

Fall 2022

Cannabis: From Counterculture to Cure-All

School of Arts and Sciences, Department of Kinesiology and Health

Undergraduate Course # 01:377:360; 3 credits

Mon & Wed 3:50-5:10

Livingston Campus, Beck 219

The Department of Kinesiology and Health supports an inclusive learning environment wherein diversity and authenticity are valued. We are committed to creating a culture of equality that respects the diverse voices of our students, faculty and staff. We will continuously strive to create a curriculum and academic environment to reflect the community we serve, and drive innovation, social responsibility and excellence. Our diversity in thought, skill, and academic discipline is a resource and strength, which stands to benefit the whole and positively contribute to University and global reach.

Course information

IN PERSON

Pre-reqs: 01:119:115 (General Biology I), 01:119:116 (General Biology II), & 01:830:101 (General Psychology)

Online learning site: Canvas <https://canvas.rutgers.edu/>

Technology requirements for this course:

- Computer capable of watching videos, reading PDFs and documents, and completing exams.
- Device capable of recording a video to share with the class.

Instructor information

Instructor: Jennifer Buckman, PhD

jbuckman@rutgers.edu

Office Hours: I will be available before and after class on most days. For other times, please email me to schedule.

Office Hours Format: Zoom or in-person

Required Course Materials

No textbook required. All readings will be available within Canvas.

Course Description

Cannabis, formerly known as marijuana, is having a moment. Americans are embracing this plant in all its psychoactive and medicinal glory, but how much do we really know about the causes and consequences of recreational and medicinal cannabis use? Individuals interested in careers in medical and allied health are, in particular, in need of understanding cannabis use as a medicine and as a psychoactive agent used for recreation. Like alcohol and tobacco use, cannabis use is a health behavior that can impact overall wellness and must be considered within the context of an individual's overall lifestyle.

This course is designed to teach basic principles of numerous scientific fields from the vantage of *Cannabis Sativa*. We will consider the pharmacology, physiology, and neurobiology of its most well-known active ingredients - THC and CBD. We will delve into cannabis' influence on human behavior and health, and its potential to cause (and cure?) addiction. Woven throughout will be a discourse on how the history and legality of *Cannabis Sativa* have affected (and continue to affect) scientific research. The goal is to push past the media hype, big money, and politics and examine the state of the scientific evidence. We will also touch on other drugs that blur the recreational-medicinal line, such as psychedelics.

Course Objectives

Upon completing this course, each student will be able to:

1. Summarize basic pharmacological principles as they pertain to common cannabis use behaviors.
2. Describe the psychoactive profile of cannabis and its interaction with alcohol and other drugs.
3. Explain the unique features of the endocannabinoid system and how cannabis acts on it.
4. Summarize current evidence-based medicinal and health uses for cannabis.
5. Discuss the weight of evidence for cannabis' medicinal, psychoactive, and addictive properties.

Grading Policy

This class uses a points-based system to calculate grades. The total numbers points for this class are 200.

- Points per assignment is described below.
- Assignment due dates and times are listed on the Schedule on the next page of this syllabus.
- Assignments turned in late will receive 0 points unless the student communicates with the instructor BEFORE the due date and receives written approval of an extension.
- Concerns about a graded assignment must be brought to the instructor within seven days of receiving the grade. Assignment grades are finalized after this seven day period.
- Grades on Canvas will be updated regularly; if you notice any discrepancies or have questions, please do not wait until the end of the semester – let your instructor know right away.

Letter Grade	Percent	Points Needed
A	90-100	180-200
B+	85-89.9	170-179
B	80-84.9	160-169
C+	75-79.9	150-159
C	70-74.9	140-149
D	60-69.9	120-139
F	0-59.9	0-119

Assignments and points

Participation: No one wants an 80-minute monologue. Questions, comments, dissenting opinions, and “*but my friend said*” statements are encouraged. I know that some people talk a lot and some people don't. I also know not everyone can talk every day. Each student can earn up to 10 points during the semester for excellent participation [so no participation = no A]. Excellent participation will be (a) contributing important insights to the in-class discussions or (b) having your homework responses used to drive the in-class discussions. I take attendance each day and will mark all students who make major contributions to our discussions each day. **UP TO: 10 points**

*Added perk: top 5 participators can opt-out of Homework 8 **OR** 9 (I'll select winners on 10/26).*

Homework: Students are responsible for reading articles and watching videos throughout the semester. There are 10 homework assignments and students must submit brief responses via Canvas by the due date/time. All readings, video links, and written assignments are available on Canvas. Written responses are used to guide class discussions. Each written assignment includes 3 prompts. 1 point per prompt *if* the answer is correct/relevant/interesting and it follows the instructions. MAX per assignment is 3 points, **UP TO: 30 points.**

Exams: There will be 2 take-home exams, each worth 15 points. I will describe the grading rubric when the exams are posted on Canvas. **UP TO: 30 points.**

Final Project = THOUGHT EXPERIMENT: It is a ‘final’ project, but it is due before Thanksgiving. I call it a “Thought Experiment” because it will blend your ideas & interests with facts & science. The topic is themed but very open & the style is up to you. This is an INDIVIDUAL project! Every student will create an 8-10-min video and the class will watch and discuss each in class. This year’s theme is: *Cannabis and the Human Condition*. Each presentation will be framed as if you were a cannabis start-up presenting a new product idea for the first time at a professional conference. In early October, each student will select (a) a ‘human condition’ they seek to change and (b) the details of their cannabis product. The videos are graded as noted below. **UP TO: 30 points.**

Added perk: students will select best 3 presentations. Winners get \$25 (1st Place), \$15 (2nd Place), \$10 (3rd Place).

GRADING RUBRIC	5 points	4 points	3 points	2 points	1 point
TOPIC OVERVIEW – The human condition	Both the human health (<i>the “what”</i>) & the human interest (<i>the “why”</i>) components are very well described and generate interest.	Both the human health (<i>the “what”</i>) & the human interest (<i>the “why”</i>) components are acceptably described and generate interest.	Either the human health (<i>the “what”</i>) or the human interest (<i>the “why”</i>) components are insufficiently described or do not generate interest.	Neither the human health (<i>the “what”</i>) nor the human interest (<i>the “why”</i>) components are acceptably described or generate interest.	Neither the human health (<i>the “what”</i>) nor the human interest (<i>the “why”</i>) components are described .
TOPIC OVERVIEW – The cannabis product	Product is described very well and in great detail and generates interest.	Product is described well and there are some details; it generates interest.	The product is somewhat described but does not generate interest.	The product is poorly described .	The product is not described .
ENDOCANNABINOIDS	What is known about the role of the ECS in this human condition is clearly defined and correct . The information is highly detailed .	What is known about the role of the ECS in this human condition is clearly defined and correct . The information is sufficiently detailed .	What is known about the role of the ECS in this human condition is somewhat defined and mostly correct . The information is modestly detailed .	What is known about the role of the ECS in this human condition is poorly defined and there are factual errors . The information is superficial .	What is known about the role of the ECS in this human condition is not defined .
PHYTOCANNABINOIDS	What is known about how cannabis products affect this human condition is clearly defined and correct . The information is highly detailed .	What is known about how cannabis products affect this human condition is clearly defined and correct . The information is sufficiently detailed .	What is known about how cannabis products affect this human condition is somewhat defined and mostly correct . The information is modestly detailed .	What is known about how cannabis products affect this human condition is poorly defined and there are factual errors . The information is superficial .	What is known about how cannabis products affect this human condition is not defined .
CONCLUSION	All information is summarized AND the conclusion adds to the story. Includes interesting or creative future directions /next steps .	All information is summarized BUT the conclusion does not add to the story. Includes dull future directions or next steps .	Most information is summarized but the conclusion does not add to the story. Lacks future directions or next steps .	Some information is summarized but the conclusion does not add to the story. Lacks future directions or next steps .	The information is not summarized nor is there a conclusion.
VIDEO & PRESENTATION QUALITY	The logical flow is excellent and the transition between components is seamless. The images & audio are interesting, clear and both hold the audience’s attention .	The logical flow is very good , but transitions are not uniformly straightforward. The images & audio are interesting, clear, and mostly hold the audience’s attention .	The logical flow is acceptable , but transitions are awkward. The images & audio are acceptable but one doesn’t hold the audience’s attention .	The logical flow is poor but some transitions between components work.	The logical flow is poor and the presentation feels disorganized . The images and/or audio are not acceptable .

Policies and Procedures

General Expectations:

- Access all online class material. Complete all assigned assignments on time. Follow the honor code. Most of your life, people will not take the time to teach you things. Learn while you can.
- Ask questions. Email me. Use my office hours. I want you to understand what I am teaching.
- **Check your email and Canvas announcements regularly.** I guarantee there will be updates. There are always glitches, missing items, confusing instruction sentences. Try as I might, I am not perfect.

Email Etiquette: When emailing, please use my Rutgers e-mail address, not Canvas. Students are expected to use appropriate email etiquette. Please make your emails brief and to the point. Maintain reasonable expectations for responses. I will respond to emails within 1-2 business days.

****** LETTERS OF RECOMMENDATION ******

Each year, I get many requests to write letters of recommendation for students. I limit the number of individuals that I will write letters for. If you have not won a 'perk', as noted above, I will not write you a letter. Receiving a 'perk' does not constitute a guarantee, but if I feel that I know you sufficiently and can write you a good letter, I will.

To request a letter, please email me at least 1 month in advance of it being due.

Academic Integrity: As an academic community dedicated to the creation, dissemination, and application of knowledge, Rutgers University is committed to fostering an intellectual and ethical environment based on the principles of academic integrity. Academic integrity is essential to the success of the University's educational and research missions, and violations of academic integrity constitute serious offenses against the entire academic community. Students are responsible for becoming familiar with the definitions, procedures and sanctions outlined in Rutgers University Academic Integrity Policy before submitting any assignment or exam. The policy can be found at:

<http://academicintegrity.rutgers.edu/academic-integrity-policy/>.

All students should conduct themselves with the highest standards of academic honesty. Examples of academic dishonesty include: copying others' written work, not citing sources, and submitting the same assignments/papers multiple times in different courses. All incidences of questionable academic integrity are a serious matter and may result in a no grade (0.0) for the assignment or course. Academic dishonesty will not be tolerated and will be treated in accordance with Rutgers University Academic Integrity Policy.

Cheating and Plagiarism: Cheating on tests or plagiarizing materials in your papers deprives you of the educational benefits of college. It is dishonest and unfair. I take cheating very seriously. By enrolling in this course, you are indicating implicitly that you have read, understood, and accepted Rutgers University's policies and procedures regarding academic integrity and dishonesty. Plagiarism and cheating will not be tolerated and all University policies apply. Specifically, if plagiarism or cheating is suspected, the student(s) will be asked to meet with the instructor. If the instructor concludes that an instance of plagiarism or cheating has occurred, the student(s) will be subject to an appropriate sanction or penalty outlined in Rutgers University Academic Integrity Policy.

Please note that plagiarism is using the ideas or writings of another as one's own. It varies in degree and severity. The most severe is the use of another's entire paper word-for-word. Less severe is the use of another's sentence, paragraph, or ideas without giving credit to that individual (i.e., without providing a reference). Students often assume that because information is available on the Web it is public information, does not need to be formally referenced, and can be used without attribution. This is a mistake. All information and ideas that you derive from other sources, whether written, spoken, or electronic, must be attributed to their original source.

Make-up Policy

No make-ups or extensions will be offered for missed assignments except in one of the following situations, provided that the instructor is notified in advance:

- Athletic or other Rutgers sponsored trips: Travel dates and times accompanied by a signed memo from the group's advisor/coach must be presented to the instructor prior to travel dates.
- Religious observances.
- Extenuating circumstances: This includes (but is not limited to) family emergencies, severe illnesses, accidents, etc. It will be up to the prerogative of the instructor whether or not the student will be allowed to take the make-up or receive an extension.

University Services

Although many of these offices remain closed to in-person visits, all remain accessible virtually. We encourage students to continue to use these resources during this semester of remote learning.

Service	Description	Contact Information
Student Accommodations	If you are a student in need of accommodations, please register with the Office of Disability Services in order to initiate the accommodations process. Please present your letter of accommodation to your instructor during the first week of the semester. Please note that accommodations are not retroactive.	(848) 445-6800 Lucy Stone Hall, Suite A 145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 https://ods.rutgers.edu/
Just In Case Web App	Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.	http://codu.co/cee05e
Counseling, ADAP & Psychiatric Services (CAPS)	CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.	(848) 932-7884 17 Senior Street, New Brunswick, NJ 08901 www.rhscaps.rutgers.edu/ Medical Services: http://health.rutgers.edu/medical-counseling-services/medical/ Counseling Services: http://health.rutgers.edu/medical-counseling-services/counseling/
Violence Prevention & Victim Assistance (VPVA)	The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.	(848) 932-1181 3 Bartlett Street New Brunswick, NJ 08901 www.vpva.rutgers.edu/
Academic Support	School of Arts and Sciences Academic Advising for personal, career, and educational goals. Department of Kinesiology & Health Academic Advising for questions about Exercise Science or Sport Management major/minor requirements.	SAS: https://sasundergrad.rutgers.edu/ Dept. of Kinesiology & Health: Daria Gonzalez Loree Gym, Room 110 Email: Daria.Gonzalez@rutgers.edu https://kines.rutgers.edu/academics/academic-advising

ANTICIPATED CLASS SCHEDULE

7-Sep	
ACTIVITY/DISCUSSION	Who uses drugs and why?
LECTURE	Introduction to you, me & a syllabus about ...weed?
12-Sep	
ACTIVITY/DISCUSSION	How do we learn about drugs and alcohol?
LECTURE	Cannabis, a flowering plant
ASSIGNMENT	Homework 1
14-Sep	
ACTIVITY/DISCUSSION	Drugs are bad ... and good?
LECTURE	The active ingredients in cannabis
ASSIGNMENT	Homework 2
19-Sep	
ACTIVITY/DISCUSSION	The college drug scene or college is a drug scene.
LECTURE	The genetics of getting high (or not)
21-Sep	
ACTIVITY/DISCUSSION	What happens when we "normalize" things?
LECTURE	The psychology of getting high (or not)
ASSIGNMENT	Homework 3
26-Sep	
ACTIVITY/DISCUSSION	Exam 1 reveal / Why is it hard to think for yourself?
LECTURE	Thinking about it versus googling it
ASSIGNMENT	Exam 1
28-Sep	
ACTIVITY/DISCUSSION	How do expectations affect physiology?
LECTURE	Facts, opinions, and levels of evidence
ASSIGNMENT	Exam 1
3-Oct	
EXAM 1 DUE	
Thought Experiment - INTRODUCTION TO FINAL PROJECT	
ACTIVITY/DISCUSSION	Marketing & Hype: What happens when money gets involved?
LECTURE	Scientific Organization – lit search, refine. focus.
ASSIGNMENT	Homework 4
5-Oct	
ACTIVITY/DISCUSSION	Your social network: who uses and why?
LECTURE	Americans love drugs
10-Oct	
Thought Experiment - TOPIC SELECTION	
ACTIVITY/DISCUSSION	How does a doctor prescribe?
LECTURE	A drug is a drug, of course
ASSIGNMENT	Homework 5
12-Oct	
ACTIVITY/DISCUSSION	Why is it hard to make cannabis a med?
LECTURE	Pharmacokinetics – routes and absorption

17-Oct	
Thought Experiment - PROJECT OUTLINE	
ACTIVITY/DISCUSSION	Turn on, tune in, & drop out
LECTURE	Pharmacokinetics – distribution and elimination
ASSIGNMENT	Homework 6
19-Oct	
ACTIVITY/DISCUSSION	Disinhibit & expand versus cope & suppress
LECTURE	Pharmacodynamics – effects and side effects
24-Oct	
Thought Experiment - PROJECT OUTLINE	
ACTIVITY/DISCUSSION	How much is too much? Does addiction appear out of nowhere?
LECTURE	Pharmacodynamics– endocannabinoid system
ASSIGNMENT	Homework 7
26-Oct	
LECTURE - <i>guest speaker</i>	Cannabis for health - a physical therapist's perspective
ASSIGNMENT	Homework 8
31-Oct	
ACTIVITY/DISCUSSION	Exam 2 reveal / What is harm reduction?
LECTURE	Pharmacodynamics – phytocannabinoids & homeostasis
ASSIGNMENT	Exam 2
2-Nov	
ACTIVITY/DISCUSSION	Psychedelics – medicine, party drug, or spirit guide?
LECTURE	Pharmacodynamics – drug-drug interactions
ASSIGNMENT	Exam 2
7-Nov	
EXAM 2 DUE	
Thought Experiment - Q & A	
ACTIVITY/DISCUSSION	Flowers versus concentrates
LECTURE	Your brain on drugs: Neurological
9-Nov	
Thought Experiment - Q & A	
ACTIVITY/DISCUSSION	Words matter: buzzed, drunk, smashed = high, higher, highest?
LECTURE	Your brain on drugs: Psychological
ASSIGNMENT	Homework 9
14-Nov	
Thought Experiment - Q & A	
ACTIVITY/DISCUSSION	Measuring drug effects: subjective versus objective
LECTURE	Your body on drugs: Somatic states
16-Nov	
Thought Experiment - Q & A	
ACTIVITY/DISCUSSION	What is a gateway drug?
LECTURE	Your whole self on drugs: Stress, defined multiple ways
ASSIGNMENT	Homework 10
21-Nov	
ACTIVITY/DISCUSSION	Do drugs make you creative?
LECTURE	Drugs as a health behavior: Lifespan perspective

THANKSGIVING BREAK

28-Nov

ACTIVITY	THOUGHT EXPERIMENTS 1-5
LECTURE	Ancient history

30-Nov

ACTIVITY	THOUGHT EXPERIMENTS 6-10
LECTURE	American history

5-Dec

ACTIVITY	THOUGHT EXPERIMENTS 11-15
LECTURE	The unfolding of history, in real time

7-Dec

ACTIVITY	THOUGHT EXPERIMENTS 16-20
LECTURE	Who won the war on drugs?

12-Dec

ACTIVITY	THOUGHT EXPERIMENTS 21-25
LECTURE	Drug use in general: Double standards

14-Dec

ACTIVITY	THOUGHT EXPERIMENTS 26-30
LECTURE	College survival guide: The drug use edition