

Health Prevent360

STEMBHL 100 Becoming Health Leaders

Syllabus information may be subject to change. The most up-to-date syllabus is located within the course. Significant changes will be communicated to the class.

Course and Instructor Information

Course Title:	STEMBHL 100 Becoming Health Leaders
Class / Discussion Format:	Pre-Recorded Lectures: Available in the course. Live Classes: Accessed via Zoom
Instructor:	Dr. Andres Jimenez
Contact & Best Practices:	Contact your professor through the course portal (include STEMBHL 100 in subject line) Review your message before you send it. Pay attention to your spelling and grammar and be sure your message makes the points you want to make concisely.
Ask Questions:	Post questions within the class portal.

Required Course Materials

*****Required course materials should be obtained ASAP and not later than the end of week 1.

Textbooks

Parker, S., Walker, R. (2019). Human Body Book. Available on Amazon at: <https://a.co/d/08VVGpbO> (Approximately \$27.67 + shipping)

DK (2024). *The Human Body Coloring Book: The Ultimate Anatomy Study Guide, Second Edition*, available on Amazon at: <https://a.co/d/00QVBTKS> (Approximately \$22.98 + shipping)

The software/technical requirements for this course include:

- Zoom
- Google Drive
- Current version of Google Chrome, or Microsoft Edge

Course Philosophy and Description

The "Becoming Health Leaders" course is designed to empower high school students to explore the intersection of science, health, and community. Guided by Dr. Andres Jimenez, a dedicated physician and educator, this course focuses on transforming preventive care by equipping the next generation with essential knowledge and skills.

Our philosophy centers on the belief that empowering youth to understand and address health issues in their communities can lead to significant improvements in public health. Through interactive learning experiences, students will delve into body systems, public health topics, and receive mentorship tailored to their future careers.

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In our Virtual ER, students engage in hands-on activities that enhance their problem-solving abilities, fostering a deeper understanding of medical concepts. This immersive environment encourages collaboration and critical thinking, making learning both exciting and impactful.

Class discussions are integral to the course, offering a platform for students to share ideas, ask questions, and learn from diverse perspectives. We encourage an open and respectful atmosphere where students can engage with peers and Dr. Jimenez, fostering a supportive learning community. By the end of the course, students will not only gain valuable knowledge but also the confidence to become change agents for better health within their families and communities. Together, we strive to inspire a new generation of health leaders who will carry forward the mission of improving public health for decades to come.

Course Learning Objectives

At the completion of the course, students will be able to:

- **Identify and describe** the major body systems, including their functions and interrelationships.
- **Analyze** public health topics such as chronic diseases, lifestyle impacts, and preventive services.
- **Evaluate** the role of adolescent health in community wellness and the importance of early intervention.
- **Apply** knowledge in a virtual environment to solve medical cases, enhancing diagnostic and problem-solving skills.
- **Develop** skills in creating a CV, personal statement, and preparing for health-related careers.
- **Engage** in discussions about health issues, fostering collaboration and critical thinking.
- **Reflect** on their potential role as change agents in promoting health within their families and communities.
- **Demonstrate** an understanding of the impact of education on long-term health outcomes.
- **Create** actionable plans for maintaining personal health and wellness.
- **Communicate** effectively about health topics, utilizing evidence-based information.

Common Core Curriculum Alignment

Aligning course objectives with Common Core standards ensures that students gain valuable skills and knowledge applicable to their overall education. This alignment reinforces essential concepts in health and science, promoting a deeper understanding of public health issues and the human body. For parents, it guarantees that the course content is rigorous and supports their child's academic growth. Students benefit by developing critical thinking, problem-solving, and communication skills, preparing them for future health careers and empowering them to become proactive health advocates in their communities. This comprehensive approach enhances both personal and academic development.

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This course is the equivalent of ½ Unit (3240 minutes) of Health Education Instruction at the High School Level. In NY State, as of 2024, this course will satisfy the annual one-half unit of health education instruction for grades 9-12.

Course Objectives	Common Core Alignment
Identify and describe major body systems, including their functions and interrelationships.	Science: HS-LS1-2, HS-LS1-3 (Structure and Function)
Analyze public health topics such as chronic diseases, lifestyle impacts, and preventive services.	Health Education: 1.12.2, 2.12.3 (Analyzing Influences)
Evaluate the role of adolescent health in community wellness and the importance of early intervention.	Health Education: 2.12.4, 2.12.6 (Accessing Information)
Apply knowledge in a virtual environment to solve medical cases, enhancing diagnostic and problem-solving skills.	Science: HS-ETS1-2 (Engineering Design)
Develop skills in creating a CV, personal statement, and preparing for health-related careers.	Health Education: 4.12.1, 7.12.1 (Goal Setting, Career Development)
Engage in discussions about health issues, fostering collaboration and critical thinking.	Health Education: 8.12.1 (Communication Skills)
Reflect on their potential role as change agents in promoting health within their families and communities.	Health Education: 2.12.2, 2.12.7 (Influence of Family and Culture)
Demonstrate an understanding of the impact of education on long-term health outcomes.	Health Education: 1.12.9 (Personal Health)
Create actionable plans for maintaining personal health and wellness.	Health Education: 6.12.1, 7.12.3 (Decision-Making, Goal Setting)
Communicate effectively about health topics, utilizing evidence-based information.	Science: HS-ETS1-4, Health Education: 8.12.4 (Communication)

Course Requirements and Grading

Due Dates and Late Policy: All course due dates are identified in the Class Schedule (see last two pages of this syllabus). Deadlines are based on Eastern Time; if you are in a different time zone, please

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adjust your submittal times accordingly. *The instructor reserves the right to change dates accordingly as the semester progresses. All changes will be communicated in an appropriate manner.*

You are expected to turn in your assignment by the deadline. Late assignments will be penalized 20% for every day late past the due date unless you arrange an extension prior to the deadline. Extensions must be requested at least 48 hours before the deadline. There are no extensions/exceptions for scheduled exams.

Textbook and Readings: Readings are noted on the course schedule. Other readings and materials will be posted to the course.

Feedback and Grades: Your instructor will make every effort to provide feedback and post assignment grades within one week (or sooner) of the due date. I will respond to questions posted to the *Course Questions* posted in the course within 24 hours, M-F.

Weekly Time Commitment: You should expect to dedicate 5 – 7 hours per week to this course. This expectation is based on the various course activities, assignments, and assessments.

GRADING BREAKDOWN

HW #	Homework Description	Points
1	Day in the life 1	2
2	Day in the life 2	2
3	Day in the life 3	2
4	Medical heroes 1	2
5	Medical heroes 2	2
6	Medical heroes 3	2
7	AI in medicine	2
8	First medical textbooks	2
9	Robots in medicine	2
10	AI in medicine	2
Week	Weekly Quiz Topics	Points
1	Skeletal system, Public Health	2
2	Muscular system, Chronic disease	2
3	Nervous system, Lifestyle	2
4	Endocrine system, Obesity	2
5	Cardiovascular, Adolescent Health	2
6	Respiratory, Vaping & Cigarettes	2
7	Immune, Bacteria & Viruses	2
8	Digestive, Drugs & Alcohol	2
9	Skin, Hair, Nails, Preventive Services	2
10	Urinary, Being a Change Agent	2
Week	Virtual ER Cases	Points
1	"My knee hurts"	3

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2	"My heel is swollen and bruised"	3
3	"I all of a sudden started slurring my speech"	3
4	"I have been urinating a lot"	3
5	"My chest really hurts"	3
6	"I keep coughing when it's cold"	3
7	"My throat is sore and I have body aches"	3
8	"Pain in my belly and I threw up"	3
9	"I have these itchy patches on my elbows"	3
10	"Really bad pain on the side of my back"	3
Week	Assignment Description	Points
2	CV/Resume	6
4	Personal Statement	6
6	Summer Research	6
8	Public Health Inquiry	6
10	Becoming a Health Professional	6

Description of Assignment Types:

Homework: Weekly homework assignments require that students conduct online research on a guided topic and submit a 250 word reflection paragraph. Specific questions to answer are suggested, but the student can choose to answer another question of interest, RELATED TO THE HW TOPIC.

Weekly Quiz: The quizzes are conducted within class on the last class day of the week, and will cover topics reviewed during the lectures, and the reading assignments for that week.

Virtual ER Cases: This is typically our student's favorite part of the course. Virtual ER Cases will be completed during class, typically during the second or third class of each week.

Assignments: There are 5 assignments in this course, and most of them will take two weeks to complete. They typically will involve create a draft version, receiving feedback from your instructor, then submitting a final version. You will be graded based on your ability to complete your draft and final version on time, and the quality of work submitted.

Inclusion Statement

Our course is committed to creating an inclusive environment where all students can thrive. We embrace diverse thinking and learning styles, ensuring every student feels valued and supported. By focusing on each student's unique strengths, we aim to foster a collaborative and enriching learning experience. We encourage open discussion, peer learning, and alternative methods of assessment to accommodate different learning preferences. Together, we will create a supportive community that empowers all students to succeed.

Technical Help

Technical assistance should be directed to the course portal technical support resources.

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Student Responsibilities and Resources

As a student in this course, you are expected to uphold academic integrity by submitting original work and avoiding cheating or plagiarism. Utilize resources provided to understand how to avoid these pitfalls and properly credit sources. You are expected to produce your own submissions and not rely on ChatGPT or other AI tools for your work.

Respect copyrighted materials by using them only for educational purposes and following fair use guidelines.

Practice good netiquette by communicating respectfully with peers and instructors in all online interactions. This includes being polite, clear, and concise in discussions and emails. Your commitment to these responsibilities ensures a positive and productive learning environment for everyone.

Minimum Technical Skills

To be successful in this course, you will need the following technical skills:

- Use electronic mail with attachments.
- Save files in commonly used word processing program formats.
- Copy and paste text, graphics or hyperlinks.
- Work within two or more browser windows simultaneously.
- Open and access PDF files.
- Proficient in Google docs applications, Microsoft Word, Microsoft Excel, Microsoft PowerPoint

Evaluation of the Course

Students will have the opportunity to evaluate the course through an online survey at the end. Your feedback is crucial for us to continuously improve and enhance the learning experience for future students. Your input helps us refine the course and ensure it meets your educational needs effectively. Thank you for your valuable contributions!

Course Outline and Schedule

Week 1

- Textbook Reading: SKELETAL SYSTEM Pages 48-69
- Human Body Coloring Book: SKELETAL SYSTEM Pages 28, 34, 36, 40-41, 46
- Lectures:
 - Skeletal system
 - Public Health Introduction
- Virtual ER Case: "My knee hurts"
- Assignment: CV/Resume Part #1 (Draft)
- Homework: Day in the life #1

Week 2

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- Textbook Reading: MUSCULAR SYSTEM Pages 70-81
- Human Body Coloring Book: MUSCULAR SYSTEM Pages 58, 62, 64, 70-71, 72-73, 74, 76
- Lectures:
 - Muscular system
 - Chronic disease
- Virtual ER Case: “My back hurts”
- Assignment: CV/Resume Part #2 (Final Version) - SUBMIT
- Homework: Day in the life #2

Week 3

- Textbook Reading: NERVOUS SYSTEM Pages 82-119
- Human Body Coloring Book: NERVOUSE SYSTEM Pages 92, 93, 94, 102-103, 104-105, 106, 108-109
- Lectures:
 - Nervous system
 - Lifestyle and health
- Virtual ER Case: “I all of a sudden started slurring my speech”
- Assignment: Personal Statement Part #1 (Draft)
- Homework: Day in the life #3

Week 4

- Textbook Reading: ENDOCRINE SYSTEM Pages 120-129
- Human Body Coloring Book: ENDOCRINE SYSTEM Pages 192, 193, 196, 198, 199
- Lectures:
 - Endocrine system
 - Obesity
- Virtual ER Case: “I have been urinating a lot”
- Assignment: Personal Statement Part #2 (Final Version) - SUBMIT
- Homework: Medical heroes #1

Week 5

- Textbook Reading: CARDIOVASCULAR SYSTEM Pages 130-145
- Human Body Coloring Book: CARDIOVASCULAR SYSTEM Pages 134, 139, 141, 144, 146, 148, 150, 152
- Lectures:
 - Cardiovascular system
 - Adolescent health
- Virtual ER Case: “My chest really hurts”
- Assignment: Summer Research Part #1 (Search)
- Homework: Medical heroes #2

Week 6

- Textbook Reading: RESPIRATORY SYSTEM Pages 146-161
- Human Body Coloring Book: RESPIRATORY SYSTEM Pages 119, 120-121, 124-125
- Lectures:

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- Respiratory system
- Vaping & Cigarettes
- Virtual ER Case: “I keep coughing when it’s cold”
- Assignment: Summer Research Part #2 (Application Draft)
- Homework: Medical heroes #3

Week 7

- Textbook Reading: IMMUNE SYSTEM Pages 172-187
- Human Body Coloring Book: IMMUNE SYSTEM Pages 160, 161, 162, 163, 164, 165
- Lectures:
 - Immune system
 - Bacteria & Viruses
- Virtual ER Case: “My throat is sore and I have body aches”
- Assignment: Summer Research Part #3 (Final Version) - SUBMIT
- Homework: Artificial Intelligence in Medicine

Week 8

- Textbook Reading: DIGESTIVE SYSTEM Pages 187-209
- Human Body Coloring Book: DIGESTIVE SYSTEM Pages 174, 176, 177, 179, 182, 185
- Lectures:
 - Digestive system
 - Drugs & Alcohol
- Virtual ER Case: “Pain in my belly, nausea and vomiting”
- Assignment: Summer Research Part #3 (Final Version) - SUBMIT
- Homework: Artificial Intelligence in Medicine: Can AI catch what doctors miss?

Week 9

- Textbook Reading: SKIN, HAIR, NAILS Pages 162-171
- Human Body Coloring Book: SKIN, HAIR, NAILS Page 78
- Lectures:
 - Skin, Hair, Nails
 - Preventive Services
- Virtual ER Case: “I have these itchy patches on my elbows”
- Assignment: Public Health Inquiry: Youth Risk Behavior Surveillance System (Final Version) - SUBMIT
- Homework: Robots in medicine: Davinci

Week 10

- Textbook Reading: URINARY SYSTEM Pages 210-219
- Human Body Coloring Book: Pages 204, 206, 208, 209
- Lectures:
 - Urinary System
 - Being a change agent
- Virtual ER Case: “Really bad pain on the side of my back”
- Assignment: Becoming a Health Professional (Final Version) - SUBMIT

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- Homework: AI in Medicine