Culinary Medicine: A Tool for Health Equity, Disease Prevention, and Disease Management

Course Overview

Course Description

Culinary medicine sits at the intersection of nutrition science and public health. Concerns surrounding the role of diet in preventing and managing diseases, as well as the impact of social determinants on health, demand solutions that are both scientifically grounded and practically applicable. This course is positioned at this crossroads, focusing not only on how to apply nutritional science to disease prevention and management, but also on why these interventions must consider community resources and accessibility. Through rigorous exploration of disease-specific dietary strategies, practical culinary skill development, and the application of nutrition science and public health, students will leave this class prepared to design and implement effective, affordable interventions for preventing and managing disease while promoting health.

Learning Objectives

This course will enable you to

1. learn the core principles of culinary medicine and apply nutritional science to develop community-based interventions for preventing disease and promoting health.
2. explore how social determinants of health influence diet and how to leverage community resources to develop dietary solutions that promote health.
3. develop practical culinary skills and learn to prepare nutritious recipes that are both accessible and affordable.

Course Instructor

Neel Singh
BSPH Student, Nutrition Science and Research, Gillings School of Global Public Health
Email: nisingh@unc.edu
Phone: (919) 271-6615

Faculty Mentor

Dr. Alice Ammerman
Professor, Department of Nutrition, Gillings School of Global Public
Director, Center for Health Promotion and Disease Prevention
Email: alice_ammerman@unc.edu

Contact

All course communication will take place over text message and Canvas. We will have a class-wide group chat for day-to-day announcements. Please ask all questions related to course content or assignments in this group chat so everyone can benefit from the question asked and answer provided. If you need to talk about any personal matters not relevant to the entire class (e.g., absences, individual feedback, or things in your personal life), please text me individually. Files will be stored and accessible on Canvas.

Office Hours

Available by appointment. Please text me to schedule a meeting.

Course Mode

This is a primarily in-person, participation-based course. In the rare situation where class will be held virtually (via Zoom), I will notify the class beforehand and send out a Zoom link.

Lecture
SPCL 400 - 308 | Spring 2025
Wednesdays, 3:35PM - 5:35PM, Rosenau Hall Room 241
During two class meetings, the class will meet in a different room in Gillings. These meeting dates and alternative room will be announced beforehand.

Emergency Situations
In the event of any emergencies, disasters, or lockdowns, I will stop teaching. We will follow all Gillings School and University protocols for the situation at hand. If we are using the kitchen, we will immediately turn off all appliances (including microwaves, ovens, blenders, etc.).

Course Materials
All course materials for this course will be made available for free to students. This includes food and readings.

Prerequisites
This course has no formal prerequisites. No prior study of nutrition is expected or required. A nutrition science primer will be provided in the first few weeks of class to bring students up to speed with foundational topics in the field.

Credit Hours and Grading
This is a one credit hour, pass/fail class. To pass this class, you must meet the three below requirements:
1. **Attendance:** Attendance is verified through in-class participation and post-class, completion-graded checks for understanding quizzes. To pass the class, students must miss no more than 2 classes, which must be approved by Instructor Singh with a valid excuse. Beyond two absences, a University Approved Absence is required to pass the class.
2. **Assignments:** There will be a syllabus acknowledgement, two in-class presentations, one graded discussion, and three pre-lab quizzes (given to ensure students are prepared prior to Culinary Skills Lab days) throughout the semester. A rubric will be given for each presentation and graded discussion. An average of 80% across these items is required to pass the class.
3. **Capstone Culinary Project:** There will be six deliverables separate from regular assignments designed to prepare for the Capstone Culinary Project. A rubric will be given for each deliverable. An average of 80% across all deliverables is required to pass the class. Additionally, attendance is required during both cooking days. These dates are listed in the course schedule. An absence on one of these days without a University Approved Absence will result in failure of the course.

Assignment Descriptions
1. **Syllabus Acknowledgement:** Students will sign a form acknowledging that they have read and understand the syllabus and all class policies.
2. **Pairs Nutrition-Related Disease Presentation:** In pairs (and one group of three), students will select a nutrition-related disease and prepare and deliver a short 5-7 minute-long presentation on the public health impact, mechanisms, and roles nutrition and malnutrition play in the prevention and promotion of the disease. A full rubric will be posted on Canvas.
3. **Mediterranean Diet Study Journal Club:** Students will read the abstract of one of three assigned Mediterranean Diet journal articles before class. After a lecture on dietary patterns and disease prevention, students will read their assigned articles in groups with instructor support available to clarify concepts in the article. Students will communicate their assigned article to other students who were assigned different articles through a journal club-style discussion. A full rubric will be posted on Canvas.

4. **Pairs Dietary Patterns Presentation:** In pairs (and one group of three), students will select a diet (besides the Mediterranean Diet) and prepare and deliver a short 5-7 minute-long presentation on the goals, composition, effectiveness, risks, benefits, and public health impact of the diet. A full rubric will be posted on Canvas.

Capstone Culinary Project Deliverable Descriptions

This project is designed for students to incorporate the knowledge and skills learned throughout the semester to identify a disparity in the public health impact of a nutrition-related disease in a population, design an affordable and accessible culinary intervention to address this disparity, communicate the benefits and feasibility of this intervention to a potential implementer, and apply culinary skills to cook the meal themselves. For example, a student could identify significantly higher rates of Type II diabetes among Native American populations, adapt a common Native American meal to adhere more closely to the Mediterranean Diet using ingredients commonly available in food marts, and communicate the benefits and feasibility of this meal to Native American populations. There will be three deliverables, each requiring that a draft (with feedback given) and final deliverable be turned in. Students will work in pairs (and one group of three). In-class, guided workdays will be given to help students complete deliverables and receive peer-reviewed and instructor-reviewed feedback. The culinary interventions will be prepared on the final two days of class.

1. **Proposal (Draft and Final):** Student teams will identify a population of interest and a nutrition-related disease disparity involving this population. Teams will list at least three potential culinary interventions to address this disparity (but will not make full recipes). Student teams will communicate the public health impact of this disparity and how the three potential interventions can help address this disparity to a potential implementer. A full rubric will be posted on Canvas.
2. **Recipe (Draft and Final):** Based on the Final Proposal, student teams will select one of the three potential culinary interventions and develop a full recipe, including all ingredients, directions, and a nutrition facts label. The ingredients must cost $15 or less. A full rubric will be posted on Canvas.
3. **Cookbook Entry (Draft and Final):** Based on the Final Proposal, Recipe, and pictures of the meal, student teams will prepare a two-page cookbook entry to communicate all elements of the Proposal and Recipe to a potential implementer in a clear and accessible format. A full rubric will be posted on Canvas.

Course Outline

Date	Lecture Topics and In-class Activities	Pre-class Reading (PDFs on Canvas)	Assignment Due (All Due at 11:59PM)
Week 1 - January 8	Introduction to Culinary Medicine / Culinary Skills Lab I (Orientation) / Nutrition Primer I	None	Check for Understanding Quiz Due Wednesday January 8
Week 2 - January 15	Nutrition Primer II	Diet-related diseases are the No. 1 cause of death in the US – yet many doctors receive little to no nutrition education in med school (https://theconversation.com/diet-related-diseases-are-the-no-1-cause-of-death-in-the-us-yet-many-doctors-receive-little-to-no-nutrition-education-in-med-school-236217)	Syllabus Acknowledgement / Check for Understanding Quiz

Week	Topic	Readings	Due
			Both Due Wednesday January 15
Week 3 - January 22	Nutrition Primer III / Culinary Skills Lab II (Knife Skills)	Knife Skills 101 (https://cookingessentials.cals.ncsu.edu/wp-content/uploads/sites/116/2022/07/KnifeSkills-Handout.pdf) Explore NC State Extension's Knife Skills Videos (https://localfood.ces.ncsu.edu/local-food-nutrition-health/cooking-local-foods/knife-skills/) A 100% on the pre-class quiz is needed to participate in the Culinary Skills Lab. Students can retake unlimited times to reach this score	Pre-class Quiz Due January 21 / Check for Understanding Quiz Due Wednesday January 22
Week 4 - January 29	Pairs Nutrition-Related Disease Presentation / Nutrition Primer IV	Common Measures and Statistics in Epidemiological Literature (https://sph.unc.edu/wp-content/uploads/sites/112/2015/07/nciph_ERIC3.pdf)	Pairs Nutrition-Related Disease Presentation Slides Due Tuesday January 28 / Check for Understanding Quiz Due Wednesday January 29
Week 5 - February 5	Culinary Medicine for Disease Prevention I / Mediterranean Diet Study Journal Club	Students will be assigned to one of three groups and should read the abstract of their assigned article before class. Group 1: Adherence to Mediterranean diet and health status: meta-analysis (https://doi.org/10.1136/bmj.a1344) Group 2: Primary Prevention of Cardiovascular Disease with a Mediterranean Diet (https://doi.org/10.1056/NEJMoa1200303) Group 3: Mediterranean diet lowers all-cause and cardiovascular mortality for patients with metabolic syndrome (https://doi.org/10.1186/s13098-023-01052-7)	Check for Understanding Quiz Due Wednesday February 5
Week 6 - February 12	Social Determinants of Health & The Food System / Culinary Skills Lab III (Food Safety)	Food Insecurity – Healthy People 2030 (https://odphp.health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/food-insecurity) Four Steps to Food Safety (https://www.cdc.gov/food-safety/prevention/index.html) A 100% on the pre-class quiz is needed to participate in the Culinary Skills Lab. Students can retake unlimited times to reach this score	Pre-class Quiz Due Tuesday February 11 / Check for Understanding Quiz Due Wednesday February 12
Week 7 - February 19	Pairs Dietary Patterns Presentation / Strategies to Improve Food Environments	Policy Basics: The Supplemental Nutrition Assistance Program (https://www.cbpp.org/research/policy-basics-the-supplemental-nutrition-assistance-program-snap)	Pairs Dietary Patterns Presentation Slides Due Tuesday February 18 / Check for Understanding Quiz Due

			Wednesday February 19
Week 8 - February 26	Culinary Medicine for Disease Prevention II / Guest Speaker (Dr. Alice Ammerman)	UNC's southern twist on Mediterranean diet keeps diners on track, earns $3.8M grant (https://www.northcarolinahealthnews.org/2019/07/19/uncs-southern-twist-on-mediterranean-diet-keeps-diners-on-track/)	Check for Understanding Quiz Due Wednesday February 26
Week 9 - March 5	Culinary Medicine for Disease Management	Medical Nutrition Therapy (https://www.osmosis.org/answers/medical-nutrition-therapy)	Check for Understanding Quiz Due Wednesday March 5
Week 10 - March 12	Spring Break – No Class		
Week 11 - March 19	Culinary Skills Lab IV (Med South)	After voting on a Med South dish during the previous class, students will read the recipe and complete a pre-class quiz based on the recipe. (Recipe will be posted to Canvas A 100% on the pre-class quiz is needed to participate in the Culinary Skills Lab. Students can retake unlimited times to reach this score.	Pre-class Quiz Due Tuesday March 18
Week 12 - March 26	Recipe Development / Capstone Culinary Project Guided Workday (Proposal)	Explore recipes from the American College of Culinary Medicine (https://mds.culinarymedicine.org/category/all-recipes/)	Capstone Culinary Project Draft Proposal Due Tuesday March 25 / Check for Understanding Quiz Due Wednesday March 26
Week 13 - April 2	Capstone Culinary Project Guided Workday (Recipe)	None	Capstone Culinary Project Final Proposal Due Friday March 28 / Capstone Culinary Project Draft Recipe Due Tuesday April 1
Week 14 - April 9	Capstone Culinary Project Guided Workday (Cooking Day Prep)	None	Capstone Culinary Project Final Recipe Due Tuesday April 8
Week 15 - April 16	Capstone Culinary Project Cooking Day	None	Capstone Culinary Project Draft Cookbook Entry Due Tuesday April 15

Week 16 - April 23	Capstone Culinary Project Cooking Day	None		Capstone Culinary Project Final Cookbook Entry Due Friday April 25

Policy Statements

University Class Attendance Policy

University Policy: As stated in the University's Class Attendance Policy, no right or privilege exists that permits a student to be absent from any class meetings, except for these University Approved Absences:

1. Authorized University activities: University Approved Absence Office (UAAO) website provides information and FAQs for students and FAQs for faculty related to University Approved Absences
2. Disability/religious observance/pregnancy, as required by law and approved by the Equal Opportunity and Compliance Office (EOC)
3. Significant health condition and/or personal/family emergency as approved by the Office of the Dean of Students, Gender Violence Service Coordinators, and/or the Equal Opportunity and Compliance Office (EOC).

Code of Conduct

All students are expected to adhere to University policy and follow the guidelines of the UNC Code of Conduct. Additional information can be found at https://studentconduct.unc.edu/.

Artificial Intelligence (AI) Use Policy

The following uses of generative AI tools are permitted in this course: *Categories of possible permitted use include, but are not limited to: topic selection, brainstorming and idea generation, research, source validation, outlining and planning, drafting, media creation, peer review, revising, and polishing.*

Syllabus Changes

The instructor reserves the right to make changes to the syllabus including project due dates and test dates. These changes will be announced as early as possible.

Acceptable Use Policy

By attending the University of North Carolina at Chapel Hill, you agree to abide by the University of North Carolina at Chapel Hill policies related to the acceptable use of IT systems and services. The Acceptable Use Policy (AUP) sets the expectation that you will use the University's technology resources responsibly, consistent with the University's mission. In the context of a class, it's quite likely you will participate in online activities that could include personal information about you or your peers, and the AUP addresses your obligations to protect the privacy of class participants. In addition, the AUP addresses matters of others' intellectual property, including copyright. These are only a couple of typical examples, so you should consult the full Information Technology Acceptable Use Policy, which covers topics related to using digital resources, such as privacy, confidentiality and intellectual property. Additionally, consult the Safe Computing at UNC website for information about data security policies, updates, and tips on keeping your identity, information, and devices safe.

Data Security & Privacy

UNC-Chapel Hill is committed to fulfilling its responsibilities of transparency as a state-sponsored institution of higher learning, protecting certain types of information, and using information Carolina

collects only for appropriate purposes. Consult the UNC-Chapel Hill Privacy Statement for additional information.

Grade Appeal Process
If you have any concerns with grading and/or feel you have been awarded an incorrect grade, please discuss it with me as soon as possible. If we cannot resolve the issue, you may talk to our director of undergraduate studies or department chair.

Equal Opportunity and Compliance - Accommodations
Equal Opportunity and Compliance Accommodations Team (Accommodations - UNC Equal Opportunity and Compliance) receives requests for accommodations for disability, pregnancy and related conditions, and sincerely held religious beliefs and practices through the University's Policy on Accommodations. EOC Accommodations team determines eligibility and reasonable accommodations consistent with state and federal laws.

Counseling & Psychological Services (CAPS)
UNC-Chapel Hill is strongly committed to addressing the mental health needs of a diverse student body. The Heels Care Network website is a place to access the many mental health resources at Carolina. CAPS is the primary mental health provider for students, offering timely access to consultation and connection to clinically appropriate services. Go to the CAPS website or visit their facilities on the third floor of the Campus Health building for an initial evaluation to learn more. Students can also call CAPS 24/7 at 919-966-3658 for immediate assistance.

Title IX Resources
Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Reports can be made online to the EOC or by contacting the University's Title IX Coordinator, Elizabeth Hall, or the Report and Response Coordinators in the Equal Opportunity and Compliance Office. Please note that I am designated as a Responsible Employee, which means I must report to the EOC any information I receive about the forms of misconduct listed in this paragraph. If you'd like to speak with a confidential resource, those include Counseling and Psychological Services and the Gender Violence Services Coordinators. Additional resources are available at safe.unc.edu.

Policy on Non-Discrimination
The University is committed to providing an inclusive and welcoming environment for all members of our community and to ensuring that educational and employment decisions are based on individuals' abilities and qualifications. Consistent with this principle and applicable laws, the University's Policy Statement on Non-Discrimination offers access to its educational programs and activities as well as employment terms and conditions without respect to race, color, gender, national origin, age, religion, genetic information, disability, veteran's status, sexual orientation, gender identity or gender expression. Such a policy ensures that only relevant factors are considered, and that equitable and consistent standards of conduct and performance are applied.
If you are experiencing harassment or discrimination, you can seek assistance and file a report through the Report and Response Coordinators (email reportandresponse@unc.edu or see additional contact info at safe.unc.edu) or the Equal Opportunity and Compliance Office. Please note that I am designated as a Responsible Employee, which means that I must report to the EOC any information I receive about harassment or discrimination. If you'd like to speak with a confidential resource, those include Counseling and Psychological Services and the University's Ombuds Office.

Diversity Statement
I value the perspectives of individuals from all backgrounds reflecting the diversity of our students. I broadly define diversity to include race, gender identity, national origin, ethnicity, religion, social class,

age, sexual orientation, political background, and physical and learning ability. I strive to make this classroom an inclusive space for all students. Please let me know if there is anything I can do to improve. I appreciate any suggestions.

Undergraduate Testing Center
The College of Arts and Sciences provides a secure, proctored environment in which exams can be taken. The Undergraduate Testing Center works with instructors to proctor exams for their undergraduate students who are not registered with ARS and who do not need testing accommodations as provided by ARS. In other words, the Center provides a proctored testing environment for students who are unable to take an exam at the normally scheduled time (with pre-arrangement by your instructor).

Learning Center
Want to get the most out of this course or others this semester? Visit UNC's Learning Center to make an appointment or register for an event. Their free, popular programs will help you optimize your academic performance. Try academic coaching, peer tutoring, STEM support, ADHD/LD services, workshops and study camps, or review tips and tools available on the website.

Writing Center
For free feedback on any course writing projects, check out UNC's Writing Center. Writing Center coaches can assist with any writing project, including multimedia projects and application essays, at any stage of the writing process. You don't even need a draft to come visit. To schedule a 45-minute appointment, review quick tips, or request written feedback online, visit the Writing Center's website.