Distance Education Course Outline
Foundations of Mathematics 20

GENERAL INFORMATION

i. Foundations of Math 20

ii. Asynchronous, based out of Winston High School

iii. Cindy Cantelon (Sept. – Nov. Teacher: Malisa Thomas)

iv. There are various ways in which I can be accessed. I prefer email communication.

email - cindy.cantelon@horizonsd.ca
Moodle - send me a message through Moodle
phone - Winston High School 946 3309 or text/call my cell phone 540 4448 (best to call right before school, at lunch, or right after school… if I am not available please leave your name and number and I will call back)

COURSE DESCRIPTION

i. This pathway is designed to provide students with the mathematical understandings and critical-thinking skills identified for entry into post-secondary programs that do not require the study of theoretical calculus.

ii. Topics include: logical reasoning, proportional reasoning, geometry, trigonometry, algebra, statistics and probability.

iii. Prerequisites: Foundations of Math and Precalculus 10

STUDENT LEARNING OUTCOMES

i. Demonstrate understanding of the mathematics involved in an historical event or an area of interest.

ii. Demonstrate understanding of inductive and deductive reasoning including: analyzing conjectures, analyzing spatial puzzles and games, providing conjectures and solving problems.

iii. Expand and demonstrate understanding of proportional reasoning related to: rates, scale diagrams, scale factor, area, surface area, volume.

iv. Demonstrate understanding of properties of angles and triangles including: deriving proofs based on theorems and postulates about congruent triangles, solving problems.

v. Demonstrate understanding of the cosine law and sine law (including the ambiguous case).

vi. Demonstrate an understanding of normal distribution, including standard deviation and z-scores.

vii. Demonstrate understanding of the interpretation of statistical data, including: confidence intervals, confidence levels, margin of error.

viii. Demonstrate understanding of systems of linear inequalities in two variables.

ix. Demonstrate an understanding of the characteristics of quadratic functions of the form $y = a(x - p)^2 + q$, including: vertex, intercepts, domain and range, axis of symmetry.

TEACHING STRATEGIES:

i. There are instructor prepared videos for each topic. The chapter overview communicates what needs to be completed each chapter. This includes practice questions with answers that can be found at the back of the textbook.

ii. Each chapter has a few hand-in assignments as well as a pretest hand-in assignment. The pretest needs to be submitted and returned before writing the Chapter Test. You can receive partial marks for showing your process – not just the right answer.

iii. This is an asynchronous course so it may be completed at your own pace and schedule. However, ALL course material must be completed by January 20th (Semester 1) or June 16th (Semester 2). A suggested schedule is as follows:

	Semester 1		Semester 2
Unit 1	Sept. 2 – Sept. 16	Unit 1	Feb. 1 – Feb. 12
Unit 2	Sept. 17 – Sept. 28	Unit 2	Feb. 23 – Mar. 4
Unit 3	Sept. 29 – Oct. 7	Unit 3	Mar. 5 – Mar. 17
Unit 4	Oct.8 – Oct. 19	Unit 4	Mar. 18 – Mar. 31
Project	Oct. 20 – Oct. 25	Project	Apr. 1 – Apr. 15
Unit 5	Oct. 26 – Nov. 10	Unit 5	Apr. 13 – Apr. 26
Unit 6	Nov. 16 – Dec. 2	Unit 6	Apr. 27 – May 11
Unit 7	Dec. 3 – Dec. 18	Unit 7	May 12 – May 31
Unit 8	Jan. 5 – Jan. 15	Unit 8	June 1 – June 16

iv. There is a final exam in this course. The final exam is optional if your final course mark is above 80%.

COURSE MATERIALS

i. Textbook: Nelson Foundations of Mathematics 11

ii. We will be using graphing technology. Some links to free online calculators and graphing apps are provided in the course. DESMOS is a recommended app that can be downloaded for free on your device or access via the Internet at desmos.com. You may also choose to use a graphing calculator.

EVALUATION

i. Assignments – 30%

Students will be responsible for the completion of their practice assignments. Practice assignments will be self-corrected using the answer key provided at the back of the book. No marks will be given for practice questions. Do not be tempted to skip these as they are important for your development. You will need to take responsibility for your learning… seek help, investigate what you don't understand and remedy the problem before hand-in assignments

Each chapter will also have hand-in assignments for marks. You will receive marks for process and for the correct answer.

ii. Chapter Tests – 40%

Students arrange a day and time to write tests with their supervising teacher and will be expected to be there. If an unforeseen absence does occur (ie. medical emergency, illness, funeral), I will need a phone call or email clarifying the reason for the missed exam.

I will email each chapter test to your supervising teacher when you have it arranged.

You may prepare ONE sheet of paper to be brought into the chapter test. This sheet may include definitions, sample questions, diagrams and notes for your success on the exam.

I do not offer rewrites. If the mark does not reflect ability, send me an email or give me a call.

iii. Project - 10%

There is a substantial research project in this course. There are many options for this project but it is essential you base it on your interests.

iv. Final Examination – 20%

This will assess and provide feedback about your achievement related to the preparation for and completion of a summative final examination.

If a course grade of 80% has been achieved the final exam is optional.