

# FN 354 – Introduction to Nutrition and Nutrient Metabolism

## Spring 2024

### INSTRUCTOR

Annie Wetter, PhD  
**Office:** CPS 236

### CLASS LOCATION

T, Th 8-9:15am  
CPS 209

If you have questions or want to discuss something further, connect with me in these ways:

**In-person office hours:** Stop by my office or email me to set up a time that fits your schedule.

#### **Virtual office hours:**

To schedule a time to talk via phone or Zoom, email me **several days and times** that work for you, whether you want to call or Zoom, and I will respond within 24hrs with the time that works best for me.

**Text:** For brief inquiries (<200 characters) that do not require a detailed response.

**I will reply ONLY if the text has "FN354" in the subject line.**  
**715.572.6580** I will respond within 24hrs.

**Email:** For inquiries that are more detailed.

[awetter@uwsp.edu](mailto:awetter@uwsp.edu) I will respond within 24hrs.

### COURSE DESCRIPTION

The course provides students with a fundamental understanding of the functions of nutrients and nutrient metabolism. This information will serve as a background for discussing contemporary health and nutrition issues, such as the basis for current nutrient and dietary recommendations, the relationship between diet and health, and the interaction between diet and physical activity in determining chronic disease risk. Sophomore standing is expected. As a 300-level science course, material is covered with the assumption that students have successfully completed a 100-level college biology course.

### STUDENT OBJECTIVES

1. Describe the anatomy, physiology, and biochemistry of nutrient digestion, absorption, and utilization.
2. Explain the role that foods, nutrients, and nutritional status play in chronic disease risk reduction, human performance, and overall well-being.
3. Describe some nutritional needs that differ based on gender, age, genetics and life stage.
4. Explain how personal factors such as ethnicity, culture, socioeconomic status, and environment can affect a person's food choices as they relate to achieving dietary recommendations.
5. Explain how food-based recommendations (MyPlate, DG2020) meet nutrient recommendations (RDA, AI, UL) and reduce chronic disease risk.
6. List common food sources for nutrients that have recommended levels of intake.  
Learning objectives 1-6 will be
  - achieved by mastering reading and lecture material and engaging in discussions
  - assessed via quizzes
7. Investigate the evidence on nutrition claims and apply data from reputable sources to provide a defensible answer to questions about those claims.  
Learning objective 7 will be achieved and assessed via written assignments

### WHAT STUDENTS CAN DO TO BE SUCCESSFUL

1. Take ownership of your education and learning experience.
2. Take notes from the lectures in the outlines provided.
3. Achieve the learning outcomes for each reading assignment.
4. Whenever you have questions or problems with an assignment, the material, or anything else about the course, reach out to the instructor using your UWSP email or Canvas message. Feel free to connect whenever you want to explore a topic further or to discuss how to apply the material in different ways.

## ENDURING UNDERSTANDINGS

FN354 is designed to build essential knowledge and skills for health promotion professionals who discuss food and nutrition with individuals and/or groups. This course begins to transform your perspective from one of a consumer to that of a professional. Students will develop the professional understandings below through class discussions, lecture take-home messages, and assigned written work.

1. There is no one perfect diet.
2. No single food makes or breaks a diet. In other words, integrating a less healthful food (e.g., Big Mac) does not make a person's entire diet unhealthy. Similarly, consuming 1 more healthful food (e.g., salmon) or eliminating 1 less healthful food (e.g., bologna) does not make a diet healthful overall. The healthfulness of the diet is based on the balance of numerous foods consumed regularly.
3. Food and nutrient recommendations are not prescriptions or strict rules. Recommendations (e.g., My Plate) are general guidelines that can be achieved through numerous combinations of foods. Professionals help clients use these evidence-based recommendations as a point of reference for making healthy food choices that are consistent with personal preferences (i.e., taste, texture), cultural traditions, religious beliefs, economic circumstances, and logistical realities (i.e., access).
4. Reliable nutrition recommendations are based on decades of research from multiple lines of evidence. Recommendations therefore do not change quickly or often.
5. While foods can be grouped into categories (fruits, vegetables, grains), these distinctions are often less important than the foods' other characteristics (degree of processing, energy density, nutrient density). For example, it is less important to discuss whether a tomato is a fruit or a vegetable or beans are a vegetable or "protein" than to be clear that ketchup and corn flakes are more processed than whole tomatoes and corn.
6. While there are diagnostic criteria for health conditions (diabetes, obesity, hypertension), indicators of health (blood sugar, fatness, blood pressure) occur along a continuum of lower to higher. For most people, lifestyle choices (diet, physical activity, smoking, stress management, etc.) can shift their place along that continuum and as a result change their disease risk.
7. Preventable chronic disease risk (CVD, type II diabetes) is multifactorial, thus one is not "unhealthy" based only on the presence of one risk factor (e.g., body weight).

## REQUIRED TEXTBOOK

NUTRITION: CONCEPTS & CONTROVERSIES,Sizer, 16<sup>th</sup> edition Available at text rental and in Canvas

There is some required reading. The assigned pages are posted in CANVAS for each topic and will be part of the content covered on quizzes. In addition, the text is a valuable resource for students to easily look up unfamiliar terms and provide visuals and explanations of the material that can enhance your mastery of the concepts covered in class. Thus, it is a reliable independent learning tool for students to use. With that said, students must know that the lecture material is NOT based on the textbook.

## ATTENDANCE

Students should plan to attend all class sessions and are responsible for all information presented in class. **It is the student's responsibility to obtain any lecture notes or other information from missed class sessions from other students, not from the instructor.** Once class material is obtained from other students, you can make an appointment with the instructor to discuss and clarify the material.

## COURSE FORMAT

This is a face-to-face course that uses an online course management platform, CANVAS, to enhance the learning experience. The following will ensure you have access to all course materials and learning opportunities:

- Attend all class sessions to obtain lecture information and hear course announcements.
- Check your UWSP email account daily to get any additional information about assignments, quizzes, lectures, and professional resources.
- In CANVAS, you will access course resources and materials as well as assignments and quizzes.

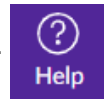
## CLASS PARTICIPATION VIA CANVAS

Some course material is accessible in Canvas. Students are expected to access course material in a timely manner and complete assignments by the posted due date. Technology can be a challenge, especially in rural areas. Be sure you have the [minimum computer and internet configurations for Canvas](#) and access to a stable internet connection (don't rely on cellular). If you have any questions about the capabilities of your technology resources, see [Student Technology Tutor](#) or contact [IT Service Desk](#) (715-346-4357; [techhelp@uwsp.edu](mailto:techhelp@uwsp.edu)).

- You will use your UWSP account to login to the course from the [Canvas Login Page](#). If you have not activated your UWSP account, please visit the [Manage Your Account](#) page to do so.
- To access this course on Canvas you will need a stable internet connection (don't rely on cellular) and a supported Web browser (Internet Explorer, Chrome, Firefox, Safari). **Canvas works best in Chrome.**
- In Canvas, you will access resources and course materials as well as discussions, assignment, quizzes, and quizzes. At designated times throughout the semester, you will participate in a blend of self-paced and group-paced activities using Canvas.
- **Stay connected with the course by turning on email/text notifications. Go to the Account tab at the far left, hit settings to enter your email and cell phone in "ways to contact" and then hit notifications to tell Canvas to alert you of due dates, announcements, grades posted, etc. Hit Notifications (back in the Account menu on the left) and choose which course details you want to get reminders about and when you get the alerts.**

## TECHNICAL ASSISTANCE

Canvas Support is always available via the help button.



Also, you can contact:

a [Student Technology Tutor](#)

- **phone** 715-346-3568
- **e-mail** [tlctutor@uwsp.edu](mailto:tlctutor@uwsp.edu)
- **visit** 018 Albertson Hall (ALB)

the [IT Service Desk](#)

- **phone** 715-346-HELP (4357); 1-877-832-8977
- **e-mail** [techhelp@uwsp.edu](mailto:techhelp@uwsp.edu)
- **visit** ALB 027

## SPECIAL ACCOMMODATIONS

Within the first 3 days of class, students requiring special accommodations and/or program access should arrange an appointment with UWSP Disability and Assistive Technology Center located at the Learning Resource Center (LRC 609), telephone (715)346-3365. After the assessment, please email eligibility documentation to the instructor to request appropriate accommodations.

## ASSIGNMENTS

All assignments will be submitted in Canvas by 11:59pm of the due date using a word processing software that is compatible with the default UWSP software Microsoft Word. If you have questions about how to ensure your submitted work can be graded, contact IT Service Desk (715-346-4357; [techhelp@uwsp.edu](mailto:techhelp@uwsp.edu)).

Students will complete 2 assignments that involve current events in food and nutrition. The assignments build critical thinking skills. One also builds confidence accessing reliable sources of information and applying that information with care to address a client's question. Grades and feedback on assignments will be posted within 1 week of the due date.

QUIZZES cover material in lectures, outlines, in-class discussions, and readings

There are 8 **quizzes**. Quizzes are **available for 1 week after the last class session on the topic.**

The "due date" reflects the last possible completion time. **You can take the quiz any time before the due date.** This means you can plan to take the quiz at a time that fits well within your other personal and academic commitments. Each quiz will have approximately 20-40 questions. Each quiz is timed at about 1-1.5 minutes per question. This means students must be well prepared BEFORE starting the quiz.

ONLY ONE (1) attempt per quiz will be provided. You cannot start, stop, and go back later. Once you start the quiz, you must finish. **No retakes will be allowed for students who do not plan appropriately and fail to take a quiz by the deadline or are timed out before completing it.**

**Quiz feedback will NOT be available in Canvas.** If you want to understand which questions you got wrong and why, contact the instructor to go over your quiz.

**If you have any questions or concerns about meeting the requirements of this course as stated above, please contact the instructor to discuss your questions and concerns.**

*If modifications are required due to a documented and verified disability, please inform the instructor and contact the Disability and Assistive Technology Center: 609 Learning Resource Center; phone (715) 346-3365 (Voice) (715) 346-3362 (TDD only) or email at datctr@uwsp.edu*

## LATE WORK POLICY

Be sure to pay close attention to deadlines:

- Assignments will be docked 1 full letter grade for each day late.
- Quizzes **cannot be made up** without a serious and compelling reason and instructor approval.
  - Students must notify the instructor no later than **12 hours PRIOR** to the quiz due date about the rare, unexpected, and extenuating circumstances that interfere with taking the quiz.
  - The instructor will consider the circumstances and decide whether to grant an extension.

## RELIGIOUS BELIEFS

Relief from any academic requirement due to religious beliefs will be accommodated according to UWS 22.03, with notification within the first three weeks of class.

## GRADING

### COMMIT TO INTEGRITY: UWSP 14.01 STATEMENT OF PRINCIPLES

The board of regents, administrators, faculty, academic staff and students of the University of Wisconsin system believe that academic honesty and integrity are fundamental to the mission of higher education and of the University of Wisconsin system. The university has a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for

### Grades (% of total grade)

- 8 Quizzes (60%)
- 2 Assignments (25%)
- Many in-class discussions (15%)

### Extra credit

a **maximum** of **15pts** extra credit can be earned  
see detailed instructions in CANVAS

### Grading Scale

A	93-100%	C+	77-79.9%
A-	90-92.9	C	73-76.9
B+	87-89.9	C-	70-72.9
B	83-86.9	D+	67-69.9
B-	80-82.9	D	60-66.9
		F	below 60%

## FOR DIETETICS STUDENTS

FN354 addresses the following CADE Core Knowledge requirements:

Curricular Area	Knowledge Requirement	Outcome Assessment
<b>Domain 1. Scientific and Evidence Base of Practice</b>	KRDN 1.1 Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical, evidence-based practice decisions.	Assignments
	KRDN 1.3: Apply critical thinking skills.	Quizzes and assignments
<b>Portfolio material:</b> Assignment 2 that pertains to KRDN 2.1 is a required artifact for your dietetics portfolio. It is the student's responsibility to keep an electronic copy of all assignments.		
<b>Domain 2. Professional Practice Expectation</b>	KRDN 2.1 Demonstrate effective and professional oral and written communication and documentation.	Assignments
<b>Domain 3. Clinical and Customer Services</b>	KRDN 3.2 Understand the role of environment, food, nutrition and lifestyle choices in health promotion and disease prevention.	Exams and assignments

## Course schedule: spring 2024

Tips for success:

1. Attend class every day. Take notes on lectures.
  - a. Avoid mechanically copying what is on each slide; much of what is on slides is already in the outline
  - b. Take notes on the explanations and application of the facts in the outline.
  - c. Have a copy of the outline visible while you listen to lecture so that you do not waste time writing down info from the slides that is already given to you in the outline.
2. Participate in in-class discussions. Take notes on anything new that you learn from the discussion.
3. Combine the notes you take on the lectures/slides with what you are given in the outlines.
4. Achieve the learning outcomes and do the study guide for each topic (at the beginning and end of each outline) and each reading assignment. It is best to write out what you have learned so you can correct any errors, make it as complete as possible, and revise it so you apply the material in a way that makes sense to a non-scientist.
5. Whenever you have questions about the material, ask the instructor for clarification.
6. Master the material using the compare-contrast approach modeled in class and practice explaining the material, don't just memorize the words.
7. Plan to start taking the quiz at least 1 hour before the due date or your schedule allows.

DATES	TOPICS	ACTIVITIES	DUE DATES
Day 1	Course overview: student and instructor expectations	In-class activity	
Weeks 1-3	<i>Unit 1: Introductory material</i> Nutrients and phytochemicals Dietary recommendations Health: biologic measures and social determinants	In-class activities <b>Assignment 1</b>  Intro <b>quiz</b>	daily <b>Thurs, Feb 8 by 11:59pm</b> in CANVAS dropbox  <b>TBD</b>
Weeks 3-4	<i>Unit 2: Ingestion, digestion, absorption, and transport</i>	In-class activities  Dig <b>quiz</b>	daily  <b>TBD</b>
Weeks 4-6	<i>Unit 3: Carbohydrate</i> Sugars, starch, fiber Glycemic index, Diabetes Non-nutritive sweeteners	In-class activities   CHO <b>quiz</b>	daily   <b>TBD</b>
Week 7-8	<i>Unit 4: Lipids</i> Types Cardiovascular disease	In-class activities <b>Assignment 2</b>  Lipid <b>quiz</b>	In-class activities <b>Thurs, March 14 by 11:59pm</b> in CANVAS dropbox <b>TBD</b>
Week 9	<i>Unit 5: Protein</i> Quality, quantity Recommendations Special populations	In-class activities   Protein <b>quiz</b>	daily   <b>TBD</b>
Week 10-11	<i>Unit 6: Energy balance</i> Energy expenditure BMI, body fat What is important for physical health and emotional wellbeing	In-class activities   E metab <b>quiz</b>	daily   <b>TBD</b>
Weeks 12-14	Unit 7: Water & electrolytes Hydration Hypertension	In-class activities   Water <b>quiz</b>	daily   <b>TBD</b>
Week 14-15	Unit 8: Vitamins & minerals Who is not getting enough and why Specific health issues: anemia, bone	In-class activities   Micronut <b>quiz</b>	daily   <b>by 11:59pm Tuesday, May 14<sup>th</sup> (scheduled final exam date)</b>

**Extra credit must be turned in by 11:59pm on the last day of classes: Friday May 10**