COQUITLAM OPEN Learning

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Online Flexible-Paced

Course Name	**Foundations of Mathematics 11, Flexible-Paced**
Teacher	Ms. Tiffany Tseng
Contact Information	ttseng@sd43.bc.ca **Cell Phone: 604-880-9273**
Location	Online
Course Site	http://sd43.knowplace.ca/course/view.php?id=429 (username/password required)
Course Resources	All course resources are on the course website. The following is also required for the course: - Graphing Calculator (ex. Texas Instruments TI-83 Plus)

Online Flexible-Paced –There are no scheduled classes in flex-paced courses. In a flex-paced course, a student has a maximum of 10 months to complete a course which means, students are not eligible to be enrolled in this course at any other school while completing the course with Coquitlam Open Learning. This is **not** an "at your own pace" course. You are given due dates and are required to submit assignments regularly as well as regularly communicating with the teacher and other online students. The 'flexibility' comes in the time of day and the location you work on the course.

The **aim of Foundations of Mathematics 11** is for students to use communication in order to learn and express their understanding, make connections among mathematical ideas, other concepts in math, everyday experiences and other disciplines, demonstrate fluency with mental math and estimation, develop and apply new mathematical knowledge through problem solving, develop mathematical reasoning, select and use technology as a tool for learning and solving problems, develop visualization skills to assist in processing information, making connections and solving problems.

Taken from:
http://www.bced.gov.bc.ca/irp/pdfs/mathematics/WNCPmath1012/2008math1012wncp_ccf.pdf

Foundations of Mathematics 11:

- ✓ Students will develop spatial sense and proportional reasoning.
- ✓ Students will develop spatial sense.
- ✓ Students will develop logical reasoning.
- ✓ Students will develop statistical reasoning.
- ✓ Students will develop algebraic and graphical reasoning through the study of relations.
- ✓ Students will develop an appreciation of the role of mathematics in society

Taken from:
http://www.bced.gov.bc.ca/irp/pdfs/mathematics/WNCPmath1012/2008math1012wncp_ccf.pdf

Foundations of Mathematics 11 consists of **seven units** organized into **four modules**.

Areas of Study	**Modules**
▪ Unit 1: Inductive & Deductive Reasoning ▪ Unit 2: Properties of Angles & Triangles	**Module 1**
▪ Unit 3: Non-Right Angled Trigonometry ▪ Unit 4: Systems of Linear Inequalities	**Module 2**
▪ Unit 5: Quadratic Functions & Equations	**Module 3**
▪ Unit 6: Proportional Reasoning ▪ Unit 7: Statistical Reasoning	**Module 4**

Evaluation

Send In Assignments (7 Assignments)	35%
Module Tests (4 Module tests)	65%

Assignment Marks

There is a unit send in assignment at the end of each unit. You will also be able to check your assignment marks in Moodle. The criterion for grading is found on the course website along with the description for each assignment.

E-mail communications

Staying in touch is essential in an online course. I will be in contact with you via e-mail almost on a daily basis. Be sure to check your e-mail every day so as not to miss any important announcements.

Course Log On Information

To login to the course, you will need your Moodle ID and password. These are created and distributed on a yearly basis. I will distribute your login information via email. To access the course go to http://sd43.bcln.ca and click on Course Login.

Assignment Submissions

Please submit your assignments electronically on the course Moodle site. You will need to print a paper copy of the assignment, write down your work, and scan the assignments as a PDF, or as images inserted into a Word or a similar document. You will submit the assignment directly in the course Moodle site. If you need help with this please ask. With each assignment submission ***always include your full name in the document. Please name your scanned assignment as: Last Name_First Name__unit X assignment.***

Computer Requirements

You will need to have access to a computer from either school or home. A home computer is preferred as this will allow you greater flexibility when organizing your study time.

Windows PC and Macintosh minimum requirements:

- Windows 2000 or XP or MacOS X
- 64 MB RAM

- Internet connectivity
- Sound card and speakers
- Microsoft Office 2000 or XP or Microsoft Office X
- A printer

Computer Skills

Although I am available to help you it is recommended that you are able to:

- Use a scanner to scan your work as a PDF file or as images
- Insert scanned images into a Word document
- open applications
- send/receive e-mail
- send attachments in an e-mail
- save and locate files

If you need assistance in any of these areas, please contact me.

Plagiarism and Cheating

Any students that plagiarize any portion of an assignment will receive a zero and a possible comment on their report card. The problem will also be referred to administration. For your own protection, keep all drafts of all work until the end of the school year

Foundations of Mathematics 11 Mark Breakdown

*****denotes what are needed for substantive assignment and refund***

Module	Unit	Topic	Lesson	Marks	% of course
Module 1	Unit 1 Inductive & Deductive Reasoning	Conjectures & Inductive Reasoning	Lesson 1		
		Validity and Disproving Conjectures	Lesson 2		
		Conjectures & Deductive Reasoning	Lesson 3		
		Non-Valid Proofs	Lesson 4		
		Solving problems Through Reasoning	Lesson 5		
		Unit 1 Send In Assignment	**Lessons 1-5**	**100**	5%
		Unit 1 Test	**Covers unit 1**	**100%**	9%
	Unit 2 Properties of Angles & Triangles	Angles Formed by Lines & Transversals	Lesson 1		
		Angle Properties in Triangles	Lesson 2		
		Angle Properties in Polygons	Lesson 3		
		Unit 2 Send In Assignment	**Lessons 1-3**	**100**	5%
		Unit 2 TEST	**Covers unit 2**	**100**	9%
Module 2	Unit 3 Non-Right Angled Trigonometry	The Cosine Law	Lesson 1		
		Applications for the Cosine Law	Lesson 2		
		The Sine Law	Lesson 3		
		Ambiguous Case of the Sine Law	Lesson 4		
		Applications of the Sine Law	Lesson 5		
		Unit 3 Send In Assignment	**Lessons 1 - 5**	**100**	5%
	Unit 4 Systems of Linear Inequalities	Graphing Linear Inequalities	Lesson 1		
		Graphing Systems of Linear Inequalitites	Lesson 2		
		Optimization Problems Part I	Lesson 3		
		Optimization Problems Part II	Lesson 4		
		Unit 4 Send in Assignment	Lessons 1-4	**100**	5%
		Module 2 TEST	**Covers units**	**100**	19%

			3 & 4		
Module 3	Unit 5 Quadratic Functions & Equations	Quadratic Functions - Translations	Lesson 1		
		Quadratic Functions – Expansions, Compressions	Lesson 2		
		Solving Quadratic Equations by Factoring	Lesson 3		
		Solving Quadratic Equations by the Square Root Principle	Lesson 4		
		Quadratic Formula and Applications of Quadratics	Lesson 5		
		Unit 5 Send in Assignment	Lessons 1 - 5	**100**	5%
		Module 3 TEST	**Covers Unit 5**	**100**	9%
Module 4	Unit 6 Proportional Reasoning	The Comparison and Interpretation of Rates	Lesson 1		
		Solving Problems That Involve Rates	Lesson 2		
		Scale Factors of Diagrams	Lesson 3		
		Scale Factors and Areas of 2-D Shapes	Lesson 4		
		Similar Objects and Scale Diagrams	Lesson 5		
		Unit 6 Send in Assignment	Lessons 1 - 5	100	5%
	Unit 7 Statistical Reasoning	Data, Frequency Tables & Histograms	Lesson 1		
		Standard Deviation	Lesson 2		
		Normal Distribution	Lesson 3		
		Z-Scores	Lesson 4		
		Confidence Intervals	Lesson 5		
		Unit 7 Send in Assignment	Lessons 1-5	100	5%
		Module 4 Test	**Covers Units 6 & 7**	100	19%

You have 10 months from the date of registration to complete this course.
You must progress a minimum of 10% to be considered on track and up-to-date. At reporting times, grades will be given to students who are up-to-date. An "I" (incomplete/in progress) report will be given to any student not up-to-date. This is of particular importance for Grade 12 students submitting marks to PSIs. We report in November, January, April and June.

LETTER GRADES AND DEFINITIONS

A (86-100%) Excellent or Outstanding Performance in relation the learning outcomes.
B (73-85%) Very Good Performance in relation to learning outcomes.
C+ (67-72%) Good Performance in relation to learning outcomes.
C(60-66%) Satisfactory Performance in relation to learning outcomes.
C- (50-59%) Minimally Acceptable Performance in relation to learning outcomes.
I No demonstration of minimally acceptable performance in relation to learning outcomes in this reporting period.

FINAL LETTER GRADES

F No demonstration of minimally acceptable performance in relation to the learning outcomes for the course.
W Student has withdrawn from the course.
SG Standing Granted. Acceptable level of performance though normal requirements not completed.
TS Transfer Granted. Standing is granted based on records from an institution other than a school.

Foundations of Mathematics 11
Prescribed Learning Outcomes

The following document is taken from:
http://www.bced.gov.bc.ca/irp/pdfs/mathematics/WNCPmath1012/2008math1012wncp_ccf.pdf

[C] Communication
[PS] Problem Solving
[CN] Connections
[R] Reasoning
[ME] Mental Mathematics
[T] Technology and Estimation
[V] Visualization

Measurement

General Outcome: Develop spatial sense and proportional reasoning

A1. Solve problems that involve the application of rates. [CN, PS, R]
A2. Solve problems that involve scale diagrams, using proportional reasoning. [CN, PS, R, V]
A3. Demonstrate an understanding of the relationships among scale factors, areas, surface areas and volumes of similar 2-D shapes and 3-D objects. [C, CN, PS, R, V]

Geometry

General Outcome: Develop spatial sense

B1. Derive proofs that involve the properties of angles and triangles. [CN, R, V]
B2. Solve problems that involve the properties of angles and triangles. [CN, PS, V]
B3. Solve problems that involve the cosine law and the sine law, including the ambiguous case. [CN, PS, R]

Logical Reasoning

General Outcome: Develop logical reasoning

C1. Analyze and prove conjectures, using inductive and deductive reasoning, to solve problems. [C, CN, PS, R]
C2. Analyze puzzles and games that involve spatial reasoning, using problem-solving strategies. [CN, PS, R, V]

Statistics

General Outcome: Develop statistical reasoning

D1. Demonstrate an understanding of normal distribution, including:
• standard deviation
• z-scores.
[CN, PS, T, V]
D2. Interpret statistical data, using:
• confidence intervals
• confidence levels
• margin of error.
[C, CN, R]

Relations and Functions

General Outcome: Develop algebraic and graphical reasoning through the study of relations

E1. Model and solve problems that involve systems of linear inequalities in two variables. [CN, PS, T, V]
E2. Demonstrate an understanding of the characteristics of quadratic functions, including:
• vertex
• intercepts
• domain and range
• axis of symmetry.
[CN, PS, T, V]

Mathematics Research Project

General Outcome: Develop an appreciation of the role of mathematics in society

F1. Research and give a presentation on a historical event or an area of interest that involves mathematics.
[C, CN, ME, PS, R, T, V]