Phone: 1-306-682-2558
Toll free: 1-866-966-2558
Fax: 1-306-682-5154
10333 - 8ᵗʰ Avenue
Post Office Box: 40
Humboldt Saskatchewan
Postal Code: S0K-2A0

Distance Education Course Syllabus

GENERAL INFORMATION

i. Pre-Calculus 12, September 5, 2017-January 30, 2018

ii. Course is offered synchronously from 8:55-9:55am.

iii. Teacher is Mr. Graham Farrell, Foam Lake Composite School

iv. **The blackboard collaborate system on live.hzsd.ca will be utilized. Students are expected to be logged in daily from 8:53-9:55am. Their username varies according to location, but follows the pattern foamlake.school with a password that is their principal's name. For example...foamlake.school with password halyk. This takes them to the list of sessions. They login and click on the Graham Farrell's Pre-Calculus 12 session for the day. If they are looking for a recording from earlier in the day or from an earlier recording, the student needs to go to the RECORDINGS tab and then pick the date of the recording they are looking for.**

v. The school phone number is 306-272-3307 and email to Mr. Farrell is graham.farrell@horizonsd.ca. Students may also text to 306-269-7525 for clarification.

COURSE DESCRIPTION

i. This class follows the provincial curriculum for Pre-Calculus 12.

ii. This class is being delivered through a distance ed format and as such, the timeframes included are to be flexible. Opportunities to diversify instructional approaches may arise and necessitate the need for other materials and resources. This distance offering is designed to be taken synchronously. Students who take the course asynchronously may experience hiccups.

iii. Math Pre-Cal 11 is a pre-requisite.

STUDENT LEARNING OUTCOMES:

i. Students are required to explore new mathematical concepts as they relate to the study of Calculus. These concepts are an extension in many cases to concepts discovered/uncovered in Pre-Calculus 10 and 11. As such, students must be open to delving into previous understandings and extending further. There is also a significant number of new concepts to be explored as they relate to the study of Calculus.

TEACHING STRATEGIES:

i. The course design is suited to the student attending synchronously each day so that interaction can take place with the teacher and students in a number of schools at the same time. This allows for confirmation of concept attainment and guided practice to be effective.

ii. A number of formative assessments are used for this class and there is an expectation that students complete daily assignments to reinforce learning. Some of the formative assessments are to be submitted upon completion by the host school contact, usually the secretary or school principal. The formative assessments allow the teacher to understand whether concept attainment is met. Once this is complete, a summative assessment of learning outcomes is completed at dates prescribed during the course. As mastery learning is to be gained by a large percentage of the class, unit exams take place at points throughout the course as set by the teacher and students in consultation.

The outcomes for the course are listed below with an approximate timeline included.

Topic/Concept/Theme	Dates	Major Objectives/Outcomes
Degrees and Radian Measures	September 5-12	**PC30.1 Extend understanding of angles to angles in standard position, expressed in degrees and radians.**
The Unit Circle and Trigonometric Ratios	September 13-26	**PC30.2 Demonstrate understanding of the unit circle and its relationship to the six trigonometric ratios for any angle in standard position.**
Graphing Trig Functions	September 27-October 6	**PC30.3 Demonstrate understanding of the graphs of the primary trigonometric functions.**
Solving Trig Equations	October 10-20	**PC30.4 Demonstrate understanding of first- and second-degree trigonometric equations.**
Using Trigonometric Identities	October 23-31	**PC30.5 Demonstrate understanding of trigonometric identities including: • reciprocal identities • quotient identities • Pythagorean identities • sum or difference identities (restricted to sine, cosine, and tangent) • double-angle identities (restricted to sine, cosine, and tangent)**
Operations on Functions	November 1-14	**PC30.6 Demonstrate an understanding of operations on, and compositions of, functions.**
Shifting and Stretching Functions	Nov 15-November 20	**PC30.7 Extend understanding of transformations to include functions (given in equation or graph form) in general, including horizontal and vertical translations, and horizontal and vertical stretches.**
Functions and their inverses	November 21-November 30	**PC30.8 Demonstrate understanding of functions, relations, inverses and their related equations resulting from reflections through the: • x-axis • y-axis • line y = x.**

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Exponents and Logarithms	December 1-11	**PC30.9 Demonstrate an understanding of logarithms including: • evaluating logarithms • relating logarithms to exponents • deriving laws of logarithms • solving equations • graphing.**
Polynomial, Radical and Rational Functions	December 12-21	**PC30.10Demonstrate understanding of polynomials and polynomial functions of degree greater than 2 (limited to polynomials of degree ≤ 5 with integral coefficients).** **PC30.11 Demonstrate understanding of radical and rational functions with restrictions on the domain.**
Counting with Permutations	January 5-12	**PC30.12 Demonstrate understanding of permutations, including the fundamental counting principle.**
Combinations and the General Binomial Theorem	January 15-23	**PC30.13 Demonstrate understanding of combinations of elements, including the application to the binomial theorem.**

COURSE MATERIALS
  i.   The textbook to be used is Pre-Calculus 12 published by McGraw Hill Ryerson.
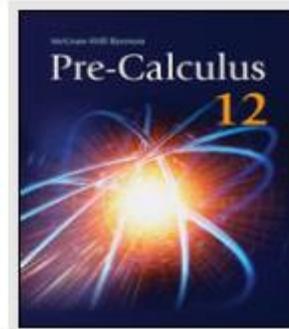
EVALUATION:

  i.   Assessment is divided into formative used to gauge student learning and a series of summative evaluations based on the testing of the learning success for each unit. The student mark is the mean of the set of summative assessments completed throughout the semester. This student mark will be submitted at semester conclusion to be combined with the mark earned on the final examination. The final counts for 30% of the final mark. A student may earn a recommend if he/she demonstrates learning at a proficient level throughout the course.