
NUTR 304: NUTRITION THROUGHOUT THE LIFE SPAN

SPRING 2023

Schedule Number - 9886

COURSE INFORMATION

Class Days: Monday and Wednesday	Instructor: Prof. Surabhi Bhutani, PhD, MS
Class Times: 2:00 – 3:15 pm	Phone: 619-594-4094
Class Location: LSS 248	Email: sbhutani@sdsu.edu (add NUTR304 in the subject line)
Learning Management Platform: Canvas	Office Location: ENS 307
Mode of Delivery: Hybrid	Office Hours: via Zoom Monday 12:30-1:30 pm or by appointment

COURSE OVERVIEW

Course Description

This course is designed to examine the physiological, biochemical, environmental, and other factors that influence nutritional needs during critical phases of the lifecycle. It will include units on 1) women's health during the preconception period, pregnancy, and lactation, 2) infant nutrition, 3) childhood and adolescence, 4) adulthood, and 5) older adults. We will learn about nutrition requirements in a healthy and a diseased state.

Class sessions are meant to be engaging and include recorded and/or in-class lectures, group assignments, discussion questions, and in-lecture questions. Active participation is highly encouraged.

Upon completion of this course, students will be able to:

1. Understand the biological basis of macro-and micro-nutrient requirements during preconception, pregnancy, lactation, infancy, childhood, adolescence, adulthood, and old age.
2. Understand the impact of diseases/disorders on nutrient needs and learn how diseases/disorders develop because of unmet nutritional needs during each life stage.
3. Identify biochemical, socioeconomic, environmental, and cultural barriers to meeting nutrient needs and evaluate nutritional recommendations at each life stage.
4. Analyze and evaluate scientific evidence related to nutritional needs and health issues during each life stage.
5. Use the learnings from the nutritional recommendations at each life stage and translate them to develop strategies to improve nutritional status
6. Recognize and critically evaluate nutrition misinformation in the print media and internet.

STUDENT LEARNING OUTCOME

School Learning Goals and Objectives

NUTR304 will provide multiple learning opportunities to support the following goals and objectives of the School of Exercise and Nutritional Sciences:

Learning Goal 1. Demonstrate core critical thinking skills and dispositions to ask and answer questions relevant to exercise and nutritional science.

Objective 1.1: Critically evaluate published research in the discipline

Objective 1.2: Evaluate alternative solutions to a discipline-based problem.

Objective 1.3: Present opposing viewpoints and alternative hypotheses on issues in exercise and nutritional science.

Objective 1.4: Critically evaluate current trends and practices using disciplinary knowledge.

Objective 1.5: Actively seek out discipline-based questions as opportunities to apply core critical thinking skills.

Learning Goal 2: Demonstrate effective oral, written, and other interpersonal skills to help communicate knowledge and promote health and wellbeing in diverse communities.

Objective 2.1: Use effective technical writing skills to communicate information about exercise, nutrition, and rehabilitation sciences.

Objective 2.2: Use effective oral presentation skills to present information to peers and other professionals.

Objective 2.3: Use effective interpersonal skills as part of an ongoing and guided dialogue with individuals who may benefit from modifying their health behavior.

Learning Goal 4. Use an array of technologies to support inquiry and professional practice

Objective 4.1: Use the internet and e-mail to communicate with others and find valid information.

Objective 4.2: Use various technology instrumentations to measure phenomena of interest.

Objective 4.3: Use software programs appropriate to discipline to organize, analyze and interpret findings.

Objective 4.4: Use presentation software to report project findings.

Learning Goal 8. Demonstrate the ability to integrate and apply knowledge and skills through experiential learning opportunities.

Objective 8.1: Implement a physical activity, rehabilitative, or nutritional plan in an applied setting and assess its effectiveness.

Objective 8.2: Administer assessments in a variety of special populations, including children/adolescents, young adults, and older adults.

Objective 8.3: Organize and structure learning and research environments to maximize their quality and safety.

Accreditation Council for Education in Nutrition and Dietetics (ACEND) Core Knowledge and Competencies for the RDN (ACEND Accreditation Standards for Dietetics Didactic Programs (DPD), Adopted September 1, 2021, Effective June 1, 2022 addressed by Nutrition 304

Upon completion of the program, graduates will be able to:

[KRDN 1.1] Demonstrate how to locate, interpret, evaluate, and use professional literature to make ethical, evidence-based practice decisions.

[KRDN 1.2] Select and use appropriate current information technologies to locate and apply evidence-based guidelines and protocols.

[KRDN 1.3] Apply critical thinking skills.

[KRDN 2.1] Demonstrate effective and professional oral and written communication and documentation.

[KRDN 2.2] Describe the governance of nutrition and dietetics practice, such as the Scope of Nutrition and Dietetics Practice and the Code of Ethics for the Profession of Nutrition and Dietetics; and describe interprofessional relationships in various practice settings.

[KRDN 2.3] Assess the impact of a public policy position on nutrition and dietetics practice.

[KRDN 2.4] Discuss the impact of health care policy and different health care delivery systems on food and nutrition services.

[KRDN 2.5] Identify and describe the work of interprofessional teams and the roles of others with whom the registered dietitian nutritionist collaborates in the delivery of food and nutrition services.

[KRDN 3.6] Develop nutritionally sound meals, menus and meal plans that promote health and disease management and meet client's/patient's needs.

[KRDN 5.5] Promote team involvement and recognize the skills of each member.

Students in the Didactic Program in Dietetics (DPD) are required to write reflection statements for all nutrition courses taken at SDSU and save them for their portfolios, which they will complete in Nutrition 409. Guidelines for the reflection statements and a list of assignments required for the portfolio can be found in the DPD handbook on the [DPD website](#). Students must save all coursework required for the portfolio as well as completed grading rubrics for the required coursework. DPD students must earn a grade of a C or better on each item required for the portfolio in order to earn a verification statement. For more information, refer to the DPD website or contact the Yumi Petrisko, DPD Director, at mpetrisk@sdsu.edu.

ENROLLMENT INFORMATION

Prerequisite- NUTR201

COURSE MATERIALS

Readings

Class readings will be from original research articles, government reports, and chapters in the textbook. All the readings except the textbook chapters will be available on Canvas. Videos and interactive content links will be posted on Canvas.

Required Textbook

Brown, J.E. *Nutrition Through the Life Cycle*. 7th ed. CENGAGE Learning, 2017. The book is available at the campus bookstore. You can also purchase the eBook or rent the text for a reduced price at <https://www.cengage.com/c/nutrition-through-the-life-cycle-7e-brown/9781337919333PF/> or on Amazon. The library also has the 7th edition on reserve.

COURSE DESIGN: MAJOR ASSIGNMENTS AND ASSESSMENTS

Assignments

Nutrition Misinformation in Media Assignment – Every day our newsfeed is filled with sensational headlines about a diet regimen being a magical cure for obesity or food that can cure cancer. As a dietetic professional, you will face questions from patients/clients/colleagues about the latest diet trends, supplements, and other staggering amounts of nutrition and health misinformation in print media and the internet. This misuse of “scientific” studies by non-scientific reporters adds a sense of legitimacy to the information without clearly understanding the science. *This assignment will equip you with tools to navigate the complex sea of sensational and attention-grabbing headlines to make sense of it all.* You will be paired with a partner to work on this assignment. Dr. Bhutani will assign you a life stage, and you and your partner will be required to identify a news article published on a media outlet (magazine/newspaper/online news outlet) making a nutrition claim. The selected written article must discuss and highlight a research study. Once you have identified the article, you will need to identify the research study that the specific mainstream media article is discussing and look for inconsistencies between the media headline/article and the research study that may have led the public to believe in the sensational headline. You will also critically evaluate the original research study that may have led to misleading media headlines. You need to identify 4-5 such points and explain why they are misleading for the reader. You and your partner will submit this analysis as ONE college-level essay (800 words) related to your assigned life stage. You will also read and comment on ONE submission from another group assigned to you (400 words). Further details and examples are available on Canvas and will be discussed during the first class. [KRDN 1.1, 1.2, and 1.3]

Meal Plan Group Project – Detailed information for this project will be posted on Canvas and discussed in class. Briefly, you will be assigned to a group of five students for this project. You will meet in-person or via Zoom/Google hangouts/face-to-face with your group members to work on this project collaboratively. You will identify a ‘client’ from a life stage assigned to you (pregnancy, childhood, etc.) and conduct an interview via Zoom or over the phone to collect information on their dietary habits and typical food intake. You will then conduct a nutrient analysis of their dietary intake. Keeping their general diet intake in mind, you will also develop a meal plan for the individual and budget the meal for one day. This project will meet one of your KRDN and provide you with a hands-on learning experience that you will use in your professional life. Make sure your work is original and submitted on the due date. Submit your assignment to Canvas by 11:59 pm on the due date. Further details and examples are available on Canvas and will be discussed in the first class. *[KRDN 1.1]*

GRADING POLICIES

Final grades will be based upon the completion of the following assignments and exams:

Assignment	Total points
Exam 1	35 points
Exam 2 (Lectures covered after Exam 1)	35 points
Exam 3 (Lectures covered after Exam 2)	35 points
Exam 4 (Lectures covered after Exam 3)	35 points
Syllabus quiz	14 points
Weekly quiz (short quiz for each lecture)	96 points
Nutrition Misinformation in Media Assignment	50 points
Meal Plan Project	100 points
Total Points	400 points

Grading scale

The grade cut-offs are as follows.

Grade	Percent of Total Points
A	92.5-100%
A-	89.5-92.49%
B+	87.5-89.49%
B	82.5-87.49%
B-	79.5-82.49%
C+	77.5-79.49%

Grade	Percent of Total Points
C	72.5 – 77.49%
C-	69.5 – 72.49%
D+	67.5 – 69.49%
D	62.5 – 67.49%
D-	59.5 – 62.49%
F	below 59.4%

COURSE POLICY

Effective Fall 2021, students who register for face-to-face classes are expected to attend as indicated in the course schedule. Faculty teaching face-to-face courses will not be required to create a new, alternative on-line class as an accommodation for any student.

Students with medical conditions that would present a COVID-related risk in a face-to-face instructional setting should contact the Student Ability Success Center (<https://sdsu.edu/sasc>) to begin the process of getting support. Students who do not adhere to the [Covid19 Student Policies](#) or the directives of their faculty will be directed to leave the classroom and will be referred to the Center for Student Rights and Responsibilities.

Do not come to campus if you do not feel well. Remain home and monitor your symptoms and seek medical attention as needed.

Attendance and class participation

This course includes a variety of learning methods such as lectures, reading material posted on Canvas, in-class case study lecture and discussion sessions, weekly quizzes etc. for most effective learning experience. You are expected to attend all classes to be successful in this course. If you happen to miss the class, you are responsible for the material covered in the class during your absence. You are also responsible for retrieving any announcements made about the sessions or changes in syllabus/exam dates etc. from your classmates. Please arrive to the class **before** the class begins. Late arrivals distract fellow students and the instructor and disrupts the learning process. If you must leave early for some reason, please notify the professor before the class begins.

While it is not a requirement, you are highly encouraged to attend office hours to get a better understanding of the course material.

Weekly Lecture Quizzes and Syllabus Quiz

You are required to complete a syllabus quiz at the beginning of the semester. You can take that quiz multiple times. Additionally, each week you will complete a short quiz associated with lectures covered in that week. You can attempt each quiz only one time. The purpose of the quizzes is to give you an opportunity to review material that you learned in the lecture that week. Quiz scores for the week may vary depending on whether we have one or two lectures scheduled that week. If you miss a quiz, you can request an extension **FOR ONE MISSED QUIZ**. Please email the instructor to request an extension within 1 week of missing the quiz deadline.

Exam Policy

Exams will consist of multiple-choice and true/false. Exam dates will NOT be changed and there will be NO make-up exams. If you must miss an exam due to personal reasons or emergency, the instructor should be **notified within 24 hours before the exam time and valid document should be presented on the first day of your return** to the class. Without a valid document, no scores will be given for the missed exam. Any documentation provided after that will not be accepted. If you must miss an exam for a valid reason, an average of other three exams may be used for the missed exam at the discretion of the instructor and upon presenting valid documents.

Assignments

You are expected to submit your assignments on the designated due dates. Projects are due on the date listed on the tentative schedule. If you are late with assignment submission due to a valid personal reasons or emergency, the instructor should be notified of the reason. Late submission will only be accepted at the discretion of the instructor. No assignments will be accepted after 1 week of due date.

Classroom Conduct

For in-class interactions and Zoom office hours, please remember these tips for success:

When students contribute thoughtful comments and questions to class discussions or presentations, the learning experience is enriched for all. Students should also listen attentively to the speakers and to each other. This course will cover a variety of topics about which many individuals have strong feelings or opinions. Students are expected to articulate their comments and questions in a respectful manner and understand that others may have different perspectives.

Avoid Embarrassing Mistakes – When on a Zoom call, please pay attention to your video, microphone, and screen sharing settings to avoid embarrassing mistakes. Always keep your chatroom appropriate. Sessions may be recorded, so act appropriately for the classroom.

Designate Your Workspace – Ensure your workspace is quiet, clean, and has an appropriate background. If your quiet space is outside, please make sure that the area behind you is not distracting to others, and that the background noise is not picked up by the mic (dogs, traffic, etc.).

Set up your Tech – Check your Wi-Fi, test your video and audio, and get familiar with software.

Student email addresses

Students are provided with an SDSU Gmail account for their official use. This [SDSU email address](#) will be used for all communications. Per university policy, students are responsible for checking their official university email once per day, please see [Student Official Email Address Use Policy here](#).

Religious holidays

According to the University Policy File, students should notify the instructors of affected courses of planned absences for religious observances by the end of the second week of classes.

Deferred Action for Childhood Arrivals (DACA)

All students with questions or concerns regarding DACA are encouraged to see the College of Health and Human Services Assistant Dean for Student Affairs, Jason Ramirez (jramirez@sdsu.edu)

Concerns Regarding Classroom Activity, Grades, or other Student Affair Matters

Though students have the option of contacting the San Diego State University Ombudsman or the Assistant Dean for Student Affairs at any time regarding classroom activity, grades, or other student affairs matters, students are encouraged to meet with their professor first to discuss the situation. If the issue is not resolved at this level, students should contact their undergraduate advisor. If the problem is not resolved at this level, contact should be made to the school director, and finally the Assistant Dean for Student Affairs.

Class disruptions

Cell phones should be turned off during the class meeting time unless the instructor requires you to.

COURSE SCHEDULE

Day and Date	Topic	Student Learning Outcome
Wednesday 1/18	Introduction	<ul style="list-style-type: none">• Course overview and assignments instructions
Monday 1/23	Preconception part I	<ul style="list-style-type: none">• Describe reproductive physiology• List and describe the effect of nutritional/non-nutritional factors on pregnancy
Wednesday 1/25	Preconception part II	<ul style="list-style-type: none">• Role of metabolic factors on fertility• Discuss how diet can improve those metabolic factors
Monday 1/30	Pregnancy part I- fetal growth and development	<ul style="list-style-type: none">• Describe stages of human fetal growth• Discuss placental development and its importance for fetal nutrition
Wednesday 2/1	Pregnancy part II- maternal physiology, fetal growth, and nutrition	<ul style="list-style-type: none">• Discuss changes in maternal physiology to provide effective nutrition to fetus• Discuss nutritional factors that impact fetal development
Monday 2/6	Pregnancy part III- nutritional recommendations	<ul style="list-style-type: none">• List and describe the nutrients required during pregnancy

Wednesday 2/8	Pregnancy part IV- nutritional concerns	<ul style="list-style-type: none"> • Describe common complaints during pregnancy • Describe and discuss nutrition concerns during pregnancy •
Monday 2/13	Exam # 1	Exam 1, 2:00 pm
Wednesday 2/15	Lactation part I - physiology and milk composition	<ul style="list-style-type: none"> • Describe hormonal and physiological changes in during pregnancy and lactation • Describe stages of milk production and secretion • Discuss milk composition and properties
Monday 2/20	Lactation part II- breast milk nutrition and benefits	<ul style="list-style-type: none"> • Discuss nutritional components of breast milk • List benefits of breastmilk to infant • Discuss contraindications to breast feeding
Wednesday 2/22	Lactation part III- breast milk nutrition and benefits	<ul style="list-style-type: none"> • Discuss nutritional components of breast milk • List benefits of breastmilk to infant • Discuss contraindications to breast feeding
Monday 2/27	Pediatric nutrition assessment	<ul style="list-style-type: none"> • Define criteria for newborn growth assessment • List and discuss anthropometric assessment methods • Plot anthropometric measures on growth chart
Wednesday 3/1	Normal infant nutrition	<ul style="list-style-type: none"> • Describe principles of infant feeding • List and describe the nutrients required in infancy
Monday 3/6	Infant formulas	<ul style="list-style-type: none"> • Describe need for infant formula • Describe composition and need for specialty formulas • Calculate calorie content based on dilution method
Wednesday 3/8 (THIS LECTURE IS PART OF EXAM # 3)	Introduction to solid foods - Guest Lecture	<ul style="list-style-type: none"> • Describe signs/recommendation for complementary foods • Discuss factors that influence infant feeding
Monday 3/13	Exam # 2	Exam 2, 2:00 pm
Wednesday 3/15	Feeding the toddler and preschooler	<ul style="list-style-type: none"> • Discuss development of feeding skill and food preference • Describe nutritional issues in this age group
Monday 3/20	Toddler/Preschool – nutrition	<ul style="list-style-type: none"> • Describe special conditions, and accompanying feeding problems and nutritional deficiency
Wednesday 3/22	Meal Plan Project	Group work on Meal Plan Project
Monday 3/27	No Class	SPRING BREAK
Wednesday 3/29	Toddler/Preschool – Special care needs	<ul style="list-style-type: none"> • Describe special conditions, and accompanying feeding problems and nutritional deficiency • Part I of Meal plan project due by 11:59 pm
Monday 4/3	Middle childhood and preadolescence	<ul style="list-style-type: none"> • Describe change in eating behavior with environment • Discuss nutrient requirement and concerns
Wednesday 4/5	Childhood obesity	<ul style="list-style-type: none"> • Discuss the prevalence and complication with obesity • Describe procedure for assessment of obesity • Discuss goals for obesity treatment
Monday 4/10	Exam # 3	Exam 3, 2:00 pm
Wednesday 4/12	Adolescent nutrition	<ul style="list-style-type: none"> • Discuss role of physical and psychosocial factors on eating • Discuss nutrient requirement

Monday 4/17	Adolescence – nutrition problems	Describe problems that impact nutrition and health in adolescents
Wednesday 4/19	Meal Plan Project	Group work on Meal Plan Project
Monday 4/24	Adult nutrition	<ul style="list-style-type: none"> • Describe physiological changes with age • Describe methods to estimate energy requirement and expenditure
Wednesday 4/26	Biology of aging part I	<ul style="list-style-type: none"> • Describe methods to define aging • Describe physiological changes with aging • Part II of Meal plan project due by 11:59 pm
Monday 5/1	Biology of aging part II	<ul style="list-style-type: none"> • Describe nutritional intervention for lifespan extension • Discuss health concerns with aging
Wednesday 5/3	Aging obesity and musculoskeletal health	<ul style="list-style-type: none"> • Discuss impact on bone and skeletal health with aging <p>Discuss nutrient requirement</p>
Monday 5/8	Exam # 4	Exam 4, 2:00 pm

Every effort will be made to follow the syllabus content and schedule; however, if circumstances dictate there may be modifications necessary during the semester. If such is the case the professor will notify students in a timely manner.

COMMUNICATION

I will try to respond to emails sent to me (via Canvas or direct email) within 24-48 hours. For quick questions, the turnaround time may be much shorter. Please send emails to: sbhutani@sdsu.edu (**add NUTR304 in the subject line**)

Students are provided with an SDSU Gmail account, and this [SDSU email address](#) will be used for all communications. University Senate policy notes that students are responsible for checking their official university email once per day during the academic term. For more information, please see [Student Official Email Address Use Policy here](#).

FINDING HELP ON CAMPUS

Need help finding an advisor, tutor, counselor, or require emergency economic assistance? The [SDSU Student Success Help Desk](#) is here for you. Student assistants are available during the academic term via Zoom **Monday through Friday, 9:00 AM to 4:30 PM** to help you find the office or service that can best assist with your questions or concerns.

Syllabus suggestion: Consider adding a link to your college's Student Success Center or your department's tutoring center or supplementary instruction activities.

- CAL Student Success Center: <https://cal.sdsu.edu/student-resources/student-success>
- College of Education Student Success Center: <https://education.sdsu.edu/oss>
- Center for Student Success in Engineering: <https://csse.sdsu.edu/>
- CoS Student Success Center: <https://cossuccess.sdsu.edu/>
- FSB Student Success Center: <https://business.sdsu.edu/undergrad/advising>
- HHS Advisors: <https://chhs.sdsu.edu/student-resources/advising/>
- IVC Student Success and Retention: https://ivcampus.sdsu.edu/student_affairs/retention
- PSFA Advisors: https://psfa.sdsu.edu/resources/student_advisors

ACADEMIC HONESTY

The University adheres to a strict policy prohibiting cheating and plagiarism. Examples of academic dishonesty include but are not limited to:

- Copying, in part or in whole, from another's test or other examination;

- Obtaining copies of a test, an examination, or other course material without the permission of the instructor;
- Collaborating with another or others in coursework without the permission of the instructor;
- Falsifying records, laboratory work, or other course data;
- Submitting work previously presented in another course, if contrary to the policies of the course;
- Altering or interfering with grading procedures;
- Assisting another student in any of the above;
- Using sources verbatim or paraphrasing without giving proper attribution (this can include phrases, sentences, paragraphs and/or pages of work);
- Copying and pasting work from an online or offline source directly and calling it one's own;
- Using information found from an online or offline source without giving the author credit;
- Replacing words or phrases from another source and inserting one's own words or phrases.

Unauthorized recording or dissemination of virtual course instruction or materials by students, especially with the intent to disrupt normal university operations or facilitate academic dishonesty, is a violation of the Student Conduct Code. This includes posting of exam problems or questions to on-line platforms. Violators may be subject to discipline.

The California State University system requires instructors to report all instances of academic misconduct to the Center for Student Rights and Responsibilities. Academic dishonesty will result in disciplinary review by the University and may lead to probation, suspension, or expulsion. Instructors may also, at their discretion, penalize student grades on any assignment or assessment discovered to have been produced in an academically dishonest manner.

ACCOMMODATIONS

SDSU via the [Student Ability Success Center](#) (SASC) provides accommodations for students with documented disabilities or medical conditions covered under the Americans with Disabilities Act (ADA). In keeping with current public health guidance, I cannot provide arrangements to students without an ADA-qualified disability or medical condition.

If you are a student with a disability and are in need of accommodations for this class, please contact the Student Ability Success Center at sascinfo@sdsu.edu (or go to sdsu.edu/sasc) as soon as possible. Please know accommodations are not retroactive, and I cannot provide accommodations based upon disability until I have received an accommodation letter from the Student Ability Success Center. SASC registration and accommodation approvals may take up to 10-14 business days, so please plan accordingly.

STUDENT PRIVACY AND INTELLECTUAL PROPERTY

The [Family Educational Rights and Privacy Act](#) (FERPA) mandates the protection of student information, including contact information, grades, and graded assignments. I will use Canvas to communicate with you, and I will not post grades or leave graded assignments in public places. Students will be notified at the time of an assignment if copies of student work will be retained beyond the end of the semester or used as examples for future students or the wider public. Students maintain intellectual property rights to work products they create as part of this course unless they are formally notified otherwise.

RELIGIOUS OBSERVANCES

According to the University Policy File, students should notify instructors of planned absences for religious observances by the end of the second week of classes.

LAND ACKNOWLEDGEMENT

For millennia, the Kumeyaay people have been a part of this land. This land has nourished, healed, protected, and embraced them for many generations in a relationship of balance and harmony. As members of the San Diego State University community, we acknowledge this legacy. We promote this balance and harmony. We find inspiration from this land, the land of the Kumeyaay.