

Washington University School of Medicine
Master of Population Health Sciences
PSYCHIATRIC AND BEHAVIORAL HEALTH SCIENCES CONCENTRATION

M19-562 Addictions and Addictive Behaviors (3 credits)

Spring 2021 (01/21/20 – 05/06/20)

Thursdays, 1:00 – 4:00 pm

ONLINE INSTRUCTION (EXCEPT OFFICE HOURS)

SYLLABUS¹

Version 3: 11-16-20

INSTRUCTORS

Sarah Hartz, MD PhD (Course master, hartzs@wustl.edu)
Rumi Kato Price, PhD, MPE (Interim co-instructor, pricerk@wustl.edu)

TEACHING ASSISTANT: Grace Godsy, BS, Clinical Research Coordinator (ggodsy@wustl.edu)

OFFICE HOURS By appointment or after class with an advance request. Group office hours can be arranged.
Meetings are in-person when permitted, or online

GUEST LECTURERS (alphabetical listing): ²

Arpana Agrawal, PhD, Professor of Psychiatry, Department of Psychiatry, Washington University School of Medicine
Jacob Borodovsky, PhD, Postdoctoral Researcher, Department of Psychiatry, Washington University School of Medicine
Kathleen B. Bucholz, PhD, MPH, MPE, Professor of Psychiatry, Department of Psychiatry, Washington University School of Medicine
Li-Shiun Chen, MD, MPH, ScD, Associate Professor of Psychiatry, Department of Psychiatry, Washington University School of Medicine
Carrie Mintz, MD, Instructor in Psychiatry, Washington University School of Medicine
Alex T. Ramsey, PhD, Assistant Professor of Psychiatry, Department of Psychiatry, Washington University School of Medicine
Jeffery Scherrer, PhD, Associate Professor, Department of Family and Community Medicine, Saint Louise University Center for Health Outcomes Research
Ben Westhoff, investigative journalist

PREREQUISITES M19-501 Introductory Clinical Epidemiology, M19-511 Introductory Biostatistics, M19-510 Introduction to SAS; or equivalent; or course master approval

TARGET AUDIENCE This course is suited for postgraduate scholars, fellows, medical students, and graduate students with interest or experience in addiction research and methodology

1. The content of this syllabus is subject to change.
2. Guest lectures are subject to availability of lecturers.

and/or those interested in pursuing clinical research career in addiction.

COURSE DESCRIPTION & OBJECTIVES: The objective of this course is to help students develop skills required to design research projects in the area of addiction science. This is accomplished by fostering a broad understanding of addiction and addictive behaviors in the population, spanning all levels of science from molecular genetics to drug policy. Students will be introduced to the epidemiology of substance use disorders and methods, including diagnostic criteria and their assessment, for in-depth understanding of surveys of substance use and associated disorders. Reviews and/or overviews of basic science aspects will include basic pharmacology, heritability and genetics, and genomic science. These concepts will then be related to more specialized topics, including comorbidity, treatment, recovery, and implementation research.

Format: The class format will be broadly divided into 1 to 1.5-hour lectures that cover the core topics followed by a group hands-on skill project period during which students will develop a written report. **Due to the ongoing Covid-19 pandemic, the Spring 2021 instruction is offered online mode only. Optional in-person office hours would be utilized, upon request, to enhance engagement and class learning experiences.**

COMPETENCIES: At the end of this course, the student will be able to:

1. Define addiction and identify its core features and diagnostic criteria; describe the evolution of diagnostic criteria, differentiate between problematic use and dependence.
2. Identify sources of data for describing the contemporary and historical epidemiology of alcohol, drug and tobacco use; evaluate the methods used to obtain such data, their strengths and limitations.
3. Describe the role of genetics in addiction and the relations between heritability and molecular genetics.
4. Describe key environmental influences on addiction and recovery, including social and policy factors.
5. Develop hypotheses that utilize the above competencies and specify methods and data sources to test such hypotheses.

ATTENDANCE, PARTICIPATION AND ASSIGNMENTS

1. Virtual attendance is required for all classes. Recording is available in Canvas if scheduled zoom class is missed. Planned absences will need consent in advance by the course master, such as religious holidays and career development activities. More than two unexcused absences from virtual class without completing a post-class makeup assignment may result in a lowered grade; students who miss more than four virtual classes may be asked to withdraw from the class. Adequate accommodations will be made in the event a student encounters unanticipated health issues.
2. In-class conduct: During the Zoom class, it is expected that students refrain from cell phone use, texting, emails and web surfing, that are unrelated to class activities, except for emergencies. This course may be audiotaped, photographed for educational purposes and later reviews by students.
3. Reading materials: Readings or other media assignments should be completed before each lecture. Articles or links to articles will be posted on Canvas in advance. Some citations to assigned readings are provided in advance but are subject to change. There is no required textbook.
4. Student participation: This will consist of either informal discussions or semi-formal student presentations. Students are expected to prepare some discussion materials as directed by the course master in advance.
5. Class project and periodic assignments: A primary assignment is the class project completion and written draft of a potentially publishable manuscript or conference presentation. Periodic assignments will be given as the project progresses. Such assignments can involve reading, summarizing and criticizing extant literature, or providing portions of the class project product.

GROUP CLASS PROJECTS: Examples of student group projects are listed below. Student’s own ideas are welcome. Students are expected to form groups to choose a topic.³

1. Systematic review of approved topic
2. Data analysis project (with data from the National Survey of Drug Use and Health (NSDUH))

GRADING: Letter grade or Pass/Fail with course master’s permission.⁴ Course activities and student products include lectures, class participation, assignments, and final group project presentation/writeup.

Your grade will be based on:

- Class attendance (20%)
- Student in-class participation and active discussion (20%)
- Class project: weekly progress assignments (30%)
- Final class project presentation (30%)

Grading Scale: A+: 97-100; A: 93-96; A-: 90-92; B+: 87-89; B: 83-86; B-: 80-82; C+: 77-79; C: 73-76; C-: 70-72. Total of 100 will be converted to letter grades according to the established norm; grades will not be normalized. Pass/Fail is optional but requires advance permission from the course master

Policy on late assignment submission: Late submission of assignments may negatively impact a component score unless prior approval is obtained or an emergency rises (i.e. documented health issues or family emergency). Accommodations can be made for students with unanticipated health changes.

Communications with the course master/co-instructors are vitally important.

Rubrics: To assess assignment, we will utilize rubric format consisting of multiple criteria for assignment/presentation for the purpose of assignment and levels of completeness/innovation of student’s response.

DROP DATES

You may drop for any reason during the course of the semester. However, you may only receive a partial or no tuition reimbursement depending upon how far into the semester you drop the course. See the [MPHS Student Handbook](#). A late withdrawal will appear on your transcript as a withdrawal.

COURSE SCHEDULE AND ASSIGNMENT DUE DATES

SEGMENT I. What is Addiction? How Do We Define and Measure It?

Week 1: Thursday, January 21, 2021	
Lecture: Clinical overview of addiction <ul style="list-style-type: none"> ○ Introduction and review of the course and materials ○ Carrie Mintz, MD 	Class Project: The scientific process and planning <ul style="list-style-type: none"> ○ Faculty and the class will discuss the project plan, required tasks, and timeline ○ Review of student survey ○ Systematic review basic methods overview ○ NSDUH
Week 2: Thursday, January 28, 2021	
Lecture: Diagnostic criteria for substance use disorders <ul style="list-style-type: none"> ○ Kathleen B. Bucholz, PhD, MPH, MPE 	Class Project: Where is the knowledge gap in the Literature? <ul style="list-style-type: none"> ○ Discussion on grading norms ○ Class project grouping

3. Number of class projects depends on enrollment size. A minimum number is two for each group.

4. Due to continuing uncertainties of the Covid-19 pandemic spread in the St. Louis region, including Washington University campuses, changes from letter grade to pass/fail can be arranged flexibly.

	<ul style="list-style-type: none"> ○ Students will present their preliminary literature review results, identified knowledge gaps, and potential testable hypotheses or central questions for systematic review
Week 3: Thursday, February 4, 2021	
Lecture: Epidemiological studies and survey methods <ul style="list-style-type: none"> ○ Sarah Hartz, MD, PhD 	Class Project: The impact and feasibility of research questions <ul style="list-style-type: none"> ○ Faculty and students will discuss and select a testable central hypothesis and appropriate database for research, or database identification for systematic review
Week 4: Thursday, February 11, 2021	
Lecture: Multivariate methods <ul style="list-style-type: none"> ○ Jacob Borodovsky, PhD 	Class Project: Writing the introduction and hypotheses <ul style="list-style-type: none"> ○ Synthesize the literature ○ Decide on central questions and dataset/database to analyze ○ Present the Introduction section in class ○ Submit a written Introduction section

SEGMENT II. Heritability and Genetics

Week 5: Thursday, February 18, 2021	
Lecture: Genetic studies of addiction <ul style="list-style-type: none"> ○ Arpana Agrawal, PhD 	Class Project: Methods and analyses I <ul style="list-style-type: none"> ○ Students discuss and formulate methods and analysis or chosen methods for systematic review; discuss preliminary analysis results
Week 6: Thursday, February 25, 2021	
Lecture: Genomics of addiction <ul style="list-style-type: none"> ○ Sarah Hartz, MD, PhD 	Class Project: Methods and analyses II <ul style="list-style-type: none"> ○ Students present methods and preliminary analysis results; or detailed methodology for systematic review
Week 7: Thursday, March 4, 2021	
Lecture: Addiction precision medicine <ul style="list-style-type: none"> ○ Li-Shiun Chen, MD, MPH, ScD 	Class Project: Methods and analyses III <ul style="list-style-type: none"> ○ Students present methods and preliminary analysis results; or detailed methodology for systematic review

SEGMENT III. Policy and Implementation

Week 8: Thursday, March 11, 2021	
Lecture: Addiction policy and research <ul style="list-style-type: none"> ○ Sarah Hartz, MD, PhD 	Class Project: Methods and analyses IV <ul style="list-style-type: none"> ○ Students semi-finalize analysis results; or finalize review article selection. ○ Present the Methods section in class ○ Submit a written Method section
Week 9: Thursday, March 18, 2021 - NO CLASS, SPRING BREAK	
Week 10: Thursday, March 25, 2021	
Lecture: Cannabis policy <ul style="list-style-type: none"> ○ Jacob Borodovsky, PhD 	Class Project: Present primary findings <ul style="list-style-type: none"> ○ Students will present primary findings in tables and figures for feedbacks

	<ul style="list-style-type: none"> ○ Submit primary findings, tables and figures
Week 11: Thursday, April 1, 2021	
Lecture: Implementation science in addiction research <ul style="list-style-type: none"> ○ Alex Ramsey, PhD 	Class Project: Present secondary findings <ul style="list-style-type: none"> ○ Students will present secondary findings in tables, figures or in other formats for feedbacks ○ Submit secondary findings, tables, figures, or in other formats

SEGMENT IV. Current Topics and Controversies

Week 12: Thursday, April 8, 2021	
Lecture: Big data research <ul style="list-style-type: none"> ○ Jeffery Scherrer, PhD 	Class Project: Finalize results <ul style="list-style-type: none"> ○ Students will present the complete Results section with tables and figures for feedbacks ○ Submit a written Results section
Week 13 Thursday, April 15, 2021	
Lecture: Addiction treatments <ul style="list-style-type: none"> ○ Carrie Mintz, MD 	Class Project: Research finding implications <ul style="list-style-type: none"> ○ Students will present key findings and implications
Week 14: Thursday, April 22, 2021	
Lecture: Fentanyl and deadliest wave of the opioid epidemic <ul style="list-style-type: none"> ○ Ben Westhoff ⁵ 	Class Project: How does the finding fill the knowledge gap <ul style="list-style-type: none"> ○ Students will present how these findings extend knowledge in the addiction field and limitations of the study in the Discussion section ○ Submit a written Discussion section
Week 15: Thursday, April 29, 2021	
Lecture: Addiction comorbidities <ul style="list-style-type: none"> ○ Sarah Hartz, MD, PhD 	Class Project: Consultation and feedback <ul style="list-style-type: none"> ○ Putting sections together; rewrite and edit ○ Class presentation of project products ○ Choose further outlet (e.g., poster presentation, journal submission, blog article)

FINALS

Week 16: Thursday, May 6, 2021	
No lecture	Class Project: Class project finalizing and submission <ul style="list-style-type: none"> ○ Faculty and students review the final analysis/systematic review paper draft

STUDENT MENTAL HEALTH RESOURCES

Mental Health Services' professional staff members work with students to resolve personal and interpersonal difficulties, many of which can affect the academic experience. These include conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression. See: shs.wustl.edu/MentalHealth. Washington University School of Medicine Department of Psychiatry. For further information: <https://hr.wustl.edu/covid19-employee-support/mental-health-resources/zoom-support-groups-and-sessions/>

⁵ Not confirmed (as of 10-29-20)

SEXUAL ASSAULT RESOURCES

You can also speak confidentially and learn about available resources by contacting [Dr. Gladys Smith, PhD](#), Sexual Violence Prevention Therapist and Licensed Psychologist at the Medical Campus, (314) 362-2404. Additionally, you can report incidents to the Office of Student Affairs or by contacting WUSM Protective Services 314-362-4357 or your local law enforcement agency.

BIAS RESOURCES

The University has a process through which students and staff who have experienced or witnessed bias, prejudice or discrimination against a student can report their experiences to the University's Bias Report and Support System (BRSS) team. For details see: diversityinclusion.wustl.edu/brss/.

Office of the Associate Vice Chancellor for Diversity, Equity and Inclusion (DEI)

The DEI Training Team designs, facilitates and leads diversity education programming for faculty, staff and students on a wide range of topics including: creating a climate of respect, the value of diversity and the role of biases in our day-to-day lives. diversity.med.wustl.edu/training/

The Office of Diversity Programs promotes diversity among and prepares medical students to lead in a global society. A priority for the Office of Diversity Programs is to cultivate and foster a supportive campus climate for students of all backgrounds, cultures and identities. mddiversity.wustl.edu/

The Diversity and Inclusion Student Council promotes an inclusive campus environment for all School of Medicine students. sites.wustl.edu/disc/

The Office for International Students and Scholars embraces the university's mission of welcoming promising students from around the world. wumma.wustl.edu/

DISABILITY RESOURCES

It is the goal of Washington University to assist students with disabilities in removing the barriers their disabilities may pose and provide support in facing the challenge of pursuing an education at Washington University.

Washington University recognizes and accepts its professional, legal and moral responsibility to avoid discrimination in the acceptance and education of qualified students with disabilities and to provide reasonable accommodations to such students consistent with the principles embodied in the law. These guidelines apply to students seeking admittance as well as to those who become disabled while they are enrolled.

Washington University makes every effort to insure that all qualified applicants and students can participate in and take full advantage of all programs and opportunities offered within the university. Washington University encourages and gives full consideration to all applicants for admission. Washington University does not discriminate in access to its programs and activities on the basis of age, sex, sexual orientation, race, disability, religion, color or national origin.

To learn more about services provided to students with disabilities, initiate the process of formal documentation and/or to arrange for accommodations, please review the [Disability Resources](#) for the Med School at the start of the course.

ACADEMIC INTEGRITY/PLAGIARISM POLICY:

Academic dishonesty is a serious offense that may lead to probation, suspension, or dismissal from the University. Academic dishonesty includes plagiarism (the use of someone else's ideas, statements, or approaches without proper citation). Academic dishonesty also includes copying information from another student, submitting work from a previous class for a new grade without prior approval from your instructor, cheating on exams, etc. You are responsible for reviewing [WashU's academic integrity resources](#) to become aware of all the actions that constitute academic dishonesty.

All instances of academic dishonesty will be reported to the Office of the Registrar for investigation and potential disciplinary action. In addition, the instructor will make an independent decision about the student's grade on any assignment in question. The MPHS process regarding academic dishonesty is described in the [MPHS Student Handbook](#)

DRAFT