

Bergen Community College Division of Mathematics, Science & Technology

Department of Biology and Horticulture

BIO-250

Physiological Actions of Cannabinoids in Humans

General Course Syllabus

Course Description: This course focuses on the medical uses of the active compounds THC and CBD found in cannabis. Health issues responsive to treatment with cannabis-derived compounds are discussed in non-technical terms, along with explanations of how clinically positive outcomes employing these treatments have been achieved. Side effects associated with the use of these substances are also addressed. Projects assigned to students supplement the material covered in lecture.

Prerequisites: BIO-101 or permission of instructor

General Education Course: No

Course Credits: 3.0

Hours per Week: 3 hour lecture

Required Text: None. Relevant materials will be provided in print or as online links.

Supplementary Text: None

Required Laboratory Manual: None

Supplementary Materials: Reading assignments and handouts of materials will be provided in class and/or available online.

Student Learning Outcomes:

Upon successful completion of this course, students will be able to:

1. Analyze the historical relationship between humans and cannabis
2. Evaluate the production, properties, and roles of various cannabinoids present in both plants and non-plants
3. Describe the basics of: cell signaling, neurophysiology and endocrine physiology

- as a means of understanding the mechanisms of cannabinoid action in humans
4. Identify the effects that cannabinoids have on representative organ systems
 5. Evaluate the ways that cannabinoids are currently being used as treatments in traditional and alternative healthcare
 6. Describe and evaluate future directions in cannabinoid research and the development of new treatment modalities
 7. Research current topics of interest pertaining to the medicinal use of cannabinoids and summarize their findings in the form of in-class presentations

Means of Assessment:

The above student learning outcomes will be generally assessed or evaluated by instructors using a variety of **assessment instruments including lecture exams, quizzes, written reports, presentations, projects, etc.** The decisions concerning the type or types and number of instruments that are used in a specific section of the course will be left to the instructor of that section. This information, when given by the instructor should be recorded by the student in the **Student Assessment Section** of this document.

Student Assessment:

Lecture Examinations %

Student Project/Report %

Class Participation %

Other %

Total 100%

If you have a medical condition or develop a medical condition during this semester, which prevents you from fulfilling the requirements of this course, you must notify your physician. You and your physician must decide whether or not it is appropriate for you to remain in this course. If the decision is to remain in this course, please obtain a letter from your physician indicating that your continued participation in this course is appropriate and present it to the Department Chair.

College Policies:

Student Responsibility

Students will be held responsible for reading all pertinent information in college publications regarding withdrawals, course drops, college deadlines, and tuition refunds. Students are responsible for compliance with the rules and regulations as stated in college publications.

Absence of Instructor

Students are expected to wait twenty minutes for a faculty member to come to class. If at the end of twenty minutes, the faculty member does not come, the students should sign an attendance sheet, which indicates the course, date, and time. A student should deliver the attendance sheet to the divisional office (A304) if between 9:00 a.m. and 5:00 p.m. or to the Evening Office (C107) if before 9:00 a.m. or after 5:00 p.m. Students cannot be penalized by faculty for not waiting longer than twenty minutes.

Academic Dishonesty and Plagiarism

Bergen Community College is committed to academic integrity – the honest, fair and continuing pursuit of knowledge, free from fraud or deception. Students are responsible for their own work. Faculty and academic support services staff will take appropriate measures to discourage academic dishonesty.

Plagiarism is a form of academic dishonesty and may be a violation of U.S. Copyright laws. Plagiarism is defined as the act of taking someone else's words, opinions, or ideas and claiming them as one's own.

Consequences of Violations Academic Integrity

A. Instructor's Sanctions for a Violation

The faculty member will determine the course of action to be followed. This may include: • Assigning a failing grade on the assignment; • Assigning a lower final course grade; • Failing the student in the course • Other penalties appropriate to the violation; In all cases, the instructor shall notify the Vice President of Student Services of the violation and the penalty imposed. The student has the right to appeal the decision of the instructor to the appropriate department head.

B. Institutional Sanctions for Violations

When a violation of academic integrity has been reported regarding a student, the Vice President of Student Services may impose disciplinary penalties beyond those imposed by the course instructor, which may include suspension or dismissal from the College. The student shall have the right to a hearing before the Vice President of Student Services or a designated judicial affairs committee. Judicial procedures governing violations of academic integrity are contained in the student handbook.

Class Attendance

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

Eating and Drinking

Eating or drinking in classrooms, lecture rooms, laboratories, gymnasium, swimming pool, or passageways is forbidden. Covered beverages only are permitted in the library. Eating and drinking are permitted in cafeteria and vending areas only.

Learning Assistance

Henry and Edith Cerullo Learning Assistance Center

The Tutoring Center, English Language Resource Center, Math Walk-In Center and Writing Center are collectively known as the Henry and Edith Cerullo Learning Assistance Center. The Cerullo Learning Assistance Center is located in the Pitkin Education Building, in Room L-125. The telephone number is (201) 447-7489. The Learning Assistance Center, staffed with peer and professional tutors, offers free individual and group tutoring, supplemental instruction, and online tutoring for subjects offered at the College. The Center provides alternative approaches to problem solving and organizational skills. Tutors help clarify classroom lectures and textbooks and help students prepare for exams. These services build student self-confidence and reduce fear of failure. The Center is equipped with the latest technology and software, including tapes, books, review sheets, exercises and software.

Services for Students with Disabilities

The Office of Specialized Services, located in L-115 in the Pitkin Education Center provides accommodations and auxiliary services to students with disabilities attending Bergen Community College. Students are encouraged to submit documentation to OSS during the early stages of the admission process. The suggested deadlines for submitting documentation are as follows: August 1st for fall semesters, December 1st for spring semesters. For more information please contact our office at 201-612-5270 or at www.bergen.edu/oss.

Sidney Silverman Library

Main Building, Pitkin Education Center, L-wing, 2nd Floor

Paramus Library Hours: (201) 447-7131 or visit

<http://www.bergen.edu/library/calendar/gcal.htm>

Paramus Service Desk: (201) 447-7970

Meadowlands Location: 1280 Wall Street, Lyndhurst 2nd Floor

Meadowlands Library Hours: <http://www.bergen.edu/library/calendar/gcal.htm>

Meadowlands Service Desk: (201) 301-9692

www.bergen.edu/library

Testing Services

The Bergen Community College Office of Testing Services (OTS) is located in Room S-127. OTS serves the college community by identifying, developing, procuring, administering, processing, and/or evaluating examinations, which meet a variety of administrative and instructional needs. To contact the OTS, please call (201) 447-7202. The Office of Testing Services administers makeup tests as a service for students who, for compelling and exceptional reasons, have missed a scheduled classroom examination. Students must receive prior permission from and make arrangements with their course instructors to take these examinations, under specific conditions, in the Office of Testing Services, Room S-127.

Course Content Schedule:

<u>Week</u>	<u>Lecture Schedule</u>
1	Introduction/Scope of Course Viewing/Discussion of "Botany of Desire" with Emphasis on Cannabis
2	Overview of Plant Biology with Emphasis on Cannabis
3	Phytocannabinoids (Properties, Production, Biological Roles in Plants)
4	Endocannabinoids (Properties, Production, Biological Roles in Non-Plants) Synthetic Cannabinoids, Including Those Produced by Biotechnology
5	Introduction to Cell Signaling (Endocrine, Paracrine, Synaptic, Autocrine, Juxtacrine) Introduction to Cell Signals (Water Soluble Signals, Lipid Soluble Signals, Gaseous Signals)
6	Introduction to Neurophysiology and Endocrine Physiology
7	Introduction to Neurophysiology and Endocrine Physiology (continued)
8-12	Effects of Cannabinoids on Representative Organ Systems and Medical Use of Cannabinoids in the Treatment of Conditions Affecting these Systems
13	New Directions in Cannabinoid Research, Treatments, and Delivery
14	Student Presentations
15	Student Presentations

Dates & schedule are approximate and are subject to change at the discretion of the professor.

Faculty Addenda:

Lecture Attendance:

Policy Concerning Late Assignments:

Policy Concerning Make-Up Testing:

Safety Information:

Other Class Policies: