

Fall 2020

Cannabis: From Counterculture to Cure-All

School of Arts and Sciences, Department of Kinesiology and Health
Undergraduate Course # 01:377:360; 3 credits

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GENERAL 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. The course will culminate in a formal class discussion of the many sides of the legalization argument.

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.

COURSE TOPICS

Introduction to class, concepts, and expectations.

The course will open with an overview of the principles of civil discourse, cognitive bias, and level of evidence. Students will consider the difference between fact and opinion (and how opinion can hide in facts), and between a fact and truth. These constructs will lay the foundation for examining the role that science plays in shaping facts, opinions, and the concepts we consider truth today. The class will engage in a thought experiment that uses college alcohol use as a foundation for debating what safe college cannabis use might look like if it is federally legalized.

Who uses and why?

If a person 'smokes a lot of weed' and is successful, we call that person eccentric (e.g., Willie Nelson, Snoop Dogg, Bill Maher). If a person 'smokes a lot of weed' and is *not* successful, we call that person "a drug addict". The class will discuss stigma associated with substance use and addiction and consider whether harmful, uncontrolled substance use is a crime or a health problem. This discussion will be embedded within our society's effort to dichotomize use: Medicinal versus recreational (aka good versus evil). Does the truth lie somewhere in between? The psychoactive features of cannabis may be, in part, responsible for some of its medicinal value. The "high" from cannabis is being explored as a possible intervention strategy for serious addictions to other psychoactive drugs, such as alcohol, heroin, and prescription medication. Is this absurd? The class will discuss the many experienced features of cannabis use, and how and why these features drive use. For those who want to get high, why? Does it relax them, release them, or expand them? For those who seek health promotion, does it work better than other available remedies, have less side effects, or feel more natural?

Cannabis, a flowering plant.

Cannabis is the name of a plant known by humans for millennia. Most scientists believe there are (or were before intensive breeding programs) at least two strains of *Cannabis* that vary in form and chemical composition: *sativa* and *indica*. Although these terms (*sativa*

and *indica*) are now, rightly or wrongly, used to differentiate the psychoactive properties of the plant, they historically differentiated how the plants were used. The course will explore the many uses of cannabis. Exploring how it was historically grown for its fiber, its leaves, and its seeds, and how its capacity for inducing euphoria led to its demonization. As *Cannabis* becomes legalized in different forms, it is important to understand the environmental impact of *Cannabis* as an agricultural crop, and how expansion of *Cannabis* production to meet the growing hemp, medicinal, and recreational markets may impact farming practices.

The active ingredients in cannabis.

Cannabis is famous for two of its hundreds of ingredients. The first, THC, has been lauded across generations for its pleasant psychoactive properties. It was a fundamental feature of the counterculture that was launched by the Beatniks and popularized by the Hippies. No other naturally occurring substance commands such a cult following and an equally strong backlash. The second, CBD, is a newcomer to mainstream culture. Its initial claim (long known, but widely publicized by mass media outlets only recently) of dampening seizure activity in children is so astounding that it has given rise to a wave of medicinal claims, from treating cancer and Alzheimer's disease to alleviating symptoms of anxiety and depression. Is it possible that this one ingredient of a plant that has been consumed by humans for millennia is a cure-all? We will end with an open discussion of all the CBD claims the students have heard and the type of experiments that are needed to verify these claims.

Cannabis is for Criminals, Crazies, and the Counterculture.

Although history and politics seem out of place in a science of cannabis course, science relies on public funding (and thus public interest). Scientific findings have been used for political purposes, misused for such purposes, and eschewed by politicians when convenient. This is the political side of science. Is there a scientific side to politics? In this section of the course, we will trace the convoluted history of cannabis legalization and perceptions that frame our society's current predicament: How can a substance consumed by humans for millennia (and currently used by millions of US adults) be so poorly understood? Snapshots of political pressures and cultural attitudes (and biases) in the US over the past 100 years will be juxtaposed against scientific study (or the lack thereof). We will end with a discussion of how drug use became a 'public enemy' rather than a 'public health concern'.

The genetics of getting high (or not)

Prior to legalization, the vast majority of cannabis production used by Americans occurred outside of the US (primarily Mexico) and in clandestine locations mainly on the West Coast. Cannabis plants can be grown indoors or outdoors, but its illegal status meant that production yields were smaller, rarely involved expensive agricultural equipment or supplies, and its chemical composition analysis was difficult to assess. Nonetheless, in today's market, there are >1000 established strains that vary in potency, THC/CBD ratios, and subjective behavioral profiles that are carryovers from decades of underground producers. To understand how different strains are created, this course will consider the genetic process of trait selection through selective breeding. The relationship of genetic profiles of cannabis 'strains' to subjective experience will be discussed, as will non-genetic factors such as context and expectancy that can influence a person's perception of their cannabis experience.

A drug is a drug, of course.

Pharmacology is the study of how drugs interact with the human body to exert both therapeutic and toxic effects, yet, unlike the term "pharmaceutical", it is not well-understood by the American public. US consumption of prescription medications, illicit drugs, dietary supplement, and "nutraceuticals" is staggering. As the course segues into field of pharmacology, the class start at the beginning and ponder: What constitutes a drug? What are the differences, if any, between drugs prescribed by physicians and those that are used illegally? What drugs are most commonly used in our society and how are they influencing our mental and physical well-being? We will enumerate the pharmaceutical products that the students are familiar with as a way to think about the health issues that most plague American society. How do these health issues overlap with the claims of CBD?

A primer on pharmacology.

If your goal is to get high, you may smoke cannabis. If your goal is to relieve pain without getting high, you may apply a cannabis lotion to the site of pain. Why? It turns out that the effects of a drug have a lot to do with how it is consumed, how it gets mobilized throughout the body, and whether it gets stored, destroyed, or excreted. In addition, the effects of a drug have a lot to do with its site of action and how easily and quickly the drug finds its way there. The course will outline the basic principles of pharmacology, such as routes of administration, absorption, distribution, and excretion to understand dose-response relationships, side effects, safety, and toxicity. Throughout this section, we will examine the many cannabis derivatives and products available in today's marketplace and consider what we know about the molecular structure of cannabis to determine whether it is consistent with product claims.

Your brain on drugs versus the drugs in your brain and body.

While the United States began its war against drugs, Israel was embracing the science of cannabis. With the discovery of delta-9-tetrahydrocannabinol (THC) in 1965, the real story of how cannabis exerts its effects began to unfold. Today, we know there are >100 cannabinoids in the cannabis plant and at least two naturally occurring in the brain. After a brief overview of how neurons communicate

and the intricacies of neurochemical signaling, the class will consider the many functional roles of the endocannabinoid system. With only 2 known ligands and 2 known receptors, it may seem like is a small system, but nothing could be further from the truth. The endocannabinoid system is localized throughout the body and brain and, unlike other known systems, forms ligands 'on demand', uses retrograde pathways, and has functional roles associated with every body system. The class will consider how these features of the system make cannabis appealing as a medicine and whether the "high" associated with THC also may have a medicinal role.

Cannabis: The Modern Miracle Medicine.

If I were a plant at any point in history, I'd be a cannabis plant in the early 21st century. Wasting and nausea. Psoriasis. Glaucoma. Muscle spasms. Pain and inflammation. Even asthma. And those are just a few of the claims. Is it possible that one plant could be used effectively for all of these 'body based' conditions? Cannabinoid receptors are everywhere and, accordingly, drugs that target these receptors may hold promise for many, many diseases, disorders, and ailments. Early scientific studies pointed to the need for cannabis research in humans, which was never done. What do these older chemistry, cellular, and rodent studies, mainly on THC, tell us about the recent medicinal claims (and what don't they address)? The class will consider basic body physiology, how body systems break down under conditions of stress and disease, and what cannabis has to do with any of it. This section of the class examines the state of science for linking cannabis, the endocannabinoid system, and the prominent physical health conditions of our time.

Cannabis: The Magical Medicine for the Mind.

But wait, there's more. Epilepsy. Anxiety. Post-Traumatic Stress Disorder (PTSD). Even addiction and Alzheimer's disease. Yes, cannabis is touted as a remedy for these brain-based conditions as well. While these claims seem even more outlandish, indirect evidence supports future research. How much evidence is there, and how strong is it? How could recreational use be linked to memory impairments and cognitive slowness, but medicinal use be linked to protection against (and treatment for?!) a memory-based disorder like Alzheimer's? As the class explores the state of science for these claims, it also will consider the differences between preclinical research and clinical trials, and how this pipeline of science is essential to ascertain the medicinal value of cannabis and the many pharmaceutical derivatives that are on the cusp of being marketed. Big Pharma is already in the game ... Will their synthetic THC's and CBD's cure us all?

Sometimes cannabis is just for fun.

Considering all use of a psychoactive substance as problematic, disordered, or bad is reductionistic. Our society's double standards about drug use are rampant. Vaping high-THC cannabis to relax is dangerous and unhealthy, but using physician-prescribed Xanax is safe and medicinal – has that been studied? The class will consider the full range of substance use – initiation/experimentation, social use, misuse and harm, and addiction – and the many psychoactive drugs that our society embraces and shuns (in a seemingly arbitrary fashion). Why have psychoactive drug effects become vilified or, more truthfully, why have they become vilified sometimes, for some people, under some conditions, and in certain situations? The current generation's relationship with psychoactive drugs is being reshaped – in large part due to solid evidence that the War on Drugs has led to social injustices that have further divided our society along racial and wealth lines. As the course winds down, the social justice implication of moralizing drug use will be discussed: What if, instead, we honestly view substance use as a health behavior, like insufficient sleep or poor diet?

But, is it addictive?

The answer is yes, but what exactly do we mean when we say something is addictive, or a person is addicted? Addiction is typically defined by the harm it causes – to the person, the family, the community, society. What are the potential harms of cannabis use, and do we know how to reduce them? The class will end as we ponder the many questions that remain unanswered: Is all addiction equal (i.e., does a heroin addiction and a cannabis addiction look the same and cause the same harms)? Is addiction genetic and, if so, what exactly is inherited? Is addiction irreversible and, if not, why are those with addiction shunned and isolated? Where are we, as a society, in our views on drug use, addiction, and recovery?

COURSE REQUIREMENTS

Each student is responsible for attending lectures, routinely participating in class discussions, reading assigned articles, taking exams, and handing in assignments in a timely fashion. Students will be graded on the items below.

Attendance: Attendance is critical to achieving the course objectives and students will be required to sign-in at each class.

Homework (due dates listed on Course Schedule) – Due Weekly

- **Readings:** A reading from a popular press article and the corresponding scientific journal article will be assigned along with at least one additional article on the same topic.

- **Written assignments:** Students must compare and contrast popular press articles to related scientific articles. The assignment is to identify 3 differences between the articles – these differences can be missing facts in the pop culture piece that affect its implications, inconsistencies or overgeneralizations that undermine the veracity of the pop culture article, or elements of the pop culture article that blur the line between the scientific evidence and the writer’s opinion. These assignments are *thinking exercises*. There are not about length, but about content.
 - Each difference should be separately **bulleted or numbered**.
 - Each difference should be **DISTINCT** from one another.
 - The differences should be **clearly articulated** and **written succinctly**. Writing quality will be factored into your score.

A zero will be given for late or missing assignments. No excuses. No exceptions.

Exam: There will be **two** exams across the semester. There will be no opportunity for makeup exams; a written assignment will be substituted, if necessary.

Final Assignment: The final week of class will be a student-run debate on cannabis legalization. This will be a scientifically-grounded debate - as if students had the opportunity to weigh in on the legalization debate in front of the NJ Senate. The debate must be professional toned and grounded in recent science. This assignment has a written and oral component. Each student will be assigned a “perspective” (e.g., respiratory effects, addiction risk, environmental implications) on which to focus. They must submit a paper that includes 5 paragraphs: an opening paragraph that introduces their assigned “perspective” and how it should factor into the legalization debate, 3 paragraphs each presenting an individual piece of scientific evidence that pertains to the “perspective”, and a final paragraph that pulls the 3 points together into a coherent argument for or against legalization. Students must submit the written assignment prior to the in-class debate. In class, each student will have the “floor” to state their opinion and the evidence supporting it. The evidence must be from their written assignment.

GRADING RUBRICS

Final Grade	Percentage	Points
4.0 (A)	90% or greater	180 – 200
3.5 (B+)	85 - 89.9%	170 – 179
3.0 (B)	80 - 84.9%	160 – 169
2.5 (C+)	75 - 79.9%	150 – 159
2.0 (C)	70 - 74.9%	140 – 149
1.0 (D)	60 - 69.9%	120 – 139
0.0 (F)	0 - 59.9%	0 – 119

Attendance: Each lecture attended will earn 1 point towards the final grade (*excluding first class, exams + 1 allowable absence*).
Maximum points: 25.

Participation: Discourse and dialog is critical to this course; participation in the 10 class discussions of readings will earn 1 point each.
Maximum points: 10.

Written assignments: Each assignment will be worth up to 10 points. 1 point given for following the instructions and professional presentation. Each “difference” will be graded from 0-3 points (0 pts = incomplete, missing; 1 pt = incorrect point / vague or generic response and poor writing; 2 pts = correct, but lacking depth or significance or low quality writing; 3 pts = correct, indepth, and important and strong writing).
Maximum points: 100.

Exam: Each exam will be worth up to 20 points.
Maximum points: 40.

Final Assignment: A maximum of 20 points will be given for the written assignment. Each of the 5 paragraphs will be graded separately (0 pts = missing; 1 pt = incorrect, vague, or generic; 2 pts = correct, but lacking depth or significance; 3 pts = correct, indepth, important). An additional 5 points will be given for the overall writing (1 pt = poor sentence construction or written logic, many grammar errors, typos to 5 pts = carefully edited for typos and grammar; clear and concise writing).

Participation in the in-class debate will earn up to 5 additional points. 1 point per debate day will be given for general engagement and participation in the dialog. Up to 3 points will be given for specific debate contribution (0 pts = no contribution; 1 pt = incorrect or irrelevant contribution; 2 pts = correct, but superficial contribution; 3 pts = correct, indepth, and important contribution).

Maximum points: 25.

Extra Credit: There are NO opportunities for extra credit.

EXAMPLE READING LIST (will be updated each year)

Readings 1: Who uses and why

- <https://www.nytimes.com/2019/06/30/us/marijuana-colorado-legalization.html?searchResultPosition=2>
- <https://www.nytimes.com/2019/07/03/travel/marijuana-vacation-travel-cannabis-usa.html?searchResultPosition=3>
- Carliner H, Brown QL, Sarvet AL, Hasin DS. (2017). Cannabis use, attitudes, and legal status in the U.S.: A review. *Prevention Medicine* 104:13-23.

Readings 2: Active ingredients

- <https://www.npr.org/sections/health-shots/2019/05/15/723656629/highly-potent-weed-has-swept-the-market-raising-concerns-about-health-risks>
- ElSohly MA, Mehmedic Z, Foster S, Gon C, Chandra S, & Church JC. (2016). Changes in cannabis potency over the last 2 decades (1995-2014): analysis of current data in the United States. *Biol Psychiatry* 79(7):613-9.
- Freeman TP & Winstock AR. (2015). Examining the profile of high-potency cannabis and its association with severity of cannabis dependence. *Psychol Med.* 45(15): 3181–3189.

Readings 3: Counterculture

- <https://www.washingtonpost.com/news/wonk/wp/2017/04/19/11-charts-that-show-marijuana-has-truly-gone-mainstream/>
- <https://www.theguardian.com/commentisfree/2014/apr/20/marijuana-parents-smoking-at-home>
- Freeman AM, Petrilli K, Lees R, Hindocha C, Mokrysz C, Curran HV, Saunders R, Freeman TP. How does cannabidiol (CBD) influence the acute effects of delta-9-tetrahydrocannabinol (THC) in humans? A systematic review. *Neurosci Biobehav Rev.* 30;107:696-712.

Readings 4: Pharmacology

- <https://www.nytimes.com/2019/10/21/health/marijuana-and-vaping-shadowy-past-dangerous-present.html>
- Davenport S. (2019). Price and product variation in Washington's recreational cannabis market. *Int J Drug Policy.* *ePub ahead of print*
- Aston ER, Scott B, Farris SG. (2019). A qualitative analysis of cannabis vaporization among medical users. *Experimental and Clinical Psychopharmacology* 27(4): 301-308.

Readings 5: Genetics

- [Weed strains: Marijuana marketing - spin or science?](#)
- Sawler J, Stout JM, Gardner KM, Hudson D, Vidmar J, Butler L, Page JE, Myles S. (2015). The Genetic Structure of Marijuana and Hemp. *PLoS One* 10(8):e0133292.
- Matheson J, Sproule B, Di Ciano P, Fares A, Le Foll B, Mann RE, Brands B.(2019). Sex differences in the acute effects of smoked cannabis: evidence from a human laboratory study of young adults. *Psychopharmacology* *ePub ahead of print*

Readings 6: Endocannabinoids

- <https://observer.com/2019/09/marijuana-male-infertility-cannabis-sperm/>

- Nielsen JE, Rolland AD, Rajpert-De Meyts E, Janfelt C, Jorgensen A, Winge SB, Kristensen DM, Juul A, Chalmel F, Jegou B & Skakkebaek. (2019). Characterisation and localisation of the endocannabinoid system components in the adult human testis. *Scientific Reports* 9: 12866.
- <https://www.scientificamerican.com/article/to-justify-using-weed-some-pregnant-women-cling-to-an-old-and-dubious-study/>
- Dreheer, Nugent, & Hudgins. (1994). Prenatal marijuana exposure and neonatal outcomes in Jamaica: an ethnographic study. *Pediatrics* 93(2): 254-260.
- Scheyer AF, Melis M, Trezza V, Manzoni OJJ. (2019). Consequences of perinatal cannabis exposure. *Trends in Neuroscience* 19: *ePub Ahead of Print*.

Readings 7: Medicine – brain

- <https://www.scientificamerican.com/article/marijuana-may-boost-rather-than-dull-the-elderly-brain/>
- Bilkei-Gorzo A, Albayram O, Draffehn A, Michel K.... Zimmer A. (2017). A chronic low dose of Δ^9 -tetrahydrocannabinol (THC) restores cognitive function in old mice. *Nature Medicine* 23(6): 782-787.
- Calabrese EJ & Rubio-Casillas A. (2018). Biphasic effects of THC in memory and cognition. *European Journal of Clinical Investigation* 48(5): e12920, p1 - 9.

Readings 8: Medicine – mental

- <https://blogs.scientificamerican.com/observations/is-cannabis-good-or-bad-for-mental-health/>
- Borodovsky J. & Budney A. (2018). Cannabis regulatory science: risk-benefit considerations for mental disorders. *International Review of Psychiatry* 30: 1-20.
- Wiese B & Wilson-Poe AR. (2018). Emerging evidence for cannabis' role in opioid use disorder. *Cannabis and Cannabinoid Research* 3(1): 179-189.

Readings 9: Medicine – body

- <https://www.nytimes.com/2019/10/16/style/self-care/cbd-oil-benefits.html>
- de Wit H, Arndt DL. (2017). Cannabidiol Does Not Dampen Responses to Emotional Stimuli in Healthy Adults. *Cannabis and Cannabinoid Research* 2(10): 105-113.
- Stith SS, Vigil JM, Brockelman F, Keeling K, Hall B. (2019). The Association between Cannabis Product Characteristics and Symptom Relief. *Sci Rep.* 9(1):2712.

Reading 10: Recreational use

- <https://www.miaminewtimes.com/marijuana/new-florida-petition-for-legal-recreational-marijuana-challenged-as-too-corporate-11276328>
- Compton WM, Han B, Jones CM, Blanco C. (2019). Cannabis use disorders among adults in the United States during a time of increasing use of cannabis. *Drug and Alcohol Dependence* 12:e107468.
- Han BH & Palamar JJ. (2018). Marijuana use by middle-aged and older adults in the United States: 2015-2016. *Drug and Alcohol Dependence* 191:374-381.

COURSE SCHEDULE

Date	Topics	Assignments Due
1	Introduction to class, concepts, and expectations	
2	Facts, opinions, and levels of evidence	
3	Who uses and why?	Reading 1: Compare & contrast
4	Cannabis, a flowering plant	
5	The active ingredients in cannabis	Reading 2: Compare & contrast
6	Cannabis is for criminals, crazies, and the counterculture	
7	Cannabis is for criminals, crazies, and the counterculture	Reading 3: Compare & contrast
8	A drug is a drug, of course	
9	A primer on pharmacology – pharmacokinetics	Reading 4: Compare & contrast
10	A primer on pharmacology – pharmacodynamics	
11	The genetics of getting high (or not)	Reading 5: Compare & contrast
12	Context and expectancies of getting high (or not)	
13	EXAM 1	
14	This is your brain on drugs	
15	These are the drugs in your brain	Reading 6: Compare & contrast
16	Cannabis: The magical medicine for the mind, neurological	
17	Cannabis: The magical medicine for the mind, psychological	Reading 7: Compare & contrast
18	These are the drugs in your body	
19	Cannabis: The modern miracle medicine (systems physiology)	Reading 8: Compare & contrast
20	Cannabis: The modern miracle medicine (skin, muscle, bone)	
21	Cannabis: The modern miracle medicine (heart, lung, gut)	Reading 9: Compare & contrast
22	Cannabis: The modern miracle medicine (immune, hormone)	
23	EXAM 2	
24	Sometimes cannabis is just for fun	
25	Sometimes cannabis is just for fun	Reading 10: Compare & contrast
26	But is it addictive?	
27	But is it addictive?	Rough draft of final debate
28	FINAL DEBATE	
29	FINAL DEBATE	

GENERAL INFORMATION

Use of Electronics in Class

I highly value debate and discussion in class and find that electronic devices interfere with open dialogue. Some students “hide behind” their screens. Some engage in non-class activities (*it seems we simply cannot resist the urge to reply back to that text!*). And, many find themselves distracted by their neighbor’s electronic activities. Therefore, no one should use computers, tablets, phones, or other electronic devices in class (except based on documented accommodation needs). Please come prepared to take written notes.

Academic Honor Code: 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. This academic integrity policy is designed to guide students as they prepare assignments, take examinations, and perform the work necessary to complete their degree requirements. The full honor code can be viewed at <http://academicintegrity.rutgers.edu/academic-integrity-policy/>.

Cheating and Plagiarism

Cheating on tests or plagiarizing materials in your papers deprives you of the educational benefits of preparing these materials appropriately. It is personally dishonest to cheat on a test or to hand in a paper based on unacknowledged words or ideas that someone else originated. It is also unfair, since it gives you an undeserved advantage over your fellow students who are graded on the basis of their own work. In this class we will take cheating very seriously. All suspected cases of cheating and plagiarism will be automatically referred to the Office of Judicial Affairs, and we will recommend penalties appropriate to the gravity of the infraction. The university’s policy on Academic Integrity is available at <http://academicintegrity.rutgers.edu/academic-integrity-policy>. I strongly advise you to familiarize yourself with this document, both for this class and for your other classes and future work. To help protect you, and future students, from plagiarism, we require all papers to be submitted through Turnitin.com.

According Rutgers’ policy “Plagiarism is the use of another person’s words, ideas, or results without giving that person appropriate credit. To avoid plagiarism, every direct quotation must be identified by quotation marks or appropriate indentation and both direct quotation and paraphrasing must be cited properly according to the accepted format for the particular discipline or as required by the instructor in a course. Some common examples of plagiarism are:

- Copying word for word (i.e. quoting directly) from an oral, printed, or electronic source without proper attribution.
- Paraphrasing without proper attribution, i.e., presenting in one’s own words another person’s written words or ideas as if they were one’s own.
- Submitting a purchased or downloaded term paper or other materials to satisfy a course requirement.
- Incorporating into one’s work graphs, drawings, photographs, diagrams, tables, spreadsheets, computer programs, or other nontextual material from other sources without proper attribution.”

A SPECIAL NOTE: 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. Such sources include not just written or electronic materials, but people with whom you may discuss your ideas, such as your roommate, friends, or family members. They deserve credit for their contributions too!

American with Disability Act Compliance:

In accordance with the ADA, reasonable accommodations will be made for students with documented special needs. Students who require special assistance or accommodations must follow the procedures outlined at <https://ods.rutgers.edu/students/registration-form>. Full disability policies and procedures are available at <https://ods.rutgers.edu>.

Disability Services - <https://ods.rutgers.edu>

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / Rutgers University welcomes students with disabilities into all of the University’s educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus’s disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

Student-Wellness Services:

Just In Case Web App (<http://codu.co/cee05e>)

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.

Counseling, ADAP & Psychiatric Services (CAPS) - www.rhscaps.rutgers.edu/

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901

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.

Violence Prevention & Victim Assistance (VPVA) - www.vpva.rutgers.edu/

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901

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.

Scarlet Listeners - <http://www.scarletlisteners.com/>

(732) 247-5555 Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.