

## COURSE INFORMATION SHEET

**DATE:** SEPTEMBER ,2007  
**SECONDARY SCHOOL:** Brebeuf College  
**DEPARTMENT HEAD:** Mr. Michael Daoust  
**TEACHER:** Mr. R. Gregoris and Mr. G. Sturino  
**DEPARTMENT:** Mathematics



<b>CURRICULUM POLICY DOCUMENT</b>			
<b>COURSE TITLE</b>	FOUNDATIONS OF MATHEMATICS	<b>COURSE CODE</b>	MF2P1
<b>PRE-REQUISITE</b>	MPM1D1 OR MPM1P1	<b>GRADE &amp; TYPE</b>	10Applied
<b>FULL YEAR / SEMESTER</b>	Semester	<b>CREDIT VALUE</b>	1

<b>COURSE DESCRIPTION</b>
<p>This course enables students to consolidate their understanding of key mathematical concepts through hands-on activities and to extend their problem-solving experiences in a variety of applications. Students solve proportions and recognize when it is appropriate to use proportional reasoning and when it is not. Correct use of proportions is a very important skill in many learning, working, and leisure activities. Percentage, ratio, and rate work from earlier grades is captured in this new light, as are linear relationships. Similar triangles and trigonometric models for right-triangle problems provide new applications of proportions. Quadratic applications serve as contrasts to proportional reasoning. New algebraic skills for quadratics are introduced and practised. Algebraic skills are extended to include solution of linear systems and some quadratic equations, and some algebraic manipulation of quadratic expressions.</p>

<b>LISTED IN ORDER OF INSTRUCTIONAL DELIVERY</b>		
<b>STRAND / UNIT TITLES</b>	<b>HOURS</b>	<b>OVERALL EXPECTATIONS / UNIT DESCRIPTION</b>
<b>LINEAR SYSTEMS</b>	32	In this unit, linear systems will be analysed both graphically and algebraically, with and without the use of technology. Activities in this unit provide a context for finding and interpreting points of intersection and lead students to solve linear systems by the methods of substitution and elimination.
<b>PROPORTIONAL REASONING</b>	18	Students practise the five steps in the inquiry/problem solving process: explore, hypothesize, model/formulate, manipulate/transform, infer/conclude, in a variety of contexts that can all be modelled by a proportional problem. Through exploration and generation of examples, students gain an increased depth of understanding of percent, ratio, and rate problems. Forming and testing hypotheses about the type, size, and units of results improves students' intuition in situations involving proportions. Techniques for efficient creation of models for proportions are taught and practised.

<b>SIMILAR TRIANGLES AND TRIGONOMETRY</b>	21	Students are introduced to applications of similar triangles and trigonometry through a variety of activities that use concrete materials and allow students to move about inside and outside the classroom. Primary trigonometric ratios are used to solve problems that result in right-angled triangles. The tangent ratio for the angle of inclination is connected to slope of a line, as students move from this unit to the next.
<b>QUADRATIC FUNCTIONS</b>	31	Students explore, hypothesize, model, manipulate, analyse, and make conclusions about data from quadratic situations, using primary and secondary sources. Given models are transformed and analysed. A rich contextual foundation is developed for subsequent algebraic studies.
<b>PERFORMANCE TASKS</b>	8	A series of performance tasks in which students will need to use the knowledge and understanding of content and procedures shall be administered throughout the year.

### STUDENT EVALUATION CRITERIA

TERM – 70%		FINAL – 30%		FINAL REPORT CARD GRADE CALCULATION – 100%
<b>10 ≤ RELATIVE EMPHASIS / WEIGHTING ≤ 40</b>		RELATIVE EMPHASIS / WEIGHTING		<b>TERM TOTAL + FINAL TOTAL = REPORT CARD MARK</b>
KNOWLEDGE/UNDERSTANDING	22.5			
INQUIRY/THINKING	15			
COMMUNICATION	10			
APPLICATION	22.5			
<b>TERM TOTAL</b>	<b>70</b>	<b>FINAL TOTAL</b>	<b>30</b>	

### ASSESSMENT FORMAT USED

WRITTEN		PERFORMANCE		OTHER	
e.g. Slogan		e.g. Manipulative Skills		e.g. Teacher Observation	x
Short Answer	x	Extended Investigations	x	Interviews	
Open/Free Response		Projects	x	Portfolios	
Essay/Journal		Concept Mapping		Skills Checklist	
Papers/Reports	x	Venn Diagrams			
Multiple Choice	x	Presentations			

### RESOURCES

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<b>TEXTBOOK</b>	Foundations of Mathematics- Addison Wesley
<b>STUDENT MATERIALS</b>	TI 83 + graphic calculator provided when required.
<b>EXCURSIONS</b>	
<b>COMPUTER USE</b>	
<b>COURSE RELATED WEBSITES</b>	

<b>POLICIES &amp; PROCEDURES</b>	
<b>PLAGIARISM</b>	n/a
<b>LATE ASSIGNMENTS</b>	Assignments shall be accepted up until the day that they are returned by the teacher.
<b>MISSED WORK</b>	Teacher will be available after school upon request to help students catch up on missed work.
<b>ABSENCES</b>	Make-up tests shall be given for valid absences with an appropriate note.
<b>HOMEWORK</b>	Homework is assigned every night to consolidate and extend student learning. On average 30 minutes of homework is assigned per day.
<b>TEACHER CONTACTS</b>	See missed work section above. Mid-term reports are issued in November and April. Early warning letters for failing students are issued in early October and early March. Letters of concern at any time
<b>EXTRA HELP</b>	See missed work
<b>REPORTING DATES</b>	Final exams are held in January or June

<b>LEARNING SKILLS CRITERIA</b>			
<b>IN EACH REPORTING PERIOD, REPORT ON THE QUALITY OF THE LEARNING SKILLS DEMONSTRATED BY THE STUDENT IN EACH OF THE CATEGORIES IDENTIFIED ON THE REPORT CARD USING THE FOLLOWING LETTER SYMBOLS.</b>			
<b>E–EXCELLENT</b>	<b>G–GOOD</b>	<b>S–SATISFACTORY</b>	<b>N–NEEDS IMPROVEMENT</b>
<b>SKILL: WORKS INDEPENDENTLY</b>			
<b>INDICATORS:</b>			
<ul style="list-style-type: none"> <li>• accomplishes tasks independently</li> <li>• accepts responsibility for completing tasks</li> <li>• follows instructions</li> <li>• regularly completes assignments on time and with care</li> <li>• demonstrates self-direction in learning</li> <li>• independently selects, evaluates, and uses appropriate learning materials, resources, and activities</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrates persistence in bringing tasks to completion</li> <li>• uses time effectively</li> <li>• uses prior knowledge and experience to solve problems and make decisions</li> <li>• reflects on learning experiences</li> </ul>		
<b>SKILL: ORGANIZATION</b>			
<b>INDICATORS:</b>			
<ul style="list-style-type: none"> <li>• organizes work when faced with a number of tasks</li> <li>• devises and follows a coherent plan to complete a task</li> <li>• follows specific steps to reach goals or to make improvements</li> <li>• revises steps and strategies when necessary to achieve a goal</li> </ul>	<ul style="list-style-type: none"> <li>• manages and uses time effectively and creatively</li> <li>• demonstrates ability to organize and manage information</li> <li>• follows an effective process for inquiry and research</li> <li>• uses appropriate information technologies to organize information and tasks</li> </ul>		
<b>SKILL: INITIATIVE</b>			
<b>INDICATORS:</b>			
<ul style="list-style-type: none"> <li>• seeks out new opportunities for learning</li> <li>• responds to challenges and takes risks</li> <li>• demonstrates interest and curiosity about concepts, objects, events, and resources</li> <li>• seeks necessary and additional information in print, electronic, and media resources</li> <li>• identifies problems to solve, conducts investigations, and generates questions for further inquiry</li> <li>• requires little prompting to complete a task, displaying self-motivation and self-direction</li> </ul>	<ul style="list-style-type: none"> <li>• approaches new learning situations with confidence and a positive attitude</li> <li>• develops original ideas and devises innovative procedures</li> <li>• attempts a variety of learning activities</li> <li>• seeks assistance when needed</li> <li>• uses information technologies in creative ways to improve learning for self or others</li> </ul>		
<b>SKILL: TEAMWORK</b>			
<b>INDICATORS:</b>			
<ul style="list-style-type: none"> <li>• works willingly and cooperatively with others</li> <li>• shares resources, materials, and equipment with others</li> <li>• responds and is sensitive to the needs and welfare of others</li> <li>• solves problems collaboratively</li> <li>• accepts various roles, including leadership roles</li> <li>• takes responsibility for his or her own share of the work to be done</li> <li>• works to help achieve the goals of the group or the class</li> <li>• helps to motivate others, encouraging them to participate</li> <li>• contributes information and ideas to solve problems and make decisions</li> </ul>	<ul style="list-style-type: none"> <li>• questions the ideas of the group to seek clarification, test thinking, or reach agreement</li> <li>• shows respect for the ideas and opinions of others in the group or class</li> <li>• listens attentively, without interrupting</li> <li>• in discussions, paraphrases points of view and asks questions to clarify meaning and promote understanding</li> <li>• recognizes the contribution of group members by means of encouragement, support, or praise</li> <li>• seeks consensus and negotiates agreement before making decisions</li> </ul>		
<b>SKILL: WORK HABITS/HOMEWORK</b>			
<b>INDICATORS:</b>			
<ul style="list-style-type: none"> <li>• completes homework on time and with care</li> <li>• puts forth consistent effort</li> <li>• follows directions</li> <li>• shows attention to detail</li> <li>• uses materials and equipment effectively</li> </ul>	<ul style="list-style-type: none"> <li>• begins work promptly and uses time effectively</li> <li>• perseveres with complex projects that require sustained effort</li> <li>• applies effective study practices</li> </ul>		

**NOTE:** The above chart is a reformatting of the skills identified in the Ministry of Education's *Guide to the Provincial Report Card, Grades 9 – 12 : Appendix C: pages 27 to 29* .