CURRICULUM GUIDE: OFFICIAL COURSE OUTLINE

Course Code	MATH 123	Course Title	Mathematics for Everyday Life			
Credit Value	3	Department	Mathematics and Science			
No. of weeks	14	Hrs. per week	*Lecture*	*Tutorial*	*Laboratory*	*Total*
			4	0	0	4

Course Description	What are your chances of winning the lottery? When the media reports statistics on poverty, climate change or the spread of a rare disease, are they getting it right? What do all those numbers mean for you? How do advertisers use statistics to influence our thinking? How accurate are public opinion polls? What is the best way to manage your day-to-day finances? These are some of the questions we will be investigating in this course. This is a non-traditional, application-based course centred around the use of mathematics in the real world, intended for non-science (liberal arts) majors. Topics include: reasoning and number sense, percentages and estimations, math for financial matters, such as loans and investments; and probability and statistics. Further topics such as geometry, math in art and music may also be explored.
Prerequisite(s)	EASL 088 and EASL 089 (Formerly ENGL 097), and MATH 11 (B) or MATH 12 (C) or MATH 099 (C)

	UBC	*SFU*	*UVic*	*UNBC*	*TRU*
Initial Articulation Targets	MATH 1st (3) Not for credit in Science.	MATH 197 (3) Q	N/A	N/A	N/A
	For updated information on the transferability of this course, please consult the BC Transfer Guide, www.bctransferguide.ca				

Learning Outcomes	Upon successful completion of this course, the student will be able to: • Apply numeric reasoning to investigate and describe quantitative relationships and solve real world problems in a variety of contexts. • Use algebraic reasoning to solve problems that require ratios, rates, percentages, and proportions in a variety of contexts. • Construct and use mathematical models in verbal, algebraic, graphical, and tabular form to solve problems from a variety of contexts and to make predictions and decisions. • Solve various problems related to mathematics of finance such as taxes, inflation and interest on loans and monthly payments. • Display, summarize, analyze, and interpret statistical data using appropriate statistical and technological tools. • Apply and interpret counting techniques and compute simple probabilities and expected values. • Identify and discuss common use, misuse, and abuse of mathematics in a variety of situations in everyday life.

Content	**Core** topics – all of the following will be covered: • Problem Solving (strategies, inductive and deductive reasoning, estimation) • Numeration Systems (evolution of numeration/ historical counting systems, place value system, calculating in different bases, modular systems and their applications) • Consumer Math/Finance (percentages, taxes and inflation, simple and compound interest, consumer loans, annuities, amortized loans/mortgages) • Geometry (perimeter & area, volume and surface area, metric system and other types of dimensional analysis) • Set Theory (union, intersection and complement, Venn diagram, cardinality) • Descriptive Statistics (populations & samples, sampling methods, organizing & visualizing data, measures of central tendency and dispersion, normal distributions, correlation, scatter plots) • Counting Methods (permutations, combinations, subsets, poker hands) • Probability (basics of probability theory, complements and unions of events, conditional probability, expected values) • Mathematics and Politics (voting system, weighted voting) • Graph Theory (graph theory, networks, Euler circuits) Additional topics may also be covered, at the discretion of the instructor.
Methods of Instruction	Lectures, tutorials, in-class activities, assignments
Required Textbook(s)	The following textbook(s) is/are required, or approved equivalent(s). Bennett, J. O., & Briggs, W. L. (2019). Using and understanding mathematics: A quantitative reasoning approach. Boston: Pearson. Burger, E. B., & Starbird, M. (2013). The heart of mathematics: An invitation to effective thinking. Hoboken, NJ: Wiley. Inigo, M., Jameson, J., Kozak, K., Lanzetta, M., & Sonier, K. (2020). College Mathematics for Everyday Life. Open Access - https://open.bccampus.ca/browse-our-collection/find-open-textbooks/?uuid=c2fe86af-49b8-4927-b870-c6a805a436d3&contributor=&keyword=&subject= Lippman, D., & Lippman, D. (n.d.). Math in Society. Minneapolis. Open Access - https://open.umn.edu/opentextbooks/textbooks/98 Miller, C. D., Heeren, V. E., Hornsby, J., & Heeren, C. (2020). Mathematical ideas. Hoboken, NJ: Pearson Education. Pirnot, T. L., & Moore, M. H. (2018). Mathematics all around. Boston: Pearson Education.
Required Equipment and Technology	Students are required to have a computer with internet access. The following resources are provided by the College: • Office 365 • Student email

Homework Hours	At minimum, students can expect one hour of homework for every hour of instructional time.		
Evaluation	**Component**		**% Value**
	Assignments		5-20%
	In-class activities and/or Projects		5-20%
	Quizzes/Tests		20-30%
	Term Examination(s)		20-30%
	Final Examination		25-35%
Completion Requirements	The minimum grade to pass this course is D (50%). Unless otherwise stated, a minimum grade of C- (55%) is required for this course to fulfil a prerequisite.		
Course Designer(s)	Krishna Subedi, Ph.D.; Alexander College	Consultant(s), *if applicable*	Michael Monagan, Ph.D.; SFU
Dean's Approval	Barbara Moon, Ph.D., Dean of Arts and Sciences, Alexander College	Dean's Approval Date	February 17, 2021
Curriculum Committee Approval Date	February 17, 2021	First Term Offered	Fall 2021
Last Review Date	February 17, 2021	Next Review Date	February 17, 2026
Revision History			