 Office of General Education A-218C

 160 Convent Avenue

 New York, NY 10031

 GENERAL EDUCATION ASSESSMENT REPORT

COURSE: MED 10000

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| Date of report: | 10/07/2016 |
| Course: | MED 10000, Introduction to Drug Abuse |
| Materials used, n:  | Exam Questions and lecture analysis |
| Date/semester of assessment: | Fall 2016 |
| Preliminary Assessment Team Members: | Andre Ragnauth, lead instructor and Mahnoush Esmaili, teaching assistant |
| Secondary Assessment Team Members: | Eitan Freidman, Professor and Chair |
| Coordination / Oversight: | Ana Vasovic, Director of General Education |

**Overview:**

 MED 10000, Introduction to Drug Abuse, is a hybrid course that meets face-to-face once a week while one meeting a week is replace with online activities. The course satisfies the Scientific World General Education requirement and is extremely popular among students majoring in non-science departments and in psychology. Students taking this course usually aim to attend medical school, pharmacy school or are interested in enhancing their knowledge of drugs of abuse. Due to its popularity among students, the class size has increased from 30 in 2009, when initially offered, to 300 today.

 Introduction to Drug Abuse examines biological mechanisms and pathways in which drugs interact with body, the psychological effects of drugs, and the impact of drug abuse in our society. Students demonstrate their knowledge through three online exams, including a final exam, and a research paper.

For this assessment activity, exam questions from spring 2016 semester were correlated to General Education learning outcomes for the Scientific World category. Findings show that the majority of students successfully demonstrate how tools of science and technology may be used in problem solving and are able to evaluate the impact of technologies and scientific discoveries on the contemporary world. However, a significant number of students struggle with memorization of fundamental concepts related to biological and pharmacologic pathways and mechanisms and with understanding of the scientific principles underlying matters of policy or public concern.

 Findings from this assessment will help to improve the course by adding expert scientist- teachers to enhance the delivery of neurochemistry and pharmacology related material. Increasing student self- study exercises and additional quizzes will benefit student success in the course.

**Assessment Findings**

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| Scientific WorldLearning outcomes | Learning outcome assessed this round? If yes, brief description of methodology | Brief description of findings(ex. % of students answering correctly, % of students receiving a satisfactory score…)  | *Select one*Exceeds ExpectationsAbove average AverageBelow average Below passing  |
| Identify and apply the fundamental concepts and methods of MED 10000 (see sample questions).  | Yes, analysis on answers to questions that specifically analyze the drug interactions and medical mechanisms. | 50% of Students answered these questions correctly. | Average |
| Demonstrate how tools of science, mathematics, technology, or formal analysis can be used to analyze problems and develop solutions (see sample questions).  | Yes, case studies and historical events were brought up and analyzed in the questions and seminars. | 80% of Students answered these questions correctly.  | Above Average |
| Articulate and evaluate the empirical evidence supporting a scientific or formal theory. (see sample questions).  | Yes, the case studies and historical events were examined in class and posed on the exams.  | 60% of Students answered these questions correctly. | Average |
| Articulate and evaluate the impact of technologies and scientific discoveries on the contemporary world, such as issues of personal privacy, security, or ethical responsibilities (see sample questions).  | Yes, the recent case studies and lecturers (guests) were presented to class which helped students to analyze and understand the ethical issues.  | 80% of Students answered these questions correctly. | Above Average |
| Understand the scientific principles underlying matters of policy or public concern in which science plays a role (see sample questions).  | Yes, public and private concerns were presented in lecture and also the exam question.  | 40% of Students answered these questions correctly. | Below Average |
| Evaluate evidence and arguments critically or analytically (see sample questions).  | Yes, True/False questions that are very specific were presented on the exams. | 50% of Students answered these questions correctly. | Average |
| Gather, interpret, and assess information from a variety of sources and points of view (see sample questions).  | Yes, there were many analysis and application questions on the exams. | 40% of Students answered these questions correctly. | Below Average |
| Produce well-reasoned written or oral arguments using evidence to support conclusions (see sample questions).  | Yes, the students are required to write a well-developed experimental paper at the end of the semester.  | 80% of Students have done well in the final experimental paper. | Above Average |

**Conclusions**

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| *Briefly summarize overall findings by identifying strengths and challenges in students’ accomplishment of learning outcomes.* The performance of students in sections of analysis, writing and application has been satisfactory. However, it seems that the students have trouble in memorization or scientific portion of this course.  |
| *How useful are the text and other resources assigned to this course?* The case studies are critical component and one of the best resources for this course; they help students to understand the concepts better through real life applications.  |
| Already implemented “Closing-the-loop” efforts to improve student learning/success: |
| *Since teaching this course, including this current semester, have you made changes in course content? If yes, please explain.* Yes, changes include incorporation of real life cases, more diagrams that illustrate concepts and addition of exam questions to correlate with the taught material.  |
| *Since teaching this course, have you made changes in course delivery or other pedagogy? Please explain.* The course format has changed from a small class of 30 students to the large class of 300 delivered partially online. Regardless of the format, the course presents a combination of scientific information, real life cases, experiments and experimental interpretations.  |
| *How exactly have the changes that you have implemented impacted student learning/student success? Please provide specific examples.* Upon introducing additional descriptive illustrations of concepts, students gained a better understanding/ knowledge of the material; this led to improved student performance, and interpretation of the scientific concepts. It ultimately also resulted in improved performance on exams.  |
| Future “Closing-the-loop” plans to improve student learning/success |
| *Based on your assessment of student learning, what changes do you plan to implement at instructional level to improve student learning? Specify topics and pedagogical changes, if applicable.* More lecture time will be dedicated to presentations of scientific principles underlying mechanisms of brain function; enhanced student-led discussions of policies and public concerns. Two additional quizzes will be added to the course in an attempt to stimulate regular studying habits.  |
| *Provide suggestions, if any, to be done on a departmental or institutional level to support student learning/success in this course.* While this course is a team- taught course, the instructional staff will be enhanced to include experts in neurochemistry and pharmacology. |
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**Sample Questions**

LO: *Identify and apply the fundamental concepts*

1) In drug treatment what factors are contributing towards the total drug effect? The attributes of:

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|   | A. | The micro-context? (consisting of the drug itself, the patient and the prescriber) |
|   | B. | The macro-context? |
|   | C. | None of the above |
|   | D. | A and B. |

LO: *Identify and apply the fundamental concepts*

2) In our nervous system, the electrical signal that travels in axons is the action potential. It has the following functional characteristics...

A. It transitionally makes the inside of an axon positive in voltage.

B. It becomes shorter in height (measured in tens of millivolts) as it travels down an axon

C. It becomes greater in height as it travels down an axon

D. It travels at a speed close to that of light (like a current in an electric cable)

LO: *Understand the scientific principles underlying matters of policy or public concern in which science plays a role*

3) Which answer best describes the overall point of the article Two Women Who Used Cocaine Too Much ?

A. The setting of drug use shapes the nature and experience of drug abuse more than the drug itself.

B. Smoking cocaine is associated with greater rates of drug abuse than sniffing.

C. Women largely try cocaine for the first time in mixed gender groups of friends or with male friends.

D. Race is the most significant social determination of drug abuse careers.

LO: *Understand the scientific principles underlying matters of policy or public concern in which science plays a role*

4) What best explains why addiction occurs in higher rates among different groups in different historical periods?

A. It was not acceptable for middle-class white women to drink alcohol in public.

B. The changing purity and form of available drugs over time.

C. The changing routes of access and cultural attitudes toward certain drugs over time.

D. Urban poverty is associated with lower levels of self-esteem.

LO: *Evaluate evidence and arguments critically or analytically*

5) Morgan and Zimmer's argument about social pharmacology is:

A. Pharmacology is a social science.

B. Sociology of drug abuse is a natural science.

C. Social factors provide a sufficient explanation of drug abuse.

D. Pharmacology is a necessary but not sufficient component of the varying patterns of drug abuse.

LO: *Articulate and evaluate the impact of technologies and scientific discoveries on the contemporary world, such as issues of personal privacy, security, or ethical responsibilities*

6) The first legislation that controlled distribution and access to certain psychoactive drugs nationally, in effect establishing their illegality, was:

A. The Anti-Drug Abuse Act of 1986

B. The Pure Food and Drug Act of 1906

C. The Controlled Substances Act of 1970

D. The Harrison Narcotic Tax Act of 1914

LO: *Identify and apply the fundamental concepts and methods of MED 10000*

7) Chronic effects of marijuana usage include

A. Tolerance

B. Strong physical dependence

C. Mild psychological dependence

D. A and B

E. A and C

LO: *Articulate and evaluate the empirical evidence supporting a scientific or formal theory*

8) Long term effects of high volumes of alcohol consumption may result in all of the following, except

A. Reduction of duration of REM sleep

B. Increased risk of heart disease, elevated blood pressure and stroke

C. Increased risk of Fetal Alcohol Syndrome

D. Reduced medical mishaps if taken with prescribed medications and illicit street drugs

LO: Demonstrate how tools of science, mathematics, technology, or formal analysis can be used to analyze problems and develop solutions

9) \_\_\_\_\_\_\_\_ is the active addictive chemical in tobacco and works by modulating the \_\_\_\_\_\_\_\_ neurotransmitter system.

A. Nicotine, Serotonin

B. Nicotine, Dopamine

C. Nicotine, Acetylcholine

D. Tar, Dopamine

E. Tar, Acetylcholine

LO: Understand the scientific principles underlying matters of policy or public concern in which science plays a role

10) Alcoholics Anonymous and the SMART program have both been shown to be effective in reducing alcohol consumption due to their requirements that all members continue going to meetings for the rest of their lives.

1. True
2. False

LO: Identify and apply the fundamental concepts and methods of MED

11) The psychoactive chemical compound in Marijuana has been shown to be effective in the treatment of asthma, glaucoma, nausea and weight loss.

1. True
2. False

LO: Understand the scientific principles underlying matters of policy or public concern in which science plays a role

12) Arrest, prosecution, conviction, and incarceration of drug-law offenders have been largely successful as deterrent factors with respect to illicit drug abuse.

A. True

B. False

LO: Understand the scientific principles underlying matters of policy or public concern in which science plays a role

13) The following drugs were once considered gateway drugs since it was thought that they would increase the likelihood of future hard drug use.

A. Tobacco

B. Alcohol

C. Marijuana

D. A & B

E. B & C

F. A, B & C

LO: Articulate and evaluate the empirical evidence supporting a scientific or formal theory.

14) In a recent Economist article, Methylenedioxymethamphetamine (MDMA) has been reported to have significant therapeutic effects for the treatment of PTSD. Will its classification as a Schedule I drug increase the likelihood of it being approved for use as a therapeutic agent?

A. Yes, Schedule I drugs are the least restrictive drugs

B. Yes, Schedule I drugs are the most restrictive drugs

C. No, Schedule I drugs are the least restrictive drugs

D. No, Schedule I drugs are the most restrictive drugs

LO: Identify and apply the fundamental concepts and methods of MED 10000

15) What does MDMA deplete and block reuptake of?

A. GABA

B. Glutamate

C. Serotonin

D. Acetylcholine

LO: Identify and apply the fundamental concepts and methods of MED 10000

16) Long-term negative effects of MDMA use include:

A. sense of euphoria

B. sensitivity to visual and touch stimuli

C. lock jaw & muscular excitation

D. depression & anxiety

LO: Identify and apply the fundamental concepts and methods of MED 10000

17) Which drug is an agonist to Dopamine:

A. Cocaine

B. Opioids

C. Nicotine

D. Marijuana

E. All of the drugs listed

LO: Identify and apply the fundamental concepts and methods of MED 10000

18) Cocaine causes blood vessels in the \_\_\_\_ to \_\_\_\_ which explains why it causes \_\_\_\_ when returned to normal.

A. arm, enlarge, popped veins

B. nose, constrict, nasal drip

C. eyes, dilate, red & swollen eyes

D. feet, enlarge, sweaty feet

E. nose, enlarge, blood clots