
University of Florida
College of Public Health & Health Professions
Syllabus PHC 6711: Measurement in Epidemiology and Outcomes Research (3 credit hours)
Fall 2022
Delivery Format: Online Synchronous, Thursdays 12:50 pm to 2:50 pm
Canvas Course Website: <https://elearning.ufl.edu>

(Last update 6/3/2022)

Instructor Information

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Preferred course communications: Email, office hours

Prerequisites

PHC 6001 and PHC 6050, or instructor permission.

Purpose and Outcome

Course Overview. This course describes major designs and principles of measurement for epidemiology and outcomes research.

Course Objectives. This course focuses on principles of measurement in epidemiologic/health outcomes research studies. Students will read and review methodological articles from the public health literature, and discuss how the methods presented can be leveraged to improve study design. Special emphases include: exposure dose construction, methods of measurements, measurement errors, including assessment and mitigation, questionnaire design, interview strategies, and use of records and biomarkers. This course also features special topics, for examples, measurement issues in clinical outcomes, substance use and psychiatric outcomes, exposome, gut microbiota, genetics, real-time biomonitoring, qualitative research, and bioinformatics.

Instructional Methods. We will meet for 13 sessions. Classes are lecture- and discussion-based, and the goal of each session is to enable each student to understand the merits and limitations of specific methods with respect to primary study design. Prior to each session, reading will be assigned from the epidemiologic literature. It is required that students read the literature and answer the Literature Review Questions before each meeting session. Assignments and Literature Review answers are due the day before the class. In addition, there are final project presentation and critique of the presentation. See instruction for the final project on Canvas. There are no exams.

Grading Policy

<i>Percent</i>	<i>Grade</i>	<i>Grade Points</i>
90.0 - 100.0	A	4.00
87.0 - 89.9	A-	3.67
84.0 - 86.9	B+	3.33
81.0 - 83.9	B	3.00
78.0 - 80.9	B-	2.67
75.0 - 79.9	C+	2.33
72.0 - 74.9	C	2.00
69.0 - 71.9	C-	1.67
66.0 - 68.9	D+	1.33
63.0 - 65.9	D	1.00
60.0 - 62.9	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy may be found at:

<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#grades>

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting

<https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at gatorevals.aa.ufl.edu/public-results/.

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” [The Honor Code](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor of this class.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see the [Notification to Students of FERPA Rights](#).

Campus Resources:

Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: counseling.ufl.edu/cwc, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or police.ufl.edu.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling.

Library Support, Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.

Course Schedule:

Week/ Date / Topic (text reading)	Literature Discussion
1. 9/1/22– Group formation, Introduction of measurement	None
Turn in Literature Review answers for Doll article Due 9/7/22 by 11:59pm	
2. 9/8/22– Dose and timing of exposure (Reading: White, Armstrong & Saracci Ch. 1)	Doll et al. Mortality in relation to smoking: 50 years' observations on male British doctors. BMJ 2004.
Assignment 1 Due on 9/14/22 by 11:59pm	
3. 9/15/22 – Methods of measurement (Ch. 2)	Banack et al. Is BMI a valid measure of obesity in the postmenopausal woman. Menopause 2019, 25: 307-313.
Turn in Literature Review answers for Patterson article. Due on 9/21/22 by 11:59pm	
4. 9/22/22 – Measurement error & its effect: continuous exposures (Ch. 3, skip p.83-91)	Patterson et al. Measurement characteristics of the Women's Health Initiative Food Frequency Questionnaire. Ann Epidemiol 1999; 9:178-187.
Assignment 2 Due on 9/28/22 by 11:59pm	
5. 9/29/22 – Validity and reliability studies (Ch. 4, skip p.128-137)	Barnard et al. Inter-pathologist and pathology report agreement for ovarian tumor characteristics in the Nurses' Health Studies. Gynecologic Oncology. 2019
Assignment 3 Due on 10/5/22 by 11:59pm	

6. 10/6/22 – Measurement error & its effect: Categorical exposures (p.83-91 & 128-133); Reducing measurement error and its effects (Ch. 5 skip p.158-170).	Prentice et al. Biomarker-calibrated energy and protein consumption and increased cancer risk among postmenopausal women. AJE 2009; 169:977-989.
Assignment 4 Due on 10/12/22 by 11:59pm	
7. 10/13/22 – Questionnaire design and recall strategies (Ch 6)	Sun et al. Item bank development, calibration and validation for patient-reported outcomes in female urinary incontinence. Qual Life Res 2016; 25: 1645-1654.
Turn in Literature Review answers for Andersen & Olsen Due on 10/19/22 by 11:59pm	
8. 10/20/22 – Quality control procedures- General and personal interview (p. 158-170 & Ch.7)	Andersen and Olsen. Do interviewers' health beliefs and habits modify responses to sensitive questions? A study using data collected from pregnant women by means of computer-assisted telephone interviews. AJE 2002;155:95-100.
Turn in Literature Review answers for Filipp article. Due 10/26/22 by 11:59pm	
9. 10/27/22 – Use of records, diaries, and proxy respondents (Ch. 8)	Filipp SL, et al. Characterization of adult obesity in Florida using the OneFlorida clinical research consortium. Obes Sci Pract. 2018 Jun 15;4(4):308-317.
Assignment 5 Due on 11/2/22 by 11:59pm	
10. 11/3/22- Biomarkers (Ch. 9)	Hankinson et al. Reproducibility of plasma hormone levels in postmenopausal women over a 2-3-year period. Cancer Epidemiology, Biomarkers & Prevention 1995, 4:649-654.
11. 11/10/22- Special lecture: Dr. Thomas Pearson	None. (Student presentation)
12. 11/17/22 – Special lecture: Dr. Yan Wang. Real-time assessment of substance use	None. (Student presentation)
13. 11/24/22 No Class (Thanksgiving holiday)	
14. 12/1/22 Special lecture: Dr. Deepthi Varma. Qualitative research and mixed methods research	None. (Student presentation)