

CONTENT FOR INTERDISCIPLINARY TEAM-TAUGHT INVENTORY

Performance expectations set at appropriately high levels (e.g., Students investigate large, complex problems from multiple disciplinary perspectives). Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

The course is designed to help students discover how even small changes in physical activity and dietary behaviors can improve wellbeing. Assessments target multiple levels of Bloom's taxonomy of learning. Each weekly module presents a new topic, first with lectures and readings, then assesses comprehension with a quiz (recall/understand). The practical assignments require application of the new knowledge presented in lectures and readings (apply), typically followed by a discussion prompt that facilitates analysis and reflection about the personal, community, and/or global impact of the lesson (analyze/evaluate). From another perspective, each lesson guides the student from the micro level (applying the knowledge to the self) to the macro level (examining the implications for public health, quality of life, economics).

Course objectives 1, 2, and 3 refer to the foundation of knowledge students will need to investigate large, complex public health problems. CO4 and CO5 represent the level of expectations for students that should be integrated into a 4-credit, team-taught theme course: *helping students build an advanced and in-depth thematic understanding of societally important topics by synthesizing perspectives from multiple disciplines or modes of inquiry, or by transferring learning to new, complex situations.* For example, in Week 3, we present physical exercise and nutrition as epigenetic modulators. As a field of study, genomics is in its infancy. But, researchers have uncovered numerous ways in which physical activity and dietary patterns can influence gene expression, influencing nutrient requirements, physical performance, and disease risk. Through the readings, activities, and participation in the discussion during Week 3, students will summarize the state of the science, identify evidence-based applications of the research, and learn to recognize examples of fraudulent or misleading information about the interactions among genes, physical activity, and nutrition (CO1).

In addition to participating in intellectually challenging weekly activities, students will select a topic for an Exploration Project to investigate throughout the semester and present their findings to their peers during Week 15. The Exploration Project will prompt students to examine the intersection of physical activity and nutrition on the human condition. For example, students may choose to delve into the topic of weight loss, prevention of a chronic disease, treatment of a chronic disease, or physical performance, by examining the impacts of diet and physical activity. The Exploration Project requires students to locate scientific research articles about their topics from peer-reviewed, scientific journals, read and interpret scientific research, then summarize their findings in a short, online presentation. During Week 16, students will receive feedback from instructors in two different disciplines (exercise science and nutrition) as well as their peers from various majors. Topics for the Exploration Project will be chosen by each student based on personal or professional relevance. Because the class includes students from diverse majors, this aspect of the course will be truly multidisciplinary (CO1, CO2, CO3, CO5).

Significant investment of time and effort by students over an extended period of time (e.g., engage the issue iteratively, analyzing with various lenses and seeking to construct an integrative synthesis).

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The sequence of the course programming is iterative in nature, the early weeks (Weeks 1 and 2) provide an introduction as to the “why” one should move more and eat well; the middle of the course (Weeks 3 – 8) describes the impact of various types of movement and meal patterns, or the “what” one should include in their exercise and nutrition regimen; and the last segment (Weeks 9 – 15) examines the “how” to move more and eat well, given the hectic schedules and barriers that are fixtures in our everyday lives. Each week, the students complete learning activities to apply the principles they are learning to themselves and/or the outside world.

Throughout the semester, students will perform independent research on a topic of choice to complete an Exploration Project. This project provides an opportunity for students to synthesize the two fields of exercise science and nutrition by exploring the intersection of food and fitness on human health and wellbeing. Students are asked to select and re-address a topic from multiple perspectives throughout the semester. Early in the semester, students will complete an activity to ensure they know how to locate research articles of a selected interest from peer-reviewed scientific journals. Midway through the semester, students will independently choose and summarize two articles from peer-reviewed scientific journals related to their topic. By week 14, students will locate two more articles related to their topic. The students’ review of at least four different scientific research articles will prompt them to analyze the topic through various lenses. Students will gather mid-term feedback on the Exploration Project from the instructors. Finally, students will synthesize their findings to prepare a short (3 to 5 minutes), online presentation to be shared with and critiqued by peers at the end of the semester. As students prepare their own presentations and critique their peers’ work, they will integrate learning from various lessons in this course as well as knowledge from previous classes and experiences (CO1, CO2, CO3, CO5).

Interactions with faculty and peers about substantive matters including regular, meaningful faculty mentoring and peer support about conducting interdisciplinary inquiry. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Each week, as they explore 14 engaging topics from the points of view of instructors in exercise science and nutrition, students will be exposed to new ideas using an interdisciplinary approach (food and fitness). In addition to hearing lectures and reading articles from the two separate fields of study, students will complete structured, practical activities to apply what they've learned from the lectures and readings to their own lives. For example, during Week 9, the lecture and readings pertain to nutrition and exercise strategies to achieve weight loss. The practical activity ("Step It Up") requires students to track steps, using technology such as a smartphone, pedometer, or alternatively a step-conversion chart over several days. Similarly, students will have an opportunity to track dietary habits over time using dietary analysis software. These activities demonstrate the utility of using technology as a method of self-monitoring to facilitate behavior change (CO2, CO4).

The diversity in fields of study of the students in the class will facilitate interdisciplinary inquiry throughout the course. On a small scale, students will receive feedback from peers during weekly discussions. During Week 3, the discussion topic is "What I Hate About Exercise." Essentially, this prompts students to identify personal barriers to engaging in regular physical activity. As students respond to each other in the discussion forum, their task will not be to commiserate with their peers, but to provide helpful and motivational suggestions to help their peers overcome barriers to physical activity. Each student will draw upon his or her own educational preparation and personal experiences to offer support to his or her peers. For example, if one student describes boredom as a barrier, a peer might suggest enlisting the help of a workout partner to provide social support (CO2, CO4).

On a larger scale, students will receive meaningful faculty mentoring as they work on their Exploration Project throughout the semester. As described above, the Exploration Project prompts students to examine the intersection of physical activity and nutrition by selecting and summarizing research articles from peer-reviewed scientific journals and synthesizing their findings with a short, online presentation to their peers at the end of the semester. When students select their topics and submit their initial summaries of two research articles, they will receive meaningful feedback from instructors in two different disciplines (exercise science and nutrition). At the end of the semester, when students present to their peers, they will also receive multidisciplinary feedback from their peers. Part of the peer critique demands that student reviewers provide feedback that draws upon the reviewer's unique skills and experiences. For example, if a student majoring in marketing reviews a classmate's presentation on the role of strength training to improve insulin sensitivity for prevention of type 2 diabetes, she may provide feedback on how to develop a social marketing campaign to promote this intervention. Another student majoring in computer science may comment on the use of technology to track physical activity and correlate this information with data collected from self-monitoring of blood glucose measurements (CO1, CO2, CO3, CO5).

Students will get frequent, timely, and constructive feedback on their work, scaffolding multiple disciplinary perspectives and integrative synthesis to build over time. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Over the course of the semester, the goal of the practical assignments is to promote a physically active and nutritionally balanced lifestyle. The progression of the practical assignments reinforces the notion that behavior change does not happen overnight. Rather, it is a cumulative process that takes weeks or months to fully implement. Furthermore, *maintenance* of behavior change is a distinct challenge that requires planning and support. With the various practical assignments, students will “test drive” many different behavior change techniques, including SMART goal setting, social support, stimulus control, and self-monitoring. On its own, each one is a helpful strategy to promote behavior change. Taken together, the combination of these strategies supports permanent behavior change and successful adherence to a physically active and nutritionally balanced lifestyle, as promoted by the *Physical Activity Guidelines for Americans* and the *Dietary Guidelines for Americans* (CO4).

Throughout any behavior change, one must set small, achievable goals, celebrate successes, and adjust one’s strategies when things do not progress as planned. The practical assignments offer students multiple opportunities to make small changes to physical activity and eating behaviors in a step-wise fashion, so that by end of semester, the student has achieved a positive behavior change. On a weekly basis, students implement a physical activity or nutrition behavior, then reflect on their experience. Students will be asked to reflect on the impact of physical activity and dietary changes on multiple dimensions of wellness, as well as the synergy between these lifestyle modifications (CO2). Both instructors will provide timely feedback to motivate (and redirect, when necessary) students. Additionally, through weekly discussions, peers can provide encouragement and share helpful strategies with each other, drawing on their own knowledge and personal experience (CO4). Because the course will draw students from diverse majors, peer feedback will provide diverse perspectives.

The advantage of these practical assignments is that each can be individualized. Within the guidelines of each activity, students choose target behaviors and set their own personalized goals, which will vary depending on the student’s current health status and capacity (i.e., physical abilities, schedule, resources).

We feel that the practical assignments are lessons that will truly prepare citizens for real life. In the course, we will apply behavior changes strategies to physical activity and nutrition-related goals, students will learn that these strategies can be applied to any aspect of wellness, professional or personal, even after they’ve completed this course and earned their degrees.

Periodic, structured opportunities to reflect and integrate learning (e. g. students should work to integrate their insights and construct a more comprehensive perspective on the issue). Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Each practical assignment offers an opportunity for students to put the knowledge learned in lectures and readings into practice in their own lives. Some weeks, students may be asked to implement behaviors related to physical activity, and other weeks, students may be asked to implement behaviors related to dietary patterns. For many weeks, students will have the option to choose one or the other. Each practical assignment includes a reflection, in which students explore the barriers and benefits of the behavior change. As the semester progresses, students will also reflect on the synergistic impact of their changes in physical activity and dietary behaviors (CO1, CO2, CO3, CO4).

Students participate frequently in an online discussion forum that encourages self-reflection and evaluation of their experiences with the practical applications. For example, during Week 11, students learn about sports technology and ergogenic aids. The practical application is for students to exercise outdoors. In the discussion, students reflect on the impact COVID-19 has had on their ability to exercise. Instructors and peers will engage in dialogue to offer encouragement for students as they apply what they're learning about nutrition and exercise. Students will help each other plan and overcome barriers to behavior change (CO4).

Opportunities to discover relevance of learning through real-world applications and the integration of course content to contemporary global issues and contexts. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

As described previously, the weekly practical assignments offer students an opportunity to discover the relevance of the readings and lectures on a personal level. Other assignments will broaden students' perspectives, moving from personal application to societal implications. For example, during Week 5, the readings and module quiz will explore the influences of physical activity and nutritional status on cognitive ability (i.e. academic performance) among students. During Week 6, the readings and module quiz will focus on the potential for improvements in physical activity and dietary patterns to lower health care spending. Both of these topics prompt students to explore the implications of personal behavior change at the community level. Conversely, during Week 9, the Discussion topic ("Big Food and Body Weight") prompts students to examine the roles of the government and the food industry in promoting healthy behaviors (CO3).

Although the course focuses mainly on physical and emotional health, students will find applications to many dimensions of wellness. For example, during Week 13, students will read about yoga and its relationship with physical and spiritual health. When they read about plant-forward eating patterns, they will explore the relationship between dietary patterns and environmental wellness. In Weeks 6 and 7, students will consider the impact of dietary patterns on financial wellbeing. There is a common misperception that healthy eating and exercise are expensive. In Week 6, the readings and quiz will focus on lifestyle choices and health care spending. In Week 7, the practical assignments in Week 7 will demonstrate that students can eat well on a student's budget (CO2, CO3).

Public Demonstration of competence, such as a significant public communication of their integrative analysis of the issue. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

In several low-stakes learning activities, students will share their insights and synthesis of the course content in weekly discussions throughout the semester. For example, in Week 13, students will share their ideas on how to change their physical activity and dietary patterns to promote sustainability. Student may respond in written or video format.

In the higher-stakes, multi-part Exploration Project, students will investigate the intersection of food and fitness, selecting several research articles on the topic of their choice and delivering a presentation (recorded with Flipgrid) to their peers at the end of the semester. In small groups, students will critique their peers' presentations, offering feedback based on what they've learned through the course, as well as their own field of study and personal experiences (CO1, CO2, CO3, CO4, CO5).

Experiences with diversity wherein students demonstrate intercultural competence and empathy with people and worldview frameworks that may differ from their own. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Recognition and appreciation of diversity is woven throughout the course.

Each week, students apply one aspect of what they are learning about fitness and nutrition in lectures to modify their own behaviors. Students will identify their own behaviors they wish to improve and set goals to make incremental progress to improve personal health outcomes. These assignments are designed to meet each student where he or she is, regardless of fitness level, age, location, and resources. There's no expectation (or definition) of a perfect diet or perfect fitness plan, so this activity is built for a diverse audience. Any of the practical assignments can be modified to accommodate students with special needs. In fact, the instructions for most practical assignments will include a statement to let students know they may request an alternative activity to accommodate a physical or mental health limitation.

At several points in the semester, the instructors will highlight issues related to health disparities. For example, in Week 7, the lecture topics explore the impact of socioeconomic status on nutrition-related health outcomes. Students will read a scientific journal article about the costs of healthy eating (and the hidden costs of unhealthy eating). The practical assignment for this week will be to design a one-day menu for a college student that aligns with the Health U.S.-Style Dietary Pattern yet can be purchased for less than \$7 per day (CO3).

In addition, by the end of the semester, students will deliver a presentation as part of their Exploration Project. As previously described, this activity explores the intersection of food and fitness. When students choose a topic for presentation, their choices align with their personal interests/passion, so this incorporates diverse perspectives into the course content. At the end of the semester, students will review and critique some of their classmates' presentations. The rubric for this part of the Exploration Project will prompt students to offer feedback based on their own background, field of study, and personal experiences. Given the student body will be composed of students from various majors and campuses, students will be exposed to new perspectives (CO1, CO2, CO3, CO4, CO5).

Explicit and intentional efforts to promote inclusivity and a sense of belonging and safety for students, e.g., universal design principles, culturally responsive pedagogy, structured development of cultural self-awareness. Please link this expectation to the course goals, topics and activities and indicate *specific activities/assignments* through which it will be met. (50-500 words)

The course promotes a sense of belonging and safety for students. The syllabus sets forth guidelines for appropriate language and content in online forums. These guidelines will be reiterated in the instructions for discussion-based activities. As described previously, the practical assignments are tailored to the individual, such that the student is guided to make incremental improvements in physical activity and nutrition behaviors from any baseline. Although each practical assignment is personalized to the student, the personal information is confidential. Furthermore, whenever appropriate (e.g., personal dietary analysis, participation in physical activity), the assignment instructions will include a statement to let student know if there is any physical or mental health reason that limits the student's ability to complete the assignment, the student may request an alternative assignment (e.g., case study). For the Family Health History practical assignment in Week 2, an alternative assignment is available for students in adopted families or who have little/no knowledge of their family health history.

Universal design aims to ensure that all individuals have equal opportunities to learn. We have designed this new GE course to be accessible to people with a wide range of abilities.

- We use multiple means of representation to present the information in a variety of ways, including video lectures (which are closed captioned), written articles, and podcasts (with transcripts). The course is designed for intro-level students with little preparation in the fields of exercise science and nutrition; complex topics will be explained, and terms will be defined prior to lessons. When images are embedded into Carmen content, alt text will be available. In addition, thorough instructions for each assignment will lead students to credible resources in the fields of exercise science and nutrition, which will teach students how to locate evidence-based fitness and nutrition information on their own, even after they leave the course.
- We use multiple means of engagement. The relevance of every lesson to individual students is made clear through weekly practical assignments (previously described), which can be tailored to each student's current level of fitness and nutrition behaviors. Clear expectations will be outlined for each set of assignments (e.g., formality, permission to collaborate), which are due once per week. However, students will have the flexibility to complete the course work at their own pace (within the week-to-week flow of the course) at the time that fits their own schedule. This helps to instill self-regulation and time management skills.
- The course provides multiple means of action and expression. Some assignments require students to submit written work, and some require voice and video recordings. Students will also have opportunities to practice using several assessment tools in the fields of exercise science and nutrition, including physical activity readiness questionnaires and dietary analysis software. In addition, the course guides students through evidence-based behavior change techniques, including goal setting, which the student can apply to any facet of wellness, even outside this course.
- The online, asynchronous format allows for students from any location, any situation to learn.
- The syllabus and course Carmen page include boilerplate language about SLDS accommodations, COVID-related accommodations, and mental health resources on campus.

Culturally sensitive pedagogy is student-centered and nurtures each student's unique cultural strengths (<https://www.theedadvocate.org/what-is-culturally-responsive-pedagogy/>). In this course, we offer opportunities to explore cultural influences on physical activity and nutrition behaviors. For example, in the discussion-based activities during Weeks 3 and 4 ("What I Hate About Exercise and Healthy Eating" and "What I Love About Exercise and Healthy Eating," students will be prompted to think about family beliefs and cultural traditions that have influenced their personal behaviors. In determining course content, the instructors have been intentional about selecting research articles that include diverse study participants, authored by researchers from diverse cultural backgrounds. Throughout the semester, we will provide opportunities for structured development of cultural self-awareness. For example, the research article about cardiorespiratory fitness and obesity/fitness in Week 2, we will explore the impact of social determinants of health on the variables of interest. Students will consider how educational background and racial/ethnic identify may influence health outcomes (CO4).

Quiz and exam questions will include scenarios and examples that represent the diverse students and food choices. Furthermore, when students have an opportunity to critique their classmates' Exploration Project presentation at the end of the semester, they will be encouraged to reflect on the impact of the research on students from diverse educational and cultural backgrounds and differing skills.

Clear plans to promote this course to a diverse student body and increase enrollment of typically underserved populations of students. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

This course has no prerequisites, which means we will reach students with varied levels of academic preparation. To lay the foundation for a deeper understanding of prevention as a powerful tool in public health, we will need to first introduce students to key terms and basic scientific principles about biology, physiology, and chemistry. We also recognize that students come to a class about exercise and nutrition with some preconceived notions based on what they hear from peer networks and media outlets. We will present research evidence and provide opportunities for personal application to challenge and modify (when necessary) existing beliefs about exercise and nutrition.

As previously described, the practical assignments (CO4), which make up 25% of the total grade, assume no prior skill or experience or baseline level of fitness or nutrition knowledge; they are designed to be tailored to the individual. Furthermore, as an online GE course, Food & Fitness: Fuel for Good Health can be offered at regional campuses, which typically reach underserved students due to their affordability and the availability of resources to help prepare incoming students for academic success.

We plan to advertise the course with a printed and digital flyer to be distributed through the College of Education and Human Ecology. We will work directly with Kim Bruening, Student Engagement Specialist, to distribute information about the course through social media and email and ensure that academic advisors in each college are aware of the course offering.