involved in their child's progress, as you are one of your child's best support systems. Here is an overview of some of the procedures and policies I am implementing:

### **Regular Parent Contact**

This semester I would like to offer another means of communication to try to keep you informed about your son or daughter's mathematics course. If you are interested I will create an electronic mailing list in order to advise you of test and assignment/project due dates. I will also send out periodic updates regarding the class direction as a whole. I do find that both parents and student appreciate this additional means of communication for a variety of reasons. Please note, I will still continue to contact you by phone with individual concerns, unless you direct me otherwise.

If you are interested in receiving notices electronically, please return this memo to me complete with the information requested with your son or daughter. I will send out an introductory email to parents once I receive all the completed memos. On receipt of this email, please take note of my email address in case you would like to initiate correspondence regarding your son or daughter. I suggest you take this step if you notice that no course work is being done at home or you have a concern of any kind.

Please note that due to the relative insecurity of email, I strongly recommend you use a work based or parent-only home email address.

### **Homework**

I know that our lives are all busy and that homework can be very stressful but there will be regular homework assignments sent home. Students are responsible for their own textbooks and workbooks, we will sign them out of the library on the first day of class.

### **Classroom Procedures and Policies**

Your son/daughter received a copy of the classroom procedures, and a partial course outline. The full course outline can be found at [www.ndchs.com/teachers](http://www.ndchs.com/teachers) under Mrs. Turner. Please review them with your child.

Thank you for your cooperation, I hope this creates a good understanding of what the course will be like this semester. Please note that you can always contact me by phone at the school.

Sincerely,  
*Kate Turner*  
[Katie.Ennis@cdsbeo.on.ca](mailto:Katie.Ennis@cdsbeo.on.ca)  
Notre Dame CHS, 613-253-4700

**Daily use of a calculator is expected. Cell phones and iPods are NOT ACCEPTABLE**

**Please sign below with your child:**

I, (student) \_\_\_\_\_ have read and understood the expectations outlined in the MAP4C Outline.

Parent Contact Information

Parent/Guardian Name(s) : \_\_\_\_\_

Parent/Guardian Signature : \_\_\_\_\_

Daytime Phone Number(s): \_\_\_\_\_  
\_\_\_\_\_

E-mail(s) \_\_\_\_\_

(\* Please indicate the name of the parent/guardian beside the phone number or e-mail so that I know who I am contacting)

Comments:

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