



NUTR 205: Clinical Nutrition and Diet Therapy

Term: Fall 2026

Credits: 3.0

Lecture Times & Location: Tuesday & Thursday 9:30–10:45 a.m., Calder Health Sciences Building 150

Modality: In-Person

Alkimi University is a fictional institution created by Alkimi AI to demonstrate its products. It does not admit students, grant degrees, employ faculty, or accept payments. All people, places, policies, and figures in this document are invented.

Instructor Information

- **Instructor:** Dr. Elena Pereira (Assistant Professor of Nutrition)
- **Email:** epereira@university.alkimi.ai
- **Office:** Calder Health Sciences Building 324
- **Office Hours:**
 - Monday & Thursday: 11:30 a.m.–1:00 p.m. (In person, Calder Health Sciences Building 324)
 - Friday: 9:00–10:00 a.m. (Virtual via Zoom; link posted in Canvas)
 - Also available by appointment.

Course Description

Nutrient metabolism, dietary assessment, and medical nutrition therapy for cardiovascular disease, diabetes, renal and gastrointestinal disorders, and enteral and parenteral nutrition, for nursing and health science students. NUTR 205 provides nursing and allied health students with the scientific foundations of medical nutrition therapy (MNT) and dietary management across acute and chronic illnesses. Focusing on clinical assessment and bedside nursing interventions, students examine metabolic alterations associated with cardiovascular disease, diabetes mellitus, renal failure, liver disorders, and gastrointestinal pathology. Significant emphasis is placed on clinical decision-making for enteral and parenteral nutrition, food-drug interactions, and evidence-based nutritional care across the lifespan.

Prerequisites

BIO 201 and CHEM 101.

Measurable Student Learning Outcomes

Upon successful completion of NUTR 205, students will be able to:

1. **Analyze Nutrient Digestion and Clinical Metabolism:** Explain the biochemical digestion, absorption, and metabolic utilization of macronutrients and micronutrients under healthy and pathological conditions.
2. **Perform Nutritional Assessment and Risk Screening:** Utilize anthropometric measurements, biochemical laboratory markers, clinical indicators, and dietary intake data to identify protein-calorie malnutrition in hospitalized patients.
3. **Apply Medical Nutrition Therapy for Chronic Disease:** Develop individualized medical nutrition therapy care plans for patients presenting with hypertension, heart failure, type 1 and type 2 diabetes, chronic kidney disease, and cirrhosis.

4. **Manage Enteral and Parenteral Nutrition Therapies:** Calculate caloric and protein requirements, select appropriate enteral formulas and parenteral admixtures, monitor refeeding syndrome risks, and mitigate catheter complications.
5. **Integrate Nutrition into Bedside Nursing Practice:** Formulate interprofessional nursing interventions, assess food-drug interactions, and deliver culturally sensitive nutritional education to patients and families.

Required Course Materials & Approximate Costs

1. **Dudek, Susan G. *Nutrition Essentials for Nursing Practice*. 9th ed., Wolters Kluwer, 2021.** Approx. \$85 print, \$50 digital rental.
2. **Raymond, Janice L., and Kelly Morrow. *Krause and Mahan's Food and the Nutrition Care Process*. 16th ed., Elsevier, 2022.** Approx. \$110 print or digital.
3. **Total estimated cost:** \$110 to \$160.

Generative AI Policy (AI Level 2: AI Permitted with Disclosure for Specified Tasks)

In accordance with Alkimi University Academic Policies (Student Handbook §5.8), NUTR 205 operates under **AI Level 2**.

- **What is permitted:** You may use generative AI tools to brainstorm patient education analogies for dietary restrictions, generate practice questions on nutrient-drug interactions, and review drafts of patient education brochures for language clarity.
- **What is prohibited:** You may not use generative AI to calculate enteral or parenteral nutrition infusion rates, formulate medical nutrition therapy recommendations for clinical case studies, or complete quiz and exam questions. Safe clinical calculations must be performed independently.
- **Disclosure:** All submitted clinical case assignments and patient education projects must include an AI disclosure statement detailing any tools used and their specific contribution. If no AI tools were used, state: 'No generative AI tools were used in preparing this work.'

Grading Components and Weights

- **Examination 1:** 15% (In class, Thursday, October 1)
- **Examination 2:** 15% (In class, Thursday, November 12)
- **Clinical Nutrition Care Plan & Patient Case Study:** 20% (Due Friday, October 23 at 11:59 p.m.)
- **Enteral and Parenteral Nutrition Clinical Calculations:** 15% (Due Friday, November 20 at 11:59 p.m.)
- **Weekly Clinical Nutrition Canvas Quizzes:** 15% (Due Mondays at 11:59 p.m. in Canvas; lowest quiz score dropped)
- **Final Examination:** 20% (Tuesday, December 15, 2026, 8:00–10:00 a.m.)

Grading Scale (Alkimi University Standard)

- **A:** 93–100% | **A-:** 90–92%
- **B+:** 87–89% | **B:** 83–86% | **B-:** 80–82%
- **C+:** 77–79% | **C:** 73–76% | **C-:** 70–72%
- **D+:** 67–69% | **D:** 60–66% | **F:** Below 60%
- **Extra credit:** No extra credit assignments are offered in this course.

Course Schedule (Fall 2026)

Week	Dates	Topics & Readings	Assignments & Deadlines
Week 1	Aug 27	Nutrition in Clinical Care and Nursing Practice: Role of the nurse in nutritional assessment, screening tools (MUST, SGA),	<i>First day of classes: Wed Aug 26.</i>

Week	Dates	Topics & Readings	Assignments & Deadlines
		Dietary Guidelines, and clinical nutrition standards. <i>Reading: Dudek, Ch. 1–2</i>	
Week 2	Sep 1, 3	Macronutrient Metabolism and Energy Requirements: Carbohydrates, lipids, proteins in metabolic stress; estimating basal and total energy requirements using Mifflin-St Jeor. <i>Reading: Dudek, Ch. 3–5</i>	<i>Wed Sep 2: Add/section change deadline.</i>
Week 3	Sep 8, 10	Vitamins, Minerals, Fluid, and Electrolytes: Fluid balance in health and illness, sodium, potassium, phosphorus, calcium, trace minerals, and wound healing micronutrients. <i>Reading: Dudek, Ch. 6–8</i>	<i>Mon Sep 7: Labor Day (no classes). Wed Sep 9: Census date (last day to drop without a W).</i>
Week 4	Sep 15, 17	Hospital Malnutrition and Oral Diets: Etiology of protein-energy malnutrition, starvation versus hypermetabolism, clear liquid to regular diet progressions, texture modifications. <i>Reading: Dudek, Ch. 9–10</i>	—
Week 5	Sep 22, 24	Enteral Nutrition (Tube Feeding): Enteral feeding routes (NG, PEG, PEJ), formula selection, continuous versus bolus feeding, nursing management, and aspiration prevention. <i>Reading: Dudek, Ch. 11</i>	—
Week 6	Sep 29, Oct 1	Parenteral Nutrition and Refeeding Syndrome: Total and peripheral parenteral nutrition indications, central venous access care, glucose monitoring, refeeding syndrome; Examination 1 in class. <i>Reading: Dudek, Ch. 11</i>	Examination 1 (in class).
Week 7	Oct 6, 8	Upper Gastrointestinal and Gastric Disorders: Gastroesophageal reflux disease (GERD), peptic ulcer disease, hiatal hernia, dysphagia protocols, and post-gastrectomy dumping syndrome. <i>Reading: Dudek, Ch. 12</i>	—
Week 8	Oct 15	Lower Gastrointestinal and Malabsorptive Disorders: Celiac disease, inflammatory bowel disease (Crohn's, ulcerative colitis), diverticulitis, irritable bowel syndrome, short bowel syndrome. <i>Reading: Dudek, Ch. 13</i>	<i>Oct 12–Oct 13: Fall break (no classes). Fri Oct 16: Midterm grades due.</i>
Week 9	Oct 20, 22	Hepatic, Pancreatic, and Biliary Disorders: Hepatitis, nonalcoholic fatty liver disease, hepatic cirrhosis, portal hypertension, ascites, acute and chronic pancreatitis. <i>Reading: Dudek, Ch. 14</i>	Clinical Nutrition Care Plan & Patient Case Study due Fri Oct 23 at 11:59 p.m.
Week 10	Oct 27, 29	Diabetes Mellitus: Medical Nutrition Therapy: Pathophysiology of type 1 and type 2 diabetes, gestational diabetes, carbohydrate counting, glycemic targets, insulin-to-carb ratios. <i>Reading: Dudek, Ch. 15</i>	—
Week 11	Nov 3, 5	Cardiovascular Disease and Hypertension: DASH diet, therapeutic lifestyle changes (TLC), heart failure sodium and fluid restrictions, cardiac cachexia, hyperlipidemia management. <i>Reading: Dudek, Ch. 16</i>	<i>Fri Nov 6: Last day to withdraw (W) or elect Pass/No Pass.</i>
Week 12	Nov 10, 12	Renal Disease: Acute and Chronic Kidney Disease: Nutritional management of CKD stages 1–5, hemodialysis versus peritoneal dialysis dietary restrictions; Examination 2 in class. <i>Reading: Dudek, Ch. 17</i>	Examination 2 (in class).
Week 13	Nov 17, 19	Oncology and Critical Care Nutrition: Cancer cachexia, chemotherapy side effects, immunosuppressive neutropenic precautions, severe burns, sepsis, and mechanical ventilation. <i>Reading: Dudek, Ch. 18–19</i>	Enteral and Parenteral Nutrition Clinical Calculations due Fri Nov 20 at 11:59 p.m.
Week 14	Nov 24	Food-Drug Interactions and Pharmacology: Mechanisms of nutrient-drug interactions, MAOIs and tyramine, warfarin and vitamin K, grapefruit interactions, loop diuretics and potassium. <i>Reading: Dudek, Ch. 10</i>	<i>Nov 25–Nov 27: Thanksgiving break (no classes).</i>
Week 15	Dec 1, 3	Maternal, Infant, and Pediatric Clinical Nutrition: Hyperemesis gravidarum, gestational diabetes, failure to thrive,	—

Week	Dates	Topics & Readings	Assignments & Deadlines
		pediatric inborn errors of metabolism, and feeding intolerance. <i>Reading: Dudek, Ch. 20–21</i>	
Week 16	Dec 8	Synthesis of Clinical Nutrition and NCLEX-RN Review: Integrative review of clinical nutrition nursing diagnoses, NCLEX-RN style dietary questions, and final exam synthesis. <i>Reading: Course review packet</i>	<i>Wed Dec 9: Last day of classes.</i> <i>Thu Dec 10: Reading Day.</i>
Finals	Dec 15	Final Examination: Tuesday, December 15, 2026, 8:00–10:00 a.m., Calder Health Sciences Building 150.	Comprehensive medical nutrition therapy examination covering chronic diseases, critical illness support, and nursing interventions.

Course Policies

Attendance Policy

Punctual attendance and engagement in case discussions are expected. Because clinical nutrition therapy directly affects patient safety and pharmacotherapy in bedside nursing, class simulations and clinical calculation exercises cannot be replicated independently. Please notify Dr. Pereira in advance if clinical rotations or acute illness prevent your attendance. Students who miss the first two class meetings without notifying the instructor may be dropped. Students may miss class for religious observance without penalty if they notify the instructor in writing within the first two weeks of the semester (by Wednesday, September 9, 2026). Absences for university-sponsored activities (athletics, performances, conferences) are excused with a letter from the sponsoring office at least one week in advance.

Late Work Policy

Assignments submitted after the deadline will be penalized 10% per calendar day up to three days. Submissions after 72 hours will receive a score of zero. Quizzes close promptly at the designated time on Canvas and cannot be made up without formal medical documentation.

Nursing Progression and Clinical Safety Standard

For students enrolled in the pre-licensure BSN program, NUTR 205 is a required foundational course. Consistent with School of Nursing policy, students must achieve a grade of C or higher to maintain academic progression in the nursing sequence.

Final Exam Policy

The final examination (Tuesday, December 15, 2026, 8:00–10:00 a.m.) is scheduled by the University Registrar and can't be moved without the Dean's written approval (Faculty Handbook §5.5). A student with three or more final exams on the same calendar day may reschedule one of them. Requests go to the instructor of the middle exam by the last day of classes. For this term, send the request by Wednesday, December 9, 2026 (Student Handbook §6.4).

Academic Integrity

Alkimi University is an academic community devoted to rigorous scholarship, open intellectual inquiry, and uncompromising ethical conduct. All students are subject to the regulations of the Alkimi University Academic Integrity Policy. Academic dishonesty—including plagiarism, cheating on examinations, unauthorized collaboration, fabrication of empirical data, and unauthorized submission of academic work generated by artificial intelligence—undermines the integrity of the university and carries severe disciplinary sanctions. Sanctions range from a failing grade on an assignment or exam to an administrative course failure recorded as an 'XF' on the official transcript, academic suspension, or expulsion. Suspected violations are formally investigated and resolved through the Office of Academic Integrity in accordance with Faculty Handbook §6. For detailed information, consult the Office of Academic Integrity, Lovell Hall 315, (555) 555-0163, integrity@university.alkimi.ai.

Accessibility Services

Alkimi University is committed to providing equitable educational access and reasonable accommodations for all students with documented disabilities, including physical, sensory, psychological, learning, and chronic health conditions. Students requesting academic accommodations must formally register with the Office of Accessibility Services, Harlan Hall 204, (555) 555-0155, access@university.alkimi.ai. Once approved, students will receive an official Faculty Accommodation Letter detailing approved accommodations. Students should present this letter to the instructor as early in the semester as possible, and at least one week prior to any exam or assignment requiring accommodation. Accommodations cannot be applied retroactively.

Student Wellness and Mental Health

Your physical health, psychological well-being, and mental health are essential to your academic success. If you experience heightened stress, anxiety, depressive symptoms, personal trauma, or academic burnout, free, confidential counseling and medical care are available through the Hollis Health & Counseling Center, located in the Hollis Center. Routine appointments are available Monday–Friday 8:00 a.m.–6:00 p.m. and Saturday 10:00 a.m.–2:00 p.m. during the semester by calling (555) 555-0190 or emailing health@university.alkimi.ai. Urgent, 24/7 crisis psychological counseling is accessible immediately at (555) 555-0199.

Campus Student Support Services

- **Academic Advising Center:** Lovell Hall 101 | (555) 555-0158 | advising@university.alkimi.ai
- **Writing Center:** Whitcombe Library 3rd Floor | Free consultations on papers, reports, and research projects at any stage.
- **Whitcombe Library:** Whitcombe Library, Main Floor | (555) 555-0170 | askalibrarian@university.alkimi.ai
- **Hollis Health & Counseling Center:** Hollis Center | (555) 555-0190 | 24/7 Counseling Line: (555) 555-0199 | health@university.alkimi.ai
- **Clinical Nutrition Study & Calculation Support:** Calder Health Sciences Building 324 | Clinical calculation reviews, enteral formula calculations, and diet therapy advising with Dr. Pereira.