

Biomedical Innovations

61 class days · 2027-01-19 to 2027-05-14 · 13 night-before assignments · 1 weekend assignments · nothing pushed to extra credit

- Each box:** the day's topic, then the PLTW step to finish that day to stay on track, then where the work goes.
- Night before** (purple): about 25 minutes of prep at home so the whole block is free for the lab it feeds.
- Catch-up / flex** (grey-green, no topic): a school day deliberately left open to re-teach, finish a lab, or absorb a lost day. **No school:** district holiday or break. Nothing is due.
- Weekend** (blue): independent work over a weekend, no equipment needed. Tracker audits and WebXam practice.
- Due in this block** (gold): closeout work finished and handed in during that class, because no class follows it. **TBA**

John Carroll ethics lesson not received yet. Run the alternate and collect an exit ticket. **TO CONFIRM** PLTW activity number previewed from public maps, not yet confirmed in myPLTW.

January 2027				
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
18 <i>no school</i>	19 Course expectations and daily routine No myPLTW work yet. Have your student login ready for Thursday. → Exit Tickets	20 Navigating the class portal No myPLTW work yet. Log in to the class portal and bookmark it. → Exit Tickets	21 Cornell notes and the 6 Rs No myPLTW work yet. Set your notebook up for Cornell notes. → Lab Notebooks	22 <i>catch-up / flex</i>
25 Lab safety and myPLTW login Log in to myPLTW and confirm you can open the BI course. → Class Records	26 WebXam pretest and goal setting Nothing new in myPLTW. Finish the WebXam pretest and write your goal. → Class Records	27 Course launch and Problem 1 access Open Problem 1 Design of an Effective Emergency Room in myPLTW. → Exit Tickets	28 <i>catch-up / flex</i>	29 Reading a Safety Data Sheet Finish the Problem 1 lab-safety and SDS work in myPLTW. → Class Records
February 2027				
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1 Setting up the design notebook Mark the Problem 1 notebook-setup work complete in myPLTW. → Lab Notebooks	2 First evidence entry in the notebook Finish the Problem 1 problem-framing work in myPLTW and log your entry. → Lab Notebooks	3 ER speed versus equity debate Nothing new in myPLTW. Catch up on any unfinished Problem 1 work. → Claim Evidence Reasoning Night before: Submit setup check → Class Records	4 Mapping ER stakeholders and needs Start Activity 1.1.1 Mission: Innovation in myPLTW and map your stakeholders. → Lab Notebooks	5 <i>catch-up / flex</i>

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8 Diagramming ER patient flow Keep working in Activity 1.1.1 Mission: Innovation and diagram patient flow. → Lab Notebooks	9 Naming a specific ER inefficiency Finish Activity 1.1.1 Mission: Innovation in myPLTW and submit the brief. → Claim Evidence Reasoning Weekend: Team contract → Class Records	10 Annotating and citing sources Continue Activity 1.1.2 Research and Documentation and annotate every kept source. → Lab Notebooks Night before: Research kickoff → Class Records Night before: Credible source check → Class Records	11 <i>catch-up / flex</i>	12 <i>no school</i>
15 <i>no school</i>	16 Assembling the research notes packet Opportunity: finish Activity 1.1.2 Research and Documentation and submit your packet. → Lab Notebooks	17 Privacy versus visibility in ER layout Nothing new in myPLTW. Sketch your rough floor plan for Wednesday. → Claim Evidence Reasoning	18 Modeling the ER floor plan Attach your CAD floor plan to Activity 1.1.2 Research and Documentation in myPLTW. → Lab Reports Night before: Design brief → Class Records	19 Charting patient flow through the prototype Attach your process flowchart to Activity 1.1.2 Research and Documentation in myPLTW. → Lab Reports
22 Logging prototype revisions Finish Activity 1.1.2 Research and Documentation in myPLTW and submit the revision log. → Lab Reports	23 <i>catch-up / flex</i>	24 How much safety testing before patients Opportunity: nothing new in myPLTW. Get your presentation slides ready. → Claim Evidence Reasoning	25 Presenting the ER redesign Mark Problem 1 complete in myPLTW after you present. → Lab Reports Night before: Presentation prep → Lab Notebooks	26 Choosing variables for a physiology study Open Project 2.1.1 Scientific Research in myPLTW and name your variables. → Exit Tickets

March 2027

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1 <i>catch-up / flex</i>	2 Critiquing and proposing a study design Finish the Project 2.1.1 Scientific Research design work in myPLTW. → Exit Tickets	3 Ethics of collecting biometric data Nothing new in myPLTW. Get your pre-lab data table ready. → Claim Evidence Reasoning	4 Collecting physiology data with sensors Record your sensor trials under Activity 2.1.2 Science and the Media in myPLTW. → Data Tables Night before: Experimental vs observational → Class Records	5 Mean, standard deviation, and t-tests Keep working in Activity 2.1.2 Science and the Media and compute your statistics. → Data Tables
8 TBA Finishing the physiology data table Finish Activity 2.1.2 Science and the Media in myPLTW and submit the table. → Data Tables Alternate: Speed-vs-equity debate	9 <i>catch-up / flex</i>	10 Privacy limits on biometric data Nothing new in myPLTW. Catch up on any unfinished Problem 2 work. → Claim Evidence Reasoning	11 Bias, error, and choosing a graph Open Activity 2.1.3 Making Results Meaningful in myPLTW and draft your graph. → Data Tables	12 Running the statistics on your data Keep working in Activity 2.1.3 Making Results Meaningful and run your t-test. → Lab Reports

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
15 <i>catch-up / flex</i>	16 Writing the physiology CER conclusion Finish Activity 2.1.3 Making Results Meaningful in myPLTW and submit the mini-report. → Claim Evidence Reasoning	17 What makes an innovation worth pursuing Nothing new in myPLTW. Post your CER on innovation criteria. → Claim Evidence Reasoning	18 Defining your own innovation problem No mapped myPLTW activity. Write an evidence-based problem statement in your notebook. → Lab Notebooks	19 Submitting the innovation proposal No mapped myPLTW activity. Submit the full proposal with a feasibility check. → Lab Reports Night before: Design criteria and constraints → Class Records Night before: Design sprint and tradeoffs → Lab Notebooks
22 TBA Peer review versus patient anecdote Nothing new in myPLTW. Catch up on any unfinished Problem 2 work. → Exit Tickets Alternate: ER-ethics debate	23 <i>catch-up / flex</i>	24 Three-source literature review Start Activity 3.1.2 Gathering the Facts in myPLTW and cite three sources. → Claim Evidence Reasoning	25 Choosing a design with a decision matrix Work through Problem 3.1.3 Design Innovations in myPLTW with your weighted matrix. → Data Tables	26 <i>no school</i>

April 2027

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
5 TBA Planning how to validate the prototype Finish Problem 3.1.3 Design Innovations in myPLTW with two measurable metrics. → Class Records Alternate: Innovation-safety debate	6 <i>catch-up / flex</i>	7 Who bears unequal pollution exposure Nothing new in myPLTW. Choose the pollutant you will trace tomorrow. → Exit Tickets Night before: MP1 tracker audit → Class Records	8 Estimating exposure dose from real data Work through Activity 4.1.2 Analysis of Water Contamination in myPLTW. → Data Tables Night before: Exposure pathway → Lab Notebooks	9 Reducing a community's exposure Continue Activity 4.1.2 Analysis of Water Contamination and log two mitigation strategies. → Claim Evidence Reasoning
12 TBA Submitting the exposure map Finish Activity 4.1.2 Analysis of Water Contamination in myPLTW and submit the map. → Lab Reports Alternate: Data-ethics debate	13 Drafting a graph of your data Open Activity 4.1.3 Testing the Waters in myPLTW and draft your graph. → Data Tables	14 <i>catch-up / flex</i>	15 Correlation versus causation in your data Keep working in Activity 4.1.3 Testing the Waters and write your CER. → Claim Evidence Reasoning	16 Submitting the environmental claim graph Finish Project 4.1.4 Dose Response in myPLTW and submit the claim graph. → Lab Reports
19 TBA Individual freedom versus community protection Nothing new in myPLTW. Catch up on any unfinished Problem 4 work. → Exit Tickets Alternate: Biometric-privacy debate	20 <i>catch-up / flex</i>	21 Building an outbreak line list Open Project 5.1.1 Disease Detectives in myPLTW and build your line list. → Data Tables	22 Finishing the intervention plan Finish Project 5.1.1 Disease Detectives in myPLTW and submit your plan. → Lab Reports Night before: Intervention model → Lab Notebooks	23 Fear versus reassurance in health messaging Nothing new in myPLTW. Pick the audience for your message. → Exit Tickets

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
26 TBA Drafting a public health message Open Activity 5.1.2 Public Health in the News and draft your message. → Claim Evidence Reasoning Alternate: Innovation debate	27 Privacy audit of your product Continue Activity 5.1.2 Public Health in the News and write your privacy statement. → Lab Notebooks	28 <i>catch-up / flex</i>	29 Submitting the public health product Finish Activity 5.1.2 Public Health in the News and submit your product. → Lab Reports Night before: Wireframe build → Lab Notebooks	30 Ethics of engineering bacteria for medicine Nothing new in myPLTW. Catch up on any unfinished Problem 5 work. → Exit Tickets

May 2027

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
3 TBA Recombinant DNA workflow and controls Finish Activity 6.1.1 Restriction Enzyme Challenge in myPLTW with your control rationale. → Class Records Alternate: Source ethics debate	4 <i>catch-up / flex</i>	5 How much biotech regulation is right Nothing new in myPLTW. Review the lab safety rules before Wednesday. → Exit Tickets	6 Transformation and gel electrophoresis lab Record plate counts and gel bands under Project 6.1.2 in myPLTW. → Lab Reports Night before: Transformation notes → Class Records	7 Reading fragment sizes from the gel Keep working in Project 6.1.2 and estimate fragment sizes from the ladder. → Data Tables
10 TBA Submitting the transformation lab notebook Finish Project 6.1.2 Construction and Cloning of Recombinant DNA and submit your notebook. → Lab Reports Alternate: Environmental justice debate	11 A researcher's duty to the public Nothing new in myPLTW. Draft your project question for Wednesday. → Exit Tickets	12 <i>catch-up / flex</i>	13 Chain of custody for evidence Open Activity 7.1.1 Forensic Autopsy in myPLTW and build your evidence table. → Data Tables	14 Defining the capstone project question Finish Activity 8.1.1 Identifying a Project Topic in myPLTW with a testable claim. → Class Records Due in this block: Portfolio audit → Class Records Due in this block: Final portfolio submit → Class Records

Every Monday collects an exit ticket. Where the John Carroll lesson is marked TBA, run the listed alternate and collect the ticket as usual. Night-before and weekend work is assigned, not optional, and goes to the same folders. Go Hornets.