OptionButton1 *School of Arts & Science*
MATHEMATICS DEPARTMENT

MATH 115-001
Pre-Calculus
Spring term /08

COURSE OUTLINE

The Approved Course Description is available on the web @ Tschritter.disted.camosun.bc.ca

Ω *Please note: this outline will be electronically stored for five (5) years only. It is strongly recommended students keep this outline for your records.*

1. Instructor Information

(a)	Instructor:	Richard Tschritter	
(b)	Office Hours:	Mon to Thursday 8:00 am-8:20 am, 11:00 am-11:50 am, 2:30-3:00 pm	
(c)	Location:	E-268	
(d)	Phone:	370-3494	Alternative Phone:
(e)	Email:	tschriter@camosun.bc.ca	
(f)	Website:	Tschritter.disted.camosun.bc.ca	

2. Intended Learning Outcomes
(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

Upon completion of this course the student will be able to:

1. Evaluate functions, find the domain of functions, compose and decompose functions and find inverse functions.
2. Graph polynomial and rational functions using symmetry, intercepts, long run behaviour, asymptotes and a table of signs.
3. Prove the Remainder and Factor Theorems and use the theorems to factor polynomials and find their real and complex zeros.
4. Graph exponential and logarithmic functions and their transformations.
5. Prove the properties of logarithms and use these properties to simplify expressions, and solve equations and applied problems.
6. Graph the six trigonometric functions and their transformations and the three basic inverse trigonometric functions.
7. Use the unit circle definitions to derive the Pythagorean identities, the sum and difference formulas, and the double angle and half angle formulas. Use these identities to simplify expressions, solve equations and verify other identities.
8. Use trigonometric functions to model real-life problems involving cyclical patterns.
9. Evaluate limits, find derivatives using the definition, find equations of tangent lines and solve optimization problems using polynomial calculus.
10. Read and write mathematics at a level sufficient for entry into first year calculus.

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COURSE OUTLINE FOR MATH 115 Spring /08

Instructor: Rich Tschritter, Ewing-268

Text: Precalculus, Seventh Edition, by Larson & Hostetler
Calculator: Scientific- Sharp EL-531W

CHAPTER A: APPENDIX A Review

\#   Text   Time

1   A.3-4   2   Rational Expressions
2   A.5   1   Solving Equations
3   A.6,2.7   1   Solving Inequalities

CHAPTER 1: FUNCTIONS AND THEIR GRAPHS

\#   Text   Time
4   1.3   1   Functions, Linear Functions in Two Variables
TAKE-HOME TEST # 1
5   1.4   1   Functions
6   1.5,1.6   1   Analyzing Graphs of Functions, Parent Functions
1.7   1   Transformations of Functions
1   TEST 1, Lessons 1 to 6

7   10.2,2.1 1   Parabolas, **ignore focus and directrix**
8   10.3   1   Ellipse, **ignore foci and eccentricity**
9   10.4   1   Hyperbola, **ignore foci and eccentricity**
10   1.8   1   Combinations of Functions, Composite Functions
11   1.9   1   Inverse Functions
TAKE-HOME TEST #2
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14 hours

CHAPTER 2: POLYNOMIAL AND RATIONAL FUNCTIONS

\#   Text   Time

12   2.2   1   Polynomial Functions of Higher Degree
13   2.3   1   Polynomial and Synthetic Division
14   2.5   2   Zeros of Polynomial Functions
15   2.6   2   Rational Functions
1   TEST 2, Lessons 7 to 15

CHAPTER 3: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

\#   Text   Time
16   3.1   1   Exponential Functions and Their Graphs
17   3.2   2   Logarithmic Functions and Their Graphs
18   3.3   1   Properties of Logarithms
19   3.4   1   Exponential and Logarithmic Equations
20   3.5   3   Exponential and Logarithmic Models
Take-Home-Test #3
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15 hours

Lesson		Section	Assignment
	7'th	A.1	1-45 odd, 87,95, (*1 to 45 odd means 1, 3, 5, 7, … 41, 43, 45*)
	6'th		1-45 odd, 93, 95
	7'th	A.2	33-45 odd, 55,73,79,81,97
	6'th		37-49 odd, 73,87,89,91
	7'th	A.3	63,83,87,95,109,119,127,135,141,151,155,185-199 odd
	6'th		59,71,75,87,97,113,121,125,133,157-167 odd
1	7'th	A.4	Day 1: 5, 7, 21, 25, 37, 41, 45, 47, Day 2; 55, 57, 59, 69, 71, 73, 75
	6'th		Day 1: 5, 7, 21, 25, 37, 41, 45, 47. Day 2: 61, 63, 67
2	7'th	A.5	29, 31, 37, 43, 47, 57, 65, 73, 87, 93, 155, 161, 177
	6'th		Same
3	7'th	A.6 & 2.7	**A.6**: 37, 39; **2.7**: 11, 13, 23, 37, 41, 45, 49, 59
	6'th	A.6	A.6: 37, 39, 93, 95, 105, 113, 117, 121, 125, 131
4	7'th	1.3	7,11,19,25,39,49,53,65,69,71,75
	6'th	1.2	7,11,19,25,31,37,39,55,69,87,89,93
5	7'th	1.4	1, 7, 13, 25, 33, 43, 61, 67, 79, 81, 85
	6'th	1.3	1, 7, 13, 23, 31, 41, 59, 65, 77, 79, 83
6	7'th	1.5	1, 5, 7, 9, 11, 13, 31, 33, 71, 73, 75
	6'th	1.4	1, 5, 7, 9, 11, 13, 31, 33, 61, 63, 65
7	7'th	1.6	Voluntary check: page 71, 1-9; regular exercises pages 71-72, 47, 49, 53-59 odd part "a" and "b" only
8	7'th	1.7	1, 9, 13, 17, 21, 29, 33, 37, 45, 51, 55, 59
	6'th	1.6	1, 9, 13, 17, 21, 25, 29, 33, 41, 47, 51, 55
9	7'th	1.8	9, 11, 13, 15, 17, 19, 23, 31, 33, 35, 39, 41, 45, 47, 51, 63
	6'th	1.7	35, 37, 39, 43, 45, 49, 51, 55, 59
10	7'th	1.9	1 to 15 odd, 19, 27, 29, 31, 69, 83a&c
	6'th	1.8	Same
11	7'th	2.1	1-8 all, 17, 23, 27, 37, 77
	6'th		1-8, 17, 23, 27, 37, 84
12	7'th	2.2	1-8 all, 13 to 19 odd, 67, 71, 73, 77, 79
	6'th		Same
13	7'th	2.3	5, 7, 9, 13, 19, 27, 49, 51, 57abcd
	6'th		Same
14	7'th	2.5	3, 11, 19, 21, 23, 25, 27, 57,55, 91, 93, 95
	6'th		Same
15	7'th	2.6	5, 7, 9, 11, 13, 14, 15, 16, 17, 19, 21, 25, 31, 39, 41, 59, 63,
	6'th		5, 7, 9, 11, 13, 14, 15, 16, 25, 39
16	7'th	3.1	7-10, 17, 19
	6'th		7-10, 11, 13
17	7'th	3.2	1, 5, 9, 13, 17, 19, 21, 31, 35, 39-44, 53, 61, 71
	6'th		1, 5, 9, 13, 19, 21, 25, 39, 43, 33-38, 15, 29, 49
18	7'th	3.3	23, 37, 43, 45, 53, 55, 61, 65, 69, 73, 75, then on day 2 do 9 odd 15
	6'th		59, 73, 21, 23, 31, 33, 39, 43, 47, 51, 53, then on day 2 do 9 odd 15
19	7'th	3.4	9, 11, 13, 15, 19, 21, 35, 37, 41, 47, 49, 51, 57, 75, 81,83, 91,93, 97,101, 113
	6'th		7, 13, 17, 19, 23, 27, 37, 39, 43, 49, 51, 53, 59, 77, 85, 93, 99
20	7'th	3.5	15, 17, 25, 27, 35c, 39, 42 (answer to #42 is 15,683 years)
	6'th		15, 17, 25, 27, x , 39, 42 x *means the question is not in this edition*
21	7'th	4.1	1 fours 69, 79 odd 89 1 fours 69 means 1, 5, 9, 13, etc to 69
	6'th		1, 5, 9, 13, 17, 21, 49, 53, 57, 61, 65, 69, 27, 39, 31, 35, 43, 47, 79 odd 89
22	7'th	4.3	9, 13, 27, 29, 31, 59, 61, 69
	6'th		9, 13, 17, 19, 21, 57, 59, 67
23	7'th	4.2 & 4.4	4.2: 1 fours 25, 43, 45, 53, 55 + 4.4: 3, 7, 11, 15, 17, 27, 35, 45 odd 55, 65, 73, 85 odd
	6'th		4.2: Same +4.4: 3, 7, 11, 15, 17, 27, 35, 45 odd 55, 59, 65, 73 odd
24	7'th	4.5	1 fours 33, 41, 45, 49, 53, 73, 77
	6'th		1 fours 33, 37, 41, 45, 49, 69, 71
25	7'th	4.6	7, 9, 11, 13, 19, 23
	6'th		Same
	7'th	4.7	1 fours 37, 39, 41, 97

6. Grading System

(<u>No</u> changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy E-1.5 at **camosun.ca** for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	*Incomplete*: A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	*In progress*: A temporary grade assigned for courses that, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. *(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)*
CW	*Compulsory Withdrawal:* A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**.
It is the student's responsibility to become familiar with the content of
this policy. The policy is available in each School Administration Office,
at Student Services and on the College web site in the Policy Section.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED