Department of Health Outcomes and Biomedical Informatics
College of Medicine
University of Florida

GMS 6802: Health Outcomes Research for Chronic Diseases
Spring 2026

Instructor:	Rahma Mkuu, PhD, MPH
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Classroom:	Malachowsky Hall for Data Science & Information Technology, 7037
Time:	Thursdays, 9:30 am – 12:30 pm
Credits:	3
Office Hours:	Wednesday 9:00 am -10:00 am and Thursday 12:30 pm -1:30 am or by appointment

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Be considerate of others by showing up on time and placing all electronic devices on silent upon entry into the classroom.

COURSE DESCRIPTION

This course provides an in-depth analysis of chronic disease risk factors and health outcomes across the life course, from pre-birth to death. Students will learn about the leading chronic diseases in the United States, current knowledge and gaps, and evidence-based interventions that have been shown to improve chronic disease outcomes.

COURSE OBJECTIVES

Students who successfully complete this course will be able to:

1. Identify the risk factors associated with major chronic diseases;
2. Demonstrate familiarity with different data sources and research methods used in conducting health outcomes assessment for chronic diseases;
3. Learn how different research designs and methods are used to study health outcomes in chronic diseases, and how these tools help bring proven health interventions into everyday practice.
4. Describe approaches for measuring outcomes among major chronic conditions and evaluate the strengths and limitations of those methods;
5. Explain the implications for childhood chronic conditions for adult health;
6. Evaluate different models of transitioning from child-centered care to adult-oriented care for chronic disease management and health outcomes.

COURSE FORMAT

Lectures will be used to provide foundational knowledge for each major topic covered. Lectures will be followed by class discussions of current articles in the peer-reviewed literature. Each student will lead at least one article Discussion. Students will also be required to work on a group project resulting in a draft manuscript to be submitted for publication.

Student Requirements:

EVALUATION AND GRADING

Course Reading Presentation (50 points each article =200 points)

Objective: To demonstrate understanding of key course readings and foster critical discussion among peers.

Instructions:

1. Article Selection:
   Each student will select four articles from the assigned course readings.
2. Presentation Requirements:
   - Duration: Each presentation should be no longer than 15 minutes.
   - Content:
     - Provide a concise summary of each article, including its purpose, methodology, key findings, and implications.
     - Highlight the article's relevance to the course themes and real-world application.
   - Discussion Questions:
     - Prepare at least three thought-provoking questions related to the article's content, methodology, or implications.
     - Questions should encourage critical thinking and class engagement.
3. Discussion Period:
   After the presentation, 15 minutes will be allotted for discussion based on the questions posed.

Evaluation Criteria:

- Clarity and organization of the presentation (20%)
- Accuracy and depth of article summary (20%)
- Quality and relevance of discussion questions (20%)
- Engagement and facilitation of discussion (20%)
- Professionalism and time management (20%)

Review of Chronic Disease Self-Management Education Program (100 points)

Objective: To critically evaluate an evidence-based chronic disease management education activity and reflect on its applicability in improving patient outcomes.

Instructions:

1. Select an Activity:
   Choose one chronic disease management improvement education activity from the options provided by the American Medical Association (AMA). These activities are available at: https://shorturl.at/9uSmt - *9 CME Activities to Help You Improve Chronic Disease Management | AMA*
2. Complete the Activity:
   Engage fully with the selected CME activity and obtain proof of completion (certificate or confirmation).
3. Prepare a Written Report (1 page):
   Your report should include:

- Summary: A concise overview of the activity, including its purpose, content, and intended outcomes.
- Critical Evaluation: Discuss the strengths and limitations of the program. Consider factors such as evidence base, relevance to clinical practice, accessibility, and potential impact on patient self-management.
- Reflection: Briefly comment on how this activity could inform your future practice or research in chronic disease management.

Submission Requirements:

- Proof of completion (upload certificate or screenshot).
- One-page summary and evaluation (single-spaced, professional tone).

Evaluation Criteria:

- Completeness of summary (30%)
- Depth of critical evaluation (40%)
- Clarity, organization, and professionalism (30%)

Group Project – Chronic Disease Manuscript (250 points: Draft Introduction and Methods =50, Draft results =50, Draft discussion = 50, Full manuscript Draft=100)

Objective: To collaboratively research and synthesize recent literature on a chronic disease topic, producing a scholarly review article that demonstrates critical analysis and integration of evidence.

Instructions:

1. Topic Selection:
   - As a group, select a specific topic related to chronic disease (e.g., prevention strategies, management interventions, health disparities, policy implications).
   - Ensure the topic is narrow enough to allow for a focused and comprehensive review.
2. Research and Literature Review:
   - Identify and critically review peer-reviewed articles published within the last five years.
   - Aim for a balanced representation of studies, including diverse perspectives and methodologies.
3. Manuscript Requirements:
   Your article should:
   - Provide a well-organized overview of the current state of research on the selected topic.
   - Selection of publicly available datasets and appropriate analysis.
   - Summarize key themes, major findings, and ongoing debates in the literature.
   - Identify gaps in knowledge and highlight opportunities for future research.
   - Demonstrate critical synthesis, not just a summary of individual studies.
   - Identify expert at UF to serve as additional author for feedback.

Submission Requirements:

- Include proper citations and references.
- Suggested length: 10–15 pages, double-spaced, excluding references.

Evaluation Criteria:

- Depth and quality of literature synthesis (30%)
- Organization and clarity of manuscript (20%)
- Identification of gaps and future directions (20%)
- Critical analysis and integration of evidence (20%)
- Adherence to formatting and citation standards (10%)

Grades will be assigned as follows:

Letter Grade	Grade Points	Grade Percentage
A	4.0	95-100
A-	3.67	90-94
B+	3.33	87-89
B	3.0	83-86
B-	2.67	80-82
C+	2.33	77-79
C	2.0	73-76
C-	1.67	70-72
D+	1.33	67-69
D	1.0	63-66
D-	.67	60-62
E	0	59 and below

For additional grading policy information, you may visit the graduate catalog web page at Graduate Catalog < University of Florida (ufl.edu) or the HOBI Student Handbook Student Handbook » Health Outcomes & Biomedical Informatics » College of Medicine » University of Florida (ufl.edu)

TEXTBOOKS AND READINGS

There is no assigned textbook. The following readings will be used. Supplemental readings may be requested.

COURSE CALENDER

Date	Topic	Reading /Assignment
Jan 15	Introduction to the course	Syllabus Review **SELECTION OF PRESENTATION ARTICLES**
Jan 22	Defining Chronic Disease	Goodman, R. A., Posner, S. F., Huang, E. S., Parekh, A. K., & Koh, H. K. (2013). Defining and measuring chronic conditions: imperatives for research, policy, program, and practice. *Preventing chronic disease*, *10*. Van Der Lee, J. H., Mokkink, L. B., Grootenhuis, M. A., Heymans, H. S., & Offringa, M. (2007). Definitions and measurement of chronic health conditions in childhood: a systematic review. *Jama*, *297*(24), 2741-2751. **SELECTION OF MANUSRIPT GROUPS**

Jan 29	Multimorbidity	Skou, S. T., Mair, F. S., Fortin, M., Guthrie, B., Nunes, B. P., Miranda, J. J., ... & Smith, S. M. (2022). Multimorbidity. *Nature Reviews Disease Primers*, *8*(1), 48. Ho, I. S. S., Azcoaga-Lorenzo, A., Akbari, A., Black, C., Davies, J., Hodgins, P., ... & Guthrie, B. (2021). Examining variation in the measurement of multimorbidity in research: a systematic review of 566 studies. *The Lancet Public Health*, *6*(8), e587-e597. **DEFINE MANUSCRIPT RESEARCH QUESTIONS**
Feb 5	Chronic disease across the life course	Lynch, J., & Smith, G. D. (2005). A life course approach to chronic disease epidemiology. *Annu. Rev. Public Health*, *26*(1), 1-35. Braveman, P., & Barclay, C. (2009). Health disparities beginning in childhood: a life-course perspective. *Pediatrics,* 124(Supplement_3), S163-S175. **MANUSCRIPT: LITERATURE REVIEW**
Feb 12	Chronic Disease Risk Factors	Benavidez, G. A., Zahnd, W. E., Hung, P., & Eberth, J. M. (2024). Peer Reviewed: Chronic Disease Prevalence in the US: Sociodemographic and Geographic Variations by Zip Code Tabulation Area. *Preventing chronic disease*, *21*. Brochier, A., Messmer, E., Wexler, M. G., Rogers, S., Cottrell, E., Tripodis, Y., & Garg, A. (2023). A cross-sectional study of relationships between social risks and prevalence and severity of pediatric chronic conditions. *BMC pediatrics*, *23*(1), 115. **MANUSCRIPT: LITERATURE REVIEW**
Feb 19	Chronic Diseases Models of Care	Saxby, N., Beggs, S., Kariyawasam, N., Battersby, M., & Lawn, S. (2020). Do guidelines provide evidence-based guidance to health professionals on promoting developmentally appropriate chronic condition self-management in children? A systematic review. *Chronic Illness*, *16*(4), 239-252. Grover, A., & Joshi, A. (2015). An overview of chronic disease models: a systematic literature review. *Global journal of health science*, *7*(2), 210. **MANUSCRIPT: INTRODUCTION & METHODS**

Feb 26	Lifestyle Medicine Research	Ng, R., Sutradhar, R., Yao, Z., Wodchis, W. P., & Rosella, L. C. (2020). Smoking, drinking, diet and physical activity—modifiable lifestyle risk factors and their associations with age to first chronic disease. *International journal of epidemiology*, *49*(1), 113-130. Vodovotz, Y., Barnard, N., Hu, F. B., Jakicic, J., Lianov, L., Loveland, D., ... & Parkinson, M. D. (2020). Prioritized research for the prevention, treatment, and reversal of chronic disease: recommendations from the lifestyle medicine research summit. *Frontiers in medicine*, *7*, 585744. **MANUSCRIPT: METHODS & RESULTS**
Mar 5	Quality of Life ASSIGNMENT DUE: Manuscript draft introduction and methods	Firkins, J., Hansen, L., Driessnack, M., & Dieckmann, N. (2020). Quality of life in "chronic" cancer survivors: a meta-analysis. *Journal of Cancer Survivorship*, *14*, 504-517. Eiser, C., & Morse, R. (2001). A review of measures of quality of life for children with chronic illness. *Archives of disease in childhood*, *84*(3), 205-211. **MANUSCRIPT: ANALYSIS & RESULTS**
Mar 12	Transition of Care	Huang, J. S., Gottschalk, M., Pian, M., Dillon, L., Barajas, D., & Bartholomew, L. K. (2011). Transition to adult care: systematic assessment of adolescents with chronic illnesses and their medical teams. *The Journal of pediatrics*, *159*(6), 994-998. Shavit, S., Aminawung, J. A., Birnbaum, N., Greenberg, S., Berthold, T., Fishman, A., ... & Wang, E. A. (2017). Transitions clinic network: challenges and lessons in primary care for people released from prison. *Health Affairs*, *36*(6), 1006-1015. **MANUSCRIPT: ANALYSIS & RESULTS**
Mar 26	Chronic Disease Surveillance ASSIGNMENT DUE: Manuscript draft results	Filipp, S. L., Cardel, M., Hall, J., Essner, R. Z., Lemas, D. J., Janicke, D. M., ... & Gurka, M. J. (2018). Characterization of adult obesity in Florida using the OneFlorida clinical research consortium. *Obesity Science & Practice*, *4*(4), 308-317. Hohman, K. H., Zambarano, B., Klompas, M., Wall, H. K., Kraus, E. M., Carton, T. W., & Jackson, S. L. (2023). Development of a hypertension electronic phenotype for chronic disease surveillance in electronic health records: key analytic decisions and their effects. *Preventing Chronic Disease*, *20*, E80. **MANUSCRIPT: DRAFT DISCUSSION**

Apr 2	Chronic Disease Interventions	McGinty, E. E., Seewald, N. J., Bandara, S., Cerdá, M., Daumit, G. L., Eisenberg, M. D., ... & Stuart, E. A. (2024). Scaling interventions to manage chronic disease: innovative methods at the intersection of health policy research and implementation science. *Prevention Science*, *25*(Suppl 1), 96-108. Liu, H., Mohammed, A., Shanthosh, J., Laba, T. L., Hackett, M. L., Peiris, D., & Jan, S. (2019). Process evaluations of primary care interventions addressing chronic disease: a systematic review. *BMJ open*, *9*(8), e025127. **MANUSCRIPT: DRAFT DISCUSSION**
April 9	Artificial Intelligence and Chronic Disease ASSIGNMENT DUE: Manuscript draft discussion	Subramanian, M., Wojtusciszyn, A., Favre, L., Boughorbel, S., Shan, J., Letaief, K. B., ... & Chouchane, L. (2020). Precision medicine in the era of artificial intelligence: implications in chronic disease management. *Journal of translational medicine*, *18*, 1-12. Nusinovici, S., Tham, Y. C., Yan, M. Y. C., Ting, D. S. W., Li, J., Sabanayagam, C., ... & Cheng, C. Y. (2020). Logistic regression was as good as machine learning for predicting major chronic diseases. *Journal of clinical epidemiology*, *122*, 56-69.
April 16	ASSIGNMENT DUE: Deadline for full draft manuscript ASSIGNMENT DUE: Review of Chronic Disease Self-Management Education Program	

COURSE POLICIES

Students are expected to adhere to the following course policies.

Class Attendance

Class attendance is required. Excused absences follow the criteria of the UF Graduate Catalog (e.g., illness, conference attendance, serious family emergency, military obligations, religious holidays), and should be communicated to the instructor prior to the missed class day when possible. University of Florida rules require attendance during the first two course sessions, and students must attend all course sessions of student presentations for this class. Missing more than three scheduled sessions will result in a failure. Regardless of attendance, students are responsible for all material presented in class and meeting the scheduled due dates for class assignments. Finally, students must read the assigned readings *prior to* the class meetings, and be prepared to discuss the material. For more information, please visit: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

Class Decorum

Please: (1) be on time, (2) respect others' points of view, (3) listen quietly when others are speaking, and (4) silence cell phones, alarms, and other such distractions.

Canvas

Course information, readings, and grades are available on Canvas at http://lss.at.ufl.edu/. You must have a Gatorlink account to log on. You are expected to check the web site on a regular basis (i.e., at least one day prior to each class meeting).

Policy on Style for Citation and Plagiarism:

The two key purposes of citation are to (1) give appropriate credit to the authors of information, research findings, and/or ideas (and avoid plagiarism) and (2) facilitate access by your readers to the sources you use in your research.

Quotations: When directly quoting an outside source, the borrowed text, regardless of the amount, must be surrounded by quotation marks or block quoted. Quoted text over two lines in length should be single-spaced and indented beyond the normal margins. Every quote must include a source—the author, title, volume, page numbers, etc.—whether an internal reference, footnote, or endnote is used in conjunction with a bibliography page.

Paraphrasing or Citing an Idea: When summarizing an outside source in your own words or citing another person's ideas, quotation marks are not necessary, but the source must be included. This includes, but is not confined to, personal communications from other students, faculty members, experts in the field, summarized ideas from published or unpublished resource, and primary methods derived from published or unpublished sources. Use the general concept of "when in doubt – cite."

Plagiarism is a serious violation of the academic honesty policy of the College. If a student plagiarizes others' material or ideas, he or she may receive an "E" in the course. The faculty member may also recommend further sanctions to the Dean, per the College disciplinary action policy. Generally speaking, the three keys of acceptable citation practice are: 1) thoroughness, 2) accuracy, and 3) consistency. In other words, be sure to fully cite all sources used (thoroughness), be accurate in the citation information provided, and be consistent in the citation style you adopt. All references should include the following elements: 1) last names along with first and middle initials; 2) full title of reference; 3) name of journal or book; 4) publication city, publisher, volume, and date; and 5) page numbers referenced. When citing information from the Internet, include the WWW address at the end, with the "access date" (i.e., when you obtained the information), just as you would list the document number and date for all public documents. When citing ideas or words from an individual that are not published, you can write "personal communication" along with the person's name and date of communication.

Returned Assignments

Keep copies of all assignments that you submit and of all grades until you receive official notification of your final course grade.

Policy on Make-Up Work

Students are allowed to make up work only as the result of illness or other unanticipated circumstances. In the event of such emergency, documentation will be required in conformance with university policy. Work missed for any other reason will earn a grade of zero.

Campus Academic Policies and Resources: https://go.ufl.edu/syllabuspolicies.