

## Biostatistics 504 – Foundations of Public Health for Biostatistics

Autumn 2019

**Prerequisites:** BIOST 522 or STAT 512; and BIOST 514 or BIOST 517  
(can be taken concurrently)

**Credits:** 2 (Credit/No credit)

**Structure:** 1 lecture/week (110 min)

**Time slot:** Lecture: 2:30 – 4:20pm Mondays, SCC301

**Instructor:** Mary Lou Thompson, Research Professor of Biostatistics  
H655E, Health Sciences Building  
mlt@uw.edu  
Office Hours: 1:30-2:30pm Wednesdays, H655E, HSB  
or by appointment.

**Course Description:** The objective of this course is to provide students with an understanding of the key foundational concepts in Public Health and their relation to biostatistics.

This course covers public health concepts as they relate to the profession and science of public health and factors related to human health. The course will include readings and/or video material to be reviewed before each class. In addition, student groups will be assigned additional material which they will use to prepare in-class presentations. Class sessions will include small group discussions and report backs on issues relating to the topics under consideration. After each class, students will be required to submit a brief reflection on the topics covered in that session.

**Learning Objectives:** Upon completion of the course, students should, from a biostatistics perspective, be able to:

1. Explain public health history, philosophy and values
2. Identify the core functions of public health and the 10 Essential Services
3. Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health
4. List major causes and trends of morbidity and mortality in the US or other community relevant to the school or program
5. Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc.
6. Explain the critical importance of evidence in advancing public health knowledge
7. Explain effects of environmental factors on a population's health
8. Explain biological and genetic factors that affect a population's health
9. Explain behavioral and psychological factors that affect a population's health
10. Explain the social, political and economic determinants of health and how they contribute to population health and health inequities
11. Explain how globalization affects global burdens of disease
12. Explain an ecological perspective on the connections among human health, animal health and ecosystem health (e.g., One Health)
13. Explain how issues of Equity, Diversity and Inclusion impact public health

**Website:** Assignments and other course materials will be posted on the course website on Canvas.

**Online Quizzes:** Students will be required to complete a Canvas online quiz before and after class (except the first and last class) (see the class Canvas website).

**Reflections:** Students will be required to choose a health condition of public health concern and, from the second class session, submit a weekly reflection relating that condition to the topics covered in class.

**Term Paper:** Using your weekly reflections as a basis, you will prepare a report and a 5 minute presentation for the last class session, in which you synthesize your reflections on how the foundations of public health relate to your chosen health condition and how they will inform your role as a biostatistician. Further details on this assignment will be provided during the quarter.

**Grading:** To receive credit for the class, a student must have:

- achieved a score of at least 60% on 5 out of 7 online pre-quizzes and 5 out of 7 online post-quizzes.
- Received credit for at least 6 weekly reflections and for the term paper.
- Participated in class presentations and class discussions.

#### Tentative course schedule

<u>Date</u>	<u>Topic</u>
September 30	Public health history, core functions and values
October 7	Major causes of morbidity & mortality
October 14	The 10 essential public health services Primary, secondary & tertiary prevention
October 21	The role of quantitative & qualitative methods The role of evidence in advancing public health knowledge
October 28	Effects of environmental, biologic & genetic factors on health
November 4	Equity, Diversity & Inclusion
November 11	HOLIDAY: Veterans Day
November 18	Effects of behavioral & psychologic factors on health Social, political & economic determinants of health
November 25	Globalization and global burden of disease An ecological perspective on health
December 2	Term paper presentations

**Academic Integrity:** Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity. The UW School of Public Health (SPH) is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and other misconduct are serious violations of the [University of Washington Student Conduct Code \(WAC 478-121\)](#). We expect you to know and follow the university's policies on cheating and plagiarism, and the [SPH Academic Integrity Policy](#). Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the [University of Washington Community Standards and Student Conduct website](#).

**Classroom Climate:** We are a learning community and the development of a supportive learning environment is fundamental to this course. Our learning space is the mutual responsibility of the instructor and the students; as such, we have a responsibility to engage in dialogue in a way that supports learning for all of us. The co-creation of this respectful environment will be fostered by listening to views other than your own with an open mind, being able to understand and appreciate another person's point of view and the ability to articulate your own point of view using direct communication. Being conscious of not monopolizing dialogue and/or interrupting will help create this environment as well. If you have questions or concerns regarding the content or structure of the class, please feel free to talk (or write) to me at any time during the quarter. To the extent that you are not satisfied with my response, you may contact the Biostatistics Department Chair ([bchair@uw.edu](mailto:bchair@uw.edu)). If concerns are still not satisfactorily resolved, you may also contact the Graduate School at G1 Communications Building by phone at (206) 543-5139 or by email at [raan@uw.edu](mailto:raan@uw.edu).

**Diversity:** Diverse backgrounds, embodiments and experiences are essential to the critical thinking endeavor at the heart of University education. In SPH, students are expected:

1. To respect individual differences, which may include, but are not limited to, age, cultural background, disability, ethnicity, family status, gender, immigration status, national origin, race, religion, sex, sexual orientation, socioeconomic status and veteran status.
2. To engage respectfully in the discussion of diverse worldviews and ideologies embedded in course readings, presentations and artifacts, including those course materials that are at odds with personal beliefs and values.

**Bias Concerns:** The Office of the Dean has a [student concern policy](#), a faculty concern policy and standard HR procedures for staff concerns. Our 2018 climate survey states that most people in SPH do not report bias incidents because they do not know where to go. Students are encouraged to report any incidents of bias to someone they feel comfortable with, including instructors, advisers or department staff. They can email [dcinfo@uw.edu](mailto:dcinfo@uw.edu) for immediate follow up. Bias concerns can be anonymously and confidentially reported at this link <https://sph.washington.edu/about/diversity/bias-concerns>. Data is collected by the Assistant Dean for EDI and the Director of Program Operations for Student and Academic Services and tracked for resolution and areas are identified for further training.

**Access and Accommodations:** Your experience in this class is important to me. If you have already established accommodations with Disability Resources for Students (DRS), please communicate your approved accommodations to me at your earliest convenience so we can discuss your needs in this course. If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or [uwdrs@uw.edu](mailto:uwdrs@uw.edu) or [disability.uw.edu](http://disability.uw.edu). DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.

**Religious accommodations:** Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy \(https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/\)](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/). Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form \(https://registrar.washington.edu/students/religious-accommodations-request/\)](https://registrar.washington.edu/students/religious-accommodations-request/).

*The University of Washington acknowledges the Coast Salish people of this land, the land which touches the shared waters of all tribes and bands within the Duwamish, Suquamish, Tulalip and Muckleshoot nations.*