I. COURSE DOMAIN AND BOUNDARIES

The goal of this course is to train students to apply transdisciplinary strategies from a variety of disciplines to solve problems in public health. The course builds on the foundation public health competencies of epidemiology, health behavior, health policy, environmental health, and program planning and evaluation. It similarly contributes to the education goal of the MPH program to prepare students to engage in the reduction and elimination of health and nutrition disparities at the global level.

II. MPH FOUNDATIONAL KNOWLEDGE AND COMPETENCIES ADDRESSED IN THIS COURSE:

The TPS course is designed to provide instruction to students that will enable them to meet several of the Council on Education for Public Health (CEPH) foundational knowledge and competencies of the MPH program:

A. Foundational Knowledge
   • Explain the effects of environmental factors on a population’s health.
   • Explain biological and genetic factors that affect a population’s health.
   • Explain behavioral and psychological factors that affect a population’s health.
   • Explain the social, political and economic determinants of health and how they contribute to population health and health inequities.
   • Explain how globalization affects global burdens of disease.

B. Foundational Competencies
   • Apply epidemiological methods to the breadth of settings and situations in public health practice.
   • Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings.
   • Assess population needs, assets and capacities that affect communities’ health.
   • Design a population-based policy, program, project or intervention.
   • Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes.
   • Perform effectively on interprofessional teams.
   • Apply systems thinking tools to a public health issue.
C. Global Health Competencies

- Describe the basic biology and epidemiology of major infectious diseases and health conditions in global health [infectious diseases (diarrhea, HIV/AIDS, NTDs, malaria, etc.); mental health; malnutrition; and chronic diseases (diabetes, cardiovascular disease, etc.)]
- Evaluate risk factors including socio-cultural, political, economic, and environmental determinants underlying major global health conditions.
- Develop population-based policy, program, or intervention strategies to address health equity and social justice challenges in local and global health settings.
- Describe ethical approaches in global health research, program evaluation, and implementation.
- Analyze the roles, relationships, and resources of the entities influencing global health.

III. BROWN SCHOOL ACADEMIC POLICIES

Academic Integrity: If a faculty member or student suspects that academic or professional integrity has been violated, they are required to submit an Academic Integrity or Professional Integrity Violation form found on Inside Brown for review by the Assistant Dean of the program. The Assistant Dean or designated representative will aid in the investigation of the violation, which includes but is not limited to gathering relevant evidence; conversations with the instructor, student(s) involved, witnesses, and others as necessary. Depending on the seriousness of the case, the Assistant Dean may choose to refer the matter directly to the University Student Conduct Board. This referral procedure will generally be followed if it is believed that the penalty is likely to involve suspension or expulsion from the University. The Assistant Dean for the program or designated representative will offer to meet privately with the student(s) against whom the complaint has been made. It is the student’s responsibility to familiarize themselves with the behaviors that constitute an academic integrity violation requiring referral.

Student Handbook 2019

Accommodations: If you have a learning, sensory, or physical disability or any other diagnosis that requires accommodations and/or assistance in lectures, reading, written assignments, and/or exam taking, please work with the Disability Resource Center, a University-wide resource that provides academic accommodations support and referrals. After requesting academic accommodations by providing appropriate documentation, students approved for accommodations will provide an Accommodation Letter to the instructor and are encouraged to work directly with the instructor to discuss specific course needs. The student’s Academic Advisor and/or the Assistant Dean for Academic Affairs can support a student through this process.

Pronouns: The Brown School embraces and promotes gender expansiveness as reflective of the lived experiences of many students, staff, faculty and members of our expanded community. The correct use of an individual’s pronouns is a critical part of an individual's identity and of building an inclusive community. Students, faculty and staff are encouraged to use pronouns during introductions, are expected to use expressed pronouns of all Brown School community members, and are encouraged to apologize when mistakes are made. Educational resources are available at: https://campuslife.wustl.edu/lgbtqia/lgbt-resources/gender-pronouns/

English Language Proficiency: If your English language proficiency is such that you may need special assistance in lectures, reading, written assignments, and/or exam taking, please communicate these needs to your instructor who may refer you to the Brown Communications Lab. If you would like help seeking additional English language resources, please visit the Global Programs Suite in Brown 309. You may also find the Academic Assistance resources available through the Office for International Students and Scholars to be helpful.
Professional Use of Electronic Devices in the Classroom: Computers or other electronic devices, including “smart pens” (devices with an embedded computer and digital audio recorder that records the classroom lecture/discussion and links that recording to the notes taken by the student), may be used by students at the discretion of the faculty member to support the learning activities in the classroom. These activities include taking notes and accessing course readings under discussion. If a student wishes to use a smart-pen or other electronic device to audio record lectures or class discussions, they must notify the instructor in advance of doing so. Permission to use recording devices is at the discretion of the instructor, unless this use is an accommodation approved by Disability Resources.

Nonacademic use of laptops and other devices and use of laptops or other devices for other coursework is distracting and seriously disrupts the learning process for other people in the classroom. Neither computers nor other electronic devices are to be used in the classroom during class for nonacademic reasons or for work on other coursework. Nonacademic use includes emailing, texting, social networking, playing games, instant messaging, and use of the Internet. Work on other coursework may include, but is not limited to, use of the Internet, writing papers, using statistical software, analyzing data, and working on quizzes or exams. The nonacademic use of cell phones during class time is prohibited, and they should be set on silent before class begins. In the case of an emergency, please step out of the room to take the call. The instructor has the right to hold students accountable for meeting these expectations, and failure to do so may result in a loss of participation or attendance points, a loss of the privilege of device use in the classroom, or being asked to leave the classroom.

Religious Holidays: The Brown School recognizes the individual student’s choice in observing religious holidays that occur during periods when classes are scheduled. Students are encouraged to arrange with their instructors to make up work missed as a result of religious observance, and instructors are asked to make every reasonable effort to accommodate such requests.

IV. WASHINGTON UNIVERSITY ACADEMIC SUPPORT POLICIES

Accommodations based upon relationship or sexual violence, including sexual harassment and stalking: The University is committed to offering reasonable accommodations to students who are victims of relationship or sexual violence. Students are eligible for accommodations regardless of whether they seek criminal or disciplinary action. Depending on the specific nature of the allegation, such accommodations may include but are not limited to implementation of a no-contact order, emergency housing, course/classroom assignment changes, assignment extensions and other academic support services. If you need to request such accommodations, please direct your requests to rsvpcenter@wustl.edu or call directly to 314-935-3445. There are four licensed RSVP counselors who serve as confidential resources. However, to implement requests for accommodations, limited information will be shared with the appropriate university administrator and/or faculty. The University will maintain as confidential any accommodations or protective measures provided to an individual student so long as it does not impair the ability to provide such measures.

If a student comes to me to discuss or disclose an instance of sexual assault, sex discrimination, sexual harassment, dating violence, domestic violence or stalking, or if I otherwise observe or become aware of such an allegation, I will keep the information as private as I can, but as a faculty member of Washington University, I am required to immediately report it to my Department Chair or Dean or directly to Ms. Jessica Kennedy, the University’s Title IX Director. If you would like to speak with directly Ms. Kennedy directly, she can be reached at (314) 935-3118, jwkennedy@wustl.edu, or by visiting the Title IX office in Umrah Hall. Additionally, you can report incidents or complaints to the Office of Student Conduct and Community Standards or by contacting WUPD at (314) 935-5555 or your local law enforcement agency. See: Title IX
You can also speak confidentially and learn more about available resources at the Relationship and Sexual Violence Prevention Center by calling (314) 935-3445 for an appointment or visiting the 4th floor of Seigle Hall. See: RSVP Center

**Bias Reporting:** The University has a process through which students, faculty, staff and community members who have experienced or witnessed incidents of bias, prejudice or discrimination against a student can report their experiences to the University’s Bias Report and Support System (BRSS) team. See: brss.wustl.edu.

**Mental Health:** 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 Mental Health Resources.

**Center for Diversity and Inclusion (CDI):** The Center of Diversity and Inclusion (CDI) supports and advocates for undergraduate, graduate, and professional school students from underrepresented and/or marginalized populations, creates collaborative partnerships with campus and community partners, and promotes dialogue and social change. One of the CDI's strategic priorities is to cultivate and foster a supportive campus climate for students of all backgrounds, cultures and identities. See: diversityinclusion.wustl.edu/

**Additional Issues or Concerns:** If you feel that you need additional supports in order to be successful in your time at Brown, beyond the mentioned accommodations, please contact your Academic Advisor or Danielle Bristow, Assistant Dean for Academic Affairs. They can assist you in navigating a myriad of concerns.

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If a student comes to me to discuss or disclose an instance of sexual assault, sex discrimination, sexual harassment, dating violence, domestic violence or stalking, or if I otherwise observe or become aware of such an allegation, I will keep the information as private as I can, but as a faculty member of Washington University, I am required to immediately report it to my Department Chair or Dean or directly to Ms. Jessica Kennedy, the University’s Title IX Director. If you would like to speak with directly Ms. Kennedy directly, she can be reached at (314) 935-3118, jw kennedy@wustl.edu, or by visiting the Title IX office in Umrah Hall. Additionally, you can report incidents or complaints to the Office of Student Conduct and Community Standards or by contacting WUPD at (314) 935-5555 or your local law enforcement agency. See: Title IX
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V READINGs

There are no required textbooks for this course. Under each session, readings will be assigned that include chapters from textbooks (on reserve at the Brown School library), peer-reviewed articles, and various reports from the gray literature. The readings will be posted electronically on Canvas. The Brown School library purchased rights to the Encyclopedia of Human Nutrition (Third Edition), which will be a terrific resource for this course. http://www.sciencedirect.com/science/referenceworks/9780123848857

VI. ORGANIZATION OF COURSE

Class sessions are structured in a standard format throughout the semester. The first half of the period generally consists of a lecture and plenary discussion. Following a break, the second half is devoted to labs, case studies, and/or group work. After completion of the two individual assignments, TPS problem and solution analyses, students will be assigned one Development Marketplace Working Group for the final project. Class time will be provided for working groups to prepare the presentation and concept note. Special events will occur throughout the term that may alter the format such as mini-summits or guest speakers.

VII. ROLE OF FACULTY AND STUDENT

Instructor’s role
The instructors are responsible for the learning environment and course content. The instructors will grade assignments and provide appropriate feedback. The instructors will respond to student inquiries regarding the readings and assignments and are available by appointment.

Updated: August 19, 2019
**Teaching assistant’s role**
The teaching assistant is responsible for aiding the course master and discussion leaders in development of course materials and grading of assignments. The teaching assistant will hold regular office hours and respond to student inquiries regarding the readings and assignments.

**Students’ role**

**Class attendance and participation:** Students are expected to attend all class sessions unless illness or other emergencies make attendance impossible. If you are unable to attend class, please contact the instructor in advance, or failing that, immediately afterwards. Students are expected to participate in class. It is the student’s responsibility to seek guidance and feedback from the instructor as needed to assure one’s progress.

**Seeking assistance:** Proactive and creative-problem solving is an essential public health competency. Prior to seeking assistance about an assignment from the instructor, students are expected to A) have completed all the relevant readings; B) have attempted to frame the problem clearly and succinctly; C) have developed at least two alternative solutions with a list of the pros and cons for each; and, D) have a clear and concise question or request for assistance.

**Writing requirements:** Use a professional style in all written communication (e-mail & class assignments). Please avoid colloquial expressions, proof read all documents, and employ good grammar. All assignments must be typed and submitted in Microsoft Word.

**VIII. ASSIGNMENTS AND GRADING CRITERIA**

1) **Participation & Group Work Effort (20%)**

**Participation.** The participation aspect includes: 1) participation in class discussions and labs/case studies; 2) participation in World Food Day; and 3) weekly submission of *Nutrition Notes*. Student participation in class discussion is ranked using an ordinal scale and points given at mid-term and final. *Nutrition Notes*, submitted weekly on Blackboard, should be approximately one-half long and consist of reflections, commentary and/or questions about the required readings for the week. Students complete a *Group Work Effort Evaluation* at the close of the semester.

2) **Individual work (60%)**

**TPS Problem Analysis.** Students will select a country of focus for their individual work. The *TPS problem analysis* will include: a description of the problem in terms of magnitude and severity; and a comprehensive analysis of risk factors and determinants across different disciplines. Global and regional comparative analyses will be integral to the problem analysis. As part of this assignment, students will submit a conceptual framework based on the UNICEF framework, but now introducing TPS ideas.

**TPS Solution Analysis.** Students present solution ideas for their country across the action domains of programming, policy, or research. The *TPS solution analysis* should integrate various disciplines and make the argument that application of TPS increases the likelihood of sustainability, replicability, and scaling-up. Again, the solution analysis will draw on regional and global evidence and comparative analyses. Students evaluate the other members of their group on the following criteria: preparation; contribution; respect for others ideas; and flexibility.
3) **Group Work (20%)**

**Development Marketplace Concept Note & Presentation.** Since 1998, the Development Marketplace program of the World Bank has administered grants to over 1,200 projects around the world, nutrition among them. The competitive process awards innovative, early stage projects with potential for large-scale impacts. This year the theme will be (not really, but the sake of this class!), *Transdisciplinary problem-solving in nutrition*. A small team of individuals from your country have come together to develop a concept note for an innovative TPS idea that will be presented on the final day of class.

Grades are based on the following percentages: 95-100 = A; 90-94 = A-; 86-89 = B+; 83-85 = B; 80-82 = B-; 76-79 = C+; 73-75 = C; 70-72 = C-. One point is deducted from the total point value of assignments for each day after the submission deadline. For example, a paper scored 48/50 points would be reduced to 46/50 if submitted two days late.

**IX. MPH COMPETENCY ALIGNMENT TO ASSESSMENT OPPORTUNITY**

<table>
<thead>
<tr>
<th>MPH Competencies</th>
<th>Assessment Opportunity</th>
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<tbody>
<tr>
<td>Apply epidemiological methods to the breadth of settings and situations in public health practice. Assess population needs, assets and capacities that affect communities’ health. Apply systems thinking tools to a public health issue. Describe the basic biology and epidemiology of major infectious diseases and health conditions in global health; mental health; malnutrition; and chronic diseases. Evaluate risk factors including socio-cultural, political, economic, and environmental determinants underlying major global health conditions.</td>
<td>TPS Problem Analysis paper</td>
</tr>
<tr>
<td>Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings. Design a population-based policy, program, project or intervention. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes. Develop population-based policy, program, or intervention strategies to address health equity and social justice challenges in local and global health settings. Describe ethical approaches in global health research, program evaluation, and implementation. Analyze the roles, relationships, and resources of the entities influencing global health.</td>
<td>TPS Solution Analysis paper</td>
</tr>
<tr>
<td>Perform effectively on interprofessional teams. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes. Develop population-based policy, program, or intervention strategies to address health equity and social justice challenges in local and global health settings. Analyze the roles, relationships, and resources of the entities influencing global health.</td>
<td>Development Marketplace Concept Note</td>
</tr>
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X. COURSE OUTLINE

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>REQUIRED READING</th>
<th>RECOMMENDED READING</th>
<th>ACTIVITIES &amp; DEADLINES (in red)</th>
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<tbody>
<tr>
<td>4-Sept (2)</td>
<td>Biology basics of nutrients</td>
<td>Mann &amp; Truswell 2012 (4th Ed) Ch 10, 11.1</td>
<td>Mann &amp; Truswell 2012 (4th Ed) Ch 12</td>
<td>Exercise: Martian, Got Milk</td>
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<tr>
<td>18-Sept (4)</td>
<td>Life span: 1,000 days, school-age child and brain development</td>
<td>Global Strategy for Infant and Young Child Feeding (WHO and UNICEF)</td>
<td>Blanton et al. (2016). Childhood undernutrition, the gut microbiota, and microbiota-directed therapeutics Science Vol 352 Issue 6293</td>
<td>Exercise: Breastfeeding focus groups (mothers, fathers/caregivers, and healthcare workers)</td>
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<tr>
<td>25-Sept (5)</td>
<td>Communications, Social Marketing, and Nutrition Education 9-10:30 am Guest lecture: Carlos Andres Gallegos (confirmed)</td>
<td>Gallegos et al. MCN 2018</td>
<td>Robert et al. 2006/2007</td>
<td>Nutrition messaging video <a href="https://www.youtube.com/watch?v=WWA1t1UICU">https://www.youtube.com/watch?v=WWA1t1UICU</a> Dr. Iannotti in New Mexico</td>
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<tr>
<td>2-Oct (6)</td>
<td>International Institute Garden visit</td>
<td>Heath &amp; Heath Introduction</td>
<td>Kodish et al 2011</td>
<td>** TPS Problem Analysis paper due **</td>
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<tr>
<td>Date</td>
<td>Topic</td>
<td>Readings/Notes</td>
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| 9-Oct (7)  | Nutrition assessment                                                 | WHO Growth Standards Executive Summary
Gibson 1990 Ch 1                                                                  |
|            |                                                                        | de Onis et al. PHN 2006
de Onis FNB 2004
Cogill 2001                                                                       |
|            |                                                                        | Lab: anthropometry
Lab: Anemia & Hemocue System                                                   |
| 16-Oct (8) | 12 PM WORLD FOOD DAY – BROWN SCHOOL                                  | Group work: preparation for World Food Day                                      |
| 30-Oct (10)| Agriculture, livestock, and fisheries and nutrition security         | Iannotti & Lesorogol *AJPA* 2014                                               |
|            |                                                                        | Low et al. 2007                                                                  |
|            |                                                                        | Debate: small vs medium to large-scale production
https://www.youtube.com/watch?v=mZOohgQ9b4                                       |
|            | Skype guest discussion: Derek Heady (to be confirmed)                 | Heady and Alderman Relative Caloric Prices *J Nutr* 2019                       |
|            |                                                                        | Leroy et al. 2009                                                                |
|            |                                                                        | Hoddinott et al. 2008                                                           |
|            |                                                                        | Q&A : TPS Solution Analysis                                                     |
| 13-Nov (12)| Guest lecture: Melissa Chapnick Nutrition transition                  | Popkin 1993                                                                      |
|            |                                                                        | How junk food is transforming Brazil NYT
https://www.youtube.com/watch?v=3cKUDlhe2sk                                       |
|            | Guest lecture: Dr. Joseline Marhone, Directrice Nutrition Haiti        | Bryce, et al 2008                                                                |
|            |                                                                        | ** TPS Solution Analysis paper due
Dr. Iannotti in Kenya                                                              |
| 20-Nov (13)| Nutrition Programs, Policy and Politics                              | Remans et al. Multisector intervention *AJCN* 2011                             |
|            | Guest lecture: Dr. Joseline Marhone, Directrice                        | Bhutta et al. *Lancet* 2013                                                     |
|            |                                                                        | Global Health: Making the most of food aid 2013                                |
|            |                                                                        | Group work: Development Marketplace                                              |
| 27-Nov     | NO CLASS                                                              |                                                                                 |
| 4-Dec (14) | On the horizon: brains, guts, and evolution                           | Eaton & Iannotti 2017
Konner & Eaton et al. 2010                                                    |
|            |                                                                        | Group work: Development Marketplace                                              |
| 11-Dec (15)| GROUP PRESENTATIONS                                                  | ** Group Paper due**
** Work Group Evaluation Form due                                              |