



STEVENS
INSTITUTE of TECHNOLOGY
THE INNOVATION UNIVERSITY®

BIO487-A Nutritional Science
Department of Chemistry and Chemical Biology in the Schaefer School of Engineering
Spring 2023

Meeting Times: T, Th 2-3:15pm
Classroom Location: Carnegie 316
Instructors: Dr. Laura Rokosz
Contact Info: lrokoz@stevens.edu, egglock@comcast.net
Office Hours: Th., 1:00-2:00 pm, upon request
Course Web Address: <https://sit.instructure.com/courses/64884>
Virtual session URL: https://sit.instructure.com/courses/64884/external_tools/86566
Prerequisite(s): BIO 281 - Biology and Biotechnology, BIO 381 - Cell Biology

Instructor's Online Hours

I will be available via email (egglock@comcast.net) and respond as soon as I am available (generally within 24-48). For the online discussions, I will check in at least three times per week. Keep in mind that it is not possible for me to respond to every single posting every week (nor is it pedagogically appropriate), but I will be sure to respond to various postings and students each week and attempt to assure equality in terms of responses to students. Furthermore, there is a specific discussion forum that you can use to ensure that you have my attention – to ask questions or to call my attention to a particular discussion you are engaged in that you would like me to take a look at. If you feel you are being neglected in any way, please contact me. When emailing me, please place in the subject line the course number/section and the topic of the email (i.e., **BIO 487A** – Assignment 2 Question). This will help me tremendously in locating your emails quicker when I scan the hundreds of emails that seem to make it into my box each day.

Virtual Office Hours

Th., 1:00-2:00 pm, upon request

Virtual Office Hours are a synchronous session (through Zoom) to discuss questions related to weekly readings and/or assignments. Office hours will be held Thursdays from 1:00-2:00 pm EDT/EST. To connect to the weekly session, go to https://sit.instructure.com/courses/64884/external_tools/86566

COURSE DESCRIPTION

This course presents an overview of the science of human nutrition, including the basics of protein, carbohydrate, lipid, vitamin, mineral and water pharmacodynamics along with an in depth understanding of nutrient metabolism as it relates to human health. An analysis of the relationship of diet to various health issues, including but not limited to, metabolic, auto-immune and neurological diseases, and cancer will be covered. Students will learn the consequences of nutritional deficiencies by evaluating their personal diets.

LEARNING GOALS & OBJECTIVES

GOALS: After successful completion of this course, students will develop competency in

- 1) nutrient metabolism from intake through excretion
- 2) dietary planning for disease prevention

- 3) nutritional requirements from conception through old age
- 4) debating current controversies surrounding nutritional theories that are not clinically validated
- 5) fluency in emerging and high interest topics such as the microbiome and Leaky Gut syndrome

LEARNING OUTCOMES:

The following skills will be identified as objectives of the course. All of these will be measured by questions on exams, quizzes and assignments.

1. Master the basic understanding of nutrients and the process by which the human body digests, absorbs, metabolizes and excretes food substances.
2. Describe the six classes of nutrients and how under-consumption or over-consumption impacts health and disease risk.
3. Evaluate personal dietary intakes and practices for nutritional adequacy and recommend strategies for improvements.
4. Understand the biochemical processes by which nutrients, including water, provide energy and support cell function.
5. Differentiate the nutritional needs of infants, toddlers, teens, adults and seniors.

FORMAT AND STRUCTURE

- Two lectures per week (75 min)
- This course is taught using a variety of instructional approaches including lecture, class discussions, readings, videos, demonstrations, guided and supervised practice, in-class activities, and the use of electronic media.
- Slides corresponding to the instructor's lectures may be found on Canvas.

COURSE MATERIALS

Pearson eText - Nutrition: From Science to You -- Access Card

Mastering Nutrition is required for this course

Author: Joan Salge Blake

ISBN: [9780134793634](https://www.pearson.com/enrollment/rokosz08114)

Publisher: Pearson

Edition: 4/e

Student use of this title is **required**

Course Name: Nutritional Science, Spring 2023

Course ID: rokosz08114

Student registration instructions

To register for BIO 487 Nutritional Science - Spring 2023:

1. Go to <https://mlm.pearson.com/enrollment/rokosz08114>
2. Sign in with your Pearson student account or create your account.

For Instructors creating a Student account, do not use your instructor credentials.

3. Select any available access option, if asked.
- » Enter a prepaid access code that came with your textbook or from the bookstore.
- » Buy instant access using a credit card or PayPal.
- » Select **Get temporary access without payment for 14 days**.
4. Select **Go to my course**.
5. Select **BIO 487 Nutritional Science - Spring 2023** from My Courses.

If you contact Pearson Support, give them the course ID: rokosz08114

To sign in later:

1. Go to <https://mlm.pearson.com>
2. Sign in with the same Pearson account you used before.
3. Select **BIO 487 Nutritional Science - Spring 2023** from My Courses.

COURSE REQUIREMENTS:

1. Required: Biology & Biotechnology BIO281 and Cell Biology BIO381
2. Suggested: Organic Chemistry, Biochemistry CH 243 and CH 580

GRADING PROCEDURES

Grades will be based on:

Item	Points	% of Grade
Midterm exam	200	20
Homework (5)	100	10
Quizzes (9, lowest grade dropped)	100	10
Dietary Report	250	25
Final Exam	250	25
Attendance and Participation	100	10
Total	1000	100

Grade	%
A	94-100
A-	90-93.99
B+	87-89.99
B	84-86.99
B-	80-83.99
C+	77-79.99
C	74-76.99
C-	70-73.99
D+	65-69.99
D	60-64.99
F	< 59.99

EXAM ROOM CONDITIONS

The following procedures apply to exams for this course. As the instructor, I reserve the right to modify any conditions set forth below by printing revised Exam Room Conditions on the quiz or exam.

1. Students may use the following devices during exams. Any electronic devices that are not mentioned in the list below are not permitted.

Device	Permitted?	
	Yes	No
Laptops		X
Cell Phones		X
Tablets		X
Smart Watches		X
Google Glass		X
Other		X

2. Students may use the following materials during exams. Any materials that are not mentioned in the list below are not permitted.

Material	Permitted?	
	Yes	No
Handwritten Notes <i>Conditions: i.e. size of note sheet</i>		X
Typed Notes <i>Conditions: i.e. size of note sheet</i>		X
Textbooks <i>Conditions: i.e. specific books</i>		X
Readings <i>Conditions: i.e. specific documents</i>		X

- Students **are not** allowed to work with or talk to other students during exams.
- Quizzes will be taken as indicated in the Syllabus directly from MyLab and Mastering on Canvas. The online quizzes should be a simple tool to reinforce concepts learned during class. Therefore, any and all materials, including discussions with classmates, may be used to complete the assignments.

TECHNOLOGY REQUIREMENTS

Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Canvas

Technology skills necessary for this specific course

- Live web conferencing using Zoom
- Recording a slide presentation with audio narration
- Recording, editing, and uploading video via Kaltura

Required Equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone

Required Software

- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint

COURSE SCHEDULE

TOPICS AND REQUIRED READING ASSIGNMENTS

DAY/DATE	REQUIRED READING	TOPIC/ASSIGNMENTS/QUIZZES
• WEEK 1 •		
Jan 19	Welcome!	<ul style="list-style-type: none"> • Introductions • Course overview, classroom & email etiquette • Pearson: Assignment #1, Homework, Introduction to Mastering Nutrition • Canvas: Assignment #2, Homework, About Me
• WEEK 2 •		
Jan 24, 26	<ul style="list-style-type: none"> • Chapter 1: What is Nutrition • Chapter 2 • Tools for Healthy Eating 	<ul style="list-style-type: none"> • Assignment #1 due Jan 24 • Assignment #2 due Jan 26 • Pearson Assignment #3 (Quiz Chaps. 1 & 2)

• WEEK 3 •		
Jan 31, Feb 2	• Chapter 3• Digestion, Absorption and Transport	• Assignment #3 due Feb 2 • Pearson Assignment #4 (Quiz Chapt. 3)
• WEEK 4 •		
Feb 7, 9	• Chapter 4-5 • Carbohydrates and Lipids	• Assignment #4 due Feb 9 • Pearson Assignment #5 (Quiz Chapt. 4-5)
• WEEK 5 •		
Feb 14, 16	• Chapters 6-7 • Proteins and Alcohol	• Assignment #5 due Feb 16 • Pearson Assignment #6 (Quiz Chapt. 6-7)
• WEEK 6 •		
Feb 21, 23	• Chapters 8-9 • Energy Metabolism and Fat-soluble vitamins	• Assignment #6 due Feb 23 • Pearson Assignment #7 (Quiz Chapt.8-9)
• WEEK 7 •		
Feb 28, Mar 2	• Chapters 10-11• Water soluble vitamins and Water • Midterm review (Mar 2)	• Assignment #7 due Mar 2 • Instructions for dietary report
• WEEK 8 •		
Mar 7, 9	Mar 7: MidTerm Exam Closed book, electronics not allowed • Chapter 12• Major Minerals	• Midterm Exam, Chapters 1-11 Location TBD
• WEEK 9 •		
Mar 14, 16	SPRING BREAK	
• WEEK 10 •		
Mar 21, 23	• Chapters 12-13• Major Minerals, Trace Minerals	• Pearson Assignment #8 (Quiz Chapt. 12-13)
• WEEK 11 •		
Mar 28, 30	• Chapters. 14-15 • Energy Balance, Body Composition, Weight Management Bioelectrical Impedance Analysis (BIA) demo	• Assignment #8 due Mar 30 • Canvas: Assignment #9 (Homework Chapt. 14-15)-This is a handout that can be found on Canvas
• WEEK 12 •		
Apr 4, 6	• Chapters 16 • Sports Nutrition	• Assignment #9 due Apr 6 • Canvas: Assignment #10 (Homework Chapt. 16)- This is a handout that can be found on Canvas
• WEEK 13 •		
Apr 11, 13	• Chapters 17-18 Pregnancy, Infants	• Assignment #10 due Apr 13 • Pearson Assignment #11 (Quiz Chapter 17)
• WEEK 14 •		
Apr 18, 20	• Chapters 18-19• Infants through Adolescents, Older Adults	• Assignment #11 due Apr 20 • Pearson Assignment #12 (Quiz Chapt. 18-19)
• WEEK 15 •		

Apr 25, 27	• Chapters 20-21 • Food Safety, Global Health	• Assignment #12 due Apr 27 • Pearson Assignment #13 (Quiz Chpts. 20-21)
• WEEK 16 •		
May 2	Final Exam Review Health Histories	• Assignment #13 due May 2 • Canvas: Assignment #14 Health History reviews, please hand in during class, counts as homework (20 points)
• WEEK 17 •		
May 5-16 Exam: TBD	NO CLASS FINAL EXAM AND REVIEW PERIOD	• Dietary report due May 11, upload to Canvas (named Assignment #15) • Final Exam, Chapters 12-21, Closed book, No electronics

This course will not use LockDown Browser for exams!

Using LockDown Browser for Online Exams

This course uses LockDown Browser (NOT Respondus Monitor) for online exams. ~~Watch this short video (Links to an external site.) to get a basic understanding of LockDown Browser. A student Quick Start Guide (Links to an external site.) is also available from the company. Download and install LockDown Browser using the Stevens Respondus LockDown Browser Link (Links to an external site.) (Don't Google for a download link — it will be for the wrong school!)~~

~~To ensure LockDown Browser is set up properly, please follow the directions on the Knowledge Base Article (Links to an external site.). Then locate the practice quiz in Canvas named [INSTRUCTOR NOTE: CREATE A BRIEF PRACTICE QUIZ AND INSERT NAME/LOCATION OF QUIZ]. Upon completing and submitting the practice quiz, exit LockDown Browser.~~

When taking an online exam that requires LockDown Browser, remember the following guidelines:

- ~~• Ensure you're in a location where you won't be interrupted.~~
- ~~• Turn off all other devices (e.g., tablets, phones, second computers) and place them outside of your reach.~~
- ~~• Clear your desk of all external materials not permitted — books, papers, other devices as indicated by your professor.~~
- ~~• Before starting the test, know how much time is available for it, and that you've allotted sufficient time to complete it.~~
- ~~• Remain at your computer for the duration of the test.~~
- ~~• If the computer or networking environment is different than what was used previously with the **System & Network Check** in LockDown Browser, run the checks again prior to starting the test.~~
- ~~• Remember that LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted.~~

COURSE REQUIREMENTS

Attendance: Attendance is mandatory with the exception of a medical issue as documented by a doctor's note. Other exceptions will be made at the discretion of the instructor. Accommodations can be made to join remotely provided there is an acceptable excuse. We encourage our students to not abuse this option.

Participation: Participation is highly encouraged and will make for a more meaningful class experience.

Homework: All homework assignments are due as indicated in the Syllabus and as outlined on the Canvas schedule. If you need an extension, please notify the instructor any time **before** the assignment is due.

Quizzes: All quizzes are due as indicated in the Syllabus and as outlined on the Canvas schedule. If you need an extension, please notify the instructor any time **before** the assignment is due. The lowest grade will be dropped.

Project(s): All students are expected to deliver a Dietary report that counts as 25% of their overall grade. This report is a reflection of the nutritional content of their personal diet or other diet of their choosing. The nutrient content will be assessed using the MyDietAnalysis tool in the Mastering Nutrition page of MyLab and Mastering on Canvas. The purpose is to assess the nutritional status of the diet and to make recommendations for improvement. This report will be created from a template based on a Q & A format.

Exams: As per this Syllabus there will be a Midterm exam and a Final exam. These exams will cover all material from the first half of the semester and then the second half of the semester, respectively. There will be detailed review the week before each exam. The exams will be conducted on paper. No electronics allowed.

Late Policy: All quizzes and assignments are due as indicated in the Syllabus and as outlined on the Canvas schedule. If you need an extension, please notify the instructor any time **before** the assignment is due.

Online Etiquette Guidelines

Your instructor and fellow students wish to foster a safe online learning environment. No matter how different or controversial they may be perceived, all opinions and experiences must be respected in the tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea, but you cannot attack an individual. Our differences, some of which are outlined in the University's inclusion statement below, will add richness to this learning experience. Please consider that sarcasm and humor can be misconstrued in online interactions and generate unintended disruptions. Working as a community of learners, we can build a polite and respectful course ambiance. Please read the Netiquette rules for this course:

- Do not dominate any discussion. Allow other students to join in the discussion.
- Do not use offensive language. Present ideas appropriately.
- Be cautious in using Internet language. For example, do not capitalize all letters since this suggests shouting.
- Avoid using vernacular and/or slang language as it could lead to misinterpretation.
- Keep an "open-mind" and be willing to express even your minority opinion.
- Think and edit before you push the "Send" button.
- Do not hesitate to ask for feedback.

ACADEMIC INTEGRITY

Undergraduate Honor System

Enrollment into the undergraduate class of Stevens Institute of Technology signifies a student's commitment to the Honor System. Accordingly, the provisions of the Stevens Honor System apply to all undergraduate students in coursework and Honor Board proceedings. It is the responsibility of each student to become acquainted with and to uphold the ideals set forth in the Honor System Constitution. More information about the Honor System including the constitution, bylaws, investigative procedures, and the penalty matrix can be found online at <http://web.stevens.edu/honor/>

The following pledge shall be written in full and signed by every student on all submitted work (including, but not limited to, homework, projects, lab reports, code, quizzes and exams) that is assigned by the course instructor. No work shall be graded unless the pledge is written in full and signed.

"I pledge my honor that I have abided by the Stevens Honor System."

Reporting Honor System Violations

Students who believe a violation of the Honor System has been committed should report it within ten business days of the suspected violation. Students have the option to remain anonymous and can report violations online at www.stevens.edu/honor.

LEARNING ACCOMMODATIONS

Stevens Institute of Technology is dedicated to providing appropriate accommodations to students with documented disabilities. The Office of Disability Services (ODS) works with undergraduate and graduate students with learning disabilities, attention deficit-hyperactivity disorders, physical disabilities, sensory impairments, psychiatric disorders, and other such disabilities in order to help students achieve their academic and personal potential. They facilitate equal access to the educational programs and opportunities offered at Stevens and coordinate reasonable accommodations for eligible students. These services are designed to encourage independence and self-advocacy with support from the ODS staff. The ODS staff will facilitate the provision of accommodations on a case-by-case basis.

For more information about Disability Services and the process to receive accommodations, visit <https://www.stevens.edu/office-disability-services> (Links to an external site.). If you have any questions please contact: Phillip Gehman, the Director of Disability Services Coordinator at Stevens Institute of Technology at pgehman@stevens.edu or by phone 201-216-3748.

Disability Services Confidentiality Policy

Student Disability Files are kept separate from academic files and are stored in a secure location within the Office of Disability Services. The Family Educational Rights Privacy Act (FERPA, 20 U.S.C. 1232g; 34CFR, Part 99) regulates disclosure of disability documentation and records maintained by Stevens Disability Services. According to this act, prior written consent by the student is required before our Disability Services office may release disability documentation or records to anyone. An exception is made in unusual circumstances, such as the case of health and safety emergencies.

INCLUSIVITY

Name and Pronoun Usage

As this course includes group work and class discussion, it is vitally important for us to create an educational environment of inclusion and mutual respect. This includes the ability for all students to have their chosen gender pronoun(s) and chosen name affirmed. If the class roster does not align with your name and/or pronouns, please inform the instructor of the necessary changes.

Inclusion Statement

Stevens Institute of Technology believes that diversity and inclusiveness are essential to excellence in academic discourse and innovation. In this class, the perspective of people of all races, ethnicities, gender expressions and gender identities, religions, sexual orientations, disabilities, socioeconomic backgrounds, and nationalities will be respected and viewed as a resource and benefit throughout the semester. Suggestions to further diversify class materials and assignments are encouraged. If any course meetings conflict with your religious events, please do not hesitate to reach out to your instructor to make alternative arrangements.

You are expected to treat your instructor and all other participants in the course with courtesy and respect. Disrespectful conduct and harassing statements will not be tolerated and may result in disciplinary actions.

MENTAL HEALTH RESOURCES

Part of being successful in the classroom involves a focus on your whole self, including your mental health. While you are at Stevens, there are many resources to promote and support mental health. The Office of Counseling and Psychological Services (CAPS) offers free and confidential services to all enrolled students who are struggling to cope with personal issues (e.g., difficulty adjusting to college or trouble managing stress) or

psychological difficulties (e.g., anxiety and depression). Appointments are can be made by phone (201-216-5177).

EMERGENCY INFORMATION

In the event of an urgent or emergent concern about the safety of yourself or someone else in the Stevens community, please immediately call the Stevens Campus Police at 201-216-5105 or on their emergency line at 201-216-3911. These phone lines are staffed 24/7, year round. For students who do not reside near the campus and require emergency support, please contact your local emergency response providers at 911 or via your local police precinct. Other 24/7 national resources for students dealing with mental health crises include the National Suicide Prevention Lifeline (1-800-273-8255) and the Crisis Text Line (text “Home” to 741-741). If you are concerned about the wellbeing of another Stevens student, and the matter is *not* urgent or time sensitive, please email the CARE Team at care@stevens.edu. A member of the CARE Team will respond to your concern as

ACADEMIC CALENDAR, SPRING 2023

2023 Spring Semester	
Wednesday, January 18, 2023	First Day of classes - 2023 Spring Semester
Tuesday, January 24, 2023	Last Day for 100% Refund (tuition and fees)
Tuesday, January 31, 2023	Fall 2022 Degree Conferral (Commencement Ceremony May 24, 2023)
Tuesday, January 31, 2023	<p>Last Day to Add/Drop</p> <p>Last Day for 90% Refund (tuition only)</p> <p>A "W" will be entered on the record for all withdrawals after this date.</p> <p>Undergraduates require the approval of the Office of Undergraduate Academics to withdraw after this date.</p> <p>Graduates require the approval of the Advisor and the Office of Graduate Academics to withdraw after this date.</p>
Wednesday, February 1, 2023	Faculty: Student Enrollment/Attendance Verification begins in Workday First day of the withdrawal period. A "W" will be entered on the record
Tuesday, February 14, 2023	Last Day for 50% Refund (tuition only).
Wednesday, February 15, 2023	Last Day to submit a Graduate Application for Program Completion for Spring 2023 Graduation.
Friday, February 17, 2023	Faculty: Student Enrollment/Attendance Verification ends in Workday.
Monday, February 20, 2023	Presidents' Day – No Classes; Offices Closed.
Wednesday, February 22, 2023	Monday Class Schedule
Wednesday, March 8, 2023	<p>Chronological Midpoint of the Semester</p> <p>Last day for Undergraduates to opt for Pass/Fail grade in applicable courses.</p> <p>Last Day for 25% Refund (tuition only). 0% thereafter</p>
Sunday, March 12, 2023 - Sunday, March 19, 2023	Spring Recess; No Classes; Offices Open
Monday, March 27, 2023	Graduate & Undergraduate Registration for 2023 Summer begins
Wednesday, March 29, 2023	Graduate Registration for 2023 Fall begins
Monday, April 3, 2023	Senior Registration for 2023 Fall begins
Wednesday, April 5, 2023	Junior Registration for 2023 Fall begins
Wednesday, April 5, 2023 – Thursday, April 13, 2023	Passover (Starts at sundown the evening of April 5... ends the evening of April 13)
Friday, April 7, 2023	Good Friday; No Classes; Offices Open
Sunday, April 9, 2023	Easter
Tuesday, April 11, 2023	Sophomore & Freshman Registration 2023 Fall begins
Thursday, April 20, 2023	Last Day to Schedule a Thesis/Ph.D. Defense
Saturday, April 22, 2023	Eid al-Fitr – Classes in Session; Offices Open
Thursday, April 27, 2023	<p>Last day for Undergraduates to withdraw from a course. Office of Undergraduate Academics' approval required.</p> <p>Last day for Graduates to withdraw from a course. Advisor's approval; Office of Graduate Academics' approval required.</p> <p>*Students should consult instructor before withdrawing from a course</p>
Thursday, May 4, 2023	<p>Last Day of Classes – 2023 Spring.</p> <p>Friday Class Schedule</p> <p>Last Day to submit an Incomplete (INC) Petition.</p> <p>Graduate Students: Last Day to defend and submit a Thesis/Dissertation to the Library.</p>
Friday, May 5, 2023	Undergraduate Reading Day
Friday, May 5, 2023 - Tuesday, May 16, 2023	Final Exam and Review Period