IMUN 5900: Community Engaged Approaches to Asthma Research and Education

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Faculty Co-Director: Sarah Henrickson, M.D./PhD, Assistant Professor of Pediatrics, Children's Hospital of Philadelphia

Faculty Co-Director: Zachary Steele, Moelis Access Science Director, Netter Center for Community Partnerships

**Catalog Description:** Pediatric asthma is a chronic lung disease and a significant health burden to the Philadelphia community, affecting 1 in 5 school-aged children. In this Academically Based Community Service (ABCS) course, Penn students will not only receive an introduction to the immunological and environmental causes of asthma but will also be provided with the opportunity to engage with the local community by working in small groups as co-teachers of asthma lessons in a Philadelphia middle school classroom. Penn students will receive instruction on 1) the underlying pathogenesis of asthma, 2) the efforts of local community organizers to improve asthma outcomes in vulnerable Philadelphia families, and 3) pedagogical principles. As co-teachers, Penn students will utilize problem-based learning approaches to promote education and awareness of asthma causes, symptoms and prevention in our community.

<u>Course Description</u>: Asthma is a multifactorial chronic inflammatory disease that represents one of the most common chronic diseases of childhood, affecting 5 million children in the United States. In Philadelphia, 17% of school aged children are living with asthma – more than double the national prevalence rate of 7% for the same age group. Asthma is a leading cause of school absenteeism and contributes to a significant number of visits to the emergency room every year. To address the harm that asthma causes to vulnerable populations in Philadelphia, this Academically Based Community Service (ABCS) course is designed to teach Penn students to make the science of asthma accessible to the Philadelphia community.

To accomplish this goal, this course is divided into 2 distinct sections:

- 1. Traditional Lecture (Jan 14 Feb 18): This is a traditional bi-weekly, on-campus lecture series. Penn students will attend lectures on Tuesdays and Thursdays from 10:15am-11:45am at the Smilow Center for Translational Research (Room 10-146AB). In these sessions, students will learn from experts in the field of immunology, medicine, environmental science, and public health on topics related to the pathogenesis and treatment of asthma. Students will also have the unique opportunity to learn from members of the local community, including reporters and community organizers, about strategies used to improve asthma outcomes in Philadelphia families. Finally, this course includes a workshop dedicated to formal instruction in middle school pedagogy with a particular emphasis on problem-based learning approaches.
- 2. Co-Teaching at Andrew Hamilton Middle School (Feb 20 April 29): Penn students will visit Ms. Tamara Jones' 6<sup>th</sup> grade science classroom at The Andrew Hamilton School (5640 Spruce St) on Tuesdays and Thursdays from 10:15am-11:45am. Penn students will be assigned to work in learning teams that consist of 1-3 Penn students with 3-4 sixth graders. Please note that the final group sizes are dependent upon the number of enrolled Penn students as well as the number of 6<sup>th</sup> graders participating in this course. Learning teams will work together throughout the course. At each co-teaching session, Penn students will guide their sixth-grade teams though pre-planned lessons related to the causes, treatments, and management of asthma symptoms. During the final three co-teaching sessions, Penn students will work with their sixth-grade team to develop and present a final project (presentation, video, infographic, etc.) related to asthma, the environment and the school community. Ms. Tamara Jones and the course co-director, Mr. Zac Steele, will be present for all teaching sessions at Andrew Hamilton. Ms. Jones will be available to provide emotional support and disciplinary actions for the classroom when needed. The Netter Center will support Penn students in completing required background clearances and obtaining transportation to and from Andrew Hamilton.

<u>Course Outcomes</u>: Upon completion of this course, Penn students should expect to have attained a broad understanding of the environmental, social and economic impacts of asthma on the Philadelphia community. Additionally, Penn students should be able to develop appropriate communication strategies to engage with the broader community about a biomedical research topic.

**Learning Objectives**: The following learning objective have been developed for this course:

- 1. Provide students with <u>formal training in pedagogical practices relevant to early education</u>. To enhance the science instruction provided by the standard curriculum at our partner school, Penn students will be expected to be effective educators and demonstrate communication, engagement, and self-reflection as co-teachers of their sixth-grade teams.
- Improve understanding of building effective community advocacy efforts. It is important that students
  engaged in biomedical research understand the range of resources and strategies that create sustained,
  mutually transformative partnerships in the Philadelphia area particularly those that aim to improve
  asthma outcomes in the local community.
- 3. Help students <u>understand the root causes of asthma disparities in Philadelphia</u> that contribute to the region's high pediatric asthma prevalence.
- 4. <u>Deliver instruction in basic immunological and environmental science principles</u> relevant to the treatment and pathogenesis of asthma. Penn students will deepen their understanding of the multifactorial causes of asthma, as well as the complexities associated with diagnosing and managing asthma symptoms in young children.

## <u>Grading</u>

See page 5 for additional details

| Weight | Description   |  |
|--------|---|--|
| 60%    | Classroom attendance, preparation and participation |  |
| 20%    | Discussion related to assigned readings             |  |
| 20%    | Final reflection paper                              |  |

**<u>Pre-Requisites</u>**: College level courses in chemistry and biology are strongly recommended but not required.

**<u>Format</u>**: This is a 1-credit course that will meet 3 hours per week for a total of 14 weeks. The course has a unique structure wherein the first 5 ½ weeks of the course meets **Tues/Thurs at Smilow 10-146AB** for a series of lectures. The remaining class periods meet **Tues/Thurs at Andrew Hamilton Middle School** unless otherwise noted in the schedule

**<u>Teaching Methods</u>**: Course format includes lectures, discussions, reading reflections and co-teaching middle school students with middle school science teachers.

Course Materials: No required texts.

<u>Students</u>: Undergraduate and graduate students from the University of Pennsylvania. This class is ideally suited for students in STEM programs.

\*\*\*Background clearances AND mandated reported training are REQUIRED to work with Andrew Hamilton middle school students\*\*\*

<u>Accommodations for Students with Disabilities</u>: The University of Pennsylvania provides reasonable Accommodations to students with disabilities who have self-identified and received approval from the Office of Student Disabilities Services (SDS). If SDS has approved your request for accommodations, please make an appointment to meet with Ceire Hay (ceirehay@upenn.edu) as soon as possible to discuss the arrangements for your accommodations. If you have not yet contacted Student Disabilities Services, and would like to request accommodations or have questions, you can make an appointment by calling (215) 573-9235. The office is in the Weingarten Learning Resources Center at Stouffer Commons, 3702 Spruce Street, Suite 300. Please visit the SDS website at <a href="http://www.vpul.upenn.edu/lrc/sds/index.php">http://www.vpul.upenn.edu/lrc/sds/index.php</a>. SDS services are free and confidential.

Questions or Concerns: Ceire Hay (ceirehay@upenn.edu)

#### Location:

### 1. Smilow Center for Translation Research (1/14 – 2/18)

- 3400 Civic Center Boulevard, Philadelphia, PA 19104
- Smilow is located across the street from CHOP Main Hospital. It is the large gray and white building attached to the Perelman Center for Advanced Medicine.
- There are 2 main ways to enter Smilow:
  - 1. **Perelman Entrance:** Enter the Perelman Center (glass building) and make a right at the top of the staircase. Proceed to the elevators by the Rubenstein Auditorium. Take the elevators to the 10<sup>th</sup> floor. Please note that the 10<sup>th</sup> floor is not accessible via the 'Patient Care' Elevators.
  - 2. **Smilow Entrance**: Located on East Services Dr. behind the Starbucks. Make a right at the top of the stairs and proceed to the elevators behind the lobby TV, near the Rubenstein Auditorium.



#### 2. Andrew Hamilton School (2/20 – 4/29)

- 5640 Spruce St, Philadelphia, PA 19139
- The Netter Center will cover the cost of transportation to Andrew Hamilton via SEPTA (see below for more details) for all students.

Transportation: The Netter Center will provide transportation to and from Andrew Hamilton School at no cost to Penn students. For this class, we will use SEPTA Disposable Smart Media (DSM) passes for students to use on SEPTA buses (we recommend the 21 or 42 bus to get to Hamilton).

- **1.** <u>**21 Bus</u>**: Walnut &  $35^{\text{th}} \rightarrow$  Walnut &  $57^{\text{th}}$ </u>
- **2.** <u>42 Bus</u>: Spruce &  $34^{th} \rightarrow$  Spruce &  $57^{th}$

<u>Andrew Hamilton School Schedule</u>: See the schedule below for detailed class schedule. Arrive at Andrew Hamilton School by 10:15am on teaching days. Class time will run from **10:30am – 11:30am** on these days. The final 15 minutes of class will be used for additional teaching time (if needed) and to clean up. We will leave Hamilton by 11:45am on teaching days. Please be aware that for the co-teaching portion of the class, we are beholden to The School District of Philadelphia and Andrew Hamilton's schedule (i.e. snow days and testing days). To make up for missed school days, some lesson plans may be re-scheduled for "Lesson Prep and Review" days. Otherwise, lesson plan prep and review days will be used as office hours at our regularly scheduled classroom (Smilow 10-146AB). Attendance at these sessions is optional

<u>Clearances and Mandated Reporter Training</u>: To work with minors, the state of Pennsylvania requires completion of several clearances (background checks). Additionally, all students working with School District of Philadelphia schools must complete mandated reporter training. Copies of all clearances and trainings must be shared with the Office Manager of The Netter Center, Yetunde Pinckney (<u>myetunde@upenn.edu</u>) prior to attending co-teaching sessions at Andrew Hamilton. A detailed description of ABCS clearance requirements can be found here: <u>https://www.nettercenter.upenn.edu/what-we-do/abcs-courses/clearances-abcs</u>

Domestic Students: The following clearances and training must be obtained before working with minors:

- 1. \*PATCH PA Criminal History Search
- 2. \*PA Child Abuse Search
- 3. \*FBI Criminal History Search
- 4. \*\*Mandated Reporter Training (3hrs) Please complete by 1/31/25

\*The Netter Center provides the opportunity for students to complete clearances at no cost (see below). \*\*Training must be completed on your own time

International Students On A (F-1/J-1) Visa Who Have <u>Not</u> Worked In The United States: Per the Department of Human Services, international students who have not worked in the United States before do not need the same three clearances as domestic students. Instead, you will sign an affidavit. Additionally, all students working with School District of Philadelphia schools must complete mandated reporter training. All documents must be on file with the University to be fully cleared.

International Students On A (F-1/J-1) Visa Who Have Worked In The United States (Including On-Campus Employment): Follow the same process as domestic students.

#### **Obtaining Clearances via The Netter Center:**

The Netter Center will be running a clearance blitz with Penn HR at the **Max Kade Center**, **3401 Market Street** on the following dates:

- 1. Monday, January 27th
- 2. Tuesday, January 28<sup>th</sup>
- 3. Thursday, January 30th
- 4. Friday, January 31st

At these sessions, students will be able to complete the required state clearances (PATCH – PA Criminal History Search and PA Child Abuse Search) in a single day and at <u>no cost</u>. You will also sign up for an IdentoGO fingerprinting appointment for your FBI clearance at this session. The time and location of your fingerprinting appointment will depend upon your availability and the availability of the nearby IdentoGO locations. Note: The mandated reporter training must be completed on your own time. **Please complete by 1/31/25**.

# Evaluation:

| Weight | Description   |  |
|--------|---|--|
| 60%    | Classroom attendance, preparation and participation |  |
|        | Required Reading Reflection Questions               |  |
|        | Guest Speaker Feedback                              |  |
|        | Weekly Co-Teaching Reflection                       |  |
| 20%    | Discussion related to assigned readings             |  |
| 20%    | Final reflection paper                              |  |

**Class Participation and Attendance (60%):** Attendance and participation is required from all enrolled students, particularly when the class transitions from bi-weekly lecture to hands-on lessons with middle school students. Students are expected to prepare for lectures by completing required readings and answering the associated reflection questions prior to lecture. Please note that each assigned reading will require only a targeted reading approach. An in-depth understanding of the underlying methodology is NOT required for this course Moreover, students are expected to complete a feedback survey for each guest speaker.

- <u>Reflection Questions</u>: Found under the 'Assignments' page on Canvas. Completed reflection questions are due the day before the associated lecture (i.e. completed by 11:59pm on Monday for Tuesday lecture).
- <u>Feedback Survey</u>: Found under the 'Quizzes' page on Canvas. Feedback must be completed by the Friday following the guest lecture (i.e. feedback for Tues 1/7 and Thurs 1/9 are BOTH due by 11:59pm on Fri 1/10).

Students are expected to prepare for co-teaching sessions by reviewing provided lesson plans prior to beginning instruction with middle school class. Lesson plans will be made available on Canvas before we transition to Andrew Hamilton. Additionally, students are expected to complete a reflection assignment following each co-teaching session at Hamilton.

- <u>Weekly Co-Teaching Reflection</u>: Found under the 'Quizzes' page on Canvas. Feedback must be completed by midnight following each co-teaching week. In other words, the reflection assignment related to Tues 3/4 and Thurs 3/6 is provided as one (1) quiz and is due on Friday 3/7.

If a student must miss lecture, please notify Ceire Hay (<u>ceirehay@upenn.edu</u>) and Zac Steele (<u>zsteele@sas.upenn.edu</u>). If a student must miss class during the co-teaching section of the course, it is imperative to notify both the instructors and the other Penn students in their small group. Students are responsible for completing assigned tasks by the due date despite absence. Late assignments will be penalized 10% per late day.

**Assigned Reading Discussion (20%):** Students are expected to participate in a thoughtful discussion with their classmates about readings associated with each lecture. This discussion will occur via Canvas (under the 'Discussions' page) and is due the day before the corresponding lecture date (i.e. completed by 11:59pm on Monday for Tuesday lecture).

**Final Reflection Paper (20%):** This assignment should present the rationale for the final project of their 6<sup>th</sup> grade team. Penn students will be asked to think analytically about the feasibility of adopting their team's plan in the real world. This includes, but is not limited to, an evaluation of the communication strategy used by their team and identification of potential stakeholders. A rubric will be provided in Canvas before final project presentations begin. This assignment is due by 4/29/2025.

| IMUN 5900 Schedule (Spring 2025)  |  |  |  |  |
|-----------------------------------|--|--|--|--|
| 01   Week of 2025-01-13           |  |  |  |  |
| <b>CLASS DATE</b><br>2025-01-16   | <ul> <li>Lecture 1a: Ceire Hay and Dr. Sarah Henrickson (Assistant Professor of Pediatrics, CHOP)</li> <li>Topic: Syllabus Review</li> <li>Lecture 1b: Dr. Marilyn Howarth (Director, Community Engagement Core Center of Excellence in Environmental Toxicology)</li> <li>Topic: Social determinants of health and asthma</li> </ul>  |  |  |  |
| 02   Week of 202                  | 25-01-20   |  |  |  |
| <b>DUE DATE</b><br>2025-01-21     | <ul> <li>Reflection Assignment for Required Reading<br/>Lecture #1</li> <li>Required Reading: <ol> <li>Grant T, Croce E, Matsui EC. <u>Asthma and the social determinants of health</u>. Ann Allergy Asthma<br/>Immunol. 2022 Jan;128(1):5-11. doi: 10.1016/j.anai.2021.10.002. Epub 2021 Oct 19. PMID: 34673220;<br/>PMCID: PMC8671352.</li> <li>Briggs, R. and Melamed, S. (2024, Dec 02). <u>A landlord's neglect and Philly's lax oversight left a 12-year-<br/>old girl dead, mom alleges</u>. <i>The Philadelphia Inquirer</i>.</li> </ol></li></ul>   |  |  |  |
| * <b>DUE DATE</b> *<br>2025-01-21 | <ul> <li>**OPTIONAL REFLECTION ASSIGNMENT** Please watch the videos and read the articles listed below to be prepared for Lecture #2. The associated reflection questions are optional (ungraded). </li> <li>Suggested Viewing: <ol> <li>Nature   Immunology of the Lung (5:40)</li> <li>Elsevier   Introduction to the Immune System (16:30) or Science with Susanna   Immune System Summary (16:10)</li> <li>Elsevier   Asthma (7:19)</li> </ol> </li> <li>Suggested Reading: <ol> <li>Wenzel SE. Asthma phenotypes: the evolution from clinical to molecular approaches. Nat Med. 2012 May 4;18(5):716-25. doi: 10.1038/nm.2678. PMID: 22561835.</li> <li>Ray A, Das J, Wenzel SE. Determining asthma endotypes and outcomes: Complementing existing clinical practice with modern machine learning. Cell Rep Med. 2022 Dec 20;3(12):100857. doi: 10.1016/j.xcrm.2022.100857. PMID: 36543110; PMCID: PMC9798025.</li> </ol> </li> </ul> |  |  |  |
| <b>CLASS DATE</b><br>2025-01-21   | Lecture 2a: Ceire Hay<br>Topic: Introduction to the immunology of asthma<br>Lecture 2b: Dr. Sarah Henrickson<br>Topic: Current research on the immunological mechanisms of asthma  |  |  |  |
| <b>DUE DATE</b><br>2025-01-21     | Guest Lecture Feedback Survey<br>Dr. Marilyn Howarth   |  |  |  |
| <b>DUE DATE</b><br>2025-01-22     | Reflection Assignment for Required Reading         Lecture #3         Required Reading:         1. Bryant-Stephens TC, Strane D, Robinson EK, Bhambhani S, Kenyon CC. Housing and asthma disparities. J Allergy Clin Immunol. 2021 Nov;148(5):1121-1129. doi: 10.1016/j.jaci.2021.09.023. Epub 2021 Sep 29. PMID: 34599980; PMCID: PMC9809049.         2. About Philadelphia Energy Authority's Built to Last Initiative   |  |  |  |
| <b>DUE DATE</b><br>2025-01-22     | Group Discussion Questions<br>Based on required readings for Lecture #3  |  |  |  |
| <b>CLASS DATE</b><br>2025-01-23   | Lecture 3a: Dr. Jessica Rice (Associate Professor in Pediatrics, CHOP)<br>Topic: Indoor environmental exposures and asthma risk<br>Lecture 3b: Alon Abramson (Director of Residential Programs, Philadelphia Energy Authority)<br>Topic: Philly Home repair program, 'Built2Last'  |  |  |  |

| <b>DUE DATE</b><br>2025-01-24   | Guest Lecture Feedback Surveys         1. Dr. Sarah Henrickson         2. Ceire Hay         3. Dr. Jessica Rice         4. Alon Abramson  |  |  |  |
|---------------------------------|---|--|--|--|
| 03   Week of 202                | 25-01-27  |  |  |  |
| <b>DUE DATE</b><br>2025-01-27   | <ul> <li>Reflection Assignment for Required Reading<br/>Lecture #4</li> <li>Required Reading: <ol> <li>Laker, B., Ruderman, W., Purcell, D (2018, May 03). <u>Toxic City, Sick Schools (Part 1) - Danger: Learn At Your Own Risk</u>. <i>The Philadelphia Inquirer</i>.</li> <li>Koinis-Mitchell D, Kopel SJ, Farrow ML, McQuaid EL, Nassau JH. <u>Asthma and academic performance in urban children</u>. Ann Allergy Asthma Immunol. 2019 May;122(5):471-477. doi: 10.1016/j.anai.2019.02.030. Epub 2019 Mar 11. PMID: 30872028; PMCID: PMC6538301.</li> </ol> </li> </ul>   |  |  |  |
| <b>DUE DATE</b><br>2025-01-27   | Group Discussion Questions<br>Based on required readings for Lecture #4   |  |  |  |
| <b>CLASS DATE</b><br>2025-01-28 | Lecture 4a: Wendy Ruderman (Staff Writer, The Philadelphia Inquirer)<br>Topic: Toxic City, Sick Schools - Health hazards in Philadelphia schools<br>Lecture 4b: Jerry Roseman (Director of Environmental Science, Philadelphia Healthy Schools<br>Initiative)<br>Topic: Reducing hazards in public schools  |  |  |  |
| <b>DUE DATE</b><br>2025-01-29   | Reflection Assignment for Required Reading<br>Lecture #5         Required Reading:         1.       Busse WW, Jackson DJ. School Classrooms as Targets to Reduce Allergens and Improve<br>Asthma. JAMA. 2021;326(9):816–817. doi:10.1001/jama.2021.12322         2.       Phipatanakul W, Koutrakis P, Coull BA, Petty CR, Gaffin JM, Sheehan WJ, Lai PS, Bartnikas LM, Kang<br>CM, Wolfson JM, Samnaliev M, Cunningham A, Baxi SN, Permaul P, Hauptman M, Trivedi M, Louisias M,<br>Liang L, Thorne PS, Metwali N, Adamkiewicz G, Israel E, Baccarelli AA, Gold DR; School Inner-City<br>Asthma Intervention study team. Effect of School Integrated Pest Management or Classroom Air Filter<br>Purifiers on Asthma Symptoms in Students With Active Asthma: A Randomized Clinical Trial. JAMA. 2021<br>Sep 7;326(9):839-850. doi: 10.1001/jama.2021.11559. PMID: 34547084; PMCID: PMC8424475. |  |  |  |
| <b>DUE DATE</b> 2025-01-29      | Group Discussion Questions<br>Based on required readings for Lecture #5   |  |  |  |
| <b>CLASS DATE</b> 2025-01-30    | Lecture 5: Dr. Kendra McDow (SDP Chief Medical Officer, School District of Philadelphia)<br>Topic: School district initiatives that help support students with asthma   |  |  |  |
| <b>DUE DATE</b><br>2025-01-31   | Guest Lecture Feedback Surveys         1. Wendy Ruderman         2. Jerry Roseman         3. Dr. Kendra McDow   |  |  |  |
| 04   Week of 202                |   |  |  |  |
| <b>DUE DATE</b><br>2025-02-03   | Reflection Assignment for Required Reading         Lecture #6         Required Reading:         1.       About the Community Asthma Prevention Program (CAPP)         2.       CHOP News Release (related to below)         3.       Bryant-Stephens T, Kenyon CC, Tingey C, Apter A, Pappas J, Minto N, Stewart YS, Shults J. Community         Health Workers Linking Clinics and Schools and Asthma Control: A Randomized Clinical Trial. JAMA         Pediatr. 2024.  |  |  |  |
| <b>DUE DATE</b> 2025-02-03      | Group Discussion Questions<br>Based on required readings for Lecture #6   |  |  |  |
| <b>CLASS DATE</b> 2025-02-04    | Lecture 6: Cali Vaughn & Brianna Hayes<br>Topic: Asthma intervention and education strategies implemented by CAPP   |  |  |  |

|                               | Reflection Assignment for Required Reading<br>Lecture #7   |  |  |  |
|-------------------------------|--|--|--|--|
| <b>DUE DATE</b><br>2025-02-05 | <ol> <li>Canino G, McQuaid EL, Rand CS. <u>Addressing asthma health disparities: a multilevel challenge</u>. J Allergy Clin Immunol. 2009 Jun;123(6):1209-17; quiz 1218-9. doi: 10.1016/j.jaci.2009.02.043. Epub 2009 May 17. PMID: 19447484; PMCID: PMC2693441.</li> <li>Henderson BR, Flaherty CM, Floyd GC, You J, Xiao R, Bryant-Stephens TC, Miller VA, Feudtner C, Kenyon CC. <u>Tailored Medication Adherence Incentives Using mHealth for Children With High-Risk Asthma (TAICAM): Protocol for a Randomized Controlled Trial</u>. JMIR Res Protoc. 2020 Aug 17;9(8):e16711. doi: 10.2196/16711. PMID: 32459653; PMCID: PMC7459431.</li> </ol> |  |  |  |
| <b>DUE DATE</b>               | Group Discussion Questions   |  |  |  |
| 2025-02-05                    | Based on required readings for Lecture #7  |  |  |  |
| CLASS DATE                    | <b>Lecture 7:</b> Dr. Chén Kenyon (Assistant Professor of Pediatrics, University of Pennsylvania)  |  |  |  |
| 2025-02-06                    | <b>Topic:</b> Leveraging technology and behavioral science to promote medication adherence in children with high-risk asthma   |  |  |  |
| <b>DUE DATE</b><br>2025-02-07 | Guest Lecture Feedback Surveys         1. Cali Vaughn         2. Brianna Hayes         3. Dr. Chén Kenyon  |  |  |  |
| 05   Week of 202              | 25-02-10   |  |  |  |
| <b>DUE DATE</b><br>2025-02-10 | <ul> <li>Reflection Assignment for Required Reading Lecture #8 </li> <li>Required Reading: <ol> <li>Canaday FT, Georas SN, Croft DP. Examining the impact of air pollution, climate change, and social determinants of health on asthma and environmental justice. Curr Opin Pulm Med. 2024 May 1;30(3):276-280. doi: 10.1097/MCP.00000000001065. Epub 2024 Feb 26. PMID: 38411188; PMCID: PMC10959677.</li> <li>Whelan, W. (2023, June 07). Bad air quality poses a particular risk to children with asthma. In unequal Philly, those kids are mostly Black and Hispanic. The Philadelphia Inquirer.</li> </ol> </li> </ul>                           |  |  |  |
| <b>DUE DATE</b>               | Group Discussion Questions   |  |  |  |
| 2025-02-10                    | Based on required readings for Lecture #8  |  |  |  |
| CLASS DATE                    | Lecture 8: Dr. Jane Clougherty   |  |  |  |
| 2025-02-11                    | Topic: Impact of climate change on asthma susceptibility   |  |  |  |
| <b>CLASS DATE</b>             | Lecture 9: Zac Steele  |  |  |  |
| 2025-02-13                    | Topic: Teaching Workshop #1  |  |  |  |
| <b>DUE DATE</b><br>2025-02-14 | Guest Lecture Feedback Survey <ol> <li>Dr. Jane Clougherty</li> <li>Zac Steele</li> </ol>  |  |  |  |
| 06   Week of 202              | 25-02-17   |  |  |  |
| <b>CLASS DATE</b>             | Lecture 10: Zac Steele   |  |  |  |
| 2025-02-18                    | Topic: Teaching Workshop #2  |  |  |  |
| CLASS DATE                    | Hamilton Lesson #1   |  |  |  |
| 2025-02-20                    | Topic: Respiratory System Function   |  |  |  |
| <b>DUE DATE</b>               | Co-Teaching Reflection   |  |  |  |
| 2025-02-21                    | Hamilton Lesson #1   |  |  |  |
| 07   Week of 202              | 25-02-24   |  |  |  |
| <b>CLASS DATE</b>             | Hamilton Lesson #2   |  |  |  |
| 2025-02-25                    | Topic: What is asthma?   |  |  |  |

| CLASS DATE<br>2025-02-27        | Hamilton Lesson #3<br>Topic: Immune system and asthma                  |  |
|---------------------------------|--|--|
| <b>DUE DATE</b><br>2025-02-28   | Co-Teaching Reflection<br>Hamilton Lesson #2 and Lesson #3             |  |
| 08   Week of 202                | 25-03-03   |  |
| <b>CLASS DATE</b><br>2025-03-04 | *Lesson Prep and Review  |  |
| <b>CLASS DATE</b><br>2025-03-06 | Hamilton Lesson #4<br>Topic: Asthma medications (with Nurse Jefferson) |  |
| <b>DUE DATE</b><br>2025-03-07   | Co-Teaching Reflection<br>Hamilton Lesson #4                           |  |
| 09   Week of 202                | 25-03-10   |  |
| 2025-03-11<br>2025-03-13        | University of Pennsylvania Spring Break (No Class)                     |  |
| 10   Week of 202                | 25-03-17   |  |
| <b>CLASS DATE</b><br>2025-03-18 | Hamilton Lesson #5<br>Topic: Indoor asthma triggers                    |  |
| <b>CLASS DATE</b><br>2025-03-20 | Hamilton Lesson #6<br>Topic: Outdoor asthma triggers                   |  |
| <b>DUE DATE</b><br>2025-03-21   | Co-Teaching Reflection<br>Hamilton Lesson #5 and Lesson #6             |  |
| 11   Week of 202                | 25-03-24   |  |
| CLASS DATE<br>2025-03-25        | *Lesson Prep and Review  |  |
| <b>CLASS DATE</b><br>2025-03-27 | Hamilton Lesson #7<br>Topic: Social determinants of health             |  |
| <b>DUE DATE</b><br>2025-03-28   | Co-Teaching Reflection<br>Hamilton Lesson #7                           |  |
| 12   Week of 202                | 25-03-31   |  |
| CLASS DATE<br>2025-04-01        | *Lesson Prep and Review  |  |
| <b>CLASS DATE</b><br>2025-04-03 | Hamilton Lesson #8<br>Topic: Greenspace and asthma                     |  |
| <b>DUE DATE</b><br>2025-04-04   | Co-Teaching Reflection<br>Hamilton Lesson #7                           |  |
| 13   Week of 202                | 25-04-07   |  |
| <b>CLASS DATE</b><br>2025-04-08 | *Lesson Prep and Review  |  |
| <b>CLASS DATE</b><br>2025-04-10 | Final Project Brainstorming<br>Session #1                              |  |
| <b>DUE DATE</b><br>2025-04-11   | Co-Teaching Reflection<br>Brainstorming/Working Session #1             |  |
| 14   Week of 202                | 25-04-14   |  |
| 2025-04-15<br>2025-04-17        | School District of Philadelphia Spring Break (No Class)                |  |
| 15   Week of 202                | 25-04-21   |  |

| <b>CLASS DATE</b><br>2025-04-22 | Final Project Brainstorming<br>Session #2                                |  |
|---------------------------------|--|--|
| <b>CLASS DATE</b> 2025-04-24    | Final Project Brainstorming<br>Session #3                                |  |
| <b>DUE DATE</b><br>2025-04-25   | Co-Teaching Reflection<br>Brainstorming/Working Session #2 and Session 3 |  |
| 16   Week of 2025-04-28         |  |  |
| <b>CLASS DATE</b> 2025-04-29    | Hamilton Final Project Presentation                                      |  |
| <b>DUE DATE</b><br>2025-04-29   | Final Refection Paper Due  |  |

### Key

**Reflection Assignment for Required Reading Due** 

Group Discussion Questions Due

**Guest Lecture Feedback Survey Due** 

**Class Meets at Smilow 10-146AB** 

Class Meets at Andrew Hamilton (Regular Lesson Plans)

Class Meets at Andrew Hamilton (Final Project Sessions)

**Co-Teaching Reflection Assignment Due** 

**Optional (Ungraded) Assignment** 

Class does NOT meet

| Name                      | Position & Affiliation   | Contact                   |
|---------------------------|--|---------------------------|
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