

# BISC 3110 Nutritional Aspects of Health

## **Instructor Information**

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## **Course Information**

Term: Fall 2018  
Credit Hours: 3  
Meeting Times: MWF 12:00 – 12:50 PM  
Location: Marquette Hall 100

## **Course Description and Prerequisites**

Course catalog description: Basic principles and fundamentals of human nutrition. Nutrients are discussed in terms of sources, absorption, metabolism and utilization, deficiency, requirements, and assessment of status. Life cycle nutrition and nutrition in disease states. Intended audience: future health care professionals. Prereq: A course in Biochemistry and BISC major; or cons. of instr. Not to be taken for credit by students who have had BISC 1010 or HEAL 2045.

This course will examine all aspects of nutrition, which the American Medical Association defines as the “science of food; the nutrients and the substances therein; their action, interaction, and balance in relation to health and disease; and the process by which the organism (e.g., human body) ingests, digests, absorbs, transports, utilizes, and excretes food substances.”

## **Required Resources**

1. *Wardlaw's Perspectives in Nutrition*, 11<sup>th</sup> ed. with McGraw Hill Connect. Access codes for Connect (which include access to the eTextbook) can be purchased when you register using this link: <https://connect.mheducation.com/class/a-miller-fall-2018-1>
2. An iClicker2 remote, or the iClicker Reef mobile app. This is required to earn participation points. If you have an iClicker remote from a previous course at MU, it will work. The most economical option for students who do NOT already have a remote is to buy a 6-month access code for iClicker Reef. See more details below.

## **Learning Objectives**

After completing this course, students will be able to:

1. Describe the major classes of nutrients essential for human health
2. Describe and utilize dietary guidelines and food labels to construct a healthy diet
3. Explain the anatomy and physiology of human digestion
4. Describe the factors regulating body weight and energy balance
5. Understand the function of vitamins and minerals at the molecular and whole-body levels
6. Describe the varied nutritional needs of special populations
7. Discuss important topics, including issues in nutritional research, threats to the food supply and malnutrition

## **Assessment Methods**

Student performance will be measured using exams, homework assignments on Connect, a food diary assignment, and lecture participation. The following point distribution and grading scale will be used:

<b>Unit Exams</b>	400	5 exams; 80 points each
<b>Final Exam</b>	100	25-30 points new material; remainder cumulative
<b>Connect Homework</b>	180	11 assignments at 20 points each (drop two)
<b>Food Insecurity Reflection</b>	20	Additional information provided in class
<b>Food Diary</b>	50	Additional information provided in class
<b>iClicker Participation</b>	83	Full points for participating in 80% of the class sessions
<b>Total Points</b>	833	

Final grades will be assigned according to the following table:

To earn this letter grade,	...you must achieve at least this percentage,	...or this number of points.
A	92.9	773
A-	89.9	748
B+	86.9	723
B	82.9	689
B-	79.9	664
C+	76.9	639
C	72.9	598
C-	69.9	573
D+	66.9	548
D	59.9	498
F	<60	

Rounding of final grades: I adhere strictly to this grading scale. The scale above incorporates rounding up of grades by at least 0.1%. In order to be fair to all students, I am unable to accommodate individual requests to bump up grades by more than this amount.

## **iClicker Participation**

I will be using the iClicker system to conduct attendance and polling during class. Students can use either an iClicker2 remote or the Reef mobile app. Students who already own an iClicker remote do not need to pay for any additional subscriptions. However, users of the mobile app will need to purchase an access code through the iClicker website.

Regardless of which device you choose, all students will need an iClicker reef account so that their participation can be tracked. If you already have an account, join the course "BISC 3110 Miller." Do not create a new account if you already have one from a previous class that used iClicker. If you do not have an account, go to [www.iclicker.com](http://www.iclicker.com) to create one. **Linking your account with this course is essential to receive participation points.**

You will be graded based on your participation in iClicker polling questions starting September 10. Students who participate in at least 80% of the polling sessions from then on will receive 83 points (10% of your final grade). This amount will be prorated for students who participate in less than 80% of the sessions. Your answers do not need to be correct to receive participation points.

### **Exam Policies**

- There will be five Unit Exams. Exams will consist of multiple choice and matching questions.
- Exam make-ups for excused absences can be arranged at a mutually agreed upon time by the student and instructor. Excused absences are for university-sponsored events, severe illness and other reasons evaluated on a case-by-case basis. You must notify the instructor of an excused absence prior to the start of the exam. Failure to do this or missing an exam due to an unapproved reason will result in a grade of zero.
- If school is cancelled for any reason, exams will be given during the next regularly scheduled class period.

### **Late Work**

Connect homework submitted within 48 hours after the due date will be eligible for half credit. After this time, no credit is given. The two lowest Connect grades are dropped, so this helps to reduce the effect of late/missed assignments. For the food diary assignment, grades will be reduced by 10% per day late.

### **Marquette Core Curriculum**

This course is part of the Discovery Tier of the Marquette Core Curriculum. It specifically addresses learning outcomes 5 and 6:

(5) Leaders in Discovery: Marquette students will advance understanding of the world by identifying significant questions and then searching for answers based on a systematic process of discovery that is rooted in intellectual inquiry and the Jesuit liberal arts tradition.

(6) Global Problem Solvers: Marquette students will be well practiced in cooperative and cross-disciplinary problem-solving skills and they will be able to present innovative solutions that draw from theological, philosophical, qualitative and quantitative perspectives to address the increasingly blurred lines between local and global challenges.

This course is further aligned with the Discovery Tier themes of Basic Needs and Justice and Sustainability. Modern advances in food production and storage have greatly improved

nutritional status for many individuals, but problems linked to sustainability and basic needs and justice persist. In BISC 3110, students learn about the basic nutritional needs of humans from a physiological perspective, as well as the social and cultural factors that contribute to food insecurity.

A central issue related to justice is that in the United States, hunger exists even though there is enough food to feed everyone. Inefficiency and inequality in food distribution cause some people to go hungry while others are over nourished. Many individuals live in food deserts where nutritious, affordable food is difficult to obtain. Additionally, people with mental health and substance use disorders are more susceptible to going hungry or suffering from vitamin deficiencies.

By studying the function of each nutrient in the body, students will leave BISC 3110 with a greater understanding of the basic needs of humans to lead a healthy life. The combination of this scientific perspective with an understanding of the associated social issues will prepare Marquette students to fight for justice with regard to nutrition as citizens in our society and in roles such as health care and public policy.

Sustainability and justice are highly related, particularly with regard to the efficient production and distribution of food. As mentioned earlier, we currently produce enough food to feed everyone, but there are problems with distribution. In the future, we will need to overcome these problems and also produce more food to feed a growing population. Many of the advances that have the potential to increase food production come with societal and environmental costs. Antibiotic use in agriculture has contributed to the development of resistance. Genetically modified organisms have many potential benefits but also come with environmental and ethical concerns. These issues and others are discussed extensively in BISC 3110.

Core learning outcomes will be assessed with a writing assignment related to food insecurity (see Assessment Methods" above). Additionally, homework and test questions will address these themes.

### **Educational Resources and Recommendations**

Here are some recommendations to help you succeed in the course:

- Always get the lecture notes from D2L.
- Always come to class. You are responsible for all material covered in lecture. If you do miss class, make sure to get the notes from another student.
- Keep up with the course content. Look over your notes after every class and fill in any missing or unclear information.
- I highly recommend reading the textbook. It is a great way to reinforce the material that we covered in class. Note that you are not responsible for knowing material in the textbook if we did not cover it in class.
- Come to office hours, especially if you find yourself struggling early in the course.

### **Academic Integrity**

As described in the Marquette University Statement on Academic Integrity <http://www.marquette.edu/provost/integrity-index.php>, all Marquette students are required to commit to academic integrity through the following honor pledge:

*I recognize the importance of personal integrity in all aspects of life and work.  
I commit myself to truthfulness, honor and responsibility, by which I earn the respect of others.  
I support the development of good character and commit myself to uphold the highest standards of academic integrity as an important aspect of personal integrity.  
My commitment obliges me to conduct myself according to the Marquette University Honor Code.*

Moreover, the honor code obliges students:

- To fully observe the rules governing exams and assignments regarding resource material, electronic aids, copying, collaborating with others, or engaging in any other behavior that subverts the purpose of the exam or assignment and the directions of the instructor.
- To turn in work done specifically for the paper or assignment, and not to borrow work either from other students, or from assignments for other courses.
- To give full and proper credit to sources and references, and to acknowledge the contributions and ideas of others relevant to academic work.
- To report circumstances that may compromise academic honesty, such as inattentive proctoring or premature posting of answers.
- To complete individual assignments individually, and neither to accept nor give unauthorized help.
- To accurately represent their academic achievements, which may include their grade point average, degree, honors, etc., in transcripts, in interviews, in professional organizations, on resumes and in the workplace.
- To report any observed breaches of this honor code and academic honesty.

Academic dishonesty will not be tolerated. Students who attempt inappropriate conduct during tests or quizzes will be reported and the proper discipline followed.

### **Disability Accommodations**

In compliance with the ADA, all students with a documented disability are entitled to reasonable accommodations and services to support their academic success and safety. The Office of Disability Services, located within Student Educational Services, has been designated to coordinate this process in accordance with the university's compliance responsibilities under the law. To receive accommodations and services or if you are unsure of what you need to qualify for services, please contact the Office of Disability Services at (414-288-1645) or [ods@marquette.edu](mailto:ods@marquette.edu). Their website is [www.marquette.edu/disability-services](http://www.marquette.edu/disability-services). Though a request for services may be made at any time, services are best applied when they are requested at the beginning of the semester. Therefore, if you require accommodations or have medical information that may be pertinent to this class, please discuss this with the instructor by the close of the first week of classes. All information is confidential.

Please note that to gain special accommodations during exams, instructors must receive a written notification from Disability Services as to this accommodation.

## **Campus Resources**

### Counseling Center

Located on the second floor of Holthusen Hall, the counseling center's mission is "to promote a holistic approach to the psychological health and development of all students". If you are feeling depressed and/or overwhelmed, I'd encourage you to make an appointment with them.

<http://www.marquette.edu/counseling/appointments.shtml>

### Office of Student Educational Services

Located in Coughlin Hall 125, this office offers one-on-one sessions to help you develop the skills necessary for college academic success: test taking skills, time management, procrastination, note taking and effective college textbook reading. They also arrange for learning assessments to identify habits that may impede your academic success.

<http://www.marquette.edu/oses/>

### Center for Intercultural Engagement

Located in room 111 in the AMU, the CIE is a space consisting of a student lounge, meeting/study area, and staff whose goal is to improve the Marquette experience of underrepresented diverse students

<http://www.marquette.edu/intercultural/center.shtml>

## Tentative Course Schedule

<b>Week</b>	<b>Topic</b>	<b>Readings</b>	<b>Assignment Due Dates, Exam Dates, and Holidays</b>
1 8/27	Introduction What is a healthy diet?	Ch. 1 & 2	
2 9/3	Alphabet Soup: RDA, AI, UL, DV, etc.	Ch. 2	<i>Monday 9/3: No class (Labor Day)</i>
3 9/10	Food Security and Insecurity Guest Speaker	Ch. 3	Friday 9/14: Exam 1 Ch. 1-3
4 9/17	The Digestive System	Ch. 4	Food Diary Assignment due
5 9/24	Carbohydrates Lipids	Ch. 5 & 6	
6 10/1	Protein	Ch. 7	Wednesday 10/3: Exam 2 Ch. 4-6
7 10/8	Alcohol	Ch. 8	
8 10/15	Energy Metabolism	Ch. 9	<i>Thurs.-Fri. 10/18-10/19: No Class (Midterm Break)</i>
9 10/22	Energy Balance	Ch. 10	Wednesday 10/24: Exam 3 Ch. 7-9
10 10/29	Exercise and Sports	Ch. 11	
11 11/5	Fat Soluble Vitamins	Ch. 12	Friday 11/9: Exam 4 Ch. 10-12
12 11/12	Water Soluble Vitamins	Ch. 13	
13 11/19	Water and Major Minerals	Ch. 14	<i>Wed.-Fri. 11/21-11/23: No Class (Thanksgiving)</i>
14 11/26	Trace Minerals	Ch. 15	Wednesday 11/28: Exam 5 Ch. 13-15
15 12/3	Nutrition During Different Life Stages	Ch. 16-18	
16	Final Exam is Thursday 12/13 at 10:30 AM in MH 100		