



North Central State College

MASTER SYLLABUS

2025-2026

- A. Academic Division: Health Sciences
- B. Discipline: Science
- C. Course Number and Title: BIOL1550 Microbiology for Health Professionals
- D. Assistant Dean: Heidi Kreglow, PT
- E. Credit Hours: 3
Lecture: 2 hours
Laboratory: 2 hours
- F. Prerequisites: None
- G. Last Course/Curriculum Revision Date: Fall 2023 Origin date: 03/10/2011
- H. Textbook(s) Title:

Open Education Resources (available for download or view)

BIOL 1550: Microbiology (2025) - OER Materials

- Author: Curated/Customized by J. DasGupta
- Copyright Year: 2025
- Edition: 1st
- ISBN:
- OER LINK:

[https://bio.libretexts.org/Courses/North_Central_State_College/BIOL_1550%3A_Microbiology_\(2025\)](https://bio.libretexts.org/Courses/North_Central_State_College/BIOL_1550%3A_Microbiology_(2025))

- I. Workbook(s) and/or Lab Manual: Course lab manual provided by instructor.
- J. Course Description: This course is designed for allied health and nursing majors. It explores the major groups of microorganisms and the role they play in the environment and in disease. The host-parasite relationship, human immunity to disease, epidemiology, and the control of microorganisms are also addressed. Laboratory exercises provide the student with the basic techniques of microbial identification, microscopy, sterile technique, and basic infection control.
- K. College-Wide Learning Outcomes

College-Wide Learning Outcomes	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

Outcomes	Assessments – How it is met & When it is met
1. Identify the major historical figures and describe their contribution to the development of modern microbiology.	Lecture quizzes and exams the first third of the semester and end of the semester.
2. Identify the major characteristics of bacteria, including morphology, metabolism, and growth characteristics.	Lecture quizzes and exams the first third of the semester and end of the semester. Lab quizzes the first third of the semester.
3. Describe the major characteristics of the non-bacterial microbes including the Rickettsias, Chlamydias, Fungi, and Protozoa.	Lecture quizzes and exams the second third of the semester and end of the semester.
4. Identify the structure of viruses and describe the cycles of viral reproduction.	Lecture quizzes and exams the second third of the semester and end of the semester.
5. Describe patterns and dynamics by which disease spreads through a human population.	Lecture quizzes and exams the second third of the semester and end of the semester. Lab quiz last week of semester.
6. Identify common pathogens that cause disease in humans and describe some of the basic chemotherapeutic treatments for the disease.	Lecture quizzes and exams throughout the semester.
7. Describe the physical and chemical control methods for microorganisms.	Lecture quizzes and exams throughout the semester. Lab quizzes following Lab Exercises 10, 11, 13, and 14 (in Lab Content section).
8. Become acquainted with common staining and culture techniques used to study microorganisms in the laboratory.	Lab quizzes following Lab Exercises 4 - 8 (in Lab Content section).

M. Recommended Grading Scale:

NUMERIC	GRADE	POINTS	DEFINITION
93–100	A	4.00	Superior
90–92	A-	3.67	Superior
87–89	B+	3.33	Above Average
83–86	B	3.00	Above Average
80–82	B-	2.67	Above Average
77–79	C+	2.33	Average
73–76	C	2.00	Average
70–72	C-	1.67	Below Average
67–69	D+	1.33	Below Average
63–66	D	1.00	Below Average
60–62	D-	0.67	Poor
00–59	F	0.00	Failure

N. College Procedures/Policies:

North Central State College believes that every student is a valued and equal member of the community.* Every student brings different experiences to the College, and all are important in enriching academic life and developing greater understanding and appreciation of one another. Therefore, NC State College creates an inclusive culture in which students feel comfortable sharing their experiences.

Discrimination and prejudice have no place on the campus, and the College takes any complaint in this regard seriously. Students encountering aspects of the instruction that result in barriers to their sense of being included and respected should contact the instructor, assistant dean, or dean without fear of reprisal.

* *Inclusive of race, color, religion, gender, gender identity or expression, national origin (ancestry), military status (past, present or future), disability, age (40 years or older), status as a parent during pregnancy and immediately after the birth of a child, status as a parent of a young child, status as a foster parent, genetic information, or sexual orientation*

Important information regarding College Procedures and Policies can be found on the syllabus supplement located at

<https://ncstatecollege.edu/documents/President/PoliciesProcedures/PolicyManual/Final%20PDFs/14-081b.pdf>



North Central State College

MASTER SYLLABUS

2025-2026

- A. Academic Division: Health Sciences
- B. Discipline: Science
- C. Course Number and Title: BIOL1101 Nutrition
- D. Assistant Dean: Heidi Kreglow, PT
- E. Credit Hours: 2
- F. Prerequisites: None
- G. Last Course/Curriculum Revision Date: Fall 2024 Origin date: 03/10/2011
- H. Textbook(s) Title:

Open Education Resource (available for download or view)

Introduction to Nutrition

- Authors: Anonymous author (but based on the Zimmerman & Snow text)
- Copyright Year: 2025
- Edition: 1st
- ISBN:
- OER Link:

[https://med.libretexts.org/Bookshelves/Nutrition/An_Introduction_to_Nutrition_\(Zimmerman\)](https://med.libretexts.org/Bookshelves/Nutrition/An_Introduction_to_Nutrition_(Zimmerman))

- I. Workbook(s) and/or Lab Manual: None
- J. Course Description: This is an introductory course to the principles of nutrition and its relationship to health. Included are practical applications in daily life as well as nutritional assessments of individuals. Emphasis is on essential nutrients, their supply and function, as related to an individual's well-being. Health promotion and chronic disease are explored in relation to today's society. (TAG # OHL016)
- K. College-Wide Learning Outcomes

College-Wide Learning Outcomes	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

Outcomes	Assessments – How it is met & When it is met
1. Explain the importance of nutrition in maintaining a state of wellness throughout the life cycle.	Class Assignments & Discussion (*), Exam Questions (*) Midterm
2. Identify the basic physiology, dietary requirements and food sources of carbohydrates, proteins, fats, vitamins and minerals. Also identify functions of water.	Class Assignments & Discussion (*), Oral Presentations, Exam Questions (*) Midterm
3. Explain how food intake has a significant relationship to health and the role of diet in health promotion, chronic diseases and disease prevention.	Class Assignments, Projects & Discussion (*), Exam Questions (*) End of term
4. Evaluate diet patterns and health risks associated with an excess or deficiency of nutrients.	Class Assignments, Projects & Discussion (*), Exam Questions (*) End of term
5. Discuss the influence of social, cultural, religious and psychological factors on food intake.	Class Assignments & Discussion (*), Exam Questions (*) End of term

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- Inclusive of race, color, religion, gender, gender identity or expression, national origin (ancestry), military status (past, present or future), disability, age (40 years or older), status as a parent during pregnancy and immediately after the birth of a child, status as a parent of a young child, status as a foster parent, genetic information, or sexual orientation*

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North Central State College
SYLLABUS ADDENDUM

Academic Division:	Health Sciences	Discipline:	Science
Course Coordinator:	Dr. Janet Boeckman		
Course Number:	BIOL 1101 920	Course Title:	Nutrition
Semester / Session:	Fall 2025 / Session A	Start / End Date:	08/11/2025 thru 10/03/2025

Instructor Information

Name:	Dr. Patricia Ratliff	Credentials:	Doctorate of Science (DSc) in Health Promotion & Wellness
Phone Number:	419-755-4805 (Health Science Division)	E-Mail Address:	pratliff@ncstatecollege.edu
Office Location:	Off Camus (26 Health Sciences – by appointment)	Office Hours:	By Appointment via Zoom

I. Topical Timeline (Subject to Change):

Weeks	Topics
1	Introduction to class, Nutrition and Health
2	Food Selection and Food Safety; Nutrition and Public Health
3	Digestion, Absorption, and Metabolism of Food
4	Carbohydrates, Lipids, Proteins, Vitamins, Minerals, and Water
5	Nutrition Over the Lifespan: Childhood, Pregnancy, Adult Years
6	Practical and Economic Approaches to Shopping and Food Preparation
7	The complexity of Obesity, Generically Modified Foods (GMO)
8	Fad Diets

II. Course Assignments:

1. Quizzes – (5) 10%
 2. Tests – (2) Midterm 10% and Final 10%
 3. Assignments – (2) Interview, Back Pack 45%
 4. Discussion Boards – (8) 20%
 5. Formative Assessments, Reflections & Feedback Assignments, Online Attendance/Participation – 5%
 6. Independent Studies – Reading assignments, Videos, Independent Research, etc. supportive to course assignments
- Monitored student activity on the course Canvas site including logging into the course site, including completion of 1-5 as scheduled within Canvas LMS

Please note: Course syllabus and assignments are subject to change at the instructor's discretion. For the most up-to-date information, please consult the course site on Canvas regularly.

III. Grading and Testing Guidelines:

BIOL 1101 (Nutrition) is a graded course and uses the recommended grading scale (Master Syllabus section M).
The components of the course grade are weighted as indicated in Section II.
Exams – refer to Section IV.
Grades are posted in Canvas (Learning Management System – LMS)

Final Grade Calculation

Activity	Qty	Points	Percentage
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Course Number: BIOL 1101 920
Semester / Session: Fall 2025 / Session A

Course Title: Nutrition
Start / End Date: 08/11/2025 thru 10/03/2025

Readiness Checklist Assignment What you “already know/want to know” Assignment One-Minute Check-In Assignment Anonymous Midterm Class Eval Recall-Summarize-Question-Connect-Comment Assignment Final TakeAway Reflection Assignment	6	Complete/Incomplete	Each entry contributes toward 5% total in category
Discussion Board Assignments	8	10 points each (80 points total)	20%
Quizzes	5	10 points each (50 points total)	10%
Cross-Cultural Nutrition Interview Assignment	1	25 points	½ of 45% (22.5%)
Back Pack Assignment	1	25 points	½ of 45% (22.5%)
Midterm Exam	1	15 points	10%
Final Exam	1	15 points	10%
Total:			100%

1. **Week #1 Overview:**

- Readiness Checklist Assignment
- What you “already know/want to know” Assignment
- Overview Learning Resources
 - Read Chapter 1: Nutrition and You – In this chapter, we provide an overview of nutrition as an evidence-based science and explore the concepts of health, wellness, and disease. We also provide an introduction to the different types of nutrients, health factors, personal health assessment, and the concept of sustainable food systems.
 - Read Chapter 2: Achieving a Healthy Diet - In this chapter, we explore the tools you can use to achieve a healthy diet, as well as important nutrition concepts like balance and moderation.
- Discussion Board #1: Learning Objective: Explore the importance of Nutrition and states of wellness.
- Quiz #1

2. **Week #2 Overview:**

- Overview Learning Resources
 - Read Chapter 3: Nutrition and the Human Body– Because we know that you may not have a background in biology, we start with a tour through the human body, from the single cell to the full organism, we set up for a discussion about the processes of digestion and absorption, followed by explorations of the other organ systems. After that, we discuss the concept of energy and calories. We also discuss some disorders and diseases related to nutritional health.
 - Read Chapter 4: Carbohydrates - In this Chapter we explore the many types of carbohydrates, including their functions. We also take a look at diabetes and at sugar substitutes.
- Discussion Board #2: Learning Objective: Describe how religion, ethnicity, culture and other contributing influences may affect dietary choices and habits.
- Quiz #2

3. **Week #3 Overview:**

- One-Minute Check-In Assignment
- Overview Learning Resources
 - Read Chapter 5: Lipids - In this chapter, we look at the types, structure, and roles of lipids, and we explain the different types of cholesterol in the blood. We also explore topics of interest such as omega-3 and omega-6 fatty acids and trans fats.
 - Read Chapter 6: Proteins - In this chapter, we cover the structure and roles of protein, and explore the consequences of getting too little or too much protein in your diet. Tips for getting the right amount and quality of protein, as well as a look at special populations, such as the elderly and athletes, are also covered.
- Discussion Board #3: Learning Objective: Explain digestion and absorption of nutrients in the body.
- Cross-Cultural Nutrition Interview Assignment - Objective: Conduct an interview with a person from a different religious, ethnic, or cultural background than your own. The purpose of this assignment is to explore how their background influences their dietary choices, health, and nutritional needs.
- Quiz #3

4. Week #4 Overview:

- a. Anonymous Mid-Term Class Evaluation
- b. Overview Learning Resources
 - Read Chapter 7: Lipids Nutrients Important to Fluid and Electrolyte Balance - In Chapter 7, we look at the nutrients important to fluid and electrolyte balance, including water, sodium, chloride, and potassium. We also look at sports drinks, caffeinated beverages, and alcohol.
 - Read Chapter 8: Nutrients Important as Antioxidants - In Chapter 8, nutrients important as antioxidants are explored, starting with an explanation of what oxidation and antioxidants are, then looking at vitamins E, C, and A, selenium, and phytochemicals.
- c. Discussion Board #4: Learning Objective: Describe macro & micro nutrients and their utilization in the body
- d. Midterm Exam

5. Week #5 Overview:

- a. Overview Learning Resources
 - Read Chapter 9: Nutrients Important for Bone Health - In this chapter, we delve into nutrients important for bone health. First, we explore the structure and function of bones, and then calcium, vitamin D, phosphorus, magnesium, fluoride, and vitamin K. A look at osteoporosis and at supplements rounds out this chapter.
 - Read Chapter 10: Nutrients Important for Metabolism and Blood Function- In this chapter 10, we look at the nutrients important in energy metabolism and blood health, by first looking at blood and at metabolism, and then discussing the B vitamins, vitamin K, magnesium, iron, zinc, and other micronutrients. We also explore iron-deficient anemia and iron toxicity.
 - Read Chapter 11: Energy Balance and Body Weight - In this chapter, we take a look at the obesity epidemic and eating disorders—the extremes of energy imbalance—and we look at evidence-based recommendations for maintaining a healthy weight. You will learn how to assess body weight and fatness and learn that it is not only society and environment that play a role in body weight and fatness, but also physiology, genetics, and behavior—and that all of them interact. We will also discuss the health risks of being underweight and overweight, learn evidence-based solutions to maintain body weight at the individual level, and assess the current state of affairs of combating the obesity epidemic in the United States.
- b. Discussion Board #5: Learning Objective: Describe practical/economic approaches to shopping & food preparation with attention to nutrient-dense foods.
- c. Quiz #4

6. Week #6 Overview:

- a. Recall-Summarize-Question-Connect-Comment Assignment
- b. Overview Learning Resources
 - Read Chapter 12: From Pregnancy to the Toddler Years - This chapter is the first of two that exploring nutrition through the life cycle and it looks at pregnancy through the toddler years. Topics include pregnancy, breastfeeding, introducing solid foods, and nutrition during the toddler years. In this chapter and the next, we will explore how the dietary decisions we make affect our health and wellness throughout the life cycle. We begin by examining the developmental changes that occur during pregnancy, infancy, and the toddler years, and how nutritional choices affect those changes. From pregnancy through the toddler years, children are entirely dependent on parents or caregivers for nutrients. Parents also help to establish a child's eating habits and attitudes toward food. So, adults must be mindful of the choices they make and how those choices influence a young child's development, health, and overall well-being.
 - Read Chapter 13: From Childhood to the Elderly Years - In this chapter, we explore the tools you can use to achieve a healthy diet, as well as important nutrition concepts like balance and moderation. In this Chapter. we continue to explore nutrition through the life cycle, this time looking at childhood to the elderly years.
- c. Discussion Board #6: Learning Objective: Describe nutritive needs during different phases of life.
- d. Quiz #5

7. Week #7 Overview:

- a. Overview Learning Resources
 - Read Chapter 14: Food Politics and Perspectives - In this chapter, food politics, sustainability, the food industry, food security, and diets from around the world are explored.
 - Read Chapter 15: Achieving Optimal Health - Wellness and Nutrition - In Chapter 15, we look at a number of topics of interest to students: diet trends, food supplements and food replacements, fitness, chronic diseases, and food safety. Also included in this chapter are tips for living a sustainable lifestyle, and information about careers in nutrition.

Course Number: BIOL 1101 920
Semester / Session: Fall 2025 / Session A

Course Title: Nutrition
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- b. Discussion Board #7: Learning Objective: Discuss the significance of Genetically Modified Foods (GMOs).
- c. Back Pack Project Assignment – Objective: This project is designed to challenge your problem-solving skills while considering real-world food access issues.
- 8. **Week #8 Overview:**
 - a. Final TakeAway Reflection Assignment
 - b. Overview Learning Resources
 - Review Learning Resources for Final Exam
 - c. Discussion Board #8: Learning Objective: Compare & contrast diet fads advertised in the media related to effectiveness & safety.
 - d. Final Exam

IV. Examination Policy:

1. The reasons for which a student will be excused from taking an examination:
 - a. Hospitalization (with documented verification)
 - b. Death in the immediate family (with documented verification)
 - c. Personal illness or illness in immediate family - (doctor's excuse required).
2. A student who misses an examination for any reason is responsible for contacting the instructor within 2 days of the missed exam or receive a zero grade.
3. Examinations are given as listed on the course calendar. The examinations will be posted on Canvas and are due by the scheduled time (e.g. 11:59PM) on the due date listed on the Tentative Course Calendar. **There is no grace period for submission of late exams.**
4. Students are expected to engage in academic honesty during the examination. The exams are to be completed independently without notes, textbooks, or other materials. Please refer to the “Academic Misconduct” in the Syllabus Supplement.
5. The exams (quizzes) will have a time limit. Extended time will be given for students who present documentation of such a need from the Coordinator of Disability Services.

V. Class Attendance and Homework Make-Up Policy:

This is a fully on-line course. There are no mandatory class meetings. All course outcomes are met through a combination of learning and formative assessments including guided reading assignments, textbook (Open Education Resources OER) activities, Internet and text-related videos, and Discussion Boards.

Failure to submit assignments as required for verified enrollment status within the first week of class, will result in administrative drop to the course. You must complete assignment/show active participation to remain enrolled in the course.

Assessment (evaluation) of the course outcomes is demonstrated through topic quizzes, midterm & final exams and an Interview paper and Back Pack assignment.

The instructor will monitor student activity in the course Canvas site including logging into the course site, completion of assignments and quizzes, and contributing to the discussion board.

Students are responsible for contacting the instructor to seek clarity or request modification (as needed on an individual basis) on all class attendance, homework, course assignments, etc. prior to the scheduled due date/time. Early and pro-active communication is required. No makeup opportunity will be given once the assignment due date/time has expired.

Homework Assignments & Topic Quizzes—refer to Tentative Class Schedule for assignments

- Assignment and quizzes will be posted within the Topic Modules on Canvas. The student is responsible for requesting clarification of assignments.
- Assignments are submitted on Canvas by the time (e.g. 5:00PM or 11:59 PM) on the published due date.
- Assignments are available on Canvas, so there is no need to make-up homework

Interview Paper and Back Pack Assignment—the assignment guidelines and grading criteria are provided in the assignment tab.

Course Number: BIOL 1101 920
Semester / Session: Fall 2025 / Session A

Course Title: Nutrition
Start / End Date: 08/11/2025 thru 10/03/2025

Late Assignment Policy

Late assignments will be handled as follows:

- Up to 10% of the possible points will be deducted from assignments submitted within 24 hours of due date (e.g. due date/time 11:59PM the day following the due date). No points awarded after the 24-hour period unless special arrangements have been made with the instructor.
- Failure to complete assignments & quizzes will adversely affect your grade in the course.
- If you find yourself in a circumstance where you cannot meet the deadlines, early notification may warrant an extension. Extensions may be given on a case-by-case basis.

NOTE: *Technical malfunctions will not be accepted as an automatic excuse for late work.* Part of success online and as a professional is to be prepared.

General Turn Around Time for Work Being Graded:

- Grades and feedback (when warranted) will be posted within 7 days of the due date.
- If there will be a deviation from the 7-day period, an announcement will be posted on Canvas.

VI. Classroom Expectations:

- This is an on-line course, so the Canvas environment is our classroom. Students are expected to complete the learning activities including reading assignments, textbook activities, homework assignments, topic quizzes, discussion board activities and exams.
- Discussion of some ethical topics lead to a variety of opinions. Please be open-minded and tolerant of the opinions of others. Discourteous and disrespectful treatment of others in discussion board posts will not be tolerated. The Discussion Board postings are to be written in correct grammar and spelling with full sentences.
- Refer to the Syllabus Supplement for more detailed information (see Code to Student Conduct).