

Naperville North High School Principles of Biomedical Science Syllabus 26/27



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District Mission

Profile of a Learner guides our efforts in creating educational experiences that are relevant, engaging, and impactful and outlines the key competencies and descriptors our community has identified as essential for our students: Adaptability, Communication, Critical Thinking, Learner's Mindset, Global Citizen.

Department Mission

At Naperville North High School, our mission is to provide high-quality, innovative, and engaging science education that fosters deep understanding, critical thinking, and a lifelong passion for scientific inquiry. Grounded in the Next Generation Science Standards (NGSS), our curriculum and teaching approach empower students to develop the knowledge, skills, and attitudes necessary to thrive in a rapidly changing world. We are dedicated to nurturing curiosity, collaboration, and scientific literacy, preparing our students to become informed citizens who can contribute to solving local and global challenges through the application of scientific principles.

Course Description

Principles of Biomedical Science (PBS) is a full-year high school course in the PLTW Biomedical Science Program. This course serves to provide foundational knowledge and skills in fields such as biology, anatomy & physiology, genetics, microbiology, and epidemiology as well as engage students in how this content can be applied to real world situations, cases, and problems.

Through both individual and collaborative team activities, projects, and problems, students will tackle real-world challenges faced by biomedical professionals in the field. They will work with the same tools and equipment used in hospitals and labs as they engage in relevant hands-on work. Students will develop skill in technical documentation to represent and communicate experimental findings and solutions to problems. In addition, students will explore how connections to other disciplines such as computer science and engineering shape the future of medicine and practice collaboration techniques that will help them connect with professionals across any field.

At the end of the course, students take the national PLTW End of Course (EoC) Assessment. This assessment gives students the opportunity to demonstrate their understanding of concepts and skills learned throughout the entire course. Students may be eligible to apply for college credit for this course (at a reduced rate) based on the final course grade and their EoC score. For more information regarding college credits for this course, please visit: <https://www.pltw.org/experience-pltw/student-opportunities>

Course Textbook & Resources

This course relies heavily on technology (specifically a laptop / Chromebook / etc. with internet access) as students will be performing research, taking notes, watching videos, completing simulations, etc. online mostly from Project Lead The Way online portal. Students will be completing these tasks both in the classroom and at home. Most assignments will be required to be submitted online to Canvas and/or Google Drive.

Course Standards & Weights

Academic: The items below are linked to other sources
HS-LS1 From Molecules to Organisms: Structures and Processes
HS-LS2 Ecosystems: Interactions, Energy, and Dynamics
HS-LS3 Heredity: Inheritance and Variation of Traits
HS-LS4 Biological Evolution: Unity and Diversity

SEL

1C.4b. Apply strategies to overcome obstacles to goal achievement.
2B.4b. Demonstrate respect for individuals from different social and cultural groups.
3B.4a. Evaluate personal abilities to gather information, generate alternatives, and anticipate the consequences of decisions.



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Units of Study:

Course Outline:

1st Semester

Unit 1: Medical Investigation

Unit 2: Clinical Care

2nd Semester

Unit 3: Outbreaks & Emergencies

Unit 4: Innovation, Inc.

Grade Calculation Definitions

Students will be provided with multiple and varied opportunities to demonstrate mastery of learning standards.

Although varied in content, all courses will include examples of practice and evidence of learning:

- **Evidence of Learning:** Tasks or assessments where feedback is provided to the student and considered evidence of a student's level of proficiency on a given standard or skill. This may include, but is not limited to formative tasks that provide insights on areas for growth as well as summative tests, projects and/or performances. In this course, specific examples include: Unit Exams, evidence quizzes and lab quizzes
- **Practice:** Tasks that are connected to course standards and learning targets that promote the development of skills and/or knowledge that will be assessed, but where feedback is not provided. This may include, but is not limited to daily readings, note taking, practice exercises and tasks essential to the learning process.

Grading Disbursement

Semester grades for all classes (prior to the final exam) will be calculated by a weighted average. As part of the calculation for the overall semester grade, final exams/projects will not exceed 15% of the semester grade.

A = 100-90%, B = 89-80%, C = 79-70%, D = 69-60%, F = 59-0%

Semester Grade:

- Coursework = 85%:
 - Evidence of Learning = 90%
 - Practice = 10%
- Final Exam = 15% *Final Exam Format:* Cumulative exam

Grading Practices

Grades communicate each student's progress toward mastery of goals/standards for the course.

- Infinite Campus Symbols/Comments:
 - A score of "Missing" (M) will indicate an assessment has not been turned in and the comments section will include a specific date by which students can still submit. After that date, a zero (0) will be recorded.
 - Any score may also have a comment indicating the due date, turned in, late, reassessment eligibility including the timeline and/or reassessment final scores.
 - A zero indicates that no attempt was made by the student. If a legitimate attempt is made on an assessment and practice work has been completed in a consistent and timely manner (*completing 85% of practice listed in Infinite Campus.*), a score of 50% will be the lowest possible grade on the applicable Evidence assessment.
- Late Work:
 - Evidence of Learning work submitted after the original due date cannot be penalized more than a total of 10% and can be submitted for credit up to 5 days after the original due date.
 - Practice Work is not accepted for credit after the due date.
- Other:
 - No extra credit or additional work will be issued.



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D203 AI Belief Statement

At Naperville North High School, we strive to build a learner's mindset in all students, developing qualities such as adaptability, communication, critical thinking, and global citizenship. Generative Artificial Intelligence (AI), offers new opportunities to engage with important technology relevant to the future that also raises significant educational considerations. AI tools provide unique ways to engage students in the learning process, hence we encourage our staff to guide students in using AI responsibly. Teachers have the authority to establish guidelines for AI use in their classrooms, setting clear expectations for how AI can be used on learning tasks. Concurrently, we recognize that reliance on AI risks replacing genuine student engagement and original thought, undermining the attributes we aim to cultivate. Striking a balance between leveraging AI tools effectively and maintaining educational standards is crucial to the learning experience of each student.

Academic Integrity Code

District 203 students are challenged to address the academic process enthusiastically, diligently, and most importantly, honestly. It is the responsibility of our students, teachers, and administration to uphold the fundamental academic values of honesty, responsibility, fairness, respect, and trust. The integrity of our district's academic programs is built upon these principles.

Academic integrity violations include cheating; plagiarism, self-plagiarism or copy infringement; obtaining or providing an unfair advantage; falsification of documents; unauthorized access to records; and inappropriate collaboration, whether intentional or unintentional. The classroom teacher and administration will collaborate and exercise professional judgment in determining academic integrity violations.

Technology Expectations

- **Cell phones:** Students will be expected to store their cell phones in a phone holder or designated classroom location throughout each class period as communicated by each teacher. Cell phones should not be seen or heard in the classroom setting. Appropriate use of cell phones is allowed during passing periods, during study halls, at lunch, before and after school. Please note that cell phone use is strictly prohibited in locker rooms and restrooms at all times.
- **Ear buds and headphones:** The use of ear buds and headphones is strictly prohibited in the classroom unless permission has been granted by the teacher. Ear buds and headphones should not be seen or heard in the classroom setting. For safety reasons, students should also be able to hear announcements, alerts, etc. at all times and, therefore, students are permitted to use one ear bud or headphone during passing periods, at lunch, before and after school.
- **District issued Chromebooks:** Students are required to use their District issued Chromebook and will not be permitted to use personal laptops or devices in the classroom setting. Student personal devices are not protected by district systems and put student safety and the safety of our network at risk. Additionally, student personal devices are not enabled with applications and programs necessary for administration of state and AP assessments.

Reassessment Policy

The purpose of reassessment is to allow students to demonstrate mastery of course standards in which they remain deficient. Higher reassessment grades will replace the original assessment score, but will not exceed 85%.

- Practice work is not eligible for reassessment.
- Evidence of Learning work may be eligible for reassessment. Refer to the chart below for eligibility:



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Determination for Reassessment Eligibility:

☐ The assessment included multiple opportunities for feedback and improvement in the process for the final product OR formative assessments are aligned to standards, allow students to practice in the same assessment format, and gain feedback for improvement before the summative assessment.	☐ There was timely and consistent completion of practice work and formative assessments. ☐ A one-time performance on an assessment does not reflect the student's level of proficiency leading up to the assessment. ☐ Summative assessment score is below 85%.
Not eligible for reassessment	Eligible for reassessment if all three statements above are true.

Reassessment Parameters:

- The reassessment opportunity will require designated learning experiences that demonstrate readiness as assigned by the teacher.
- Reassessments MUST be completed within 5 school days of the student receiving feedback unless otherwise determined by the instructor. The reassessment deadline should be communicated in an IC comment.
- The final reassessment score will be capped at 85%.
- Project-Based Assessments that include multiple opportunities for feedback and improvement in the assessment process will represent multiple attempts and be considered a reassessment

Student Communication

- You are encouraged to communicate with their teacher regarding questions.
- Teachers make every effort to respond to emails and phone calls within 24 hours during the workweek.
- The best way to communicate with teachers is through email; however, if you haven't received a response within 48 hours, please resend the email or call their voicemail. Your email may have been filtered.

Additional Resources for Support

- You can make an appointment with your teacher should you need additional instruction or support in learning material.
- You can attend peer tutoring in the Lit Center during lunch periods to receive extra support or to work on assignments.
- You can drop in to work with a peer tutor during lunch periods or before school in the Literacy Center.
- Utilize the daily agenda for enrichment opportunities (practice quizzes, video tutorials, flashcards, enrichment assignments, etc.)

Parents or Guardians Partnership

Naperville North believes in a collective partnership with parents/guardians which provides students the best opportunities for success.

Some ways parents/guardians can support their student's learning are:

- Actively check Infinite Campus for their student's grades.
 - Infinite Campus is a tool to progress monitor student work until the final course grade is posted.
 - Monthly progress grades are posted and represent the current grade of a student in the course at that moment in time.
- Discuss missing assignments, reiterate due dates, help organize folders, materials, assignment notebooks, and review upcoming projects and assessments.

Digital Viewing Options

Planet Earth, Gattaca, Lorenzo's Oil, Wonder, The Lorax, Extraordinary Measures, The Croods, Life, Walking with Monsters, Your Inner Fish, Ted Talks and other documentaries