

## UNIVERSITY of BRIDGEPORT NUTRITION INSTITUTE

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<b>Course:</b>	NUTR 560C	Vitamins & Minerals	
<b>Term/Semester:</b>	Summer, 2013		
<b>Credits:</b>	3		
<b>Time:</b>	May 28–Sept 20, 2013 Week begins Monday 3 am EDT	<b>Location:</b>	Online
<b>Course Instructor:</b>	Professor Name: Jim Gerber, MS DC EMAIL: jgerber “at” bridgeport.edu		
<b>Office Hours:</b>	By Appointment		

**Course Description:** This course will apply the basic sciences to understanding the principles of nutritional science, primarily as it relates to vitamins and minerals. This information will be used to explore the functions of the micronutrients and their roles in health promotion and disease processes. This course will also encourage and stimulate students to pursue information in the field of clinical nutrition and to develop the student's ability to critically analyze such information.

**Course Format:** Textbook and online reading assignments, weekly quizzes, weekly discussion topics, term projects on diet prescription and nutrition research analysis.

**Instructional Objectives:** Students will be prepared to understand the functions of the micronutrients and their roles in health promotion and disease processes. This course will also encourage and stimulate students to pursue information in the field of clinical nutrition and to develop the student's ability to critically analyze such information. These skills will help the student to understand and solve clinical nutrition problems addressed in subsequent courses in this program.

**Expected Learning Outcomes:** Upon the completion of this course students are expected to be able to:

1. Locate nutrition articles on Medline having a variety of research methodologies
2. Identify the research design of nutrition studies and evaluate their quality
3. Present research information and critically discuss controversial issues in clinical nutrition
4. Address some current clinical issues involving carbohydrate and lipid nutrition
5. Discriminate between the functions of vitamins and minerals, their sources, requirements, effects of excesses and deficiencies, assay methods, and key points in their metabolism and absorption
6. Demonstrate examples of the physiological effects of vitamin/vitamin interactions, vitamin/mineral interactions, mineral/mineral interactions, and drug/nutrient interactions.
7. Utilize basic nutrition information to analyze and make recommendations and /or give information in clinical situations.

**Required Textbook:** Advanced Nutrition and Human Metabolism

Authors: Gropper and Smith

Edition: Sixth

Publisher: Wadsworth Publishing Company

ISBN-10:1133104053

ISBN-13:9781133104056

The textbook may be obtained from any online bookseller, including the University of Bridgeport Health Sciences partner at

<http://www.rittenhousemedicalink.com//product/product.asp?referrer=1033&sku=1133104053>

The textbook is also available to rent from these sources:

<http://www.cafescribe.com/webapp/wcs/stores/servlet/ProductDisplay?catalogId=10001&categoryId=152754&langId=-1&productId=400000000002498210&storeId=216405&productStoreId=216405>

[http://www.coursesmart.com/IR/1570834/9781133104056?\\_hdv=6.8](http://www.coursesmart.com/IR/1570834/9781133104056?_hdv=6.8)

Earlier editions of the textbook may cost less, but may lack new material covered on weekly quizzes. You will be responsible for all material in the sixth edition regardless of which edition you purchase.

### Other Required Resources:

The following websites will also be used for assigned required readings:

The Linus Pauling Micronutrient Information Center: <http://lpi.oregonstate.edu/infocenter/index.html>

Healthnotes: available at a variety of Internet sites, including:

<http://www.pccnaturalmarkets.com/health/index.html>

<http://publix.aisle7.net/publix/>

<http://max-wellness.com/landing-page>

<http://www.vitaminbuzz.com/healthnotes>

<http://www.douglaslabs.com/aisle7.cfm>

### Recommended Resources:

- Modern Nutrition in Health and Disease, 11th edition by Ross et al (Lippincott Williams & Wilkins, 2012). *This is the pre-eminent textbook of nutrition science, well over 1800 pages, each of its 115 chapters written by an expert in the field.*
- Dietary Reference Intakes, by the Food and Nutrition Board, Institute of Medicine (National Academy Press, 1997-2012) Available free for online viewing at <http://www.nap.edu/catalog/dri/>. *This series replaces the Recommended Dietary Allowances reports. It summarizes current knowledge about dietary requirements and safe intakes for all essential vitamins and minerals.*
- Bowes & Church's Food Values of Portions Commonly Used, 19<sup>th</sup> edition by Pennington JAT et al (Lippincott Williams & Wilkins, 2009). *This book contains tables providing complete nutritional analyses of many foods.* An online source for information about food composition is available free at <http://www.nal.usda.gov/fnic/foodcomp/>. Another useful online resource for food composition is NutritionData at <http://www.nutritiondata.com/>
- PubMed. <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>. *Free access to Medline citations and abstracts using a simple key word search tool or more advanced search strategies (see PubMed Tips, posted in Resources). Some articles are available in full text through online links provided with the abstracts.*

### Resources at UB online library

With your student ID, the online UB Library link makes many research articles available in full text:

- If you have not already signed up for the new UB portal, go to <http://www.bridgeport.edu/myub> and follow the instructions. If you are signed up, go to your home page at <http://bridgeport.edu/myub>
- On your home page, click on Digital Library under Library Learning Resources, which takes you to the library home page with the following useful services:
- **Search the medical literature with several databases at once:** use the Search box to enter nutrient and health terms, choose Health Sciences from the Select Your Subject drop-down menu, and click on Go. Articles available in full text will be clearly marked.
- **Check for full text availability of an article located with Pubmed or another public search engine:** Click on “Looking for a specific electronic journal title/citation?”, enter as much of the title as you can, and click Go. If the journal is listed, click on it and enter as much as you can of the year, volume, issue, and start page.

- **Find comprehensive summaries of natural medicine research on special databases:** Click on List of Online Databases. Two of the best for natural medicine are Natural Standard and Natural Medicines Comprehensive Database.
- For more complete instructions for using the UB digital library, see the Quick Guide at [http://www.bridgeport.edu.libproxy.bridgeport.edu/Media/Website%20Resources/documents/academics/library/SFX\\_Quick\\_Guide.pdf](http://www.bridgeport.edu.libproxy.bridgeport.edu/Media/Website%20Resources/documents/academics/library/SFX_Quick_Guide.pdf)

Students can send an email to [myubhelp@bridgeport.edu](mailto:myubhelp@bridgeport.edu) or chat on the Live Portal Tech support for assistance. For more information, see <https://myub.bridgeport.edu/student-services/it-student-support/Pages/default.aspx>

**Student Assessment Criteria:** A grade for the course will be assigned based upon the percentage of total points earned for performance in the areas as defined below:

<b>Criterion</b>	<b>Points</b>	<b>Percentage of Grade</b>
Weekly Quiz	25-30	~40%
Weekly Participation	25-40	~40%
Term Project – Diet Prescription	100	~10%
Term Project – Diet Prescription	100	~10%
<b>Grand Total</b>	<b>~1000</b>	<b>100%</b>

Each week’s work will be worth approximately 50-60 points, divided about equally between the weekly quiz and a weekly participation grade for your activity in the Discussion Board, including teach-ins and research summary/critique assignments. Sometimes the quiz will be worth more than the participation grade, or vice versa, depending on the week. Each term project will be worth 100 points. Total points possible for the course will be about 1000.

Your participation in class discussions must be regular and timely. This means that you must contribute something to the weekly discussions during each week in order to avoid earning zero points for participation in that week. Moreover, simply responding once to weekly topics will not guarantee a minimum passing participation grade; it is expected that you will also respond to at least two other student’s posts for a minimum passing grade. Higher participation grades require discussing the topics with the instructor and other students throughout the week. We also encourage you to continue discussions past the week in which they are introduced, and you will earn participation credit for such additional contributions to older discussions. However, entering discussions late will not make up for lack of participation during a previous week. Think of participation as a timer that begins Monday morning and ends the following Sunday evening; anything you contribute to during that seven-day period will count towards that week’s participation grade. If you must be away from your primary computer during any week of this course, it is your responsibility to find a local computer where you can access this course for contributing to the discussions and for completing any other time-sensitive assignments.

Grading objective tests such as the weekly quizzes and final exam is much more straightforward than assigning grades for participation. Your grade for your weekly participation will be largely based on my subjective evaluation of the frequency and quality of your participation. This is not as easy a process for an instructor compared to objective testing, so please bear with us.

For us, quality counts first, and we define quality as thoughtful, well-considered, concise contributions that directly address the assigned topics. Frequent contributions of low quality will not ensure a good grade. Similarly, long-winded diatribes or dumping in paragraphs of information from course materials or other sources will also not contribute to a better grade. If you have information to share that is lengthy, attach it to your message rather than pasting it into the body of the message. Quality contributions to all Weekly Discussion Forums will figure into your grade, but contributions to the Water Cooler will not count toward your grade. I do not believe it is possible to set a standard for a “perfect” or “100%” level of participation. I expect most diligent,

motivated students will earn “B” grades for weekly participation efforts of good quality and reasonable frequency (meaning a frequency greater than once per week). Minimally acceptable contributions will earn “C” grades and exceptional ones will earn “A” grades. Failure to participate will of course earn a failing grade for that week. Including original citations/references to back up your contributions will improve your grade. Interacting with and responding to the contributions of your classmates will also improve your grade. Plagiarism, that is, representing the writing of others as your own, will not only earn a failing grade, but will be reported to the UB administration.

Your best approach to this part of the course is to learn as much as possible about the topics under question, and to help your fellow classmates learn as well, rather than trying to outshine them.

## **ASSIGNMENTS**

Assignments will be in the form of textbook and online readings, weekly quizzes, discussion questions, “teach-in” contributions, research article summaries and critiques, and two term projects.

### ***Readings***

Use the reading assignments to gain an understanding of the nutrients and other topics we are covering each week. Your performance on the weekly quizzes, contributions to the discussion questions and quality of your work for the “teach-in” and research article assignments will reveal whether you are doing the reading, learning the material, and considering the implications of this information for human health and disease. In the Weekly Schedule below and in the Assignments section online, readings listed above the “Take Week \_\_ Quiz” instruction will be covered on the quiz; readings listed below that instruction will be background material for the discussion section assignments.

### ***Weekly Quizzes***

These quizzes will test your knowledge and understanding of the material in the reading assignments (primarily the textbook readings and Linus Pauling Micronutrient Research Center articles). Quizzes will be available on Monday of each week and you may take a quiz anytime during the week until Sunday night at midnight PST. Quizzes are not timed and you may save them and return later to finish them. We do not expect to be able to enforce a “closed-book” policy for these online quizzes, but you will be tested on the same information on the comprehensive proctored final exam, which will be closed book. Therefore, you need to study this material for comprehension and retention to perform well on the final exam.

### ***Discussion Questions***

These questions will be posted by the instructor to the weekly Discussion Forum on the Discussion Board and are based on your readings or on case studies, research papers or issues relevant to the weekly topics. Discussion questions are designed to facilitate instructor/student and student/student interactions so that we can further develop our understanding of the topics and issues of the week. Your contributions can include relevant personal, clinical or research knowledge and/or experience as appropriate.

When responding to the initial question, please reply directly to the instructor’s message. Also, feel free to continue discussions by replying directly to other class members’ responses as desired.

The Discussion Board may also be used to ask for clarification about points in the text that you do not understand or that you would like additional information about. Your classmates (or the instructor) may then respond to these questions. Initiate these new discussions by adding a new thread to the week’s Discussion Forum.

Finally, each weekly Discussion Board will offer an Open Thread for students who wish to bring up for discussion additional topics related to the week’s material.

### ***Teach-Ins***

In some lessons, Teach-Ins will take the place of open-ended discussions started by the instructor. In a Teach-In, each student will contribute a new discussion thread by doing the following:

- Select a topic from the Teach-In Topics list provided in the Assignments area and *claim that topic as your own* by posting a message to the weekly Discussion Forum with the name of your topic in the message header. This way other students can check to see what topics have already been taken. Only one student per topic, please.
- Access the online material indicated to educate yourself about your topic and compose a Summary of Important Points to inform your classmates, using guidelines posted in the Course Materials area.
- Using PubMed, or another suitable tool for searching the scientific literature, find one full text article or detailed abstract describing a single *original experimental study* (not a review) that adds to the useful knowledge base about your topic. Include the study abstract in your Teach-In and write a brief Research Summary/Critique for it using the guidelines presented on the next page.
- Add your Summary of Important Points and your Research Summary to your topic's message thread in the Discussion Forum.
- Respond to any follow-up questions or comments from the instructor or your classmates as best you can.
- Read the Teach-In contributions of your classmates and respond with any follow-up questions or comments you may have.

For more information and guidelines for this assignment, see the Course Materials section.

### ***Research Summaries and Critiques***

A Summary/Critique should contain the following:

- Full reference citation, including authors, title, journal name, year, volume number, and pages.
- Purpose of the study
- Type of study: in vitro, in vivo, animal, human, observational study or intervention trial, controls, etc.
- Method used to conduct study (subjects, intervention, outcome measures, controls, analytical methods, etc.)
- Summary of results
- Critique of research design quality and relevance
- Nutritional implications and implications for future study

If you are asked to locate a full-text article or abstract of your own choosing, I recommend using PubMed or any other database of scientific literature to locate these articles or abstracts. Guidelines for using PubMed can be found in the Course Materials section.

### ***Term Project – Diet Prescription***

For this project you will develop and analyze a diet that provides an adequate daily amount for each of the essential vitamins and minerals we have studied, as well as providing a reasonable number of calories and balance of macronutrients. Full instructions can be found in the Course Materials section.

### ***Term Project – Research Study Analysis***

For this project you will locate a full text article describing an original human study involving a vitamin or a mineral. You will evaluate this study using established guidelines for proper research methodology. Full instructions can be found in the Course Materials section.

### ***Avoiding plagiarism***

Most students in a graduate program are somewhat familiar with the concept of plagiarism, but a few students in a course such as this may not appreciate how rules for avoiding plagiarism apply to online work. Briefly stated, you are not allowed to cut and paste or otherwise reproduce material written by someone else without 1) identifying the source and 2) marking the copied passage in an obvious way, such as with quotation marks or italics, to distinguish it from material you have written yourself. Such quoted passages are sometimes useful

contributions as part of an online discussion, but you must not imply that they are your words. While not discouraging the proper use of quoted passages, they do not earn as much participation credit unless they are accompanied by remarks in your own words. To guarantee your understanding of this issue, you are required to complete an online exercise in the first week of class as part of that week's Assignments.

## **WEEKLY SCHEDULE**

### **Week 1: May 28-June 2**

#### Module 1 Lesson 1

Topics: Research Methodology; Searching the Nutrition Literature; Evaluating Nutrition Research Articles

#### ACTIVITY:

1. Review Syllabus
2. Introduce yourself in the Water Cooler area.
3. Take the What is Plagiarism quiz at <http://www.indiana.edu/~tedfrick/plagiarism/item1.html>. Email the instructor and report how many items you got correct (this will not be graded, but you are required to take the quiz). You may first want to view the tutorial at <http://www.indiana.edu/~istd/>.
4. Acquire the textbook (assigned readings will begin in Week 2)
5. If you unfamiliar with the methods used in health care research, start with this introductory article: <http://www.hsph.harvard.edu/nutritionsource/media-full-story/>
6. Go to <http://explorable.com/research-designs> and read about each of these research designs
  - <http://explorable.com/case-control-study>
  - <http://explorable.com/cohort-study>
  - <http://explorable.com/cross-sectional-study>
  - <http://explorable.com/double-blind-experiment>
  - <http://explorable.com/systematic-reviews>
  - <http://explorable.com/meta-analysis>
6. Read the following articles; you will need Adobe Acrobat Reader or another program that can display PDF files.
  - Observational research methods. Research design II: cohort, cross sectional, and case-control studies. Download at <http://emj.bmj.com/cgi/reprint/20/1/54.pdf>.
  - CONSORT 2010 Explanation and Elaboration: updated guidelines for reporting parallel group randomised trials. Download at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2844943/pdf/bmj.c869.pdf>
  - How to read and understand and use systematic reviews and meta-analyses. Download at <http://web.ebscohost.com.libproxy.bridgeport.edu/ehost/pdfviewer/pdfviewer?sid=17f6e7eb-3f49-40b3-904f-1cd39f9194de%40sessionmgr110&vid=2&hid=122> (must sign in with your MyUB login)
7. Familiarize yourself with **Important Terms in Nutrition Research** (2 files available in the Assignments section)
- 8, Take Week 1 Quiz, covering the above readings
9. Complete the Clinical Queries Assignment and post your results in the Week 2 Discussion Forum by the end of Week 1. We will be discussing everyone's results during Week 2. You may benefit from watching the video demonstration, located in the External Links section, on how to use the search methods described in the Clinical Queries Assignment instructions.
10. Extra Credit. Download and read the article **Origins and evolution of the Western diet: health implications for the 21st century** at <http://www.ajcn.org/cgi/reprint/81/2/341>; you will need Adobe Acrobat Reader. In the Discussion Forum, respond to and discuss with the rest of the class the Week One extra credit discussion questions if desired.

## **Week 2: Jun 3-9**

Module 1 Lesson 1 (continued)

Topics: Research Methodology; Searching the Nutrition Literature, Evaluating Nutrition Research Articles, Carbohydrates and Health

ACTIVITY:

1. Complete reading from week 1
2. Review **text, pp. 63-79, 107-109**
3. Read the following articles
  - a. **Glycemic Index**, online at <http://lpi.oregonstate.edu/infocenter/foods/grains/gigl.html>
  - b. **Glycemic Index** in Healthnotes at [http://www.pccnaturalmarkets.com/health/Diet/Glycemic\\_Index.htm](http://www.pccnaturalmarkets.com/health/Diet/Glycemic_Index.htm) or any other Healthnotes site listed in the Textbook and Recommended Resource section of the Syllabus
  - c. **Carbohydrates: Good Carbs Guide the Way**, online at <http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/carbohydrates-full-story/index.html>
  - d. Read the introduction to and familiarize yourself with the **Revised International Table of Glycemic Index (GI) and Glycemic Load (GL) Values—2008**, available online at <http://www.mendosa.com/gilists.htm>
4. Take Week 2 Quiz, covering the above readings
5. Respond to other students' Clinical Queries results and address responses to your own results in the Discussion Forum.

## **Week 3: Jun 10-16**

Module 1 Lesson 2

Topic: Insulin resistance, blood sugar disorders, dietary fiber, protein and health

1. Access and read these articles:
  - a. **Metabolic Syndrome**, online at <http://lpi.oregonstate.edu/infocenter/contdis/metabolicsyn.html>
  - b. Review **text, pp. 111-127, 134-135, 274**
  - c. **Fiber**, online at <http://lpi.oregonstate.edu/infocenter/phytochemicals/fiber/>.
  - d. **Protein: Moving Closer to Center Stage**, online at <http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/protein-full-story/index.html>
2. Take Week 3 Quiz, covering the above readings
3. Access and read these articles:
  - a. **Diagnosis and Management of the Metabolic Syndrome**, online at <http://circ.ahajournals.org/cgi/content/full/112/17/2735>
  - b. **Dietary Changes** sections of the **Diabetes** and **Insulin Resistance Syndrome** articles in Healthnotes Health Conditions, at <http://www.pccnaturalmarkets.com/health/a-z-index/a-to-z-index-of-health-conditions-1/~default>, or any other Healthnotes site listed in the Textbook and Recommended Resource section of the Syllabus.
4. Respond to the topics posted in the Discussion Forums and discuss with the rest of the class.

## **Week 4: Jun 17-23**

Module 1 Lesson 3

Topic: Fatty acids and Eicosanoids, Lipids and atherogenesis, Healthy and unhealthy fats

ACTIVITY:

1. Review **text, pp. 138-163, 169-172, 181-182**
2. Access online and read the following articles:
  - a. **Essential Fatty Acids**, online at <http://lpi.oregonstate.edu/infocenter/othernuts/omega3fa/index.html>
  - b. **Omega-6 Fatty Acids, Borage Oil, DHA (Docosahexaenoic Acid), Evening Primrose Oil, Fish Oil, and Flaxseed Oil** articles in Healthnotes Vitamin and Supplements Guide, online at <http://www.pccnaturalmarkets.com/health/a-z-index/a-to-z-index-of-vitamins-minerals-and-herbs/~default>, or any other Healthnotes site listed in the Textbook and Recommended Resource section of the Syllabus

c. **Fats and Cholesterol: Out with the Bad, In with the Good**, online at

<http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/fats-full-story/index.html>

3. Take Week 4 Quiz, covering the above readings

4. Respond to Week 4 Discussion topic(s) and discuss with the rest of the class

### **Week 5: Jun 24-30**

Module 2 Lesson 1

Topic: Antioxidants and Reactive Oxygen Species, Vitamin C

ACTIVITY:

1. Read **text, pp. 417-27, 309-22**

2. Access online and read the articles on **Vitamin C** in Healthnotes Vitamin Guide *and* at the Linus Pauling Micronutrient Information Center (<http://lpi.oregonstate.edu/infocenter/index.html>). Also read the article at <http://lpi.oregonstate.edu/ss01/bioavailability.html>.

3. Take Week 5 Quiz, covering the above readings

4. Provide a Research Summary/Critique on a **human** study that explores a link between chronic disease and reactive oxygen species. See Discussion Forum for the requirements of this Research Summary/Critique.

5. Review and respond to other students' Research Summary/Critiques.

6. Respond to Discussion topic(s) and discuss with the rest of the class

### **Week 6: Jul 1-7**

Module 2 Lesson 2

Topic: Vitamin A, Carotenoids, Vitamin E

ACTIVITY:

1. Read **text, pp. 373-91, 401-08**

2. Access online and read the articles on **vitamins A and E, and Carotenoids** at the Linus Pauling Micronutrient Information Center.

3. Take Week 6 Quiz, covering the above readings

4. Access online and read the following Healthnotes articles: **Vitamin A, Carotenes, Beta-carotene, Lutein, Lycopene, and Vitamin E.**

5. Respond to Discussion topic(s) and discuss with the rest of the class

### **Week 7: Jul 8-14**

Module 2 Lesson 3

Topic: Vitamin B1-Thiamin, B2-Riboflavin, B3-Niacin, B5-Pantothenic Acid, and Biotin

ACTIVITY:

1. Read **text, pp. 323-48**

2. Access online and read the articles on **Thiamin, Riboflavin, Niacin, Pantothenic acid, and Biotin** at the Linus Pauling Micronutrient Information Center.

3. Take Week 7 Quiz, covering the above readings

4. Access online and read the articles on **Thiamin, Riboflavin, Niacin, Pantothenic acid, Biotin** in Healthnotes Vitamin Guide.

5. Access online and read the following article: **Dietary Reference Intakes: Applications in Dietary Assessment, Introduction and Background, pp. 22-28** (beginning at "What are DRIs"?). Can be read or printed from the following address: <http://books.nap.edu/books/0309071836/html/22.html#pagetop>

6. Respond to Discussion topic(s) and discuss with the rest of the class

7. In preparation for next week's Teach-In: from any of the Healthnotes articles on any B-vitamin (B1, B2, B3, B5, B6, B12, folic acid, biotin), choose one Health Condition ranked either three stars or two stars, and claim that topic for yourself in the Week 7 Discussion Forum. Begin preparing your teach-in on that topic according to instructions in the Syllabus and the Course Materials section. Try to have your Teach-In ready to post early in week 8 to allow for discussion during the remainder of that week.

### **Week 8: Jul 15-21**

Module 2 Lesson 4

Topic: Folic Acid, Vitamin B12-Cobalamin, and Vitamin B6-Pyridoxine

ACTIVITY:

1. Read **text, pp. 348-71**
2. Access online and read the articles on **Folic Acid, Vitamin B12, and Vitamin B6** at the Linus Pauling Micronutrient Information Center.
3. Take Week 8 Quiz, covering the above readings
4. Access online and read the articles on **Folic Acid, Vitamin B12, and Vitamin B6** in Healthnotes Vitamin Guide and **High Homocysteine** in Healthnotes Health Concerns.
5. Access online and read this article: <http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/vitamin-b/index.html>
6. **Teach-In**—you should already have claimed a topic in the Week 7 Discussion Forum. Post your Teach-In contribution to the forum including a Summary of Important Points and a Research Summary/Critique. See the instructions for Health Concern Teach-ins and Research Summaries earlier in this Syllabus or in the Course Materials section online for guidance.
7. Review and respond to Teach-In contributions and discuss with the rest of the class

### **Week 9: Jul 22-28**

Module 2 Lesson 5

Topic: Vitamin D, K

ACTIVITY:

1. Read **text, pp. 392-400, 409-16**
2. Access online and read the articles on **Vitamin D and Vitamin K** at the Linus Pauling Micronutrient Information Center.
3. Take Week 9 Quiz, covering the above readings
4. Access online and read the articles on **Vitamin D and Vitamin K** in Healthnotes Vitamin Guide.
5. Access online and read this article: <http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/vitamin-d/index.html>
6. Respond to Discussion topic(s) and discuss with the rest of the class

### **Week 10: Jul 29-Aug 4**

Module 3 Lesson 1

Topic: Calcium, Phosphorous, Magnesium

ACTIVITY:

1. Read **text, pp. 429-51**
2. Access online and read the articles on **Calcium, Magnesium, and Phosphorus** at the Linus Pauling Micronutrient Information Center.
3. Take Week 10 Quiz, covering the above readings
4. Access online and read the articles on **Calcium, “Calcium: Which Form is Best?,” and Magnesium** in Healthnotes Vitamin Guide
5. Access online and read the following article: <http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/calcium-full-story/index.html>
6. Respond to Discussion topic(s) and discuss with the rest of the class

### **Week 11: Aug 5-11**

Module 3 Lesson 2

Topic: Sodium, Potassium, Chloride, Fluid/Electrolyte Balance, Osteoporosis

ACTIVITY:

1. Read **text, pp. 452-65, 563-64**
2. Access online and read the articles on **Sodium and Potassium** at the Linus Pauling Micronutrient Information Center
3. Take Week 11 Quiz, covering the above readings

4. Access online and read the following article: Healthnotes Vitamin Guide: **Potassium**
  5. Access online and read the following article: <http://www.hsph.harvard.edu/nutritionsource/salt/lower-sodium-and-salt/index.html>
  6. Provide Research Summary/Critiques on a **human** study (not in vitro or animal) of sodium, potassium, or chloride as it effects any of the following conditions:
    - Blood pressure
    - Heat stress and fluid/electrolyte balance in sports
    - Osteoporosis
    - Kidney stones
- Each student should submit a minimum of two RS/Cs, each on a different combination of mineral/health condition (e.g. not two RS/Cs both of which address sodium and hypertension).*
7. Review and respond to other students' Research Summary/Critiques and discuss with the rest of the class.

### **Week 12: Aug 12-18**

Module 3 Lesson 3

Topic: Iron

ACTIVITY:

1. Read **text, pp. 469-487**
2. Access online and read the following article on **Iron** at the Linus Pauling Micronutrient Information Center
3. Take Week 12 Quiz, covering the above readings
4. Access online and read the following articles:
  - Healthnotes Vitamin Guide: **Iron**
  - Healthnotes Health Conditions: **Iron-deficiency anemia**
5. Respond to Discussion topics(s) and discuss with the rest of the class

### **Week 13: Aug 19-25**

Module 4 Lesson 1

Topic: Zinc, Copper

ACTIVITY:

1. Read **text, pp. 488-505**
2. Access online and read the articles on **Zinc and Copper** at the Linus Pauling Micronutrient Information Center.
3. Take Week 13 Quiz, covering the above readings
4. Access online and read the articles on **Zinc and Copper** in Healthnotes Vitamin Guide.
5. Provide a Research Summary/Critique on a **human** study that explores either a) the effects of zinc or copper deficiency or b) the results of interventions with zinc or copper supplements.
6. Review and respond to other students' Research Summary/Critiques and discuss with the rest of the class.

### **Week 14: Aug 26-Sep 1**

Module 4 Lesson 2

Topic: Selenium, Chromium

ACTIVITY:

1. Read **text, pp. 506-16**
2. Access online and read the articles on **Selenium and Chromium** at the Linus Pauling Micronutrient Information Center.
3. Take Week 14 Quiz, covering the above readings
4. Access online and read the articles on **Selenium and Chromium** in Healthnotes Vitamin Guide.
5. Respond to Discussion topic(s) and discuss with the rest of the class

### **Week 15: Sep 2-8**

Module 4 Lesson 3

Topic: Iodine, Manganese, Molybdenum, Fluorine, Nickel, Silicon, Vanadium, Arsenic, Cobalt, and Boron

ACTIVITY:

1. Read text, pp. 517-32, 537-48
2. Access online and read the following Linus Pauling Micronutrient Information Center articles: **Iodine, Manganese, Fluoride, Molybdenum.**
3. Take Week 15 Quiz, covering the above readings
4. Access online and read the following Healthnotes articles: **Iodine, Manganese, Fluoride, Molybdenum, Silicon, Vanadium, and Boron**
5. Extra Credit: access online and read the following articles: <http://ipi.oregonstate.edu/f-w03/multi.html>, <http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/multivitamin/index.html>, and <http://www.pcnaturalmarkets.com/health/generic/multiple-vitamin-mineral-supplements/~default>
6. Contribute to Open Forums on the above trace minerals in the Discussion sections and discuss with the rest of the class

### **Week 16: Sep 9-15**

Review week

ACTIVITY: Prepare for proctored comprehensive exam

### **Week 17: Sep 16-20**

Final Exam Week

ACTIVITY: Take proctored comprehensive exam any day during exam week.

# MS NUTRITION INSTITUTE PROGRAM POLICY AND GUIDELINES 03-29-13

## **THE PROGRAM**

The Human Nutrition Program at the University of Bridgeport is accessible to students with busy schedules. Classes are held online via the interactive Canvas system or via weekend only campus classes. The program is designed to be completed in 28 consecutive months if two classes are taken per cycle. Graduation is contingent upon completing the program and passing the comprehensive exam within 5 years from program start date. Students must remain in the program they enrolled in (online or on campus). UB does require some courses to be taken online by all students.

## **ATTENDANCE CAMPUS WEEKEND FORMAT**

Each class period represents 20% of a four credit course or 25% of a three-credit course. Class attendance and participation are indispensable parts of the educational process that are required throughout the program. Since classes only meet 4 or 5 times, depending on whether the course is 3 or 4 credits, it is imperative that students attend class. In the event of absence due to illness or family emergency, please notify the Assistant Director and the instructor immediately. If more than one class is missed during the semester for either a 3 or 4 credit course you will receive a failing grade for the class and will have to repeat it. This includes absences for illness. Make-up examinations due to absence **WILL NOT** will not be permitted without an approved legitimate excuse with full documentation (see makeup policies) and will result in a grade of zero for that exam. Students **ARE NOT PERMITTED** to leave class prior to 5pm unless prior authorization is received from the Assistant Director and this would require the same guidelines for approval as an absence. Prior approval must be sought during normal administration business hours Monday – Friday. Those who leave class early without prior approval or subsequent documentation of illness or emergency that meet the guidelines specified under makeup policies below will be penalized with a 20% grade deduction on their course grade.

## **ATTENDANCE ONLINE FORMAT**

Online courses start and end on specific dates. Late entry into courses is not permitted. Students are expected to participate in a course multiple times per week. Assignments and exams are due on specific dates. Late assignment submissions will result in grade penalties. Makeup exams are subject to the same approval criteria as for the campus weekend format. Lack of participation in a class for a week or more will subject the student to being dropped from the class unless approved by the instructor and Assistant Director.

## **MAKE-UP POLICIES CAMPUS AND ONLINE FORMAT**

Make-up examinations and assignments will not be permitted without a legitimate excuse or prior approval from the instructor and assistant director and will result in a grade of zero. An acceptable excuse for prolonged illness, or family emergency, entitling a student to a make-up examination, requires a legitimate detailed doctor's note (with diagnosis) by a U.S. licensed physician or official documentation of family emergency, which must be submitted to the Program Assistant Director and approved. Please note that only one make-up examination is allowed per course regardless of instructor approval. Missed exams must be taken before the next scheduled examination and may be modified and made more difficult by the instructor. Make-ups will not be granted for reasons of personal convenience, such as traveling, weddings and vacations.

## **PLAGIARISIM POLICY**

Plagiarism is taken very seriously in the program. The UB policy on plagiarism can be found in the student handbook, Ch 2 at: <http://www.bridgeport.edu/life/servicesforstudents/key.aspx>

Students are also highly encouraged to take the on-line tutorial in avoiding unintentional plagiarism at <http://www.indiana.edu/~istd/>

Please be advised that UB faculty have access to “Turn It In” software which scans electronically for plagiarism from any published source and your assignments and discussion board posting may be screened using this tool.

## **ETHICS STATEMENT OF CONFIDENTIALITY**

Students enrolled in the program are expected to honor confidentiality as it pertains to student disclosure. Shared information, comments, or opinions expressed by another student or the faculty member during the course of classroom discussion should never be used in a manner which is intended to humiliate, embarrass, harass, damage, or otherwise injure other students in their personal, public, or business lives. In addition, confidentiality must be upheld by not disclosing any information that would identify any particular individual.

## **WITHDRAWAL FROM A COURSE**

Withdrawal from a course should be made after consultation with the course professor and the Assistant Program Director. A request to withdraw from a course must be made in writing. Only an official withdrawal will result in a grade of W, instead of F, for the course and prorated refund of tuition based on published UB policy. A student who stops attending a course without withdrawing will earn a grade of “F” for the course and will be ineligible for tuition refund.

## **WITHDRAWAL AND TUITION REFUND SCHEDULE**

All University fees are non-refundable after the first day of the semester and only tuition will be due according to the following schedule:

### **Nutrition Online Format and On Campus Format:**

The percentages listed below are what is due to the University based on when the student withdraws from a course.

- 0% Tuition due end of 1<sup>st</sup> week**
- 20% Tuition due end of 2<sup>nd</sup> week**
- 40% Tuition due end of 3<sup>rd</sup> week**
- 60% Tuition due end of 4<sup>th</sup> week**
- 80% Tuition due end of 5<sup>th</sup> week**
- 100% Tuition due after 5<sup>th</sup> of classes**

Verbal notification will **NOT** be accepted as an official withdrawal from class. Written verification must be forwarded to the Nutrition Institute and also the University of Bridgeport, Registrar’s Office, 126 Park Avenue, Bridgeport, CT 06601. Withdrawals may also be completed online at [www.bridgeport.edu/webadvisor](http://www.bridgeport.edu/webadvisor).

## **FINANCIAL AID**

The Human Nutrition Program is considered full-time for financial aid and loan deferment purposes. Subsidized and unsubsidized Federal Stafford Loans are available for qualified students who register for a minimum of six credits each semester. The Free Application for Federal Student Aid (FAFSA) and a University of Bridgeport Financial Aid Application must be completed. Many employers offer scholarships and /or tuition reimbursement programs. Contact the Financial Aid Office at (203) 576-4568 or [sfs@bridgeport.edu](mailto:sfs@bridgeport.edu) for more information.

### **HUMAN NUTRITION PROGRAM TUITION PAYMENT POLICY**

Tuition is \$700 per credit.\* Non-tuition fees are \$200 per semester plus a graduation fee of \$150. The total tuition including fees is \$30,050 (not including textbooks or other out of pocket costs). There are two payment plans available to students.

#### **Plan A. Full Tuition Plan**

The Full Tuition Plan requires the total amount of tuition and non-tuition fees per semester to be paid in full on or before the first day of class each semester. Tuition is due at the time of registration. Payments may be made by check or money order, credit card, or credited through a financial aid award. The payments for each semester are as follows:

##### **1<sup>st</sup> Semester**

\$700 x 8 credits + \$200 fee = \$5,800

##### **2<sup>nd</sup> Semester**

\$700 x 6 credits + \$200 fee = \$4,400

##### **3<sup>rd</sup> Semester**

\$700 x 7 credits + \$200 fee = \$5,100

##### **4<sup>th</sup> Semester**

\$700 x 6 credits + \$200 fee = \$4,400

##### **5<sup>th</sup> Semester**

\$700 x 7 credits + \$200 fee = \$ 5,100

##### **6<sup>th</sup> Semester**

\$700 x 7 credits + \$ 200 fee = \$ 5, 100

**\*Tuition subject to change**

#### **Interest-Free 10 or 9 Month-Payment Plan**

The Interest-Free Monthly Payment Plan enables families to spread all or part of their tuition, room and board fees over 10 or 9 equal monthly payments. This eliminates the need to make lump sum payments at the start of each semester. One of the major benefits of this option is that there are no interest charges. For detailed information about the payment plans, call Tuition Management Systems (TMS) at 1-800-722-4867 or (401) 849-1550; or write to the company at 127 John Clarke Road, Newport, RI 02842. Those interested in payment plan options should determine the cost of attending the University for the coming year, subtract all net financial aid received (not including Federal Work-Study), and budget the remaining balance through Tuition Management Systems. If your monthly payment exceeds your ability to pay, the Borrow Smart option is available through TMS and can help meet the cost of attendance by combining the Interest-Free Monthly Payment Plan with a low-interest loan.

The first payment is due on July 1<sup>st</sup> or August 1<sup>st</sup> and the last payment is due on April 1<sup>st</sup> (10 or 9 equal payments) The Plan is very flexible, allowing participants to increase or decrease their budget amount as needed. An annual enrollment fee for the Payment Plan option is applicable for each academic year.

## **EVALUATION AND GRADING**

The GPA is determined based on the following scale.

A= 4.00, A- = 3.67, B+ = 3.33, B = 3.00, B- = 2.67, C+ = 2.33, C =2.00, C- = 1.67, D+ =1.33, D = 1.00, I = Incomplete, W = Withdrawal, R = Research in progress.

Any course with a grade of C- or a numerical grade of 73 or less must be repeated to earn graduate credit. Other courses may be repeated if the student needs to raise the GPA. When a course is repeated, only the second grade will be used to calculate the GPA. Tuition must be paid again for all classes that are required to be re-taken (no exceptions). Evaluation and grading are the responsibility and province of the professor. All students in a course will be graded consistently or equivalently. Students may be penalized for late or missed work. Questions regarding grades should be addressed to the course professor.

## **GRADE DISPUTES**

A disputed grade may be appealed in writing as follows:

First Appeal: Directly to the instructor within 30 days of receipt of grade

Second Appeal: To Assistant Director of Nutrition Institute

Third Appeal: To Director of Nutrition Institute/Vice Provost of Health Sciences

Final Appeal: To the Provost

## **TRANSFER CREDITS**

The Program Director, with the Dean's approval, may allow up to six semester hours (eight hours in the case of laboratory courses) of **graduate** transfer credits from a regionally accredited college or university. The courses being considered for transfer must have been completed within the past seven years, with a grade of "B" or better, and be comparable to the University of Bridgeport's graduate courses. Physicians (i.e.: medical, osteopathic, chiropractic, naturopathic, etc.) may request advanced standing for 560A and 560B. However, many choose to take 560B (Biochemistry) if they have not had the course in many years, as a review and preparation for course 560D (Clinical Biochemistry). Advanced transfer credit for physicians will only be granted for courses where a grade of "B" or better was achieved.

## **INCOMPLETE COURSEWORK**

An "I" (Incomplete) designates incomplete work at the time of grading for reasons beyond the control of the student, fully documented, and corresponding to UB makeup policies as stated above, and determined to be bona-fide by the instructor and the Assistant Program Director. Incomplete coursework should be completed by the end of the semester immediately following the one in which the incomplete was granted. If the work has not been completed and no grade has been submitted as indicated, the grade automatically becomes F. ***STUDENTS WHO ARE FAILING A COURSE ARE NOT PERMITTED TO TAKE AN INCOMPLETE AND REPEAT THE COURSE TO ATTAIN A NEW GRADE. A GRADE OF "F" WILL BE ISSUED AND THE COURSE WILL HAVE TO BE REPEATED BY RE-REGISTERING FOR THE COURSE.***

## **GOOD ACADEMIC STANDING PROBATION AND SEPARATION**

Good academic standing is achieved when a student maintains a 3.0 GPA. If the GPA drops below 3.0, the student will be placed on academic probation. A student, who receives a second grade of "D" or "F" in any course, or is placed on probation in two different semesters, will be separated from the program. In cases of academic probation, the student should consult with the Program Assistant Director for advice and planning to raise the GPA. In cases of separation from the program, a student may make a written appeal to the Director within ten days of the notification of separation. If an appeal is granted, the student will remain on academic probation and his progress will be monitored periodically during the semester.

## **RESEARCH IN NUTRITION - COURSE 560J**

The research project can be taken as an elective, and is not required, as part of the Human Nutrition Program. The project can be a literature-based study or an original research project. Students have one semester to complete the project before incurring a fee. If thesis completion exceeds the one semester limit, the student must maintain continuous matriculation by registering for ADMIN 600, each semester, until the thesis has been completed.

## **GRADUATION REQUIREMENTS**

The minimum number of credits required for graduation is 41; the minimum GPA required is 3.0. Students are expected to complete class work for the degree within five years of initial enrollment in the program.

Successful completion of ALL sections of the comprehensive competency examination is required for graduation. This examination and all required re-takes are given on-site on the UB campus on a **Saturday** (exact dates published several months prior to each examination) and will not be given by proctor at other sites or on alternate days of the week (no exceptions). If you can- not take examinations on a Saturday for any reason please consider the above policy **before** entering the program. Study guides and sample questions will be available to all students eligible to sit the examination by the distance learning department. Any sections that are not successfully completed must be re-taken on the UB campus at assigned dates. Only two attempts will be allowed without remediation, as assigned by the program director.

I have read the above policies and guidelines (revision 03-29-13) and have been given a copy of said policies and guidelines. Please submit this signature page back to the Nutrition Institute prior to registering for classes located at: University of Bridgeport, Nutrition Institute, 30 Hazel Street, Bridgeport, CT 06604.

This signature page must be submitted to the Nutrition Institute before the beginning of the first semester coursework or registration will not occur. This signature reflects acceptance of these policies and guidelines and all revisions made to them during the course of my studies in the UB masters of nutrition program. All updates and or changes will be furnished to me via the individual syllabi received in each course by the professor.

Signed: \_\_\_\_\_ (Student) ID# \_\_\_\_\_

Print Name: \_\_\_\_\_

Date: \_\_\_\_\_