This syllabus is a general representation of the course as previously offered and is subject to change.

BIOL 348 – Biology of Cannabis

General Course Syllabus (as of June 2023)

About the Course:

Course Description: BIOL 348 will cover foundational biological concepts in the context of the cannabis plant and different human applications of cannabis. Biological concepts will include DNA and genes, gene expression, biochemistry of cannabinoids and terpenes, cell structure and function, photosynthesis, plant growth, metabolism, and nature of science. This course will also focus on developing critical thinking skills in regard to information literacy, scientific inquiry, and application of the course concepts to real world situations.

Course Format: Lecture
Credits: 3 credits
Prerequisites: A minimum of 3rd year standing

Course Learning Objectives:

- Articulate how biological concepts, such as photosynthesis, plant cell walls, and specialized metabolism of plants, are important to understanding cannabis.
- Describe the versatility of human uses for the cannabis plant in the context of its history.
- Identify how the biology of cannabis is important for cannabis users, medical professionals, the cannabis industry, and policy makers.
- Discriminate the quality of information on websites or social media, and how scientific and non-scientific perspectives provide different information.
- Interpret research to advise cannabis users of potential benefits and harm reduction.

Resources:

Learning material for this course will generally be provided on Canvas or accessible online.

Evaluation:

Assessments	Weight
Knowledge check quizzes	15%
In-class assignments	20%
Reflection assignments	15%
Interview assignment	15%
Infographic project	15%
Final two-stage exam	20%

Details on Assessments:

Knowledge check quizzes
For Units 1-6, knowledge of unit content will be assessed by a quiz on the biological concepts as outlined in detailed class-level learning objectives. Format will be multiple choice/choose all that apply. There will be no make-up quizzes but we will only count the best five out of six quizzes.

In-class assignments
These activities will be completed each day in lecture and handed in at the end of class (e.g., worksheets, minute papers, question formulation activities; visual narratives activities; case studies; assignment preparation activities). No make-up activities are possible but we will only count the best 20 out of 24 activities to accommodate absences.

Reflection assignments
One to two page summary in response to provided prompts designed to reflect the Learning Objectives of one or more modules. The reflection is expected to be an original piece of writing that incorporates students' personal experiences and interests as well as correct use of scientific information and citations.

Interview assignment
Students will be assigned to interview a stakeholder in cannabis medicine about their knowledge of the risks, benefits, and manufacturing practices. Prior to the interviews, students will formulate their questions, research possible answers, and assess the quality of the information from a scientific lens including proper citations.

Infographic project
In small groups, students will formulate a scientific question about the biology of cannabis, then create an infographic to communicate their findings to different audiences. The groups will work together in classes to research their topic and will prepare an infographic targeted to a specific audience.

Final two-stage exam
A final summative exam worth 20% of the course grade will be held during the final exam period. This will be a two-stage collaborative exam: the first stage will test biological concepts in question formats similar to the knowledge check quizzes and the second will be short answer response questions similar to the module reflections, thus the summative exam will reflect the formative evaluations during the term. Students will take exams individually, and that exam will count for 15% of their grade. After handing in their exam, they will form groups of four and retake the exam collaboratively. For the short answer responses, they will generate a bulleted list of ideas as a group. The group grade will count for 5%.

Course Policies:

Academic integrity is essential to the functioning of the University of British Columbia as an institution of higher learning. All UBC students are expected to behave as honest, responsible members of our community and to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic integrity. Cheating on exams or projects, plagiarizing or any other form of academic dishonesty are clear violations of academic integrity and will result in disciplinary action.
https://learningcommons.ubc.ca/resource-guides/understand-academic-integrity/

Schedule of Topics (may vary slightly between semesters):

Week	Assignments and activities
1-2	Module 1 - Introduction to Cannabis: The history of cannabis, use and prohibition of cannabis in various cultures over time, different cultivars of cannabis, and an introduction on how to critically analyze information related to cannabis.
3-4	Module 2 - Cannabis for Bioproducts & Textiles: The structure of the cannabis plant, how it grows, and how cannabis is used for bioproducts and textiles.
5-6	Module 3 - Cannabis for Specialized Metabolites: the structure and function of cannabis flowers and how specialized metabolites are produced.
7-8	Module 4 - Cannabis Consumer Products: How metabolites and other molecules of interest are extracted and measured for quality assurance in cannabis consumer products.
9-10	Module 5 - Solar-powered Growth: the biological processes underlying cannabis plant growth and the energy processes that occur in the plant.
11-12	Module 6 - Neurobiology of Cannabis: The neuroscience of cannabis in humans, including the human endocannabinoid system and medicinal uses of cannabis.
13	Module 7 - Critical Analysis and Communicating the Biology of Cannabis: Students will integrate knowledge and skills gained during the previous six modules to research and communicate a biological aspect of cannabis to a specific audience.

University Policies:

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence.

UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom.

UBC provides appropriate accommodation for students with disabilities and for religious, spiritual and cultural observances.

UBC values academic honesty and students ae expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available on the UBC Senate website.