

TEXAS



Chiropractic College

**Division of Technique, Principles and Therapeutics
Department of Clinical Reasoning and Therapeutics**

NUTRITION II SYLLABUS

CP-6330.NT Nutrition II

3 Credit Hours

3 Lecture Hours

0 Lab Hours

TR6 SPRING 2012

COURSE DESCRIPTION:

This course covers the application of sound nutritional intervention in the maintenance, prevention and treatment of various conditions and pathologies. Diet planning and nutritional supplementation are discussed from biochemical and physiological perspectives.

PREREQUISITES: Nutrition I, Toxicology & Pharmacology, Physical Examination and Diagnosis, Obstetrics and Gynecology, Pediatrics, Senior Health

COREQUISITES: Internal Diagnosis I, Clinical Neurology

Meeting times and places

Monday 9 a.m. R-100

Tuesday 11 a.m. R-100

Thursday 9 a.m. R-100

Contact Information:

Course Professor: Dr. Jesse T. Coats, RPh., D.C., D.A.A.P.M., C.C.S.P.,

Associate Clinical Professor & Department Head Clinical Specialties

Office: Room #317, Iwama Building

Office Hours:

Monday 8 a.m.

Tuesday 8 a.m.

Wednesday 8 a.m. & 11 a.m.

Thursday 8-11 a.m.

Friday 11 a.m.

Because office hours are occasionally utilized for meetings and other activities, it would be advisable to schedule appointments prior to the time of your desired appointment.

Phone: Campus (281) 998-6064
Clinical Office (281) 996-7600
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Edvance360.com/txchiro/

COURSE MATERIALS:

REQUIRED TEXTBOOK:

KRAUSE'S FOOD AND THE NUTRITION CARE PROCESS by L. Kathleen Mahan, Sylvia Escott-Stump and Janice L. Raymond, 13th ed. Elsevier Saunders, 2012

Required readings from these and other reliable resources will be posted on Edvance360 to augment student doctor learning.

The American Journal of Clinical Nutrition
Journal of Nutrition
Nutrition Reviews

Edvance 360:

The course syllabus, course announcements, and the course grades will be posted on Edvance 360 (formally Scholar 360). The web address is: <http://edvance360.com/txchiro/>

CLINICAL COMPETENCIES:

Course content will include the following clinical competencies:

CCE Clinical Competencies

1. History Taking
2. Physical Examination
3. Neuromusculoskeletal Examination
4. Case Management
5. Case follow up and review
6. Nutritional Counseling
7. Record Keeping
8. The Doctor-Patient Relationship
9. Wellness

TCC Clinical Competencies

1. Communication
2. Complementary and Alternative Medicine
3. Evidence Based Practice/Research
4. Nutritional Counseling
5. Public Health
6. Referral/Collaborative Care
7. Special Populations

LEARNING OUTCOMES: These are global, programmatic outcomes the student should be “able to do” after successful completion of this course.

1. Recognize clinically relevant nutrient/nutrient and drug/nutrient interactions.
2. Identify comorbidities that might influence the nutrition status of our patients.
3. Prescribe various nutrients found specific foods (nutriceuticals) as well as commercially available medical foods for treatment of conditions that respond favorably to nutritional intervention.
4. Use the nutritional and dietetic tools used by healthcare providers in the practice of nutritional counseling.
5. Design meals with high biologic value, adequate caloric content, proper mix of proteins, carbohydrates, fats, vitamins and minerals that could be potentially therapeutic for certain medical conditions.
6. Access and efficiently use the available clinical data bases needed to develop nutritional support of health and wellness as well as several well known disease processes that present to chiropractors.

COURSE OBJECTIVES:

1. Define and discuss in context all highlighted terms within all of the chapters listed in the course content section of this syllabus.
2. Solve clinical scenarios at the end of each chapter listed in the course content section.
3. Relate how various neurotransmitters, body composition, and hormones interact in regulating food intake and weight gain or loss.
4. Calculate BMI and body fat composition and state whether or not a patient is at risk for certain diseases in which excess body fat is part of the etiology or at least a comorbidity.
5. Define parameters used to diagnose the Metabolic Syndrome.
6. Compare and contrast popular diets and programs and make recommendations on which may have the best clinical outcomes.
7. Categorize OTC and natural products used in weight loss, their mechanisms as well as their effectiveness.
8. List parameters used to justify bariatric surgery and which surgical intervention might yield the best clinical outcomes.
9. List and discuss diagnostic criteria, physical signs and symptoms for anorexia nervosa, bulimia Nervosa, the various eating disorders.
10. Compare and contrast anaerobic vs. aerobic utilization of carbohydrate during various activities.
11. List activity and chief energy source used by muscles during that activity.
12. Analyze carbohydrate, fat, and protein intake/utilization pre, during and post exercise.
13. List vitamins and minerals and the criteria used to justify their utilization by the exercise and sports enthusiast. Include any and all special populations such as male vs. female and vegetarian.
14. Compare and contrast proper fluid intake for adequate hydration for male vs. female.
15. Categorize ergogenic aids proposed mechanism of action, claims, efficacy as well as legality.

16. List and discuss the effects on physical and mental wellbeing regarding the use of anabolic steroids.
17. Describe the nutrition of bone growth and bone remodeling and the role of all of the various nutrients involved in osteopenia and osteoporosis type I and type II.
18. List key components of nutritional, physical medicine (chiropractic), and drug therapy for the treatment and co-management of osteoporosis.
19. Discuss the pathophysiology and care management algorithm for food allergies.
20. List food intolerances, their respective cause, problematic foods and signs/symptoms.
21. Discuss widely used skin tests, blood tests and food challenges used in assessment of adverse reactions to food.
22. List key features such as common symptoms and nutritional consequences for the common priority healthcare conditions adversely affecting the gastrointestinal tract from mouth to anus.
23. List and discuss the pathophysiology and care management algorithms for the each of the common priority healthcare issues affecting the gastrointestinal tract.
24. Discuss the basic features of a gluten free diet.
25. List and discuss rationale behind the use of various lab tests to evaluate liver function.
26. Describe metabolic consequences resultant of moderate vs. chronic excessive alcohol consumption.
27. List common foods that are known to contain high copper content used to remedy anemias.
28. List and discuss mechanisms of clinical manifestations of cirrhosis regardless its etiology.
29. Discuss key features of a fat restricted diet i.e. foods allowed vs. foods excluded.
30. Discuss the pathophysiology and care management algorithms for liver disease and pancreatitis.
31. List key features of Type I vs. Type II Diabetes Mellitus using the pathophysiology and care management algorithms.
32. Use hemoglobin A1C, fasting blood or plasma glucose, and oral glucose tolerance test results to delineate euglycemic vs. prediabetic vs. diabetic patient presentations.
33. Discuss the effects of carbohydrate, fat and protein on blood glucose control.
34. Discuss the effects of insulin on the metabolism of carbohydrate, fat and protein.
35. List common causes for episodic hypoglycemia and nutritional intervention for each.
36. List common symptoms of hypothyroidism vs. hyperthyroidism and nutritional interventions for each.
37. List the rationale supporting various nutrients and natural products used to promote the euthyroidic state.
38. Discuss nutritional management of polycystic ovarian syndrome.
39. Classify nutritional anemias and list various nutritional interventions used to treat them.
40. List the common causes of folate deficiency and the probable clinical presentations.
41. List common causes of cyanocobalamin deficiency and the probable clinical presentations.
42. Describe the function of B12 as it relates to folate metabolism.
43. Distinguish non-nutritional vs. typical anemias, their key diagnostic features and nutritional intervention for each.
44. Analyze the pathogenesis of atherosclerotic heart disease and possible nutritional interventions.
45. Classify hyperlipidemias and discuss prevention and management of risk factors.
46. Differentiate major risk factors vs. modifiable risk factors and lifestyle risk factors in prevention and treatment of coronary artery disease.
47. Apply the SHAPE Guidelines to identify patients at risk for cardio and cerebrovascular events.

48. Appraise nutritional factors and dietary patterns that make a positive impact in reduction of frequency and severity of coronary events.
49. Discuss pathophysiology and care management algorithm for atherosclerosis.
50. Evaluate the DASH (Dietary Approaches to Stop Hypertension) diet and its ratings among outcomes evidence based literature.
51. Describe and list common CAM approaches to control of hypertension.
52. Evaluate physiology and care management algorithm for heart failure.
53. Compare sodium/salt equivalents of high sodium containing foods.
54. Differentiate sodium free, low salt or lightly salted stated on food labels and the impact on priority healthcare issues.
55. Evaluate nutrients that are used to improve quality of life for sufferers of chronic lung disease.
56. Describe pathophysiology and care management algorithm for cystic fibrosis.
57. Discuss the effects of diet and urinary pH on nephrolithiasis prevention as well as treatment.
58. Compare the pathophysiologic mechanisms and the composition of the associated stone.
59. Evaluate the effect on urinary pH of selected foods and beverages.
60. Describe the pathophysiology and care management algorithm for kidney stones.
62. Describe the pathophysiology and care management algorithm for chronic kidney disease.
63. Evaluate nutritional claims of cancer protective phytochemicals in vegetables and fruits.
64. Appraise early warning signs of cancer...”CAUTION”
65. Determine energy needs and nutritional interventional strategies for patients with cancer.
66. Evaluate effective nutritional interventional therapy for rheumatic disease and inflammatory arthritides.
67. Describe the production of eicosanoids from omega 3 and omega 6 PUFAs.
68. Describe the pathophysiology and care management algorithm for osteoarthritis.
69. Appraise the anti-inflammatory diet.
70. Discuss the pathophysiology and care management algorithm for rheumatoid arthritis.
71. Discuss the pathophysiology and care management of chronic fatigue syndrome & fibromyalgia.
72. Evaluate the pathophysiology and the nutritional considerations for specific neurologic conditions like multiple sclerosis, Alzheimer’s etc.
73. Evaluate specific neurologic syndromes attributable to nutritional deficiency or excess.
74. Compare the metabolic disorders, the affected pathway or enzyme deficiency, the clinical features of the disorder and the proposed nutritional intervention.

TEACHING PHILOSOPHY

In a modern chiropractic practice, it is imperative that a prudent doctor of chiropractic have a comprehensive knowledge of nutrition. This sequel builds on Nutrition I giving the student doctor a depth and breadth of nutritionally related clinical knowledge designed specifically to enable them as graduate Doctors of Chiropractic to offer sound nutritional counseling throughout the entire life of the patient quite literally from prenatal to older adult. This course will

emphasize application of sound nutritional intervention in the maintenance of health and wellness as well as prevention and treatment of various conditions and pathologies. Diet planning and prudent nutritional supplementation are discussed from biochemical and physiological perspectives. We will use both lecture as well as case studies to acquire the core concepts of the course. This course is definitely a keeper. So is your text. Do not sell your book back. Start building you a reference library for your practice.

The approach used in this class will begin with a review of Nutrition I, and then build into the clinical application of the new clinical material covered.

The student doctor should benefit from this approach 3 fold:

1. Identify and solidifying attained background knowledge in Nutrition I.
2. Correlate this basic knowledge of nutritionally related biochemistry and physiology through application of such to solve novel clinical problems presented in this upper level clinical course.
3. And finally fortifying board preparation through this comprehensive utilization of several basic science courses taken to this point with associated clinical corollaries.

Teaching methods used in this course will vary according to tempo and personality of the class. Lecture, case studies and assigned readings will be used. The information provided to the student will be challenging however will not be an insurmountable task.

At this advanced level in your education I consider you and I as equal partners with equal responsibility to each other, that is to say I bring the information to class in an organized manner and you put forth the necessary effort to take notes and learn the material. At various points I will check your progress and offer any service I can to identify and rectify any major deficiency that might be identified.

STUDENT RESPONSIBILITIES

The responsible student will:

- come to class,
- take notes,
- learn the material presented,
- participate in classroom discussion,
- prepare well ahead of time for exams.

Last day to drop and/or add.....Friday January 20th 2012

Last day to withdraw.....Friday March 02nd 2012

Quizzes/Exams:

Hourly exams will be given at regular intervals and paced somewhat to the tempo of the class at large.

Holidays/Other Non-meeting Dates:

Classes will not meet:

Monday January 16th – Martin Luther King Jr. Day

Monday February 20th – President's Day

March 16th – 18th – NBCE Exams

Friday April 06th – Good Friday
Monday April 16th – Student Study Day

Final Exam Week..... April 17th – 24th

COURSE CONTENT:

Week 1-2 Chapters 22 & 23

Nutrition in Weight Management

Nutrition in Eating Disorders; Anorexia, Bulimia, Night eating disorder

Week 3 Chapters 24, 25 & 27

Nutrition in Exercise and Sports

Nutrition in Bone Health; Emphasis on osteomalacia, osteopenia, osteoporosis

Medical Nutrition for Adverse Reactions to Food – Food Allergies and Intolerances

Week 4 Chapters 28 & 29

Medical Nutrition Therapy for Upper Gastrointestinal Tract Disorders; GERD, Dyspepsia, Dumping Syndrome, Gastritis, Gastric ulcer, Duodenal ulcer

Medical Nutrition Therapy for Lower Gastrointestinal Tract Disorders; Flatulence, Constipation, Malabsorption, Celiac disease, Irritable Bowel Syndrome, Diverticulosis, Crohn's, Ulcerative colitis, Short bowel syndrome.

Week 5 Exam I, Chapters; 22, 23, 24, 25, 27, 28, 29

Format is multiple-choice, fill in the blank and extended matching questions. The exam is worth one third of your final grade.

Week 5 Chapter 30

Medical Nutrition Therapy for Hepatobiliary Disorders such as, Hepatitis, Alcoholic liver, Hemochromatosis, Wilson's disease, Cholelithiasis, and Pancreatic Disorders such as Acute and Chronic Pancreatitis, Pancreatic Cancer

Week 6 Chapter 31

Medical Nutrition Therapy for Diabetes Mellitus and Hypoglycemia of Nondiabetic Origin

Week 7 Chapters 32 & 33

Medical Nutrition Therapy for Thyroid and Related Disorders; Grave's disease, Myxedema, Cushing's Disease, Addison's Disease

Medical Nutrition Therapy for the Anemias such as Microcytic, Macrocytic, Hypochromic, Physiologic, Sickle Cell, Thalassemias.

Weeks 8 Chapters 34 & 35

Medical Nutrition Therapy for Cardiovascular Disease, such as Hypertension, Atherosclerosis, Arteriosclerosis, Hyperlipidemias, Heart failure

Medical Nutrition Therapy for Pulmonary Disease such as Asthma, Emphysema, Cystic fibrosis, Pneumonia, Tuberculosis,

Week 9 Exam II, Chapters; 30, 31, 32, 33, 34, 35,

Format is multiple-choice, fill in the blank and extended matching questions. The exam is worth one third of your final grade.

Week 9 Chapter 36

Medical Nutrition Therapy for Renal Disorders such as nephrolithiasis, chronic urinary tract infections.

Week 10 Chapters 37 & 40

Medical Nutrition Therapy for Cancer Prevention, Treatment and Recovery

Medical Nutrition Therapy for Rheumatic Disease such as Rheumatoid arthritis, Osteoarthritis, Gout, Lupus, Scleroderma, Fibromyalgia/Chronic fatigue syndrome, Sjogren's, TMD/TMJ.

Week 11 Chapter 41

Medical Nutrition Therapy for Neurologic Disorders; Alzheimer's Disease, Migraine headache, MS, Pernicious anemia, Stroke, Wernicke-Korsakoff Syndrome

Week 12 Chapter 44

Medical Nutrition Therapy for Metabolic Disorders; PKU, Maple syrup urine disease, Urea cycle disorders, Galactosemia, Fatty acid oxidation disorders

Week 13 and 14 will be used to review

GRADE METHOD AND SCALE

Explanation of Evaluation:

Evaluation of progress will be solely by way of regularly spaced hourly examinations. Grading scale is per student handbook with the following values:

90-100 = A

80-89 = B

70-79 = C

Below 70 = F

Assessment Process and Measurements:

There will be 2 hourly exams equally weighted and together comprise 67% of your total grade for the course. The final exam will comprise 33% of your total grade for the course.

Assessment Format:

Each of the hourly exams will be of multiple-choice format and some fill in the blank when appropriate and extended matching. Your final will follow the same format.

Essential Policy Information:

“For specific procedures on how each policy is enforced see the Student Handbook.”

Attendance: Regular and punctual attendance at all scheduled classes is expected. A student is subject to academic penalty, loss of 10% of your grade in the course. if absences exceed **ten percent**. Absences exceeding **twenty percent** subject a student to dismissal from the course. Three incidences of tardiness will constitute an absence.

This lecture and lab course meets for 15 weeks (3 hours per week). The total amount of seat time is 45 hours. **Over ten percent** of this time would be **5 missed classes**. Miss 5 classes and

you will lose 10% of your grade. Over twenty percent of this time would be 10 missed classes. **I will give you a “WF” if you miss 10 classes.**

Missed Examinations:

Students must notify faculty before missing any examination. If an examination is missed for good and sufficient reason and the student has notified the faculty member in advance, a make-up examination may be given subject to a fee of \$40.00. The fee for the make-up examination is a minimum of \$75.00 if a standardized patient is required for the exam. Additional required standardized patient hours may increase this \$75.00 minimum fee. All intra-term examination must be made up prior to final examinations. Missed final examinations must be made up within the first week of the next semester. A student may be allowed a maximum of two missed examination dates for good and sufficient reason per trimester. These two missed examination dates are for all enrolled courses in a trimester, not for each individual course. Any request for additional make-up examinations will require documentation substantiating the absence and must be approved by the Dean of Academic Affairs.

You have 2 weeks from the date you return to make up exams missed during the trimester.

Students arriving late for written examinations will not be allowed extra time. Students arriving late after an examinee has turned in their test will not be allowed to take the written examination and must schedule an appointment for a make-up provided they have appropriate acceptable documentation as to why they were late.

Incompletes: Course assignments and examinations must be completed prior to the final examination in that course. Those not completed will receive a grade of zero.

Classroom Management Policy: TCC is committed to the fundamental principles of freedom of speech, including controversial positions taken in the classroom by faculty and/or students.

However, all types of speech and behavior must be balanced with principles of appropriate classroom behavior in a professional school. Faculty have a right to establish clear expectations in this regard and students should share the responsibility for maintaining an appropriate, orderly learning environment. Students who fail to adhere to the behavioral expectations outlined by the instructor (either in the syllabus or at the time the behavior occurs) may be subject to discipline in accordance with the procedures described below and the College’s Student Discipline Policy (see Student Handbook).

Identification of disruptive behavior by students may include but is not limited to:

Mild to moderately disruptive behavior;

Persistent speaking without permission

Engaging in activities not related to the class

Inappropriate use of computers, cell phones or other electronic devices

Sleeping in class

Chronically entering class late or leaving early

Eating or drinking in the classroom if the faculty members syllabus specifically disallows it

Disputing authority in an argumentative or disrespectful manner with faculty and/or other students

Moderate to severely disruptive behavior;

Verbal or physical threats

Physical altercations

Destruction of property

Cellular phones/Electronic Devices: Electronic communication devices are to be turned off or placed in silent mode when in the classroom. These devices are **NOT** allowed to be on your person during testing situations. Cellular phones may **NOT** be answered during class time without prior permission from the faculty member. Texting or e-mailing is **NOT** allowed during class time. All devices will be confiscated if used during class and the student will lose 10% of their final total grade per offense. There is **NO** warning on this issue. Refusal to turn over your electronic device constitutes “insubordination” and an incident report will be filed.

You may only use your lap top for taking notes and following along with Dr. Coats’ power point. Should you have any other screen up you will lose the privilege of using a lap top in ALL class you have now or will have in the future with Dr. Coats. This will be considered unprofessional conduct and you will lose 10% of your final grade.

Guidance and Counseling: The Guidance and Counseling Department is prepared to confidentially assist you with personal, relationship or academic issues. With appropriate documentation, the Director of Guidance and Counseling coordinates academic related special needs with instructors.

Plagiarism: “Plagiarism is defined as copying or paraphrasing information from any published or non-published source, except for properly referenced citation, and presenting this material as one’s own, original work for credit in a course. Plagiarism is considered the equivalent of cheating.” **I will give you a “WF” if you are given an individual assignment and you do it with someone else. I will give you a “WF” if you cut and paste material from anywhere (internet, other professor’s slides) and turn it in as your own work. All turned in work is to be a summary of material in your own words whether it is referenced or not.**

Note: Other important policies can be obtained from the current edition of the Student Handbook.

THE INSTRUCTOR RESERVES THE RIGHT TO MODIFY THIS SYLLABUS AT ANY TIME. ANY CHANGES WILL BE NOTED VERBALLY (in class) AND IN WRITING (Edvance 360).