



Behavioral Science

COBS 300

Course Description

This course introduces the biopsychosocial model of medicine and its application to the life-cycle with emphasis on the psychological, social and cultural determinants of health. Specific topics address the comprehension and assessment of brain function as it relates to personality, behaviour, cognition and sexual development. The basic tools needed for decision making in relation to legal and ethical issues in medicine are also presented.

Credit: 2 credits

Repeatable: No

Competencies: At the end of Behavioral Science, the student will have had the opportunity to practice the following competencies through meeting the objectives of the course:

Medical Knowledge

- MK1 Demonstrate knowledge of normal and abnormal structure and function of the brain on the macroscopic, microscopic and molecular levels.
- MK2 Identify the pathology and pathophysiology of various mental disorders and correlate them with clinical signs and symptoms.
- MK3 Demonstrate knowledge of common or significant, acute and chronic clinical problems.
- MK4 Differentiate between normal and abnormal development and age-related changes across the life span.
- MK6 Demonstrate knowledge and ability to interpret epidemiological and public health contributions to understanding health and disease.

Communication Skills

- CS1 Demonstrate the ability to establish a positive patient-doctor relationship based on mutual trust and respect for patients' privacy, dignity, individual integrity and culture.
- CS2 Communicate with others in a respectful, professional and non-judgmental manner and demonstrate effective listening skills (e.g., maintaining eye contact, body posture, verbal and non-verbal facilitation skills).

Professionalism

- PR1 Demonstrate honesty, integrity, and ethical behavior in all interactions with patients and other health care professionals, including:
- PR2 Describing the importance of protecting patient privacy and identifying personal health information, including when and when not to share information, and acceptance of gifts or collaboration with industry when courted to prescribe/use their products, being asked to

practice beyond legal limits or personal comfort (e.g., when asked to provide medical care to friends or relative; use of “doctor” title).

PR5 Maintain appropriate professional appearance and composure.

PR6 Recognize and address personal limitations, attributes or behaviors that might limit one’s effectiveness as a physician and seek help when needed. This would include being able to describe personal responses to stress and employ appropriate stress reduction interventions as needed.

PR7 Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, race, religion, disabilities and sexual orientation and investigate impact of those on clinical care and medical decisions.

Course structure: Behavioural Science is largely delivered through lecture hall didactics. This instruction is augmented using Powerpoint presentations, question and answer sessions and discussion of clinical case scenarios. The students are also exposed to experiential learning situations as part of clinical rotations to the Mental Health Center.

Objectives

The student will be able to:

- Recognize and discuss interactions between biological, behavioural, cognitive and environmental variables with health care
- Be able to discuss the biopsychosocial assumptions underlying the behavioural medicine model, and distinguish how these assumptions differ from those of the biomedical model.
- Be able to discuss individual-environment interactions and development through the life cycle with a review of aspects of normal human development, as well as the factors that contribute to development of personality, learning, behavior, and stress response.
- To recognize basic psychopathology of the major psychiatric disorders, including clinical features, epidemiology, course and outcome of the major psychiatric disorders and review current understanding of pathophysiology/neurobiology of the major psychiatric disorders.
- Be able to recognize and discuss legal and ethical issues in medicine that impact on the therapeutic process

Schedule: To be posted at the beginning of the term on the online calendar.

	Topics
1	Biopsychosocial Model and Stress
2	Physician –patient relationship 1
3	Physician- patient relationship 2
4	Human development 1
5	Human development 2
6	Family Violence
7	Learning Theory
8	Brain and behaviour
9	Legal and ethical issues in health care 1
10	Legal and ethical issues in health care 2
11	Legal and ethical issues in health care 3
12	Introduction to DSM 5, psychological and biological testing

13	Psychiatric assessment
14	Neurodevelopmental disorders
15	Elimination, eating and feeding disorders
16	Schizophrenia and other Psychotic disorders
17	Mood disorders and suicide 1
18	Mood disorders and suicide 2
19	Anxiety disorders, Somatoform and factitious disorder and malingering
20	OCD and trauma related disorders
21	Personality disorders and defence mechanisms
22	Normal sleep and sleep disorders
23	Human sexuality
24	Neurocognitive disorders
25	Substance abuse 1
26	Substance abuse 2
27	Conduct disorders
28	Introduction to Psychopharmacology 1
29	Introduction to Psychopharmacology 2
30	Health care delivery systems

Module 1

Learning Objectives

Biopsychosocial model and the stress response

- Distinguish between the biomedical and bio-psychosocial models, and recognize the advantages of the latter as a model of the illness process.
- Recognize the biological, psychological, and social components in a case presentation and possible treatment interventions which reflect those aspects.
- Recognize psychological and behavioral factors which predispose an individual to certain illnesses.
- Define the term “stress”, and understand how it influences disease and illness.

Complimentary and Allopathic Medicine

- Describe the common features of CAM techniques, reasons for the growing popularity of CAM and reasons why physicians need to be knowledgeable about CAM usage by their patients.
- Explain the general philosophy underlying the 5 NCCAM groupings of CAM and describe examples of therapies that fall within each group.
- Describe the regulatory control process over Dietary Supplements including the types of claims that a dietary supplement can make on their labels.
- Identify 3 potential general interactions between dietary substances and allopathic medicine and give specific examples of each interaction using dietary supplements highlighted in lecture.
- Explain the dosage system of homeopathic substances and explain the regulatory control process of homeopathic substances.

Doctor patient relationship

- Describe the goals of the medical encounter
- List the aims of the medical interview and specific interviewing techniques
- Outline rules for giving information to patients
- List the factors associated with adherence to medical advice

- Appreciate the influence of factors such as personality style and culture on medical practice

Human development (Childhood)

- Describe the primitive reflexes.
- Discuss the importance of maternal health during and after pregnancy.
- Cite the major causes of death for children under the age of 5.
- Identify normal developmental stages of play.
- Specify developmental milestones in an infant's gross motor, fine motor, language, cognitive, and social/emotional development.
- Identify developmental red flags in infancy and childhood.
- Identify dimensions of temperament & attachment and explain how they might impact a child's development.
- Outline the stages of language development and the approximate age range for each.
- Identify possible causes of language delay in children.
- Define object permanence and conservation, and describe how each exemplifies a child's cognitive level.

Human Development (Adolescence and adulthood)

- Recognize the primary developmental issues of adolescence.
- Discuss risk-taking among adolescents, explaining the relationship between the types of risks taken and the leading causes of death among adolescents.
- Describe the major development issues of early, middle, and late adulthood.
- Cite the leading causes of adult death in the US.
- Identify the risk factors and warning signs for suicide.
- Describe the five stages of dying formulated by Kubler-Ross.
- Delineate the stages of grieving and differentiate mourning behaviors by age group.

Psychoanalytic theory and defense mechanisms

- Review Freud's theory of the mind
- Describe commonly used defense mechanisms and give examples of each

Learning theory

- Explain how emotional responses may become conditioned to environmental stimuli and situations.
- Describe how classical, operant and vicarious conditioning differ, and discuss the role played by the subject's environment in each.
- Discuss the role of classical conditioning in the placebo response and immunosuppression.
- Define the operant principles of reinforcement, punishment, extinction, and shaping.
- Understand how problem behavior might be modified using each of the following methods: positive reinforcement, negative reinforcement, punishment, and extinction.

Family violence and abuse

- Describe each type of family violence, citing its definition, characteristics, explanatory models, risk factors, and consequences.
- Rank the forms of child abuse based on prevalence.
- Describe the role of the recognizing the role of the physician in detection and management.

Module 2

Brain and behaviour

- Describe the anatomical systems (limbic system, basal ganglia and prefrontal cortex) with special relevance to brain and behaviour:
- Describe the brain areas involved in reward, memory, language, executive function and attention.
- Describe the anatomical distribution and major metabolites of: acetylcholine, dopamine, nor-epinephrine, serotonin, GABA, and glutamate.
- Describe the functions of the NMDA receptor relevant to psychiatry.

Introduction to DSM -5 and psychological testing

- Understand the DSM-IV “5 axis” system of classification.
- And why it isn’t used anymore (DSM-5)
- Discuss applications of psychological testing within the medical setting.
- Discuss the concepts of ‘intelligence’ and IQ testing.
- Recognize commonly used intelligence tests, neuropsychological tests and clinical/personality tests, and identify clinical situations where each might be appropriate.
- Define the “projective hypothesis”, and describe the importance of this principle in such tests as the Rorschach and TAT.

The Psychiatric assessment

- Outline the components of a standard psychiatric history
- Describe the domains of the Mental Status Examination
- Define symptoms the frequently occur in psychiatric disorders

Neurodevelopmental disorders

- Identify the DSM 5 diagnostic criteria for selected neurodevelopmental disorders namely intellectual disabilities, Down syndrome, Autism spectrum disorder and ADHD

Elimination and Eating disorders

- Describe the diagnostic criteria and symptom clusters of Anorexia and Bulimia
- Describe the short- and long-term medical complications of starvation, bingeing and purging
- Summarize the treatments for eating disorders

Schizophrenia and other Psychotic disorders

- Identify the diagnostic criteria for schizophrenia and other psychotic disorders
- Describe the symptom clusters of schizophrenia
- Review the basic epidemiology and usual course of the illness
- Become familiar with the treatments for schizophrenia

Mood Disorders and Suicide

- Review the diagnostic criteria of major depressive disorder and bipolar disorder
- Understand difference between normal and pathologically disordered moods
- Compare the epidemiology, course and outcome of these disorders

- Become familiar with standard treatments for major depressive disorder and bipolar disorder
- Review epidemiology and assessment of suicide

Substance Use Disorders

- Define terms associated with substance use disorders
- Review the effects of use and withdrawal of stimulants, sedatives, opioids, hallucinogens and other related agents
- Discuss potential treatment options for substance use disorders
- Discuss some of the serious health and socioeconomic consequences of addiction

Anxiety Disorders, Obsessive-Compulsive and Related Disorders, and Trauma- and Stressor-Related Disorders

- Describe the diagnostic criteria for panic disorder, social phobia, generalized anxiety disorder, Post Traumatic Stress Disorder (PTSD), and Obsessive Compulsive Disorder (OCD)
- Compare the course and outcome for these disorders
- Review commonly used treatments for the anxiety disorders discussed
- Review key neurobiological theories about the etiology of these anxiety disorders
- Identify factors associated with increased risk for PTSD
- Discuss some of the current controversies in the diagnosis of PTSD
- Define obsessions and compulsions and give characteristic examples of each

Personality Disorders

- Understand the clinical concept of personality disorders and how they differ from major psychiatric disorders
- Describe the three clinical clusters of personality disorders and be able to identify the main features that characterize each

Normal sleep and sleep disorders

- Describe the electroencephalographic tracings of normal awake and sleep states
- Review sleep architecture changes with age and in depression
- Classify sleep disorders and describe their characteristic features

Sexuality

- Discuss the differences between sex and gender and the role hormones play in sex behavior.
- Identify the essential disturbance for a diagnosis of each of the Sexual Dysfunctions and Paraphilias and to clinically differentiate them.
- List the primary and secondary causes of Sexual Dysfunctions
- Describe the specific behavioral and pharmacological treatments for Sexual Dysfunctions and the Paraphilias.
- State the essential diagnostic features of gender dysphoria and clinically differentiate this disorder from Sexual Disorders.

- Describe the treatment of gender dysphoria. Appreciate psychosocial/legal issues facing gender dysphoric individuals.

Cognitive disorders

- Identify features that differentiate delirium and dementia
- Outline the features of pseudodementia
- Outline the characteristics and etiologies of common cognitive disorders such as Alzheimer's and other dementias
- Review the course of illness, management and prognosis of cognitive disorders

Module 3

Legal and ethical issues in health care

- Describe the four basic principles of health care ethics
- Apply ethical/legal standards/rules pertaining to:
 - Confidentiality and Medical Records
 - Competence and the capacity to make decisions
 - Informed consent
 - Treatment of minors (with and without parental consent)
 - Reproductive issues
 - Organ and Tissue donation
 - End of Life issues
 - Reportable illnesses
 - Conflicts between maternal vs. fetal rights
 - Obligation to treat
 - Determination of malpractice
 - Doctor and the society (mandatory reporting of abuse, gifts and industry)
 - Reporting of impaired colleagues
 - Involuntary commitment

Requirements and Assignments:

- Students are given 3 written assignments worth two points each.

Textbooks and Reference Material

- Fadem, Barbara. *BRS Behavioral Science*. ISBN: 9781451132106
- Sahler, OJ (ed). *The Behavioral Sciences and Health Care*. ISBN: 0889374333

EVALUATION

Grading assessment

For the Behavioral Science course the two quizzes and two examination contribute to 75% of the course grade. The time allotted for the delivery of the Behavioral Science course material does not currently allow for additional quizzes to be given.

Grade:

Percent of Points	Letter Grade
-------------------	--------------

95-100%	A(h)
90-94%	A
85-89%	B+
80-84%	B
75-79%	C+
70-74%	C
<70%	F

Attendance:

Attendance will be taken at the instructor's discretion and students may be rewarded with points for 25% of the final grade.

PoliciesProfessional Demeanor

The student should be thoughtful and professional when interacting with faculty and other students. Inappropriate behavior includes the use of offensive language, gestures, or remarks with sexual overtones. Students should maintain a neat and clean appearance, and dress in attire that is generally accepted as professional when presenting class presentations.

Honesty

Students are expected to demonstrate honesty and integrity in all aspects of their education and in their interactions with faculty, administration, physicians, patients, and fellow students. They will not cheat, plagiarize, or assist others in the commission of these acts.

Faculty:

Dr. Amrie Morris-Patterson