

Human Body Systems (HBS) Syllabus

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School Year: 2025–2026

Course Location: Torah High School

Course Description

This course explores the structure and function of the human body, emphasizing how body systems work together to maintain homeostasis. Students will study the anatomy, physiology, and integration of the body's major systems through hands-on labs, data analysis, and collaborative problem-solving. Topics include the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, respiratory, lymphatic, immune, digestive, urinary, and reproductive systems. Students will apply critical thinking to understand how disease, dysfunction, and adaptations affect the human body.

Curriculum Guidelines & Major Units of Study

The course follows Project Lead the Way (PLTW) Biomedical Science standards. Students will learn:

- Unit 1 – Introduction to Human Body Systems
 - Levels of biological organization
 - Homeostasis and feedback loops
 - Biomolecules and cell structure
- Unit 2 – Communication & Control
 - Nervous system (neuroanatomy, signaling, and reflexes)
 - Endocrine system (hormone regulation and signal transduction)
- Unit 3 – Structural Support & Movement
 - Skeletal and muscular systems
 - Sliding filament theory
 - Disorders and injuries
- Unit 4 – Circulation, Immunity, and Gas Exchange
 - Cardiovascular system (heart anatomy, pressure/volume loops)
 - Blood flow and lymphatic system
 - Respiratory system and gas laws

- Unit 5 – Nutrient Absorption & Waste Removal
 - Digestive system (motility, enzymes, absorption)
 - Urinary system (filtration, secretion, reabsorption)
- Unit 6 – Reproduction & Development
 - Male and female reproductive systems
 - Hormonal regulation of gametogenesis and cycles

Grading Policy & Expectations

Category	Weight
Exams	40%
Homework	25%
Labs	15%
Participation / Group Work	20%
Final Project	15%

Exams will include a mix of multiple choice, true false, and short-answer and essay questions based on lecture and lab material. Students must inform the instructor in advance if they will miss an exam.

Lab work must be original, complete, and demonstrate data analysis. Late or incomplete labs may earn partial credit with proper notice.

Participation includes active engagement in class discussions, group activities, and consistent attendance.

Homework will reinforce concepts learned in class and prepare students for labs and exams. Assignments will include critical thinking questions and application of physiological concepts to health scenarios such as diseases, injuries, or clinical cases. Homework must be completed on time.

Policies & Procedures

Attendance & Tardiness: Follow school handbook rules. Unexcused tardiness or absences will impact participation points.

Late Work: Not accepted without prior communication and approval.

Make-Up Work: Students must retrieve missed work from the online folder. Alternate assignments will be given for missed labs.

Academic Integrity: All work must be your own. Plagiarism or cheating will result in disciplinary action and a zero on the assignment.

Required Texts & Materials

- Reading will be provided via Google Classroom
- Composition notebook or binder for labs
- Colored pencils or highlighters for diagrams
- Laptop or tablet (if applicable)

Email Etiquette & Communication Guidelines

To help me respond to your emails in a timely and organized manner, please follow the guidelines below:

- Subject Line: Always include “Torah High School – HBS” in the subject line so I can quickly identify your message.

Example: Subject: Torah High School – HBS: Question about Lab Report Format

- Email Content:

- Start with a proper greeting (e.g., 'Dear Dr. Rodriguez,' or 'Hi Dr. Rodriguez,').
- Be clear and specific about your question or concern.
- Use complete sentences and maintain a respectful tone—this is a professional communication space.

- Response Time:

- I will do my best to respond within 48 hours (2 business days). Please plan ahead and avoid last-minute questions, especially before exams or assignment deadlines.
- If your concern is urgent and you do not receive a response within 48 hours, you may follow up politely.

The best way to ask questions is ****during class time**** or during a scheduled zoom meeting. Please try to meet with me often, I welcome your curiosity and want to support your learning in real time!

Questions or Concerns?

Students are encouraged to reach out early with concerns about workload, comprehension, or personal challenges. Open communication is key to your success in this course.