

CURRICULUM GUIDE: OFFICIAL COURSE OUTLINE

Course Code	HSCI 230	Course Title	Evaluating Epidemiological Research			
Credit Value	3	Department	Mathematics and Science			
No. of weeks	14	Hrs. per week	<i>Lecture</i>	<i>Tutorial</i>	<i>Laboratory</i>	<i>Total</i>
			3	1	0	4
Course Description	Designing epidemiological research studies requires thoughtful consideration of biases, confounding factors, and potential sources of error. This course focuses on the specific elements of designing epidemiological research by examining examples of recently published research in the field. The main findings and conclusions of these studies will be evaluated in terms of their validity, limitations, and relevance to our understanding of human health.					
Prerequisite(s)	ENGL 100, HSCI 130					
Initial Articulation Targets	<i>UBC</i>	<i>SFU</i>	<i>UVic</i>	<i>UNBC</i>	<i>TRU</i>	
	ELEV 1st (3)	HSCI 230 (3)	HINF 2XX (3)	HHSC 2XX (3)	HLTH 2XXX (3)	
	For updated information on the transferability of this course, please consult the BC Transfer Guide, www.bctransferguide.ca					
Learning Outcomes	<p>Upon successful completion of this course, the student will be able to:</p> <ul style="list-style-type: none"> • Identify elements of epidemiological research studies • Discuss the challenges in minimizing sampling error, bias, and confounding factors • Examine the ethics and risks involved in an epidemiological research study • Analyze and interpret epidemiological data using basic statistical tools • Assess the validity of conclusions and claims presented in examples of epidemiological research 					
Content	<p>Core topics – all of the following will be covered:</p> <ul style="list-style-type: none"> • Introduction to epidemiology • Measuring disease occurrence • Public health and global health indicators • Descriptive epidemiology and case reports • Study design and clinical trials • Basic research ethics • Measurements and associations on risk exposure and disease for the population • Sampling and statistical significance • Sources of error, bias, and confounding factors • Association, causation and making conclusions • Creating systematic reviews and identifying related literature for epidemiological studies 					



	<ul style="list-style-type: none"> • Outbreaks, epidemics, and clusters <p>Additional topics may also be covered, at the discretion of the instructor:</p> <ul style="list-style-type: none"> • Surveillance Studies • Disease prevention • Screening Programs • Challenges in epidemiology 		
Methods of Instruction	Lectures, group discussion, project, reading assignments, quizzes and tests, written assignments.		
Required Textbook(s)	<p>The following textbook(s) is/are required, or approved equivalent(s).</p> <p>Webb, P., Bain, C., & Page, A. (2019). Essential Epidemiology: An Introduction for Students and Health Professionals (4th ed.). Cambridge: Cambridge University Press.</p>		
Required Equipment and Technology	<p>Students are required to have a computer with internet access.</p> <p>The following resources are provided by the College:</p> <ul style="list-style-type: none"> • Office 365 • Student email 		
Homework Hours	At minimum, students can expect one hour of homework for every hour of instructional time.		
Evaluation	<i>Component</i>	<i>% Value</i>	
	Quizzes and assignments	10-20%	
	Group work	10-20%	
	Research project	10-20%	
	Midterm examination	20-30%	
Comprehensive 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)	Michael Chua, Ph.D., Biology Instructor, Alexander College	Consultant(s), <i>if applicable</i>	Carol Pollock, Ph.D., Professor Emerita, University of British Columbia
Dean's Approval	Steven Roe, PhD., Dean of Arts and Sciences, Alexander College	Dean's Approval Date	January 17, 2023
Curriculum Committee Approval Date	January 17, 2023	First Term Offered	
Last Review Date	January 17, 2023	Next Review Date	January 17, 2028



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Revision History

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