

PSYC 245  
Psychopharmacology

[Drugs and Behaviour, Basic Principles]

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**Course Description:**

This course provides an introduction to the various types of psychoactive drugs and their impact on behaviour and the central nervous system through a review of the scientific literature. It will examine drugs from a broad array of categories - covering drugs that are used for therapeutic and/or recreational purposes. Special attention will be paid to medications used to treat psychiatric disorders, and psychoactive substances that are frequently abused. Coverage will span a range of topics including drug actions on the nervous system, elementary principles of pharmacology, therapeutic use of behaviourally active drugs, signs and symptoms of psychopathology and treatments for abuse and dependence. Topics include an introduction to the principles of behavioural pharmacology, the experimental analysis of behaviour applied to drug issues, the relationship between law and science with regard to drugs, and the specific actions, uses and abuse patterns of several drugs.

**Intended Learning Outcomes**

Upon completion of this course the student should be able to describe, explain and evaluate:

1. The historical uses of psychoactive drugs worldwide and the history of drug laws from an international perspective.
2. Current Canadian, European and American drug laws.
3. The research base of the current debate on drug use, with a focus on the LeDane Commission, and current Senate and House illegal drug uses committee findings.
4. Various models of the cause of drug use and addiction with particular reference to the Reward System model of drug addiction.
5. The basic principles of pharmacology and neuropharmacology with regard to psychoactive substances.
6. The basic biochemical processes in the effects of psychoactive chemicals on the neuron and CNS systems.
7. The basic mechanisms of neuronal functioning that are affected by the introduction of psychoactive substances into the CNS.
8. Psychological effects of various drugs.
9. The basic principles of ethnopharmacology.
10. The mode of action, etiological models, side effects and patterns of use with regard to the major drugs used to treat mood disorders, anxiety disorders, schizophrenia, and selected other mental disorders.
11. The basic mechanisms of action, short and long term effects of alcohol, caffeine, marijuana, hallucinatory drugs, nicotine, and other selected drugs.
12. The basic methods of drug abuse treatment in use today.

Presumed Knowledge:

At the start of this course we presume that the

student will:

Have a basic grasp of the scientific method and its application to research in psychology and one other science.

Be able to find primary sources both by visiting a library and using various on-line search facilities such as EbscoHost, PsycInfo and Science Indexes.

Have basic knowledge of the the human nervous system and related topics such as the structure and function of the neuron, the role of neurotransmitters in the human CNS, the various ways that psychoactive chemicals can affect the functioning of neurons, the causes of several neurological disorders, examples of the use of psychoactive drugs to attempt to treat brain disorders and the type of overview of biopsychology provided by a second year course in biopsychology.

Have a basic understanding of relevant concepts from chemistry and organic chemistry such as osmosis, ions, DNA, etc [Jamie?]

The ability to research and write a scientific paper that summarizes current primary source research using APA or [Jamie] styles.

An understanding of the rules of citation of sources in a scientific paper.

The ability to structure, design, run and write-up a scientific experiment based on APA or [Jamie] style.

Text:

McKim, W. (2003). Drugs and Behavior: An Introduction to Behavioral Pharmacology, 5th or 6th Edition, Prentice Hall.

Course Objectives:

Through actively and conscientiously participating in this course you should:

Be able to research, analyze, interpret and present data collected during a research project in the field of behavioural pharmacology.

Be able to find, analyze, interpret and present information about a given problem area or research topic that is currently under investigation in the field of behavioural pharmacology.

Think and write critically and creatively about contemporary topics in the field of behavioural pharmacology.

Actively consider solutions to contemporary problems in the field of

behavioural pharmacology.

Research, analyze and interpret contemporary trends in the effects of psychoactive substances on the CNS, their effects on the neuron and neuronal transmission, the cause and treatment of tolerance, withdrawal, liking, craving, dependence and addiction.

Research, analyze and interpret contemporary trends in the use of psychoactive substances to treat various disorders of the CNS, plus their abuse, side effects and contra-indications.

## Marking

<b>Assignments</b>	
Weekly Labs and Practice Tests	20%
Article Review	10%
Three Exams (15% each)	45%
Research paper	25%

<b>Marking System</b>			
A+	90%-100%	B-	70%-72%

A	85%-89%	C+	65%-69%
A-	80%-84%	C	60%-64%
B+	77%-79%	D	50%-59%
B	73%-76%	F	0-49%

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