

THE GEORGE
WASHINGTON
UNIVERSITY
MEDICAL CENTER
WASHINGTON DC

School of Public Health and Health Services
Department of Epidemiology and Biostatistics
PubH 6261.10
Epidemiology and Biostatistics Skills Building Seminar
(1 credit)
Fall Semester: Tuesday 4:10pm – 6:00pm

Instructors

Amanda D. Castel, MD, MPH
Course Director
2100-W Pennsylvania Ave., N.W.
8th floor
Tel: 202-994-8325
Fax: 202-994-0082
Email: sphaxc@gwumc.edu
Office Hours: Friday by appointment

Ann Goldman, MPH
Course Co-Director
2100-W Pennsylvania Ave., N.W.
8th floor
Tel.: (202)994-4581
Fax (202)994-0082
Email: sphasg@gwumc.edu
Office Hours: Wed. 2-4 PM and by
appointment

Alan E. Greenberg, MD, MPH
Course Co-Director
2100-W Pennsylvania Ave., N.W.
8th floor
Tel: 202-994-0612
Fax: 202-994-0082
Email: aeg1@gwu.edu
Office Hours: Thurs afternoons by appointment

Course Description

MPH students are required to demonstrate proficiency in the application of the skills they acquire during their academic programs through the Practicum (PubH 6014.13) and the Culminating Experience (PubH 6015.13). The Skills Building Seminar serves to assist students in developing the skills needed to complete these requirements and provide students with practical applied public health training. By the end of the course students should be able to describe the essentials skills needed for the preparation, implementation, presentation, and communication of public health data.

Course Registration

All MPH students in the Department of Epidemiology and Biostatistics are required to register and take this course. Additionally, students in the following programs are eligible to register for the course, with prior approval from their Program Director. Priority for registration will be given to students in the following order: MS Epidemiology/Biostatistics, doctoral students in Epidemiology/Biostatistics followed by students obtaining certificates in any of the Departmental certificate programs.

Students in the following programs are strongly encouraged to take the course but are not required to register for the course: MS in Public Health, Microbiology and Emerging Infectious Diseases (MSPHMEID), MPH in Global Health/Epidemiology with their home department in Global Health. These students should notify the Course Directors of their intention to participate in the course.

Course Prerequisites

*Course Prerequisites**

- PubH 6002 Biostatistical Applications for Public Health
- PubH 6003 Principles and Practice of Epidemiology
- PubH 6005 Policy Approaches to Public Health

Co-Requisites

- PubH 6014.13 Epidemiology and Biostatistics Practicum
- PubH 6247 Design of Health Studies
- PubH 6249 Use of Stat Packages for Data Management/Data Analysis

Recommended Courses

- PubH 6004 Environmental and Occupational Health
- PubH 6007 Social and Behavioral Science Methods
- PubH 6252 Advanced Epidemiologic Methods

***NB:** Non-MPH students in the Department of Epidemiology and Biostatistics who take the one credit skills building seminar are required to have taken the basic epidemiology courses required for MPH students before taking the seminar. These are PubH 6002, 6003, 6247, and 6249.

Other prerequisites

- Students must take the online training courses relating to research with human subjects (CITI) and personal health information (HIPAA) (see SPHHS Student Practicum Guidebook for details).
- Students must have completed the mandatory SPHHS online Practicum Training, designed to assist students with preparing for their practicum and professional endeavors (see Practicum handbook for details).
- Students must have participated in the mandatory Department of Epidemiology and Biostatistics Practicum Orientation Session.
- Before enrolling in the course, students must have identified a Practicum site and posted a plan on the SPHHS Practicum Website.

Course Learning Objectives

Upon completion of the course, students will be able to:

1. Organize and conduct literature reviews using a matrix.
2. Describe the elements needed to develop a scientific abstract and manuscript.
3. Communicate effectively through the use of oral presentations, posters and in the public health workplace.

4. Determine appropriate methods for sampling and sample size estimation.
5. Determine when a study involves human subjects research and the steps for securing IRB approval.
6. Demonstrate familiarity with the essential elements of project management.
7. Prepare a project proposal, analysis plan and deliverables.

Required Texts

There is not a required textbook for this course; however the following are recommended or supplemental texts.

Title	Author	Edition
Designing and Conducting Health Surveys	Aday, LA	Second edition, San Francisco, CA; Jossey-Bass; 1996.
Field Epidemiology	Gregg MB, editor	Second Edition. New York, NY: Oxford University Press; 2002.

Methods of Instruction

<input checked="" type="checkbox"/>	Lectures	<input checked="" type="checkbox"/>	Class and Small Group Discussions
<input type="checkbox"/>	Case Studies	<input checked="" type="checkbox"/>	Student Presentations
<input checked="" type="checkbox"/>	Required Readings/Textbook	<input checked="" type="checkbox"/>	Other: project/paper
<input checked="" type="checkbox"/>	Recommended/Supplemental Readings	<input type="checkbox"/>	Other [Specify]

Methods of Evaluation

Percent of Grade

Class Participation	10%
PowerPoint on scientific article	35%
Abstract Writing Exercise on scientific article	35%
Research Summaries	20%

Class Policies:

Expectations for individual contributions and acceptable levels of collaboration for assignments on which students may work together: Although you may discuss the readings, lectures and projects with other students, the written assignment you turn in must be your own work in your own words. If you copy another student’s assignment or let someone else copy yours, you are both cheating. If it is discovered that you have copied the work of another student or that of someone else, this will be considered cheating and proper disciplinary action will be taken.

Late Work

Students must meet the due dates for all assignments. If they are not able to meet these deadlines, they must receive an extension from a course instructor (in person, by phone, or by e-mail) prior to the due date. Late assignments for which extensions are not granted will be deducted one full letter grade for each day beyond the due date.

Attendance/Participation

Attendance and active participation in class is critical as learning will occur largely in class through presentations by and interactions with faculty, guest speakers, and other students.

Grading

Final letter grades will be assigned based on the following scale:

A	95-100%
A-	90-94%
B+	85-89%
B	80-84%
B-	75-79%
C+	70-74%
C	65-69%
C-	60-64%
F	<60%

Class Policy: Attendance/Participation

Students are expected to attend all sessions of the Epidemiology and Biostatistics Skills Building Seminar.

Blackboard

Blackboard will be used for posting course files and assignments and for communicating with the class. You are already “signed up” for this course on Blackboard, since it is linked to the course registration system. It is your responsibility to periodically check the course site (log in at <http://blackboard.gwu.edu/> Using your gwu.edu address) for updates to the syllabus/assignments. It is important to note that materials posted on Blackboard are likely to provide substantive support in attaining course core competencies. Thus, it is strongly recommended that students check Blackboard on a regular basis. For students who do not have Blackboard access, course files and materials will be sent via e-mail.

Course Assignments

Please see the descriptions below, the course assignment sheet accompanying this syllabus and the course outline for when the assignments are due and how they should be structured. Additional details for each assignment will be provided during the course.

Research Summaries:

Students are required to attend three epidemiology seminars. Examples of lectures or seminars that students can attend to fulfill this requirement include the Department of Epidemiology and Biostatistics (DEB) Research Seminars, DEB Culminating Experience student presentations, Grand Rounds, Public Health Grand Rounds, training programs and conferences and other relevant research-related seminars both within and outside of the SPHHS. Students should submit a written summary for each seminar attended to include the objectives of the presentation, major findings and what they learned. Each summary should be approximately one paragraph and the three summaries should be submitted electronically in one document on the blackboard course by the end of the

semester in which they are enrolled in the Skills Building Course. Presentations cannot be counted twice to meet the SPHHS Professional Enhancement requirement.

Scientific Abstract Writing:

Students are required to develop two scientific abstracts using the *New England Journal of Medicine (NEJM)* format. The first abstract will be a “draft” scientific abstract on the student’s Practicum/CE topic (non-graded). The second abstract will be written based on the review of an assigned scientific article from the peer-reviewed literature (graded). A lecture on how to develop abstracts will be given during the course. The objectives of these assignments are to learn how to structure and write a scientific abstract.

PowerPoint Oral Presentations:

Students are required to develop two PowerPoint presentations. The first will be a “draft” PowerPoint presentation on the student’s Practicum/CE topic to be given as an oral presentation during the course (graded). The second will be based on the review of an assigned scientific article from the peer-reviewed literature (non-graded). A lecture on how to develop these presentations will be given during the course. The objectives of these assignments are to learn how to structure an oral PowerPoint presentation and to learn how to prepare for and deliver a scientific oral presentation.

Please refer to the Session Outline at the end of the syllabus for assignment due dates.

Academic Integrity

Please review the University’s policy on academic integrity, located at www.gwu.edu/~ntegrity/code.html. All graded work must be completed in accordance with The George Washington University Code of Academic Integrity.

Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information. Common examples of academically dishonest behavior include, but are not limited to, the following: Cheating; Fabrication; Plagiarism; Falsification and forgery of University academic documents; Facilitating academic dishonesty.

Students with Disabilities

If you feel you may need an accommodation based on the impact of a disability, please contact one of the Course Directors privately to discuss specific needs. Please contact the Disability Support Services Office at 202.994.8250, Suite 242 Marvin Center, <http://gwired.gwu.edu/dss>, to establish eligibility and to coordinate reasonable accommodations.

Adverse Weather/Class Cancellation

In the advent of inclement weather or any other emergency, The School of Public Health and Health Services will follow the decision of the University, and the Course Directors will follow the SPHHS decision. Call the University hotline at 202.994.5050 or check

the GWUMC status button at www.gwumc.edu . In the event of class cancellation, I will email you about rescheduling, assignments due, etc.

Epidemiology – Biostatistics Skills Building Seminar Session Outline	
Session 1	Seminar, Practicum, and Research Conduct Overviews
August 30, 2011	
<p>1.1 Seminar overview and objectives – Alan Greenberg, MD, MPH 1.2 Practicum overview – Ann Goldman, MA, MPH 1.3 Organization and approach to conducting research; literature reviews and secondary data analysis – Ann Goldman, MA, MPH</p> <p>Readings:</p> <p>Aponte J. Key elements of large survey data sets. <i>Nursing Economics</i>. 2010; 28(1):27-36.</p> <p>Bibb SC. Issues with secondary analysis of population health data. <i>Applied Nursing Research</i>. 2007; 20:94-99.</p>	
Session 2	Oral Presentations and Effective Communication
September 6, 2011	
<p>2.1 Creating and delivering effective oral presentations using PowerPoint and developing posters – Amanda Castel, MD, MPH 2.2 Effective communication: running meetings, professional email etiquette, how to give constructive criticism – Alan E. Greenberg, MD, MPH</p> <p>Readings:</p> <p>Thompson WM, Mitchell RL, Halvorsen RA et al. Scientific presentations: what to do and what not to do. <i>Invest Radiol</i>. 1987; 22:244-245.</p> <p>SS Sonnad. Describing data: statistical and graphical methods. <i>Radiology</i>. 2002; 225:622-628.</p> <p>Estrada CA, Patel SR, Talente G, Kramer S. The 10 minute oral presentation: what should I focus on? <i>Am J Med Sci</i>. 2005; 329(6):306-309.</p>	
Session 3	Scientific Writing: Abstracts and Articles
September 13, 2011	
<p>3.1 Writing a scientific abstract – Alan E. Greenberg, MD, MPH 3.2 How to put together a manuscript for publication – Alan E. Greenberg, MD, MPH</p>	

Reading:

Branson RD. Anatomy of a Research Paper. *Respiratory Care*. 2004; 49(10):1222-1228.

Session 4 Scientific Ethics and Sample Size Estimation

September 20, 2011

- 4.1 Sampling and Sample Size Estimation – Angelo Elmi, PhD
- 4.2 Scientific Ethics – Samuel Simmens, PhD

Readings:

Eng J. Sample size estimation: how many individuals should be studied? *Radiology*. 2003; 227:309-313.

Session 5 Management of Research Projects

September 27, 2011

- 5.1 Brief Project Management Presentation with Project Timetable – Irene Kuo, PhD
- 5.2 Presentation by former MPH student on his/her Practicum Experience – TBA
- 5.3 Student presentations on **Practicum/CE project** and critiques (graded) – Small groups lead by department faculty

Reading:

Nakashian M. A Guide to Strengthening and Managing Research Grants. Robert Wood Johnson Foundation. November 2007. Available at <http://www.rwjf.org/pr/product.jsp?id=41408>.

Assignment due:

Scientific abstract and PowerPoint presentation on **assigned scientific article** due at the beginning of class (graded).

Session 6 Preparation of Proposals, Analysis Plans, and Project Write-Up

October 4, 2011

- 6.1 Preparation of a Proposal, Analysis Plans, and Project write-up – Manya Magnus, PhD
- 6.2 Student presentations on **Practicum/CE project** and critiques (graded) – Small groups lead by department faculty

Readings:

To be posted to Blackboard

Session 7 Public Health Practice at the Local/Government Level	October 11, 2011
<p>7.1 Guest Speaker – Local Public Health Leader (TBA) 7.2 Closing remarks, integration of skills, and student feedback</p> <p>Assignment due: Three research summaries must be e-mailed to Professors Castel and Goldman by the end of the semester.</p>	