

Nashville State Community College
School of STEM
Biology Program

2023 Master Course Syllabus

BIOL 2230 Microbiology

(This master course syllabus template is a general guide for providing an overview of each course offered at Nashville State. Each instructor will further clarify specific criteria for grading, classroom procedures, attendance, exams and dates, etc. on his/her individual course syllabus. Prompts for individual adaptations are italicized and in parentheses; faculty should remove or replace these prompts when creating master syllabi and their own individual syllabi if they have not been removed previously.)

Course information:

Course Title: BIOL 2230 Microbiology

Credits: 4

Class hours: 3 lecture and 3 lab hours

Prerequisite: Level 2 placement in English, Math and Reading.

Course Description:

This is a comprehensive course that stresses applied microbiology and the roles of microbes in health and disease. Topics include microbial structure, growth, metabolism, genetics, ecology, and systematics with emphasis on the pathology of bacteria, viruses, fungi, and protozoa.

Prerequisite: Level 2 placement in English, Math and Reading.

Instructor Information:

Name:

Email:

Office Phone:

Office Location:

Instructor Zoom Room link:

Required Textbook(s) & Other Materials:

Textbook: Chess (Talaro) Connect 3p Inclusive Access online Access for Foundations in Microbiology 11th Edition (2021)

Textbook(s): Talaro's Foundations in Microbiology, 11th Edition,

Textbook ISBN: 978-1-260-45134-4 (loose -leaf edition). ISBN: 978-1-260-25902-5 (bound edition)

Laboratory Atlas

Leboffe, Michael J. and Burton E. Pierce. A Photographic Atlas for the Microbiology Laboratory, 5th Edition, Morton Publishing, Englewood (2021). ISBN: 978-1-61731-903-7.

Supplies:

Once you have registered for your courses, you should make sure you have the correct textbook and materials for each course. Before courses begin, you can do this by looking up your courses on the bookstore's website (<https://www.bkstr.com/nsccestore/shop/textbooks-and-course-materials>) using your A# or by entering your course information. If you are registered with the Access Center and need an alternate format for the textbook and other course materials, please contact the Access Center at 615-353-3721, 615-353-3741, or accesscenter@nsc.edu

Digital Course Materials: These ensure you pay less for your course materials and have easy access through D2L throughout the semester. When you registered for this course, the charge for these materials appeared on your account. If you decide you do not want to purchase the course materials embedded in NS Online, you can opt out of the program **until the end of the second week of classes**. If you opt out, you will be responsible for purchasing the required course materials on your own. For more information, please visit www.nsc.edu/dcm.

Honors Option: Honors credit is available in some classes. If you are interested in participating in the Honors Program, please see your instructor within the first four weeks of class.

Course Outcomes: At the end of the semester, this is what you should know and/or be able to do:

- Explain the biochemical composition of microbes, historical advancements in microbiology, how microbes reproduce and carry out essential life processes, and environmental requirements needed for their survival.
- Discuss epidemiology, how diseases spread and other factors contributing to emerging and reemerging diseases.
- Categorize human-microbe interactions, in the context of both pathogenic and non-pathogenic organisms and mechanisms by which microbial growth can be detected and controlled.
- Demonstrate a basic understanding of immunology and host defense, including the key cellular components and their functions.
- Explain various diseases and mechanisms by which each specific microbe causes disease and assess how it can be controlled.
- Apply information on microbes in food, industry, evolution, etc. to current topics in microbiology.
- Arrange and record experimental purposes, materials and methods (procedures), synthesize an experimental hypothesis, organize and collect observed experimental data (results), and analyze data and synthesize scientific conclusions in a laboratory notebook

Topics to Be Covered:

Lecture topics:

- History of Microbiology

- Microscopy
- Macromolecules
- Replication, transcription, translation
- Cell wall and staining
- Bacterial growth
- Environmental effects on microbial growth
- Virology, mycology and protozoa
- Epidemiology
- Nosocomial infections including *Staphylococcus aureus*
- Microbial growth and its control
- Human-microbe interactions
- Immunology
- HIV/AIDS
- Bioweapons
- Diagnostic techniques
- Person-to-person diseases
- Animal and arthropod-transmitted diseases
- Other diseases (not in textbook)
- Food and dairy Microbiology
- Systematics

Lab Topics:

- Lab Safety
- Microbes are Everywhere
- Use of Microscopes and Observation of Eukaryotic Slides
- Use of Microscopes and Observation of Prokaryotic Slides
- Gram Staining
- Streak Plate and Aseptic Technique
- Effects of Environment on Microbial Growth
- Typhoid Mary and Handwashing
- Mutagenesis
- Microbial Control Lab (effectiveness of antibiotics, antiseptics and disinfectants)
- Normal flora, Dental cavities
- Biochemical test
- Enteropluri
- Food and dairy

Course Assessments:

The following performance assessments will be used to demonstrate students' understanding knowledge, and skills:

Tests (50% of total grade) and Lecture Quizzes (15% of total grade)

There will be a quiz or test almost every week. There will be eight quizzes, and each quiz will be worth 20points. You will be allowed to drop your lowest quiz grade. Therefore, if you miss a quiz, then that will be counted as your dropped score. There will be five tests during the term and each test will be worth 100 points. The final test will be cumulative and will cover all of the course material.

Student Presentation (5% of total grades)

Each student will pick one disease to present from a list of diseases that are to be covered during the course. This will be a short about 10-12 minute presentation. The main reference for the presentation will be the textbook, but supplemental material from other sources will be encouraged.

Report (5% of total grade)

You will be required to write a short report about "Microbiology in the News" in which you will write about an article concerning microbiology from a print or online newspaper, magazine, etc. that is no more than 12 months old. The report should be about 2-3 pages in length (12 point font). You will discuss in your report how the article applies to microbiology class, why you found it interesting and how microbiology class helped you to understand the article. You must attach the original article, or a copy of the article, or the website link to the back of your report. SCIENTIFIC JOURNAL ARTICLES WILL NOT BE ACCEPTED!

Other grades

There will be two other main sources of grades in the class, these include the lab notebook (20% of total grade) and a lab practical exam (5% of total grade). Notebooks will be collected for grading twice during the semester and will be worth 100 points at each time. The lab practical exam will be worth 50 points. You will sign up for a specific 10-minute timeslot during finals to come in and take your practical. Altogether, these grades are worth a significant amount of your final grade. Therefore, if you keep up with your work and practice good lab skills, you will earn easy points.

Grading Policy:

Your course grade will be calculated based on your tests, quizzes, presentation, report, lab notebook, and lab practical exam.

Late Work Policy & Make-up Procedures for Missed Assignments and Work:

(Each instructor will provide policy)

Attendance Policy

Students are expected to attend all scheduled classes and laboratories. Absences in a course may affect a student's final grade. The student is responsible for all assigned work in the course regardless of excused or unexcused absences. Tardiness may also affect a student's final grade.

For online courses, attendance is defined by submission of assignments. Students who fail a course and whose last assignment is submitted on or before the FA date will earn an FA for the course. Students who fail a course and whose last assignment is submitted after the FA date will earn an F for the course. An FN is assigned to students who do not submit any assignments.

(Each instructor will provide policy, especially how attendance influences student assessment and grading.)

Grading Scale:

Your overall grade will be determined using the following scale:

Letter Grade	Percentage Range
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	59% and below

FA

According to NSCC policy, an FA is awarded to students who do not officially withdraw from a course and do not attend after the cut-off date provided in the academic calendar. Please refer to the current academic calendar available on the Nashville State web site, looking for the date that indicates it is the "Last Day to Earn F for Attendance (FA)." Students who stop attending on or before this date receive an FA; students who stop attending after this date receive an F.

FN

An FN is awarded to students who never attended class.

General Policy

The College is not an attendance taking institution as defined by 34 CFR 668.22(b)(1) in the Code of Federal Regulations; however, students are expected to attend all scheduled classes and laboratories.

- *Absences in a course may affect your final grade.*
- *Tardiness may also affect your final grade.*
- *You are responsible for all work/tests that occur during any missed course session(s) regardless of reason(s) for absence.*
- *If you are not well enough to attend a course session (class), you must notify the instructor as soon as possible before the scheduled course time.*
 - *If you are unable to notify an instructor before the scheduled course time, you must contact the instructor as soon as reasonably possible.*
- *If you have an unavoidable conflict with a scheduled course session, you must notify the instructor before the course session.*
 - *If you are unable to notify an instructor before the scheduled course time, you must contact the instructor as soon as reasonably possible.*

For financial aid purposes, **attendance** is measured by participation in the course. Instructors can determine your level of participation in several ways. Some of those ways are:

- continued attendance
- participation in on-ground or virtual class sessions
- participating in D2L as prompted
- responding to an instructor's email
- posting to a discussion board
- completing and submitting assignments

Technology Statement

- All classes at the College are web enhanced. “Web enhanced” means that components of the course, such as assignments and online discussions, may be located online in the class D2L/NS Online course shell and used in the course, even if the course meets in a classroom on ground.
- You must have access to a computer and an internet connection to complete assignments, engage in online discussions, and access various course materials through D2L/NS Online course shells.
- You may also be required to use free video conferencing platforms (examples: Zoom, Teams, etc.) for course sessions and meetings.
- You will be responsible for appropriate dress while on video. This means that you are expected to dress as if you were in a classroom.
- You will be responsible for a distraction free environment while on video. This means that the professor and others in the course should not be able to hear noise in your home, such as cell phones, TVs, or barking dogs. The best way to do this is to keep yourself on “mute” until you need to speak.
- You will be responsible for making sure your background is neutral. Keep in mind that students and professors come from all around the world, and you are all a part of our community. Therefore, please avoid having images in your background that may be offensive to your classmates.
- Certain publisher materials, such as textbook figures, may not work on cellphones and may require a laptop or a tablet.
- If you have questions or concerns regarding access to a computer or internet resources, please contact your instructor. Additional information is available on this website: <https://www.nsc.edu/current-students/student-online-resources/access-to-internet-and-technology>.

Computer Labs

Computers are available for all Nashville State students to use at each campus during open hours. Open computer lab availability may vary from campus to campus.

You should check the NSCC website for current hours of operation.

D2L/NS Online and myNSCC

It is your responsibility to check your email in **both** D2L/NS Online course shells and your @my.nsc.edu (student email) on a regular basis. These are the official communication channels between the college and you. You are responsible for the information communicated through these email channels. D2L/NS Online emails contain specific course information and @my.nsc.edu emails contain important information from college offices, such as Financial Aid.

ADA Compliance Statement

If you need accommodations due to a disability, please do not hesitate to reach out to our Access Center. Disabilities for which you can receive accommodations include documented physical, emotional, and/or learning conditions. Nashville State is committed to supporting your success, and we encourage

you to get assistance if needed. If you require accommodations for any courses in which you are enrolled, contact the Access Center at 615.353.3741 or 615.353.3721, or e-mail accesscenter@nsc.edu.

Classroom Misconduct

Disruptive conduct is not allowed in the classroom. Disruptive conduct is any behavior that prevents students from learning and interferes with the ability of the instructor to teach. This may change from course to course; therefore, your individual instructors will give you guidance on what qualifies as “disruptive conduct” in their courses. Please review the [Nashville State Student Code of Conduct policy](#). Please be aware that children are not allowed in class or to be left unattended on campus.

Academic Misconduct

You have started this academic journey to prepare for a future career. Because of this, it is important that you learn the materials being presented in your courses. For this reason, cheating, in any form, robs you of your opportunity to learn and master the material that will enable you to succeed in that future career. Nashville State has a clear [Academic Misconduct Policy](#) that you are expected to follow. In addition, your instructors will clarify what Academic Misconduct looks like and the consequences for violations in each course that you take. The instructor has the authority to assign an “F” or a “zero” for such violations or for the semester grade.

Academic Early Alert System

If you are not doing well in your course, your instructor may send you an Early Alert through your @my.nsc.edu email. This email will go to your academic advisor and Student Success advisor, as well. If you get an Early Alert, contact your instructor immediately. Instructors send these when they want to help you figure out how to get extra support to pass the course. An Early Alert does not mean that you have already failed the course. Rather, it means you are in danger of failing the course if you do not change your learning strategy. Please use an Early Alert to your advantage and as an opportunity to improve your grade.

RAVE Emergency Alert System

You can log in to this free alert system to receive text messages about emergencies related to NSCC campuses: <https://www.getrave.com/login/nsc>. The instructions for this are listed below.

- Your RAVE Username is your NSCC email address.
- If you've never received an email from RAVE with your password, or if you need to reset your password, select “Forgot your password?” and a new password will be emailed to you.
- Should the RAVE system indicate “user not found”, select Register and create your own RAVE account.

Student Wellness

The general well-being of students is an important component of their academic success. With this in mind, Nashville State Community College has several resources available to provide support when needed:

o Students with general, non-academic questions and concerns about COVID-19 may email virusinfo@nsc.edu.

- o Five free telephone therapy sessions are available via Agape Counseling by calling 615- 781-3000.
- o Online tutoring is available via NetTutor within the D2L course shells.
- o A comprehensive list of online student resources may be found at <https://www.nsc.edu/current-students/student-online-resources>
- o A comprehensive list of student support services may be found at <https://www.nsc.edu/current-students/on-campus-resources/student-supportservices>

Equity Statement

Nashville State Community College has a relentless commitment to the transformation of our institution through the intentional design of college experiences that expect and promote excellence from students, faculty, staff and administration. We consider equity to be an obligation of higher education. We strive to ensure that each student receives what that student needs to be successful, with goals of success beyond the classroom. We do this through an evidence-based and collaborative effort, understanding that our student population has diverse needs that must be addressed. We recognize that this effort may not always be comfortable and that partnering with students is the driving force to overcome barriers to success.

Inclement Weather & Campus Closings

You get notices about campus closings in these places: text messages from RAVE and www.nsc.edu. Even when campuses are closed, you are still responsible for completing all assigned work. Check D2L/NS Online for a message from your instructor so you do not miss important assignments and due dates, which may change due to the campus closure.

Class Cancellation Policy

Our instructors post messages about cancelling classes in the D2L/NSOnline course shells and/or on the classroom door on campus. These messages can be found in the News and Content section or the Email tab in the online shell. Please check these to be sure that you take advantage of opportunities for learning and points toward your grade.

Communication Statement In this time of uncertainty due to COVID-19, communication between student and faculty is key. At times, situations arise for one or both that makes that communication difficult or delayed. This can include but is not limited to health issues and/or problems with technology. If you have attempted to contact your instructor, and have waited the turnaround time as outlined in the syllabus but have not yet received a response, please reach out for additional support using this survey: <https://forms.gle/rM7rxFarksRFeA3b8>