

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

M19-566 Psychiatric and Behavioral Assessment in the Digital Age (2 credits)

SPRING 2020 (01/20/21 – 05/07/21)
ONLINE INSTRUCTION (EXCEPT OFFICE HOURS)
Tuesdays, 11 am to 1:00 pm

SYLLABUS¹

INSTRUCTORS Rumi Kato Price, PhD, MPE (Interim Course master, pricerk@wustl.edu)
Patricia Cavazos-Rehg, PhD (Co-Instructor, pcavazos@wustl.edu)
Ginger E. Nicol, MD (Co-Instructor, nicolg@wustl.edu)

GUEST LECTURERS (alphabetical listing): ²

Ellen E Fitzsimmons-Craft, PhD, Assistant Professor of Psychiatry, Department of Psychiatry, Washington University School of Medicine
Shannon N. Lenze, PhD, Associate Professor of Psychiatry, Department of Psychiatry, Washington University School of Medicine
Alex T. Ramsey, PhD, Assistant Professor of Psychiatry, Department of Psychiatry, Washington University School of Medicine

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

PREREQUISITES M19-501 Introductory Clinical Epidemiology 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 psychiatric assessment, instrumentation, prevention and intervention implementation using digital platform

COURSE DESCRIPTION & OBJECTIVES: The objective of this course is to help students develop skills required to design research projects in the area of digital-based psychiatric assessment and prevention interventions. The course focuses on learning and developing an innovative study using digital format including rapidly-changing mobile health (mHealth) technologies. The first segment of this course will review psychiatric disorder nosology, diagnostic assessment and screeners. The second segment will focus on examples and available resources. Third segment will introduce implementation and applications. The fourth segment will focus on social media platforms. Students will develop or analyze digitally-implemented group research projects.

Due to the ongoing Covid-19 pandemic, the Fall 2020 instruction is conducted online mode only.

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

Advance survey and optionally in-person office hours will be utilized to enhance engagement and class learning experiences.

Format: The class format will be broadly divided into two: 1-hour lectures that cover the core topics and a “dry lab” including a discussion period in the latter half during which students will work on a group project to develop or analyze digitally-implemented study of psychiatric and behavioral health relevance.

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

1. Identify core features and diagnostic criteria of common psychiatric and behavioral health disorders.
2. Describe the key approaches of psychiatric assessments including diagnostic assessments and screeners.
3. Apply psychiatric assessments to digitally-implemented research
4. Describe unique implementation issues related to digital-health research
5. Describe basic frameworks of digital-health development, implementation, and analysis processes.
6. Develop an innovative digital-health application platform, including mHealth implementation

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 co-instructors in advance.
5. Class project and periodic assignments: A primary assignment is the class project completion and group presentation at the end of the course. Periodic individual and group assignments will augment class project completion and presentation.

GROUP CLASS PROJECTS: The following three topics can be pursued which are currently at various stages of implementation in the projects conducted by the course instructor team. Students are expected to form groups to choose a topic. ³

1. Eating disorder biometric sensor minoring system and mHealth intervention
2. mHealth engagement using a digital recovery intervention of opioid use disorders
3. EMA development for evaluate the effect of psilocybin post supervised exposure and social media extension
4. Precision engagement pathway (PEP) tool development to alleviate mental distress among healthcare workers.

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

3. Number of class projects depends on enrollment size. A group of 3-4 for each project is desired.

Your grade will be based on:

- Class attendance (20%)
- Student in-class participation and active discussion (20%)
- Periodic assignments (40%)
- Final class project presentation (20%)

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 impacts 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 utilize rubric format consists of multiple criteria for assignment/presentation for the purpose of assignment and levels of completeness/innovation of student’s response. Examples will be provided at the start of the course.

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. Psychiatric and behavioral health disorder assessments

Week 1: Thursday, August 27, 2020	
Introduction: Covid-19 Contingencies, Rules and Guidelines Presentation: Diagnoses of psychiatric and behavioral health disorders <ul style="list-style-type: none"> ○ Rumi Kato Price, PhD ○ Introduction and review of the course and materials ○ History of psychiatric and behavioral health assessment 	Class project: <ul style="list-style-type: none"> ○ Needs assessment ○ Faculty and the class will discuss the project plan organization, required tasks, and timeline ○ Assignment #1 – Students decide on topic of interest and grouping. Each group submits tentative results.
Week 2: Thursday, September 3, 2020	
Presentation: Psychiatric diagnostic system <ul style="list-style-type: none"> ○ Ginger Nicol, MD 	Class project: Where is the knowledge gap in the digital mental health literature? <ul style="list-style-type: none"> ○ Assignment/Presentation #2 – Each group will present their initial literature review results, identified knowledge gaps
Week 3: Thursday, September 10, 2020	
Presentation: Screeners for mental and behavioral health assessments <ul style="list-style-type: none"> ○ Rumi Kato Price, PhD ○ Assessment platforms 	Class project: Phenotypes and areas of digital implementation (1) <ul style="list-style-type: none"> ○ Selection of study phenotype(s) ○ Selection of digital platform and/or analysis

<ul style="list-style-type: none"> Diagnoses to screening 	Individual homework assignment #3 (due in one week): A short summary of psychiatric assessment systems and mode of assessment
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SEGMENT II. Resources and Opportunities

Week 4: Thursday, September 17, 2020	
Lecture: ICTS mHealth Research Core <ul style="list-style-type: none"> Katie Keeney, MA Introduction to mHealth Core services Digital platforms in the age of Covid-19 Lecture: WU Institute for Informatics (I²) <ul style="list-style-type: none"> TBA Integration of mobile technology to other data source (electronic medical records, biomarkers) 	Class project: Phenotypes and areas of digital implementation (2) <ul style="list-style-type: none"> Selection of study phenotype(s) Selection of digital platform and/or analysis
Week 5: Thursday, September 24, 2020	
Presentation: Sling Health <ul style="list-style-type: none"> Brian Gage, MD ⁴ Culture of innovation Novel device and software development Presentation: Epharmix <ul style="list-style-type: none"> Avik Som, MD, ⁵ Mental health products How they work 	Class project: Writing a pitch for your class product <ul style="list-style-type: none"> Synthesize the literature Present a pitch in class Assignment #4: Each group submits a written Introduction section (e.g., innovation, implementation, selling pitch)

SEGMENT III. Research Implementation and applications

Week 6: Thursday, October 1, 2020	
Presentation: Clinical trials in digital health <ul style="list-style-type: none"> Ginger E. Nicol, MD 	Class project: Prototype development (1) <ul style="list-style-type: none"> Identify local resources and consultants/mentors Identify the application or analysis level Set goals and timeline to accomplish by Week 15
Week 7: Thursday, October 8, 2020	
Presentation: Theory and practice of implementation science with digital media <ul style="list-style-type: none"> Alex T. Ramsey, PhD 	Class project: Prototype development (2) <ul style="list-style-type: none"> Identify outcomes and measures Individual assignment #5 (due in one week): A short essay on distinctive features of digital implementation
Week 8: Thursday, October 15, 2020	
Presentation: Depression <ul style="list-style-type: none"> Shannon N. Lenz, PhD 	Class project: Prototype development (3) <ul style="list-style-type: none"> Assignment #6: Each group presents results of prototype or analysis development in progress Mid-term course assessment
Week 9: Thursday, October 22, 2020	

4. Not confirmed (07/07/20).

5. Not confirmed (07/07/20).

Presentation: Eating disorder, obesity <ul style="list-style-type: none"> o Ellen E. Fitzsimmons-Craft, PhD 	Class project: Implementing your prototype or analysis (1)
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SEGMENT IV. Utilizing Social Media

Week 10: Thursday, October 29, 2020	
Attend a portion(s) of the Institute for Public Health Annual Conference ⁶	Individual assignment #7: Submit a short essay based on your conference participation. Any topic related to Covid-19, mental health and digital technology
Week 11: Thursday, November 5, 2020	
Presentation: Analyses of social media <ul style="list-style-type: none"> o Patricia Cavazos-Rehg, PhD 	Class project: Implementing your prototype (2) <ul style="list-style-type: none"> o Students presents results of implementation or analysis in progress
Week 12: Thursday, November 12, 2020	
Presentation: Mobile technology to improve healthcare <ul style="list-style-type: none"> o Patricia Cavazos-Rehg, PhD 	Class project: Final in-class consultation <ul style="list-style-type: none"> o Put together all pieces in a presentation format

SEGMENT IV. Human Subjects in Digital Health Research

Week 13: Thursday, November 19, 2020	
Ethics and human subjects selected topics <ul style="list-style-type: none"> o Panel ⁷ 	Class project: Presentation <ul style="list-style-type: none"> o Assignment #8: Each group present their semi-final product
Week 14: Thursday, November 26, 2020 THANKSGIVEING WEEKEND, NO CLASS	
Week 15: Thursday December 3, 2020	
IRB Considerations <ul style="list-style-type: none"> o Panel and vignette presentation 	Class project: Final presentation and submission

WRAP-UP

Week 16: Thursday, December 10, 2020	
No presentation [consultation only]	Class project: Wrap-up <ul style="list-style-type: none"> o Submit a revision if needed; turn in late assignments

Reading samples:⁸

American Psychiatric Association: App Evaluation Model. Available:

<https://www.psychiatry.org/psychiatrists/practice/mental-health-apps/app-evaluation-model>

Anguera JA, Jordan JT, Castaneda D, Gassaley A, Arean PA. Conducting a fully mobile and randomised clinical trial for depression: access, engagement and expense. *BMJ mHealth and Wearable Health Technologies.* <https://innovations.bmj.com/content/2/1/14>.

6. <https://publichealth.wustl.edu/events/covid-19-pandemic-response-lessons-learned-and-recovery/>

7 Topics might include e-consent, engagement, tracking, privacy, industry partnership,

8. These are examples and subject to change.

- Bhattacharyya O, Mossman K, Gustafsson L, Schneider EC. Using human-centered design to build a digital health advisor for patients with complex needs: persona and prototype development. *Journal of Medical Internet Research* 2019;21(5):e10318 doi: [10.2196/10318](https://doi.org/10.2196/10318)
- Hatch A, Hoffman JE, Ross R, Docherty J. Expert consensus survey on digital health tools for patients with serious mental illness: optimizing for user characteristics and user support. *JMIR Mental Health* 2018 Apr-Jun; 5(2): e46
- Insel TR. The NIMH research domain criteria (RDOC) project: precision medicine for psychiatry. *Am J Psychiatry* 171:4, April 2014
- Krystal JH, State MW. Psychiatric disorders: diagnosis to therapy. *Cell*. 2014 March 27; 157(1): 201–214. doi:10.1016/j.cell.2014.02.042
- Matthews SC, McShea MJ, Hanley CL, Ravitz A, Labrique AB, Cohen AB. Digital health: a path to validation, *Nature Partner Journals Digital Medicine* 2019;2:38 <https://www.nature.com/articles/s41746-019-0111-3>
- Mohr DC, Riper H, Schueller SM. A solution-focused research approach to achieve an implementable revolution in digital mental health.
- Mulvaney-Day N, Marshall T, Piscopa KD, Korsen N, Lynch S, Karnell LH, Moran GE, Daniels AD, Ghoese SS. Screening for behavioral health conditions in primary care settings: a systematic review of the literature. *J Gen Intern Med* 2017; 33: 335-46.
- Quanbeck A, Gutafson DH, Marsch LA, Chih M-H, Kornfield R, McTavish F, Johnson R, Brown RT, Mare M_L, Shah DV. Implementing a mobile health system to integrate the treatment of addiction into primary care: A hybrid implementation-effectiveness study. *Journal of Medical Internet Research*.2018;20(1):e37) doi: [10.2196/jmir.892](https://doi.org/10.2196/jmir.892)
- RDOX Matrix: <https://www.nimh.nih.gov/research/research-funded-by-nimh/rdoc/constructs/rdoc-matrix.shtml>
- Som, A, Pael K, Sink E, Peters RM, Kavon J, Groenendyk J, An T, Zu Z, Polites GM, Blanchard M, Ross W. A novel patient engagement platform using accessible text messages and calls (Epharmix): feasibility study. *JMIR Formative Res* 2017: vol1: issue 1, e2, p1.
- Stein DJ, Lund C, Nesse RM. Classification systems in psychiatry: diagnosis and global mental health in the era of DSM-5 and ICD-11. *Curr Opin Psychiatry* 2013; 26(5): 493–497. doi:10.1097/YCO.0b013e3283642dfd.\

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/>

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](#)