Course Syllabus

- **Course Number:** BIOL127L
- **Course Title/Modality:** Nutrition for Health and Fitness with Lab, Online
- **Credit Hours:** 4
- **Semester:** Spring 2026
- **Faculty Name:** Doreen Richards
- **Email Address:** drichards@ccsnh.edu
- **Office Location:** N/A
- **Office Hours:** virtually by appointment.

  Sometimes additional time or one-on-one assistance is needed. The instructor is normally available during the conference hours listed above, or you may make an appointment with the instructor for other times.
- **Prerequisites:** None

Course Description:

- This course is a study of the nutrients and how the body handles thenutrients throughout the life cycle. Topics include metabolism of macro- and micronutrients;physiological benefits of an optimal diet with exercise; behavioral issues related to eating;energy balance and weight control; and disease prevention strategies related to diet. Lifestyle behaviors, which optimize nutritional health and wellness, are also emphasized. Thelabs are designed to reinforce selected topics covered in the lecture portion of the course.(Credit can only be given for BIOL1270L or BIOL1290.)

Text/Instructional Materials and Equipment Required:

All content will be accessed and delivered in the Canvas course utilizing the following OERtextbook and additional resources as provided in each module:

Digital OER Textbook - Nutrition: Science and Everyday Application v. 2.0[Authors:Alice Callahan, PhD, Heather Leonard, MEd, RDN, and Tamberly Powell,MS, RDN]

Grading:

Assessment Category	Percentage of Final Grade
Discussions (Weekly Discussion Topics, Peer Engagement, Critical Thinking Reflections)	30%
Quizzes (Nutrition Concepts, Vocabulary, Key Theories)	20%
Project Phase 1: Nutrition Assessment Report	10%
Project Phase 2: Macronutrient & Micronutrient Optimization Plan	10%
Project Phase 3: Wellness Integration Plan (Physical Activity & Hydration Tracking)	10%
Final Project Submission & Presentation (Capstone Assignment, includes Peer Review Component in Discussion Forum)	20%
Total	**100%**

Grading Scale:

A	93-100	B	83-86	C	73-76	D	63-66
A-	90-92	B-	80-82	C-	70-72	D-	60-62
B+	87-89	C+	77-79	D+	67-69	F	0-59

- **Course Learning Outcomes/Competencies:**

  - Outcome 1: Use and define vocabulary pertinent to nutrition.
  - Outcome 2: Identify and describe macronutrients and micronutrients.
  - Outcome 3: Explain digestion, absorption, and utilization of nutrients by the digestive system.
  - Outcome 4: Describe the basic principles of nutritional sciences as they relate to health promotion and disease prevention.
  - Outcome 5: Understand the energy balance equation for weight control.
  - Outcome 6: Explain the differences in nutritional needs throughout the lifecycle.
  - Outcome 7: Evaluate foods and food labels for nutrient density
  - Outcome 8: Be aware of the latest nutrition updates as the semester allows.

- **Late Work Policy**

  All assignments must be submitted by the due dates specified in the Canvas course calendar and module pages. Late submissions will receive a deduction of **10 points per day**. Assignments submitted more than three days past the due date will not be accepted, except under documented extenuating circumstances and with prior instructor approval. No late assignments will be received after the official last day of the course. It is the student's responsibility to communicate with the instructor as early as possible if an issue arises that may impact timely submission.

- **Academic Integrity, Cheating, and Plagiarism**
  Honesty is expected of all LRCC students. In academic matters this includes the submission of work that clearly indicates its sources. Dishonest acts include cheating and plagiarism, as well as other forms of academic misconduct.

Cheating is defined as copying or otherwise using material from others, or using sources not approved by faculty.
Plagiarism is defined as using the work (ideas, words, artwork, etc.) of another person as one's own. The failure to cite sources or the extensive use of others' work in written material are the most common types of plagiarism.

Cheating, plagiarism, and other forms of academic misconduct are considered serious disciplinary matters and are subject to the same penalties and procedures as other LRCC disciplinary matters. Students should be aware that penalties levied in substantiated cases of cheating or plagiarism may include, but are not limited to, the issuance of a grade of F, which may in turn lead to delay of graduation. Repeated offenses may lead to dismissal from a program or from the college.

Refer to the Academic Honesty Policy in the Student Handbook.

- **Non-Discrimination Policy**
  Lakes Region Community College does not discriminate in the administration of its admissions and educational programs, activities, or employment practices on the basis of race, color, religion, national origin, age, sex, disability, gender identity and expression, genetic information, veteran status, sexual orientation, or marital status. This statement is a reflection of the mission of the Community College System of New Hampshire and LRCC and refers to, but is not limited to, the provisions of the following laws:

  - Titles VI and VII of the Civil Rights Act of 1964
  - The Age Discrimination Act of 1967
  - Title IX of the Education Amendment of 1972
  - Section 504 of the Rehabilitation Act of 1973
  - The Americans with Disabilities Act of 1990 (ADA)
  - Section 402 of the Vietnam Era Veteran's Readjustment Assistance Act of 1974
  - NH Law Against Discrimination (RSA 354-A)
  - NH Law RSA 188-F:3-a
  - Genetic Information Nondiscrimination Act of 2008

  LRCC degree, certificate, and career training programs are designed to meet the educational and workforce needs of the Lakes Region. Career and Technical Education (CTE) opportunities will be offered regardless of race, color, religion, national or ethnic origin, age, sex, sexual orientation, marital status, disability, gender identity or expression, genetic information, or veteran status. LRCC reduces barriers to future career and educational opportunities for area residents by helping them upskill with general academic and technical education, as well as customized business and industry training. View the CTE program details at LRCC.edu.

  Inquiries regarding discrimination may be directed to Laura LeMien, Associate Vice President of Academic & Student Affairs and Title IX Coordinator, at LLeMien@ccsnh.edu

Course Schedule/Additional Information

Nutrition for Health and Fitness with Lab (BIOL 127L) – Class Schedule
100% ONLINE
Always refer to Canvas for the most up-to-date list of assignments.

Dates	Topic	Learning Outcomes	Readings	Assessments	Aligned CLO's
1/20 – 1/25/2026	Foundations in Nutrition & Project Preparation	1. Define key concepts in nutrition, including macronutrients and micronutrients. 2. Analyze how dietary choices influence health outcomes. 3. Differentiate between credible nutrition information and misconceptions. 4. Interpret food labels and dietary guidelines. 5. Familiarize yourself with the Personalized Nutrition & Wellness Plan and select an approach	Textbook Unit 1: Introduction to Nutrition	• Introductory Discussion • Discussion Assignment • Begin Final Project Phase 1	1,4,7,8
1/26-2/1/2026	Nutrition Science & Information Literacy	1. Evaluate sources of nutrition information for credibility, bias, and scientific validity. 2. Explain the scientific method and its application in nutrition research. 3. Differentiate between evidence-based dietary guidelines and common nutrition myths. 4. Apply research skills to assess nutrition trends and claims critically.	Textbook Unit 2: Digestion and Metabolism	• Written Reflection & Critical Thinking Assignment • Biweekly Quiz #1 • Continue work on Phase 1 of the Final Project	1, 4, 8

2/2-2/8/2026	Macronutrients & Digestion	1. Differentiate between carbohydrates, proteins, and fats and describe their unique roles in energy metabolism. 2. Explain the digestion and absorption process of macronutrients within the gastrointestinal tract. 3. Understand how macronutrients are utilized in energy metabolism and the significance of metabolic pathways. 4. Discuss the importance of fiber, essential amino acids, and healthy fat sources for long-term health and disease prevention. 5. Connect the role of photosynthesis in food production and how energy flows between plants, animals, and humans.	Textbook Unit 3: Molecules of Life: Photosynthesis, Digestion, and Metabolism	• Discussion Assignment • Continue working on Phase 1 of the Final Project	1, 2, 3, 4, 7
2/9-2/15/2026	Micronutrients: Vitamins & Minerals	1. Identify key vitamins and minerals and explain their roles in the body. 2. Assess the impact of micronutrient deficiencies and toxicities on health. 3. Compare food sources of essential vitamins and minerals and their bioavailability. 4. Evaluate the need for dietary supplementation and its potential risks. 5. Understand how micronutrients interact with metabolic pathways and disease prevention.	Textbook Units 8 & 9: Vitamins and Minerals	• Discussion Assignment • Biweekly Quiz #2 • Continue working on Phase 1 of the Final Project	1, 2, 4, 6, 7
2/16-2/22/2026	Final Course Project: Phase 1			• Submit Final Course Project: Phase 1 Nutrition Assessment	1, 2, 4, 5, 7

2/23-3/1/2026	Smart Nutrition	1. Develop a well-balanced, nutrient-dense meal plan based on dietary guidelines. 2. Compare processed and whole foods in terms of nutritional value and health impact. 3. Interpret food labels and identify key nutrients, additives, and misleading claims. 4. Apply portion control techniques and assess nutrient density in meals. 5. Implement budget-friendly meal planning strategies while meeting individual dietary needs.	Textbook Units 4 & 5: Dietary Guidelines	• Discussion Assignment • Begin Final Course Project: Phase 2	1, 2, 4, 6, 7
3/2 - 3/8/2026	Energy Balance & Weight Management	1. Assess the relationship between exercise and metabolism and how the body fuels physical activity. 2. Calculate hydration needs based on physical activity levels. 3. Understand the role of electrolytes and hydration in muscle function and recovery. 4. Evaluate the benefits of sports drinks vs. water for athletic performance. 5. Develop a hydration tracking plan to assess personal fluid needs.	Textbook Unit 7: Body Weight and Health	• Discussion Assignment • Biweekly Quiz #3 • Continue Final Course Project: Phase 2	1, 2, 4, 5, 6
3/9 - 3/15/2026	Nutrition & Exercise	1. Assess the relationship between exercise and metabolism and how the body fuels physical activity. 2. Calculate hydration needs based on physical activity levels. 3. Understand the role of electrolytes and hydration in muscle function and recovery. 4. Evaluate the benefits of sports drinks vs. water for athletic performance. 5. Develop a hydration tracking plan to assess personal fluid needs.	**Textbook:** Unit 10 – Nutrition & Physical Activity	• Discussion Assignment • Continue Final Course Project: Phase 2	2, 4, 5, 6
3/16 – 3/22/2026	Spring Break No Course Due				

3/23 - 3/29/2026	Final Course Project: Phase 2			• Submit Final Course Project: Phase 2 Macronutrient & Micronutrient Optimization	1, 2, 3, 4, 5, 7
3/30 - 4/5/2026	The Psychology of Eating	1. Apply behavior change models to dietary and lifestyle habits. 2. Develop realistic health-related goals using SMART (Specific, Measurable, Achievable, Relevant, Time-bound) criteria. 3. Identify common barriers to healthy eating and strategies to overcome them. 4. Analyze the psychological and social influences on food choices. Evaluate evidence-based methods for supporting long-term behavior change.	Textbook: Unit 8 & Unit 9 – Vitamins & Minerals (Parts 1 & 2)	• Discussion Assignment • Biweekly Quiz #4 • Begin Final Course Project: Phase 3	4, 6, 8
4/6 - 4/12/2026	Nutrition Across the Lifespan	1. Compare the nutritional needs of individuals at different life stages. 2. Identify factors affecting nutrient absorption and metabolism across the lifespan. 3. Analyze the impact of developmental changes, lifestyle, and environment on nutrition. 4. Develop nutrition strategies that align with age-specific dietary guidelines. 5. Integrate lifecycle-specific considerations into meal planning and education.	Textbook: Unit 11: Nutrition Throughout the Lifecycle	• Discussion Assignment • Continue Final Course Project: Phase 3	1,2, 4, 6
4/13 - 4/19//2026	Final Course Project: Phase 3			• Submit Final Course Project: Phase 3 Wellness Integration – Physical Activity & Behavior Change •	1, 4, 5, 6, 7, 8
4/20 - 4/26/2026	Special Diets & Cultural Considerations	1. Evaluate various diet plans, including their nutritional benefits and potential risks. 2. Understand the role of cultural influences in	Textbook: Unit 10: Nutrition & Physical Activity + Cultural Diets	• Discussion Assignment • Bi-weekly Quiz #5	2, 4, 6, 7, 8

		shaping dietary habits and food choices. 3. Assess the impact of religious and regional practices on nutrition and meal preparation. 4. Identify the social determinants of health that affect food access and dietary behaviors. 1. Apply culturally sensitive strategies in dietary planning and health education.		• Begin Final Course Project: Phase 4a and 4b	
4/27 – 5/3/2026	Final Project Submission	2. Synthesize course concepts into a final nutrition plan 1. Present findings in an engaging, scientifically accurate format	Review of Previous Units	• Submit Final Course Project: Phase 4a - Final Multimedia Presentation Submission	1-8 (All CLOs)
5/4 - 5/9/2026 [ends Saturday]	Module 12: Peer Review & Analysis	2. Critically analyze and evaluate classmates' nutrition plans 3. Apply course knowledge to assess dietary strategies	No new readings	• Submit Final Course Project: Phase 4b - Peer Review • Submit Final Course Project: Phase 4b - Self Reflection	1-8 (All CLOs)

Assignments:

Purpose & Engagement
Homework and online assignments are structured to enhance your understanding of course content and ensure active participation in this 100% asynchronous, online course. These assignments are aligned with the module-level learning objectives and support your progress toward mastering key course concepts.

Assignment Deadlines
All assignments must be submitted by the due dates specified in the Canvas course calendar and module pages. Late submissions will receive a deduction of **10 points per day**. Assignments submitted more than three days past the due date will not be accepted, except under documented extenuating circumstances and with prior instructor approval. No late assignments will be received after the official last day of the course. It is the student's responsibility to communicate with the instructor as early as possible if an issue arises that may impact timely submission.

Discussions
Weekly discussion questions provide an opportunity to apply key concepts and engage in critical thinking with peers. Each student must:

- Post an initial response to the assigned prompt by **Thursday at 11:59 PM EST**
- Respond to at least one peer by **Sunday at 11:59 PM EST**

Discussions should reflect thoughtful engagement and reference course content or relevant examples. Weekly participation contributes to the Discussion Participation (30%) portion of your grade.

Bi-Weekly Quizzes
To reinforce textbook readings and evaluate your understanding of key nutrition concepts, bi-weekly quizzes are administered throughout the course. Each quiz consists of 30 multiple-choice questions and aligns with the corresponding module readings from the *Nutrition: Science and Everyday Application* textbook V2.0 (Open Oregon Press). Quizzes support course learning outcomes in vocabulary development, evidence-based nutrition literacy, and health promotion strategies, contributing to the Quiz Assessments (20%) portion of your final grade.

Final Course Project – Personalized Nutrition & Wellness Plan
This semester-long, four-phase project aims to replace the traditional laboratory component with a hands-on, applied learning experience in nutrition science. You will apply course content to assess, analyze, and design a personalized or population-based nutrition and wellness plan. The phases include:

- **Phase 1 – Nutrition Assessment (10% of final grade)**
- **Phase 2 – Macronutrient & Micronutrient Optimization (10% of final grade)**
- **Phase 3 – Wellness Integration (10% of final grade)**
- **Phase 4 – Final Presentation (20% of final grade)**

Full guidelines and rubrics are available in Canvas.

Instructor Modifications
The instructor reserves the right to adjust assignments, due dates, and activities as needed to support learning outcomes or respond to class progress. All changes will be communicated clearly through Canvas announcements.