

Department of Nutrition
 Gillings School of Global Public Health
 University of North Carolina at Chapel Hill

NUTRITION 640: Medical Nutrition Therapy I: Chronic Diseases
SPRING 2013
Tuesday and Thursdays, 9:30am-10:45am, Room 235 Rosenau Hall

I. Course Description

A lecture and skills course where students practice skills (such as calculating caloric intake and modifying intake, calculating diabetic diets, calculating sodium content of intakes, etc.) under the supervision of a Registered Dietitian. Nutrition 611 and 630 or equivalents are required as a prerequisite or as a co-requisites.

II. Instructor

Amanda S. Holliday MS, RD, LDN
 Office: 261 Rosenau
 Office Hours: By Appointment
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III. Textbooks

Required:

- Mahan, K. and Escott-Stump, S. Krause's Food, Nutrition and Diet Therapy, 13th Edition
- Nelms, M, Long, S and Lacey, K. Medical Nutrition Therapy: A Case Based Approach, 3rd Edition, 2008.
- Pronsky, Zaneta M. Food-Medication Interactions. 17th Edition, 2012.
- IDNT Manual, 4th Edition: <https://www.eatright.org/shop/product.aspx?id=6442471409>

Other resources:

- Academy of Nutrition and Dietetics web site: www.eatright.org for Position Papers link (along left side of home page) and other menu items of interest (explore and learn more about the profession)
- Sakai website. Please sure to download the zip file titled Coursepak Download.
- ADA Nutrition Care Manual (www.nutritioncaremanual.org), ADA Evidence Analysis Library (www.adaevidencelibrary.com)
- 2nd floor study/mail room (McGavern-Greenberg)
 - A physiology text and a medical dictionary

IV. Foundation Knowledge covered in this course:

1. the pathophysiology related to nutrition care;
2. the macronutrient, fluid and electrolyte needs of individuals with a variety of disease states;
3. laboratory parameters relating to various disease states;
4. translate nutrition needs for common conditions into menus for individuals;
5. document nutrition needs and suggested therapies in appropriate medical format;
7. complementary and alternative nutrition and herbal therapies;
6. some of the ethical issues related to nutrition care
7. evolving methods of assessing health status
8. assessment and treatment of nutritional health risks
9. medical nutrition therapy
10. strategies to assess need for adaptive feeding techniques and equipment

By the end of this course students will have demonstrated the ability to:

1. screen individuals for nutritional risk
2. collect pertinent information for comprehensive nutrition assessments
3. interpret medical terminology

4. interpret laboratory parameters relating to nutrition
5. calculate and interpret nutrient composition of foods
6. calculate and/or define diets for health conditions
7. calculate enteral and parenteral nutrition formulations
8. translate nutrition needs into food choices and menus
9. counsel individuals on nutrition

V. **Learning Experiences**

1. Students will independently complete assignments covering varying aspects of the disorders under discussion.
2. Study Guides/Modules are provided that will help the student organize information around various disease states. Completion of the study guides is optional for Nutrition 640 but will be required for the MPH/RD students during Nutrition 644 and 710.
3. In the assigned groups, students will work on the case study and lead a discussion of about 20 minutes on the case.
4. Each student who plans to become a registered dietitian in the near future would benefit from developing a Pocket Brain/Cheat Book to be used during supervised practice experiences. This is a collection of material you feel will help you get through your day. Throughout the semester suggestions will be made about what to put in your pocket brain but it is really up to the individual. **Pocket brains can be used during the completion of the open book portions of exams in this class.**

VI. **Grading**

Evaluation of student performance in this course will be based on the following:

Learning experiences	30%
Exams (3)	70%

Exams in this class are both closed book and open book. The open book exams will be practical work similar to homework assignments. Any reference that you have can be used.

Grading Scale:

Undergraduates:

97-100	A+
93-96	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
Below 70	D
Below 60	F

Graduates:

832-895(>93%)	H
671-831 (75-92%)	P
626-670 (70-74%)	L
<625 (Below 70%)	F

Honor System: The Honor Code is in effect in this class and all others at the University. I am committed to treating Honor Code violations seriously and urge all students to become familiar with its terms set out at <http://instrument.unc.edu>. If you have questions, it is your responsibility to ask me about the Code's application.

All exams and assignments must be submitted with the following signed statement:

On my honor, no unauthorized assistance has been received or given in the completion of this work.

Signature: _____

NOTE: THOSE STUDENTS PLANNING TO TAKE NUTRITION 720: PUBLIC HEALTH NUTRITION MANAGEMENT AND/OR NUTRITION 710: CLINICAL NUTRITION PRACTICE DURING SUMMER, MUST RECEIVE A GRADE OF P OR BETTER IN NUTR 640 IN ORDER TO ENROLL IN EITHER CLASS.

VII. **Course Schedule**

Th	1/10	<p><i>Introduction to the course</i> A review of the medical record and an introduction to medical terminology Text: Krause, Chapter 11 and Appendix 1-4: General Abbreviations Course Download:</p> <ul style="list-style-type: none"> • NCP and MNT (side by side) • Summary: Health IT and Patient Safety (p S1-S11), IOM 2012 • Ayres, EJ. 2011 Nutrition Informatics Member Survey. JAND 112(3): 360-364. • SOP/SOPP Update 2008, JADA, Sept. 2008 • Code of Ethics, JADA, August 2009 • Mr. Hill's Admission Note • Mp3 Download for ipod: Basic Word Structure (follow with Chabner Ch.1) <p>Tools</p> <ul style="list-style-type: none"> • JCAHO Do Not Use List (March 2009) <p>Assignment #1: Medical Terminology (due 1/15)</p>
T	1/15	<p><i>Routine Hospital Diets and Nutritional Supplements</i> Course Download:</p> <ul style="list-style-type: none"> • Gelber, S. The Healing Potential of Hospital Food. Medscape General Medicine 7(3): 1-3, July 2005. <p>Tools</p> <ul style="list-style-type: none"> • Nutrition Care Manual Formulary (Oral) <ul style="list-style-type: none"> ◦ Familiarize yourself with the various product types • UNC Formulary Card (Oral) <p>Assignment #1 Due: Medical Terminology-30pts MD Note to Decipher for Extra Credit (3pts) Due</p>
Th	1/17	<p><i>Estimating Intakes and Needs (Bring Exchange book)</i> Text: Krause, Chapter 2 and Appendices 19-31 Course Download:</p> <ul style="list-style-type: none"> • Boullata, et. al, Accurate Determination of Energy Needs in Hospitalized Patients, JADA 107 (3): 393-401, 2007 • Support Line article by Fish: Using equations to estimate caloric requirements in obese people 26 (6): 20-22, 2004 <p>Tools</p> <ul style="list-style-type: none"> • Zeman Chapter 6 (print for pocket guide) • Exchange Lists for Weight Management (from Nutrition 630) • Review assessment materials from Nutrition 630 or Krause, Chapters 4 and 6; Appendix 29 and 30. <p>NOTE TO DPD GRADUATES: Please review NCP/IDNT notes and Laboratory Assessment Lecture from NUTR 630. I'm also happy to meet with you as a group to review how to write a IDNT note.</p>
T	1/22	<p><i>The Upper GI Track</i> Text: Krause, Chapter 28 Course Download:</p> <ul style="list-style-type: none"> • Beyer, P. L. Gastrointestinal disorders: Role of nutrition and the dietetics practitioner. JADA 98(3): 272-277, 1998. • Nilsson et al. Lifestyle related risk factors in the aetiology of gastroesophageal reflux Gut 2004; 53: 1730-1735 • Flook. GERD: A fresh look at a common problem in primary care. The Journal of Family Practice, 2007, 56(10A), pgs31a-34a.

Th	1/24	<p><i>The Upper GI (con't) and Malabsorption Problems</i> Texts: Krause, pp. 790-794 (CF information) Course Download:</p> <ul style="list-style-type: none"> Grant, J. P., et. al. Malabsorption Associated with Surgical Procedures and Its Treatment. <i>Nutrition in Clinical Practice</i> 11(2): 43-52, 1996. Wooldridge, N. H. Nutrition Management of Cystic Fibrosis. <i>Nutrition Focus</i> 17(5): 1-9, September/October 2002. Gordon, et al. Nutrient Status of Adults with Cystic Fibrosis, <i>JADA</i> 107(12): 2114-2119, 2007. Niewinski, M. Advances in Celiac Disease and the Gluten-Free Diet, <i>JADA</i> 108: 661-672, 2008. See and Murray. Gluten-Free Diet: The Medical and Nutrition Management of Celiac Disease. <i>Nutrition in Clinical Practice</i> 21:1-15, 2006. Thompson, T. Gluten in Cosmetics: Is There a Reason for Concern? <i>JAND</i>. 112(9): 1316-1321. <p>Tools</p> <ul style="list-style-type: none"> Gluten Free Pocket Guide (keep for your pocket) Gluten Free Website: www.zeer.com (Have fun!!)
T	1/29	<p><i>Malabsorption and The Lower GI Track: Part I</i> Texts: Krause, Chapter 29; Appendix 41 Course Download:</p> <ul style="list-style-type: none"> Matarese, et al. Short Bowel Syndrome: Clinical Guidelines for Nutrition Management. <i>Nutrition in Clinical Practice</i> 20: 493-502, 2005. McKenzie, et al. British Dietetic Association evidence-based guidelines for the dietary management of irritable bowel syndrome in adults. <i>J Hum Nutr Diet</i>. 25, 260–274 Wong, K. The Role of Fiber in Diarrhea Management. <i>Support Line</i> 20(6): 16-20, December 1998.
Th	1/31	<p><i>The Lower GI Track: Part II</i> Group #2: Celiac Disease, Case #12 (Mrs. Gaines)</p> <ul style="list-style-type: none"> Smith, M. Descriptive Clinical Evaluation of Stool Output. <i>Support Line</i> 31 (5): 20-26, 2009. Position Paper: Health Implications of Dietary Fiber. 108(10): 1716-31, 2008 Soothing the Symptoms of IBS With Diet Therapy. <i>Today's Dietitian</i>, June 2009
T	2/5	<p><i>Finish GI (all parts)</i></p> <p>Assignment #2 Due: GI Nutrition- 50pts.</p>

Th	2/7	<p><i>Cardiovascular Disease: HTN</i> Text: Krause, Chapter 34 Course Download:</p> <ul style="list-style-type: none"> Ayala, C., Croft, J.B. Wattigney, W.A. ad Mensah, G. A. Trends in Hypertension-Related Death in the US: 1980-1998. <i>J Clin Hypertension</i> 6(12): 675-681, 2004. Appel, L.J. Lifestyle Modification: Is It Achievable and Durable? The Argument For (Part 1) <i>J Clin Hypertension</i> 6(10):578-581, 2004. Kokkinos, P., Panagoutakos, D.B. and Polychronopoulous, E. Dietary influences on blood pressure: The effects of the Mediterranean diet on the prevalence of hypertension. <i>J Clin Hypertension</i> 7(3):165-170, 2005. Web site: www.nhlbi.nih.gov/health/public/heart/hbp/dash/ Your Guide To Lowering Your Blood Pressure With DASH; NIH Publication #06- 4082

T	2/12	Exam 1A: Closed Book (1/10 through and including 2/5)-110pts
Th	2/14	Exam 1B: Open Book – 40pts
T	2/19	<p><i>Cardiovascular Disease: Atherosclerosis and Heart Failure</i> <i>Practical Work related to Cardiovascular Disease (take home)</i> Group #3: Hypertension and Cardiovascular Disease, Case #6 (James Klosterman) Text: Krause, Chapter 34 Course Download:</p> <ul style="list-style-type: none"> • Barclay, L. Waist-to-Hip Ratio vs BMI may be more accurate predictor of CV Risk. Medscape Medical News, November 7, 2005. http://www.medscape.org/viewarticle/516170 • Third Report of the National Cholesterol Education Panel Expert Program on Detection, Evaluation and Treatment of High Blood Cholesterol in Adults: Executive Summary, May 2001. http://www.nhlbi.nih.gov/guidelines/cholesterol/atp3_rpt.htm • Your Guide to Lowering Cholesterol With TLC NIH Publication 06-5235 <p>Download Practical Work for CVD and bring to class.</p>
Th	2/21	<p><i>Discuss Take Home Practical Work and Type I Diabetes</i> Text: Krause, Chapter 31 Course Download:</p> <ul style="list-style-type: none"> • Position Statement American Diabetes Association: Nutrition Recommendations and Interventions for Diabetes. <i>Diabetes Care</i>, 31 (S1), S61-78, 2008. • Gregory, P. Nutrition management of a collegiate football player with insulin dependent diabetes: Guidelines and a case study. <i>JADA</i> 94(7): 775-777, 1994. (Getting old but illustrates a point) • Mayer-Davis, et. al The Many Faces of Diabetes in American Youth: Type 1 and Type 2 Diabetes in Five Race and Ethnic Populations: The SEARCH for Diabetes in youth Study. <i>Diabetes Care</i> 32(S2): S99-S101, 2009. (Read the rest of the supplement if you are interested.)
T	2/26	<p><i>Type II Diabetes and Gestational Diabetes</i> Course Download:</p> <ul style="list-style-type: none"> • Position Statement American Diabetes Association: Gestational Diabetes Mellitus. <i>Diabetes Care</i> 27: S88-90, 2004. • Position Statement American Diabetes Association: Type 2 Diabetes in Children and Adolescents. <i>Diabetes Care</i> 23(3): 381-389, 2000. • Jovanovic, L. Current Management of Gestational Diabetes Mellitus. <i>Nutrition & the MD</i> 24(12):1-8, 1998. • Jovanovic, L. Nutrition and Pregnancy: The Link Between Dietary Intake and Diabetes. <i>Current Diabetes Reports</i>. 4: 266-272, 2004.
Th	2/28	<p>Group #4: Type 1 Diabetes, Case #22 (Susan Cheng) <i>Practical Work in Diabetes</i> Course Download:</p> <ul style="list-style-type: none"> • Evidence Based Nutrition Principles and Recommendations for the Treatment and Prevention of Diabetes and Related Complications, <i>Diabetes Care</i> 26:S51-S61, 2003.
T	3/5	<p><i>Renal Disease - Pre-dialysis</i> Text: Krause, Chapter 36</p> <p>Assignment #3 Due: Diabetes-100 pts.</p>
Th	3/7	<p><i>Renal Disease - Peritoneal Dialysis</i> Course Download:</p> <ul style="list-style-type: none"> • Beto, J. A. Which Diet for Which Renal Failure: Making Sense of the Options. <i>JADA</i>

		95(8): 898-903, 1995. Support Line article by Richards, M. Nutrition management of the patient with acute renal failure. Support Line 26(6): 10-19, 2004.
T	3/12	Spring Break
Th	3/14	Spring Break

T	3/19	<i>Renal Disease – Hemodialysis</i> Text: Krause, Chapter 36 Course Download: <ul style="list-style-type: none"> Rubin, H.R., et.al. Patient Ratings of Dialysis Care with Peritoneal Dialysis vs Hemodialysis. JAMA 291(6): 697-703, February 11, 2004. Charney, David I. Medical Treatment in Renal Disease: Basic Concepts in Dialysis. Support Line 20(1): 3-7, 1998.
Th	3/21	Group #5: Renal Disease, Case #26 (Enez Joaquin) <i>Practical work related to kidney disease</i>
T	3/26	Exam 2A: Closed Book (2/16 through and including 3/15)- 100pts
Th	3/28	Exam 2B: Open Book – 50pts
T	4/2	<i>Nutrition and Breast Feeding: Techniques and Barriers</i> Guest Speaker: Ellen Chetwynd RN BSN IBCLC Course Download: <ul style="list-style-type: none"> Visit Kellymom, http://www.kellymom.com/bf/start/index.html (Read 2 articles of interest) Tully, et al. Donor Milk: What's in It and What's Not. Journal of Human Lactation 17:152, 2001. Stuebe et al. Lactation and Incidence of Premenopausal Breast Cancer. Arch Intern Med. 169 (15) 1354-1371. 2009. Owen, et al. Effect of Infant Feeding on the Risk of Obesity Across the Life Course: A Quantitative Review of Published Evidence. Pediatrics 2005; 115; 1367-1377. Complementary Foods "Guiding Principles for the Complementary Feeding of the Breastfed Child" http://whqlibdoc.who.int/paho/2003/a85622.pdf (Great reference tool!)
Th	4/4	<i>Adult Obesity</i> Guest Lecturer: Toni Hartley MPH, RD, LDN Text: Krause, Chapter 22 Course Download: <ul style="list-style-type: none"> Clinical Guidelines of the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. NIH Publication No. 98-4083, September 1998. The Practical Guide: Identification, Evaluation and Treatment of Overweight and Obesity in Adults. 2000. Woods et. al. Central Control of Body Weight and Appetite. J Clin Endocrinol Metab 93: S37-S50, 2008.
T	4/9	<i>Adult Obesity Practical Work</i> <i>Childhood Obesity and Practical Work</i> Text: Krause, Chapter 18 Course Download: <ul style="list-style-type: none"> Goran, MI. Metabolic precursors and effects of obesity in children: a decade of progress, 1990-1999. American Journal of Clinical Nutrition 73: 158, 2001 Daniels, et al. Overweight in Children and Adolescents: Pathophysiology,

		<p>Consequences, Prevention, and Treatment. <i>Circulation</i> 111: 1999-2012, 2005.</p> <ul style="list-style-type: none"> • Eggeling, et. al. Childhood obesity: public-health crisis, common sense cure. <i>Lancet</i> 360; 473-82, 2002. • Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity: Summary Report. <i>Pediatrics</i> 120: S164-S192, 2007
Th	4/11	<p><i>Food Allergies and Intolerances</i> Text: Krause, Chapter 27 Course Download:</p> <ul style="list-style-type: none"> • Altman, et. Al. Public perception of food allergies. <i>J Allergy Clin Immunol</i> 1996; 97:1247-51 • Vierk, et. Al. Prevalence of self-reported food allergy in American adults and the use of food labels. <i>J Allergy Clin Immunol</i> 2007; 119: 1504-10.
T	4/16	<p><i>Eating Disorders</i> Guest Lecturer: Laurie Conteh MS, RD, LDN Text: Krause, Chapter 23 Course Download:</p> <ul style="list-style-type: none"> • Keys A. The residues of malnutrition and starvation. <i>Science</i>. 112: 371-373, 1950. (Oldy but Goldy ☺) • Marcason W et al. Nutrition therapy for eating disorders: What is the correct calorie level for clients with anorexia? <i>JADA</i> 102: (5) 644, 2002. • Position of the American Dietetic Association: Nutrition Intervention in the Treatment of Anorexia Nervosa, Bulimia Nervosa, and Other Eating Disorders. <i>JADA</i> 106: 2073-2082, 2006 • Tresley et al. Refeeding Syndrome: Recognition is the key to prevention and management. <i>JADA</i> 108: (12) 2105-2108, 2008. <p>Eisler I et al. A randomized controlled treatment trial of two forms of family therapy in adolescent anorexia nervosa: a five-year follow-up. <i>Journal of Child Psychology and Psychiatry</i>. 48: (6) 552-560, 2007.</p> <p>Assignment #4: Adult Obesity: Evidence in Treatment Options-100 pts</p>
Th	4/18	<p>Group #1: Morbid Obesity, Case #5 (Winthrop) Group #6: Anorexia and Bulimia Nervosa, Case #4 (Paris Marshall) Adult Obesity Practical Work</p>
T	4/23	<p><i>Psychiatric Conditions</i> Text: Krause, Chapter 42 Course Download:</p> <ul style="list-style-type: none"> • Appleton K. et al. Updated systematic review and meta-analysis of the effects of n-3 long-chain polyunsaturated fatty acids on depressed mood., <i>Am J Clin Nutr</i> 91:757-760, 2010. <p>Stoll Al et al. Omega-3 fatty acids in bipolar disorder: a preliminary, double-blind, placebo-controlled trial. <i>Arch Gen Psychiatry</i> 56: 407, 1999.</p>
Th	4/25	<p><i>Nutrition and Exercise and Sports Performance</i> Guest Lecturer: Mary Ellen Bingham MS, RD, CSSD, LDN Text: Krause, Chapter 24 Course Download:</p> <ul style="list-style-type: none"> • Position Stand, American College of Sports Medicine: Exercise and Fluid Replacement. <i>Medicine and Science in Sports and Exercise</i>. 377-390, 2007 • Position of the American Dietetic Association, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and Athletic Performance. <i>JADA</i> 109: 509-529, 2009.

		<ul style="list-style-type: none">Bonci et al. National Athletic Trainers' Association Position Statement: Preventing, Detecting, and Managing Disordered Eating in Athletes. <i>Journal of Athletic Training</i>, 43 (1) 80-108, 2008. Assignment #5: Course Evaluations (Extra Credit-3pts)
T	5/7	Final Exam <i>Closed: Material covered from 4/2-4/25 (115 pts)</i> <i>Open: Cumulative (50 pts)</i>

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Case Studies: There is a lot of material covered in the case studies so I will work with each group to identify which questions in the case study to focus on. Some of it will be didactic and some of it will be practical/hands on. Please schedule a time to meet with me. During our group meeting, we will discuss the case and help you get prepared for your presentation. Please turn in your completed case study questions 2 days prior to our meeting so I can review it and be prepared during our meeting. Please turn in your final case questions and your handout to me by 8am of the morning you present your case.

Abel Alexy Altschul Beattie Bellomy	Group 5: Renal Disease, Case #26: Enez Joaquin Presentation: March 21, 2013
Bunnag Chen Coefield Crump Ebersohl	Group 3: Hypertension and Cardiovascular Disease, Case #6: Mr. James Klosterman Presentation: February 19, 2013
Frutchey Karel Kline Lang Le	Group 1: Morbid Obesity, Case #5: Mrs. Winthrop (see course download for case) Presentation: April 18, 2013
Leslie Letourneau Lightbourne Lovell Lowe	Group 2: Celiac Disease, Case #12: Mrs. Melissa Gaines Presentation: January 31, 2013
McPhail Mergaarden Rollins Supplee	Group 4: Type I Diabetes, Case #22: Miss. Susan Cheng Presentation: February 28, 2013
Tinsley Welker Wong Youssefi	Group 6: Anorexia and Bulimia Nervosa, Case #4: Miss. Paris Marshall Presentation: April 18, 2013