

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: BIO 427		Number of Credits: 3 Course credit policy (105)							
Course Full Title: Plants and Drugs									
Course Short Title:									
Faculty: Faculty of Science		Department (or program if no department): Biology							
Calendar Description:									
An investigation into the impact plants have of linguistic terms associated with healing will be Indigenous and western will be included.	on the develo e an integral	pment of medic part of this cour	cinal compounds. How plants influence the cultural use and irse. An analysis of cultural and medicinal impact both						
Note: Students with credit for BIO 420G cannot take this course for further credit.									
Prerequisites (or NONE):	60 universi	ty-level credits.							
Corequisites (if applicable, or NONE):									
Pre/corequisites (if applicable, or NONE):									
Antirequisite Courses (Cannot be taken for additional credit.)				Details					
Former course code/number: BIO 420G			Special	Special Topics course: No					
Cross-listed with:			(If yes, the course will be offered under different letter						
Equivalent course(s): BIO 420G			Directed Study course: No						
(If offered in the previous five years, antirequ	iisite course(s	s) will be	(See <u>policy 207</u> for more information.)						
for the antirequisite course(s) cannot take thi	e that student is course for f	ts with credit		System: Letter grades	,				
		Delivery Mode: May be offered in multiple delivery modes							
Typical Structure of Instructional Hours			Expecte	ed frequency: Every oth	er vear				
Lecture/seminar		45	Maximu	imum enrolment (for information only): 24					
Experiential (cultural/elder learning or partic	cipation)		Drier	arming Accordment of	d Recognition (DLAR)				
				earning Assessment an	a Recognition (PLAR)				
	Total have	- 45							
	Total nours	S 40	Transfer Credit (See <u>bctransferguide.ca</u> .)						
Scheduled Laboratory Hours			Transfer credit already exists: No						
Labs to be scheduled independent of lecture hours: X No Yes				Submit outline for (re)articulation: No (If yes, fill in <u>transfer credit form</u> .)					
Department approval (BIOCC)				Date of meeting:	October 1, 2021				
Faculty Council approval				Date of meeting:	November 5, 2021				
Undergraduate Education Committee (UE	C) approval			Date of meeting:	January 28, 2022				

University of the Fraser Valley Official Undergraduate Course Outline

Learning Outcomes (These should contribute to students' ability to meet program outcomes and thus Institutional Learning Outcomes.) Upon successful completion of this course, students will be able to:

- 1. Develop a detailed understanding of basic plant biochemistry and how it relates to plant form, function and metabolism.
- 2. Describe the biochemical processes that comprise plant primary and secondary metabolism.
- 3. Identify the roles of various plant metabolites in an evolutionary structure.
- 4. Evaluate the relationship between drugs and environmental factors in the control of plant growth and development.
- 5. Discuss how perceptions of drugs have influenced culture, art, language and human interactions through time.
- 6. Communicate findings in a manner that is accessible to a wide audience in the form of posters or oral presentations.

Recommended Evaluation Methods and Weighting (Evaluation should align to learning outcomes.)									
Final exam:	30%	Assignments:	10%	Portfolio: 2	5%				
Quizzes/tests:	20%	Project:	15%		%				

Details:

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Texts and Resource Materials (Include online resources and Indigenous knowledge sources. <u>Open Educational Resources</u> (OER) should be included whenever possible. If more space is required, use the <u>Supplemental Texts and Resource Materials form</u>.)

Туре	Author or description	Title and publication/access details			
1. Textbook	Dauncey, E. and Larsson, S.	Plants that Kill: A Natural History of the World's most Poisonous Plants	2018		
2. Textbook	Dauncey, E. and Howes, M.	Plants that Cure: Plants as a Source for Medicines, from Pharmaceuticals to Herbal Remedies	2020		
3. Textbook	Charlie, L. and Turne, N.r	Luschiim's Plants: Traditional Indigenous Foods, Materials and Medicines	2021		
4. Textbook	Galloway	Upper Sto:lo Ethnobotany	1982		
5.					

Required Additional Supplies and Materials (Software, hardware, tools, specialized clothing, etc.)

Course Content and Topics

- Week 1: Basic botany and the botanical crime families, identification ecology and distribution
- Week 2: First Nations plants and medicinals
- Week 3: The biochemistry synthesis and metabolism of plant compounds, stimulants hallucinogens depressants, compounds that act as both stimulate and depressants
- Week 4: Metabolic pathways of plant poisons with emphasis on alkaloids, terpenoids, secondary plant products
- Week 5: Plants, Poisons and Civilization: A Madman and the Gift of an Ear; Oh Pretty Woman (Alkaloids and culture).
- Week 6: Plants, Poisons and Civilization: The Dulles Brothers and a Shah (Nicotine and the world)
- Week 7: Plants, Poisons and Civilization: Gregori Markov and an Umbrella (lectins and metabolism)
- Week 8: Plants, Poisons and Civilization: Sing a Song of Poisons (the use of poisons in literature and song)
- Week 9: Plants, Poisons and Civilization: That little old lady, her murder mysteries and a Belgian (how an author got biochemistry so correct!)
- Week 10: Plants, Poisons and Civilization: Out Damn spot! The Bard and Botany (was Shakespeare a biochemist?)
- Week 11: Student presentations
- Week 12: Student presentations
- Week 13: Student presentations