



JOHN HAY HIGH SCHOOL · CLEVELAND METROPOLITAN SCHOOL DISTRICT

John Hay Biomedical

The PLTW Biomedical Science Pathway

Family Syllabus and Program Guide · School Year 2026 to 2027

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mendozabiomed.org

Four courses
Two semesters
One pathway

*This guide holds everything a family needs for the year: the four courses and their real dates, how the class works, three short articles worth reading together, and the map of every support online. **Go Hornets.***

Read this guide together

Three of these sections are short articles written for families: how to study, what a semester course asks, and where the state exam can lead. Start there if you read nothing else.

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Every page on mendozabiomed.org, one line each	

WELCOME

Welcome to the pathway

Your student is in a real biomedical science program: the same Project Lead The Way (PLTW) courses used in health-science academies across the country, taught at John Hay and connected to the Cleveland Clinic, Case Western Reserve University, and John Carroll University. Over the year students investigate a death scene, fight an outbreak, read real bloodwork, screen genes, map the body, system by system, and design solutions to public-health problems. They are doing medicine's actual work, at student scale, with real technique.

Everything is findable. Every class lives at mendozabiomed.org, where you and your student can see the day's goal, the exact work, and how to turn it in, on any device, with no login. This guide walks the whole year: the four courses, grading, the state exam with its honest status, three short family articles, and the full map of the website. Read it together. Then keep it handy.

Mr. Manuel Mendoza · John Hay Biomedical · Room 381

THE PATHWAY AT A GLANCE

Four courses, two semesters, one pathway

Each course runs one semester. Your student's period decides which two they take this year, and each fall course sets up its spring partner, so the year tells one story from the first case to the final design.

FALL (SEMESTER 1) · PERIODS 1-2 AND 6A-7B

Principles of Biomedical Science

(Principles of Biomedical Technology) · Ohio WebXam 072110, Principles and Practice of Biomedical Technology. **CONFIRMED**

Investigate. Diagnose. Follow the evidence.

FALL (SEMESTER 1) · PERIODS 3-4B

Medical Interventions

(Genetics of Disease) · Ohio WebXam 072130, Genetics of Disease. **CONFIRMED**

Fight infection. Screen the genes. Conquer disease.

SPRING (SEMESTER 2) · PERIODS 1-2 AND 6A-7B

Human Body Systems

(Human Anatomy and Physiology) · Ohio WebXam 072040, Human Anatomy and Physiology. **INDICATED, PENDING CONFIRMATION**

Diagnose and rehabilitate as you explore the body, system by system.

SPRING (SEMESTER 2) · PERIODS 3-4B

Biomedical Innovation

(Biotechnology for Health and Disease) · Ohio WebXam: dual-prepared for 072125, Biotechnology for Health and Disease, and 072110, Principles and Practice of Biomedical Technology. **CODE UNDER DISTRICT REVIEW**

Design, prototype, and solve real biomedical and public-health problems.

How the two tracks work. Students in Periods 1-2 or 6A-7B take **Principles of Biomedical Technology** in the fall and **Human Anatomy and Physiology** in the spring. Students in Periods 3-4B take **Genetics of Disease** in the fall and **Biotechnology for Health and Disease** in the spring.

Aug 24

First day, Semester 1

Jan 19

Semester 2 begins

57-77

Class days per course, all dated

May 28

State WebXam window closes

THE SYSTEM

How the class works

Mastery first: the grade is the evidence of learning, and the routine is the same in all four courses, so a student who learns the system once has it for the pathway.

WHERE THE GRADE COMES FROM

Each course runs on 1,000 points, built so the categories land at these shares. The gradebook carries the same 35/35/15/15 weighting, so the split holds however you count it.

Assessments		35%
PLTW work		35%
Labs		15%
Daily work		15%

A 90+

B 80+

C 70+

D 60+

Extra credit offered

The final exam is a full-length, timed WebXam practice worth 100 points, the largest single assignment in the course, sat in the final week. Daily work is exit tickets, vocabulary, trackers, and the Friday reflection: one double-sided sheet each week, 16 to 17 in total for this course, worth 3 to 5 points depending on the course, in Daily work. Extra credit is announced in class, is available to students turning in their Friday reflections, and is capped at 20 points per semester.

THE WEBXAM RAISE

Passing the state exam raises the course grade on a tiered scale. The WebXam is scored 1 to 5: a 5 adds 30 percent to the coursework grade, a 4 adds 20, a 3 adds 10, and the result is capped at 100. The raise is a percentage of the coursework grade, not points added on: a 68 with a top score becomes an 88, which is 68 plus 30 percent of 68.

Not passing never lowers the grade. The WebXam is an on-ramp, never a trap door. State scores can return after report cards post; when that happens, the raise is still applied, you hear it from me in writing, and the corrected grade goes on the transcript.

LATE WORK AND UPDATES

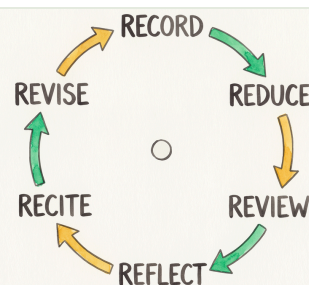
Late work is accepted for two weeks after the grade posts, and never past the term's final grade deadline: work graded in the last two weeks of a term closes when semester grades are finalized. Late work without an excused absence loses 20 percent per week, compounding. The gradebook is updated at minimum every two weeks. Redos and retakes are limited and never automatic: they come after remediation, and they apply to unit tests, the final, CERs (Claim-Evidence-Reasoning write-ups, the course's evidence-based conclusions), and labs.

Learning is the goal; the grade is just the evidence. Your student's report-card grade appears in Schoology, and day-to-day work lives on mendozabiomed.org, where every lesson is posted with no login.

The learning routine: Cornell notes and the 6 Rs

Every day follows the same rhythm so students can focus on the science instead of the logistics. Notes are Cornell style and run through the **6 Rs**: Record, Reduce, Review, Reflect, Recite, Revise. It is a habit, the same one in all four courses, and the notebook it produces is a graded artifact checked against the unit checklist.

Each lesson also carries a plain-language glossary, tap-to-hear vocabulary, WebXam practice for the day's idea, and a cumulative mixed review that keeps older units fresh.



HOW WORK IS TURNED IN, IN FOUR STEPS

- 1 Do the activity in myPLTW.** The project curriculum lives there; students reach it through Clever with the district sign-in.
- 2 Use the one route named under Submit here on the day page.** A digital item uses that page's upload and the student's district Microsoft sign-in. A physical item is handed to Mr. Mendoza only when the day page names that route. Doing the activity is not the same as turning it in.
- 3 The file lands in Mr. Mendoza's district OneDrive.** Private, and where grading happens.
- 4 Schoology carries the report-card grade and nothing else.** Students read it there and never submit there.

Every submission lands in one of six folders: Exit Tickets, Lab Notebooks, Class Records, Data Tables, Lab Reports, and Claim Evidence Reasoning (the CER).

The WebXam, explained

Each course is measured by its Ohio WebXam, the state end-of-course exam that counts for the career-tech transcript. Students meet it twice: a pretest in week one, before we have taught anything, and the real exam at the end. The distance between those two scores is the clearest picture of what a student learned.

This year's window, and our schedule inside it

Ohio publishes **one wide WebXam window for the year: October 12, 2026 to May 28, 2027**. There is no separate state-mandated fall window; Mr. Mendoza schedules our attempts inside the wide one.

Course group	Pretest (week one)	First attempt	Retakes
Fall courses Principles of Biomedical Technology · Genetics of Disease	Aug 24 to 28, 2026	Dec 14 to 18, 2026 , the final week of instruction	Jan 4 to 15, 2027
Spring courses Human Anatomy and Physiology · Biotechnology for Health and Disease	Jan 19 to 26, 2027	May 17 to 28, 2027	Scheduled after scores return; ask Mr. Mendoza

Exact days are confirmed in class before each attempt. The course final is a full-length, timed WebXam practice worth 100 points, sat in the final week of instruction; the state exam itself can only raise the grade, never lower it.

Last year, with real numbers

Class averages from SY2025-26, shown at the class level only, never individual scores. Source: the aggregate outcome and class summary reports WebXam returned for these classes.

Biomedical Technology

Ohio 072110

46%

→

86%

pretest

posttest

+40 pts

Sat last year by the senior capstone class. 94.7% of tested students passed (18 of 19), and the class beat the statewide posttest average on both exam outcomes.

Genetics of Disease

Ohio 072130

30%

→

74%

pretest

posttest

+44 pts

Sat last year by the Medical Interventions class. 79% passed (31 of 39), and the class beat the statewide posttest average on 3 of 4 exam outcomes.

Biomedical Technology, by outcome

Ohio 072110

Handling, Preparation, Storage and Disposal

53.93% of exam

59% pretest

90% posttest

+31

Biotechnology Research and Experiments

46.07% of exam

56% pretest

81% posttest

+25

Pretest

Posttest

gold tick = statewide posttest

Genetics of Disease, by outcome

Ohio 072130

Molecular and Genetic Technology

57.73% of exam

35% pretest

75% posttest

+40

Culturing

16.49% of exam

45% pretest

62% posttest

+17

Laboratory Standard Operational Procedures

14.43% of exam

46% pretest

78% posttest

+32

Biotechnology Research and Experiments

11.34% of exam

49% pretest

83% posttest

+34

Pretest

Posttest

gold tick = statewide posttest

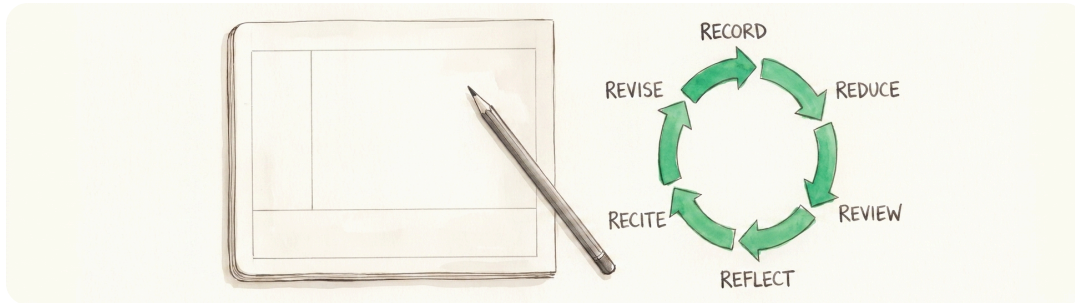
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ARTICLE ONE

How to study and prepare

The machinery is built. This is how to run it, and how a family helps.

Ten focused minutes a night beat three desperate hours before a test. Every study tool in this program is built around that fact, every one is free, and every one is a single tap from the day's lesson page.



Start where the course starts: the notebook

Every day in every course produces Cornell notes, and the notes run through the **6 Rs**: Record in class, Reduce to cue questions, Review on a schedule, Reflect on what it connects to, Recite out loud from memory, Revise until the page is a study tool your student trusts. The notebook is graded against the unit checklist, which means the studying artifact and the graded artifact are the same object. A family can run the best five minutes of it at home: hold the notebook, cover the notes, and quiz from the cue column. That is Recite, and it is the R most students skip.

Let the practice space it out for you

Cramming feels productive and fades in days; short spaced practice holds. The website does the spacing automatically: every lesson carries WebXam practice for that day's idea plus a cumulative mixed review that keeps older units warm, and the free **Anki decks** (2,048 flashcards across the four courses) repeat a card just as it is about to fade. One honest note: the practice pages on the site show their answers on purpose. Practice is for learning, and the graded checks happen in class, proctored.



Stuck is a place on a ladder

When a topic will not click, the **learning centers** (265 across the pathway, with 992 practice problems) meet your student at their level: a prerequisite tier for the ground floor, a core tier for the lesson itself, and an advanced tier for students who want more. Each center chains to the ones before it, so there is always a next rung down instead of a wall. The centers also say honestly what they feed: a tag on each one names the exam outcome it serves, or says plainly that it serves the clinical core instead.

The reference shelf, always open

The **illustrated glossary** (946 terms, each drawn, with a word-parts tab that teaches the prefixes and suffixes medicine is built from), the **lab manuals**, and **54 NotebookLM notebooks** (Gemini notebooks) with audio and video overviews: every lesson opens with one. A parent who wants one starting point should open the notebook called "Course Orientation: How This Class Works and How to Study" and listen to it with their student.

Hold the notebook, cover the notes, and ask the cue-column questions out loud. That is the highest-value five minutes a family can give this class.

One semester, honestly

A year of curriculum in one term. Here is the honest cost, the plan that protects the pace, and what a family gets back.

All four courses run as single-semester block courses: a full year of PLTW curriculum in one term. That model has a real cost and a real payoff, and this program's answer to the cost is engineering, in public, on the calendar.



The honest cost is pace

A semester course covers ground twice as fast as a year course. The four courses do not carry the same load, and the differences are printed here on purpose:

Course	Class days	Catch-up days	Night-before assignments
Principles of Biomedical Science	60	17	12
Medical Interventions	77	0	18
Human Body Systems	57	19	20
Biomedical Innovation	61	15	13

Read the second row twice. **Medical Interventions teaches 22 lesson groups in the same term the other courses teach 17**, about 29 percent more curriculum, and it holds zero catch-up days. An absence in that course costs lesson time directly. We say this in August so it surprises nobody in October: if your student is in Genetics of Disease, attendance is the whole ballgame.

The plan that protects the pace

Three design choices absorb the shocks. First, the other three courses carry 15 to 19 built-in catch-up days, real dates on the calendar where the class breathes. Second, homework is engineered to be predictable: the night-before assignments are counted, printed on the submission calendar, and checked by the website's own build, so the plan a family sees is the plan that runs. Third, when a calendar tightens, optional late units move to the extra-credit **reserve track** with virtual labs instead of being silently cut. Nothing disappears without a name.

What a family gets back

Focus. One course, one exam, one semester of total attention, then a clean start in January. Every class day is dated and public, both semesters are visible from the first week, and an absent student opens the day page and finds the plan waiting. The block model also front-loads payoff: a student who passes a fall WebXam walks into spring with a state credential already banked.

What helps most at home is boring and powerful: guard the school-night rhythm, check the course calendar before booking appointments, and treat the day page as the plan when your student is out.

Genetics of Disease teaches twenty-two lesson groups in the term the others teach seventeen. We plan like it, and now you can too.

ARTICLE THREE

The exam emphasis, and where it can lead

We point this program at the WebXam on purpose. Here is why, and what passing opens.

The WebXam is the exam Ohio counts for the career-technical transcript, and its blueprints reward exactly what this class does every day: careful laboratory practice and honest data.



Which exam counts, said plainly

Two end-of-course exams exist in this world and only one of them is the state's. The **PLTW National Assessment** (the exam PLTW called the End-of-Course test until May 2026) is the curriculum provider's exam; it matters for one thing, the ACE college credit route below. The **Ohio WebXam** is the state's career-tech exam, the one on the transcript, and the one this program schedules, practices, and celebrates.

Why lab practice is the preparation

The blueprints are public, and they are lopsided in our favor. The Biomedical Technology and Genetics of Disease exams draw **100 percent of their items from laboratory practice outcomes**: handling and preparation, culturing, molecular technique, research and experiments. Human Anatomy and Physiology is about two-thirds body systems and medical terminology with the rest laboratory practice, and the Biotechnology for Health and Disease blueprint is 93.47 percent laboratory practice; the sliver left is business and employability outcomes that carry almost no items. This is why the courses grade labs like they matter: on these exams, the lab is the test.

The schedule, without mystery

Ohio publishes one wide window, October 12, 2026 to May 28, 2027, and Mr. Mendoza schedules attempts inside it: a week-one pretest for a baseline, a first real attempt in the final week of fall instruction for fall courses with January reserved for retakes, and May 17 to 28 for spring courses. Passing raises the course grade on a tiered scale, a 5 adds 30 percent capped at 100, and not passing never lowers anything. The WebXam is an on-ramp, never a trap door.

College credit, the honest version

Ohio CTAV

Career-Technical Articulation Verification, run by the Ohio Department of Higher Education. A qualifying WebXam result, reported by the district, can let Ohio public colleges award transfer credit.

Runs on the WebXam your student already takes.

PLTW ACE

PLTW's college-credit route: a qualifying score on PLTW's own exam carries a college-credit recommendation from the American Council on Education, and the college your student attends decides whether to award it. It covers Principles of Biomedical Science, Human Body Systems, and Medical Interventions, not Biomedical Innovation. John Hay currently schedules only the WebXam; a student who wants the ACE route should tell Mr. Mendoza early so the PLTW National Assessment sitting can be arranged.

Runs on the PLTW National Assessment, not the WebXam.

We print the mechanisms and not a list of colleges or credit counts, because no signed articulation document is on file at the school. The honest framing: this is real potential, worth a conversation with the school counselor once scores are in.

Past the credit: hours, seals, and doors

The same work opens more than transcripts. Work-based learning hours log toward the 250-hour pathway goal, and the same mentored experiences build the 15 validated professional skills behind the OhioMeansJobs Readiness Seal on the diploma. The Cleveland Clinic partnership runs a pre-internship career-based learning experience with a completed agreement on file, plus the Dilemmas in Differential Diagnosis program and the Brain Stormers neurosurgery club. And the website's 20 career cards turn all of it into named jobs with real numbers, so the question changes from whether biomedicine leads anywhere to which door your student wants.



The blueprint rewards what this class already does every day: careful hands and honest data.

Family essentials

✉ How to reach me

Email manuel.mendoza@clevelandmetroschools.org; I answer family messages within one school day, Monday through Friday. For anything urgent, call the John Hay main office and ask that a message reach Room 381.

🇪🇸 Para las familias que prefieren español

Con gusto me comunico con usted en español. Escribame a manuel.mendoza@clevelandmetroschools.org y le respondo en un día escolar. Toda la información de la clase está en mendozabiomed.org.

📍 Where the grade lives

Your student's report-card grade appears in **Schoology**, and the official record is PowerSchool, which parents can see through the Parent Portal (ask the main office for an access code). Day-to-day work and due dates live on mendozabiomed.org, with no login.

🕒 Absences and make-up work

The day's work is always on mendozabiomed.org, so nothing is a mystery. For an excused absence, students get two school days for every day they were out to make up work and assessments for full credit, and the clock starts the day they return. Have them see me the day they return.

🔄 Second chances: redos and retakes

Redos and retakes are limited and never automatic: they come after remediation, and they apply to unit tests, the final, CERs (Claim-Evidence-Reasoning write-ups), and labs. Late work is accepted for two weeks after the grade posts, never past the term's final grade deadline; without an excused absence it loses 20 percent per week, compounding.

🧑‍🚒 Accommodations, IEP and 504

Every student receives the accommodations in their IEP or 504 plan, in the lab and on every assessment. If your student has a plan, or you think they may need one, email me or the school's intervention team so we set supports early.

🧴 Lab safety

Before anyone touches lab materials, every student signs the safety contract and passes the safety exam at 100 percent. On wet-lab days: goggles on, closed-toe shoes, long hair tied back.

🧠 Honest work and AI tools

The work turned in must be the student's own. Sharing lab data with a team is expected; copying answers is not. AI tools are allowed only where a task says so, and never to generate an answer a student submits as their own.

🎓 Getting extra help

The students who ask are the students who thrive. I am available before school and during lunch in **Room 381** (tell me a day ahead), and every lesson has videos, practice, and a glossary on the website.

💰 Costs and supplies

There are no fees. The school provides lab materials and goggles. Students bring a charged school computer and something to write with. Extra credit is offered across each semester.



Beyond the classroom



HOME BASE: COMPETITION AND LEADERSHIP

HOSA, Future Health Professionals

HOSA is the national organization for health-science students, built right into the biomedical courses at John Hay. Members enter the Competitive Events Program and can advance through Ohio HOSA's regional competitive events to State and, for qualifiers, the International Leadership Conference. HOSA also anchors the year-long research track and the Cleveland Clinic case presentations.

How to join: enroll in a biomedical course and affiliate early in the fall; the chapter's exact deadline is posted in September.

Competition entry locks when Ohio HOSA's winter registration closes in mid-January, so ask Mr. Mendoza for this year's date. Club page: mendozabiomed.org/learn/groups/hosa



CLEVELAND CLINIC NEUROSURGERY CLUB

Brain Stormers

Started by the Cleveland Clinic Neurosurgery Department, Brain Stormers brings residents, physicians, medical students, nurses, and technicians into Room 381 with real equipment: operating-room guidance tech, live case walkthroughs, a Path to MD discussion, a hands-on suturing station.

Meets at the school at 2:30, no Clinic onboarding needed to attend. Confirm the current schedule at the start of the year. Club page: mendozabiomed.org/learn/groups/brain-stormers



CLEVELAND CLINIC CASE PROGRAM

Dilemmas in Differential Diagnosis

Students work real diagnostic dilemmas the way clinicians do, then present their reasoning through HOSA. The classroom side is built in: the clinical reasoning strand in the learning centers and the differential diagnosis simulation train the same honest habit, closing a case only when the evidence closes it.

Club page: mendozabiomed.org/learn/groups/ddx



PLACEMENT PATH AND PRE-INTERNSHIP

Cleveland Clinic onboarding

The step-by-step path into Cleveland Clinic experiences: Clinician Nexus, SilkRoad, and health requirements, spelled out so no student loses a placement to paperwork. A completed agreement is on file for the Clinic's pre-internship medical career-based learning experience, a 22-plus-hour, five-component program with the Clinic's youth education coordinators.

Start at mendozabiomed.org/learn/groups/clinic-onboarding

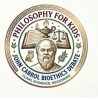


YEAR-LONG RESEARCH, ANCHORED IN HOSA

Craniofacial Research Track

A case-based research experience folding Dr. Radhika Atit's craniofacial-development research at Case Western into the courses: one privacy-safe composite patient case from embryonic development to the genetics of cleft lip and palate to CRISPR correction to whole-patient care, in weekly sessions that run alongside class without changing pacing.

Find it: mendozabiomed.org/learn/research/craniofacial



PHILOSOPHY MEETS THE LAB

Bioethics debate with John Carroll University

Monthly bioethics seminars in the Philosophy for Kids tradition, run with John Carroll University. The debate habit lives inside the courses too: isolation versus autonomy, who gets the test, germline editing, who receives the organ.

Club page: mendozabiomed.org/learn/groups/bioethics-debate



PUBLIC SPEAKING AND LEADERSHIP

The Buzz: Youth Leadership Club

The John Hay Youth Leadership and Public Speaking Club: students build the speaking, organizing, and presence that every clinical career eventually demands, with a full launch kit on the website.

Club page: mendozabiomed.org/learn/groups/youth-leadership, kit at [/learn/youth-leadership-kit](https://mendozabiomed.org/learn/youth-leadership-kit)



SUMMER RESEARCH AT CASE WESTERN

CNIP, the Cleveland Neuroscientists and Innovators Program

A two-week summer research program at the University Hospitals Ear, Nose and Throat Institute and Case Western: lab safety, pipetting, zebrafish genetics, collecting and screening embryos, with student work published in the Auditus student science magazine under a real byline.

Watch for the summer application cycle through the program; confirm current-year dates before applying.



WORK READY: HOURS THAT COUNT

Work-based learning hours log toward the 250-hour pathway goal, and the same mentored experiences build the 15 validated professional skills behind the OhioMeansJobs Readiness Seal on the diploma. The Work Ready page tracks the path:

mendozabiomed.org/learn/groups/work-ready.

THE COURSES

The four courses, at a glance

Each course has its own full family guide with the unit-by-unit arc, the exam blueprint, and its portal index. These are the profiles.

FALL (SEMESTER 1) · PERIODS 1-2 AND 6A-7B

Principles of Biomedical Science

(Principles of Biomedical Technology)

Investigate. Diagnose. Follow the evidence.



Ohio WebXam 072110, Principles and Practice of Biomedical Technology.

CONFIRMED

60 class days 17 catch-up days 12 night-before assignments 93 learning centers 16 lab sims 407 Anki cards

August

5 CLASS DAYS

Course Orientation · Course Launch

September

16 CLASS DAYS

Course Orientation · Course Launch · Investigating the Scene · From Scene to Lab · Master the Morgue · Open Investigation

October

16 CLASS DAYS

Open Investigation · Talk to Your Doc · Clinical Data · Decoding a Diagnosis · Genetic Risk · New to the Practice

November

12 CLASS DAYS

New to the Practice · Nosocomial Nightmare · Outbreak Evidence · Emergency Response

December

11 CLASS DAYS

Medical Surge · Innovation, Inc. · Innovation Synthesis

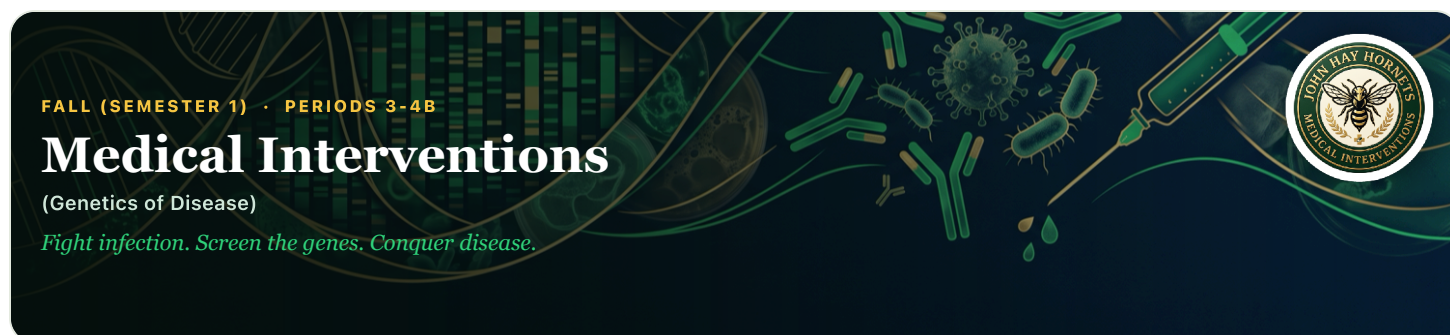
The full guide: [PBS-Family-Guide-2026-2027.pdf](#), and the course hub at mendozabiomed.org/learn/pltw-pbt.

FALL (SEMESTER 1) · PERIODS 3-4B

Medical Interventions

(Genetics of Disease)

Fight infection. Screen the genes. Conquer disease.



Ohio WebXam 072130, Genetics of Disease.

CONFIRMED

77 class days 0 catch-up days 18 night-before assignments 60 learning centers 23 lab sims 488 Anki cards

August

6 CLASS DAYS

Course Orientation · Lab Safety and the SDS

September

21 CLASS DAYS

Lab Safety and the SDS · Framing an Outbreak Investigation · Who Is the Culprit? · Getting Ready to Test · Reading the Color · How Antibiotics Fight Bacteria · Growing the Evidence

October

21 CLASS DAYS

Growing the Evidence · Sound and Shields · Reading the Family Tree · From Sample to Bands · Heat Maps and Hunches · Editing the Code · Molecule to Patient

November

15 CLASS DAYS

Molecule to Patient · When Cells Forget the Rules · From Biopsy to Plan · When Organs Fail · Building a Gene Factory

December

14 CLASS DAYS

Glow and Purify · Matching for Life · Building Better Bodies · Molecule to Patient

The full guide: [MI-Family-Guide-2026-2027.pdf](#), and the course hub at mendozabiomed.org/learn/pltw-gend.

SPRING (SEMESTER 2) · PERIODS 1-2 AND 6A-7B

Human Body Systems

(Human Anatomy and Physiology)

Diagnose and rehabilitate as you explore the body, system by system.



Ohio WebXam 072040, Human Anatomy and Physiology.

INDICATED, PENDING CONFIRMATION

57 class days 19 catch-up days 20 night-before assignments 56 learning centers 20 lab sims 443 Anki cards

January

7 CLASS DAYS

Course Orientation · Course Launch

February

13 CLASS DAYS

Course Launch · Beginning with Bones · Bones · Muscles and Motion · Motion Data

March

14 CLASS DAYS

Motion Data · Relief Within Reach · Getting Nervous · Reflexes · Everything Endocrine

April

15 CLASS DAYS

Everything Endocrine · Research Model · Challenge Accepted · Cardiopulmonary Connection · Gas Exchange · Body Guards

May

8 CLASS DAYS

Body Guards · Adventure Medicine · Patient Perspectives

The full guide: [HBS-Family-Guide-2026-2027.pdf](#), and the course hub at mendozabiomed.org/learn/pltw-hap.

SPRING (SEMESTER 2) · PERIODS 3-4B

Biomedical Innovation

(Biotechnology for Health and Disease)

Design, prototype, and solve real biomedical and public-health problems.



Ohio WebXam: dual-prepared for 072125, Biotechnology for Health and Disease, and 072110, Principles and Practice of Biomedical Technology.

CODE UNDER DISTRICT REVIEW

61 class days 15 catch-up days 13 night-before assignments 56 learning centers 13 lab sims 710 Anki cards

January

7 CLASS DAYS

Course Orientation · Launching Biomedical Innovations

February

15 CLASS DAYS

Launching Biomedical Innovations · Designing a Better ER · Finding the Truth · Prototyping the ER · Pitch and Revise

March

15 CLASS DAYS

Pitch and Revise · Reading the Body's Data · Making the Call · Pitching Innovation · Validating Your Prototype

April

16 CLASS DAYS

Validating Your Prototype · Environmental Exposure · Reading the Data · Investigating an Outbreak · Communicating Public Health · Recombinant DNA Workflow

May

8 CLASS DAYS

Recombinant DNA Workflow · Transformation and Gels · Forensics and Final Portfolio

The full guide: [BI-Family-Guide-2026-2027.pdf](#), and the course hub at mendozabiomed.org/learn/pltw-bfh.

THE MAP

Portal index: the map of everything

Every page, one line each. Addresses shown without the https prefix all live on mendozabiomed.org.

PAGE	ADDRESS	WHAT IT IS
PRINCIPLES OF BIOMEDICAL TECHNOLOGY		
Course hub	mendozabiomed.org/learn/pltw-pbt	Today's lesson, week cards, every support.
Calendar	mendozabiomed.org/learn/pltw-pbt/calendar	Every class day and day off, on real dates.
Day pages	mendozabiomed.org/learn/pltw-pbt/day/2026-08-24	One dated page per class day (pattern /day/YYYY-MM-DD).
Story	mendozabiomed.org/learn/pltw-pbt/story	The course as one running story, same dates.
Comic	mendozabiomed.org/learn/pltw-pbt/comic	The graphic-novel telling of the course, week by week.
Progress	mendozabiomed.org/learn/pltw-pbt/progress	Self-tracking against the course plan.
Reserve track	mendozabiomed.org/learn/pltw-pbt/reserve	Optional extra-credit units that open mid-term.
Days off	mendozabiomed.org/learn/pltw-pbt/days-off	Every no-school day for the term.
Submission calendar	mendozabiomed.org/calendars/PBS-Submission-Calendar.pdf	The printed due-date calendar the site is built from.
Learning centers	mendozabiomed.org/learn/centers/pltw-pbt	93 centers, three tiers each.
Active Study	mendozabiomed.org/learn/study/pltw-pbt	Course study tools.
Anki deck	mendozabiomed.org/study-decks/PLTW_PBS.apkg	407 flashcards, one-tap install.
Printables and extra credit	mendozabiomed.org/pbs-extra-credit/00_Extra_Credit_Pack_Cover_Sheet.pdf	The extra-credit pack cover sheet; the packets hang from the day pages.
GENETICS OF DISEASE		
Course hub	mendozabiomed.org/learn/pltw-gend	Today's lesson, week cards, every support.
Calendar	mendozabiomed.org/learn/pltw-gend/calendar	Every class day and day off, on real dates.
Day pages	mendozabiomed.org/learn/pltw-gend/day/2026-08-24	One dated page per class day (pattern /day/YYYY-MM-DD).
Story	mendozabiomed.org/learn/pltw-gend/story	The course as one running story, same dates.
Comic	mendozabiomed.org/learn/pltw-gend/comic	The graphic-novel telling of the course, week by week.
Progress	mendozabiomed.org/learn/pltw-gend/progress	Self-tracking against the course plan.
Reserve track	mendozabiomed.org/learn/pltw-gend/reserve	Optional extra-credit units that open mid-term.
Days off	mendozabiomed.org/learn/pltw-gend/days-off	Every no-school day for the term.
Submission calendar	mendozabiomed.org/calendars/MI-Submission-Calendar.pdf	The printed due-date calendar the site is built from.
Learning centers	mendozabiomed.org/learn/centers/pltw-gend	60 centers, three tiers each.
Active Study	mendozabiomed.org/learn/study/pltw-gend	Course study tools.
Anki deck	mendozabiomed.org/study-decks/PLTW_MI.apkg	488 flashcards, one-tap install.
Printables and extra credit	mendozabiomed.org/mi-extra-credit/00_Extra_Credit_Pack_Cover_Sheet.pdf	The extra-credit pack cover sheet; the packets hang from the day pages.
HUMAN ANATOMY AND PHYSIOLOGY		
Course hub	mendozabiomed.org/learn/pltw-hap	Today's lesson, week cards, every support.
Calendar	mendozabiomed.org/learn/pltw-hap/calendar	Every class day and day off, on real dates.
Day pages	mendozabiomed.org/learn/pltw-hap/day/2027-01-19	One dated page per class day (pattern /day/YYYY-MM-DD).
Story	mendozabiomed.org/learn/pltw-hap/story	The course as one running story, same dates.
Comic	mendozabiomed.org/learn/pltw-hap/comic	The graphic-novel telling of the course, week by week.

PAGE	ADDRESS	WHAT IT IS
Progress	mendozabiomed.org/learn/pltw-hap/progress	Self-tracking against the course plan.
Reserve track	mendozabiomed.org/learn/pltw-hap/reserve	Optional extra-credit units that open mid-term.
Days off	mendozabiomed.org/learn/pltw-hap/days-off	Every no-school day for the term.
Submission calendar	mendozabiomed.org/calendars/HBS-Submission-Calendar.pdf	The printed due-date calendar the site is built from.
Learning centers	mendozabiomed.org/learn/centers/pltw-hap	56 centers, three tiers each.
Active Study	mendozabiomed.org/learn/study/pltw-hap	Course study tools.
Anki deck	mendozabiomed.org/study-decks/PLTW_HBS.apkg	443 flashcards, one-tap install.
Printables and extra credit	mendozabiomed.org/hbs-extra-credit/00_HBS_Extra_Credit_Pack_Cover_Sheet.pdf	The extra-credit pack cover sheet; the packets hang from the day pages.

BIOTECHNOLOGY FOR HEALTH AND DISEASE

Course hub	mendozabiomed.org/learn/pltw-bfh	Today's lesson, week cards, every support.
Calendar	mendozabiomed.org/learn/pltw-bfh/calendar	Every class day and day off, on real dates.
Day pages	mendozabiomed.org/learn/pltw-bfh/day/2027-01-19	One dated page per class day (pattern /day/YYYY-MM-DD).
Story	mendozabiomed.org/learn/pltw-bfh/story	The course as one running story, same dates.
Comic	mendozabiomed.org/learn/pltw-bfh/comic	The graphic-novel telling of the course, week by week.
Progress	mendozabiomed.org/learn/pltw-bfh/progress	Self-tracking against the course plan.
Reserve track	mendozabiomed.org/learn/pltw-bfh/reserve	Optional extra-credit units that open mid-term.
Days off	mendozabiomed.org/learn/pltw-bfh/days-off	Every no-school day for the term.
Submission calendar	mendozabiomed.org/calendars/BI-Submission-Calendar.pdf	The printed due-date calendar the site is built from.
Learning centers	mendozabiomed.org/learn/centers/pltw-bfh	56 centers, three tiers each.
Active Study	mendozabiomed.org/learn/study/pltw-bfh	Course study tools.
Anki deck	mendozabiomed.org/study-decks/PLTW_BI.apkg	710 flashcards, one-tap install.

STUDY AND PRACTICE

Student hub	mendozabiomed.org/learn	The front door to everything.
Active Study	mendozabiomed.org/learn/study	Study tools for all four courses.
Graphs and data guide	mendozabiomed.org/learn/study/graphs	How to build and read scientific graphs.
Study guides	mendozabiomed.org/learn/study-guides	The study-guide library.
Applied Mathematics hub	mendozabiomed.org/learn/applied-math	20 math topics that carry the courses.
ELA in Science hub	mendozabiomed.org/learn/ela-science	15 reading and writing topics, lab reports to CER.
All Anki decks	mendozabiomed.org/study-decks/PLTW_All_Anki_Decks.zip	2,048 cards, every course, one download.

REFERENCE

Learning centers hub	mendozabiomed.org/learn/centers	All 265 centers, by course.
Centers by career	mendozabiomed.org/learn/centers/careers	The same skills, grouped by the careers that use them.
Video library	mendozabiomed.org/learn/centers/videos	Every verified center video in one place.
Illustrated glossary	mendozabiomed.org/learn/glossary	946 illustrated terms plus word parts.
Career cards	mendozabiomed.org/learn/careers	20 biomedical careers with real numbers.
Lab manuals	mendozabiomed.org/learn/lab-manuals	53 student lab manuals.
Molecular simulations	mendozabiomed.org/learn/molecular-simulations	Interactive molecular models.
Lab simulations	mendozabiomed.org/learn/lab-sim/pbs-differential-diagnosis	72 sims; address pattern /learn/lab-sim/ID.

ASSESSMENT

PAGE	ADDRESS	WHAT IT IS
How this class works	mendozabiomed.org/learn/how-this-class-works	Grading, submission, and the year, explained.
Family guide PDF	mendozabiomed.org/how-this-class-works/How-This-Class-Works-Family-Guide.pdf	The printable how-it-works guide.
Exam Answer Portal	mendozabiomed.org/exams/index.html	Where in-class assessment answers are entered.
DDI plan	mendozabiomed.org/learn/ddi-plan	How assessment data steers reteaching. Grades live in Schoology.
SAFETY		
Safety hub	mendozabiomed.org/learn/safety	The rules, the contract, and the test.
Safety contract	mendozabiomed.org/learn/safety/contract	Read and sign before any lab.
Safety test	mendozabiomed.org/learn/safety/test	Pass at 100 percent before the bench.
COMMUNITY		
HOSA	mendozabiomed.org/learn/groups/hosa	Future Health Professionals chapter.
Youth Leadership	mendozabiomed.org/learn/groups/youth-leadership	The Buzz: public speaking and leadership.
Youth Leadership kit	mendozabiomed.org/learn/youth-leadership-kit	The club launch kit.
Brain Stormers	mendozabiomed.org/learn/groups/brain-stormers	Neurosurgery club with Cleveland Clinic, Room 381.
Differential Diagnosis	mendozabiomed.org/learn/groups/ddx	Cleveland Clinic Dilemmas in Differential Diagnosis.
Clinic onboarding	mendozabiomed.org/learn/groups/clinic-onboarding	The step-by-step Cleveland Clinic placement path.
Work Ready	mendozabiomed.org/learn/groups/work-ready	WBL hours toward the 250-hour goal, plus the skills path to the OhioMeansJobs seal.
WebXam group	mendozabiomed.org/learn/groups/webxam	WebXam progress surface.
Bioethics debate	mendozabiomed.org/learn/groups/bioethics-debate	Monthly bioethics seminars with John Carroll University.
Cancer Kids First	mendozabiomed.org/learn/groups/cancer-kids-first	Childhood-cancer service and fundraising.
Chess Team	mendozabiomed.org/learn/groups/chess	GCSCS chess.
Membership	mendozabiomed.org/learn/membership	Join a club.
Bulletin	mendozabiomed.org/learn/bulletin	Announcements.
Discussion	mendozabiomed.org/learn/discuss	The class discussion board.
RESEARCH		
Craniofacial Research Track	mendozabiomed.org/learn/research/craniofacial	Year-long research with Dr. Atit's lab at Case Western.
Biomedical research	mendozabiomed.org/learn/biomedical-research	The research hub.
PROGRAM		
About the pathway	mendozabiomed.org/learn/about	What John Hay Biomedical is.
Site map	mendozabiomed.org/learn/map	The illustrated map of the whole site.

Every address above was checked live on August 7, 2026 and answered. Counts were measured the same day from the website's own code. If a page ever fails to load, tell Mr. Mendoza; the site is maintained weekly.

One website, one routine, one honest plan.

Read the articles with your student, put the key dates on the refrigerator, and email me any time at manuel.mendoza@clevelandmetroschools.org. I answer families within one school day. Con gusto me comunico con usted en español.

Go Hornets.

Bioethics with John Carroll University

Principles of Biomedical Science



This fall your student's class partners with the **Philosophy4Kidz** program at **John Carroll University**. A John Carroll facilitator leads a bioethics debate in Room 381 for the whole class period, **Mondays 11:35 to 12:58 (Period 6A-7B) and Thursdays 8:00 to 9:23 (Period 1-2)**. The program runs eleven weeks, from **September 21** through **December 3**.

These sessions **replace** ethics debates that were already part of the course. This is not extra work added on top of the schedule. It is the same kind of work, led by a philosopher.

What your student does each week

- **A preparation assignment goes out the Friday before**, about twenty minutes: background reading, one video or podcast, and questions that ask them to think the ethics through before they argue.
- **They will not know which side they are arguing until the day of.** That is deliberate, and it is why the preparation asks them to build both sides. It is hard to hold a position honestly until you have had to argue against it.
- **Optional extensions** are included for students who want to go further. They are never required.

IF YOUR STUDENT WOULD RATHER NOT DEBATE

Any student may choose the written route instead, for any reason, and does not have to explain why. They write a one-page report in APA format summarizing both sides of the case, plus a page of citations, in their own words. It earns the same credit as taking part. Speaking in front of a room is not what this program is measuring.

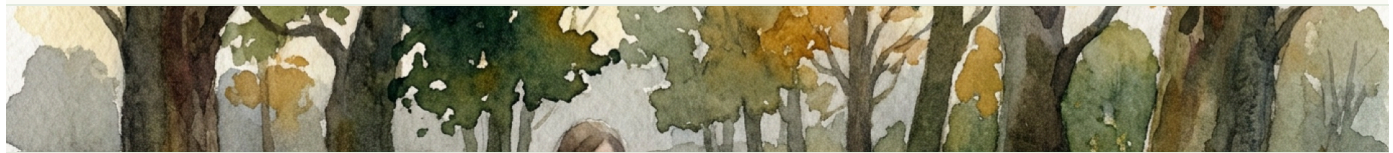
The eleven cases

WK	CASE	PREP GOES OUT	DEBATE DAY
1	Should ELISA testing be mandatory?	Fri, Sep 18	Mon, Sep 21
2	Should we ban antibiotic use in livestock?	Fri, Sep 25	Mon, Sep 28
3	Should we limit antibiotic prescriptions?	Fri, Oct 2	Mon, Oct 5
4	Euthanasia to reduce antibiotic use	Thu, Oct 8	Mon, Oct 12
5	Is super hearing good for humanity?	Fri, Oct 16	Mon, Oct 19
6	Cochlear implants before the age of consent	Fri, Oct 23	Mon, Oct 26
7	Two videos: controlling genetics, and what gives life meaning	Fri, Oct 30	Mon, Nov 2 (no session)
8	Should vaccination be mandatory?	Fri, Nov 6	Mon, Nov 9
9	Prosecuting health misinformation	Fri, Nov 13	Mon, Nov 16
10	Should vaping be labeled unhealthy?	Fri, Nov 20	Mon, Nov 23
11	Genetic Defect Prevention and the Vargo request	Tue, Nov 24	Mon, Nov 30

Days off: John Carroll is on fall break Thursday, October 8. Monday, November 2 is a no-school day at John Hay. Both schools are closed for Thanksgiving. In any week the class does not meet, the preparation assignment is still the graded piece.

Bioethics with John Carroll University

Medical Interventions



This fall your student's class partners with the **Philosophy4Kidz** program at **John Carroll University**. A John Carroll facilitator leads a bioethics debate in Room 381 for the whole class period, **Thursdays 9:26 to 10:49 (Period 3-4B)**. The program runs eleven weeks, from **September 21** through **December 3**.

These sessions **replace** ethics debates that were already part of the course. This is not extra work added on top of the schedule. It is the same kind of work, led by a philosopher.

What your student does each week

- **A preparation assignment goes out the Friday before**, about twenty minutes: background reading, one video or podcast, and questions that ask them to think the ethics through before they argue.
- **They will not know which side they are arguing until the day of**. That is deliberate, and it is why the preparation asks them to build both sides. It is hard to hold a position honestly until you have had to argue against it.
- **Optional extensions** are included for students who want to go further. They are never required.

IF YOUR STUDENT WOULD RATHER NOT DEBATE

Any student may choose the written route instead, for any reason, and does not have to explain why. They write a one-page report in APA format summarizing both sides of the case, plus a page of citations, in their own words. It earns the same credit as taking part. Speaking in front of a room is not what this program is measuring.

The eleven cases

WK	CASE	PREP GOES OUT	DEBATE DAY
1	Should ELISA testing be mandatory?	Fri, Sep 18	Thu, Sep 24
2	Should we ban antibiotic use in livestock?	Fri, Sep 25	Thu, Oct 1
3	Should we limit antibiotic prescriptions?	Fri, Oct 2	Thu, Oct 8 (no session)
4	Euthanasia to reduce antibiotic use	Thu, Oct 8	Thu, Oct 15
5	Is super hearing good for humanity?	Fri, Oct 16	Thu, Oct 22
6	Cochlear implants before the age of consent	Fri, Oct 23	Thu, Oct 29
7	Two videos: controlling genetics, and what gives life meaning	Fri, Oct 30	Thu, Nov 5
8	Should vaccination be mandatory?	Fri, Nov 6	Thu, Nov 12
9	Prosecuting health misinformation	Fri, Nov 13	Thu, Nov 19
10	Should vaping be labeled unhealthy?	Fri, Nov 20	Thu, Nov 26 (no session)
11	Genetic Defect Prevention and the Vargo request	Tue, Nov 24	Thu, Dec 3

Days off: John Carroll is on fall break Thursday, October 8. Monday, November 2 is a no-school day at John Hay. Both schools are closed for Thanksgiving. In any week the class does not meet, the preparation assignment is still the graded piece.