

Supplemental Material

CBE—Life Sciences Education

Williams and Williams

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Supplemental Material 1. Health Care Experience Course Syllabus.**Biology 393C Healthcare Experience****3.0 Credit Hours****Fall 2021 Course Syllabus****Lecture:****Section TC1 MW 8:00-8:50 am****Innovation 201****Instructor:****Office:****Office Phone:****E-mail:****Office Hours:**

COURSE DESCRIPTION: Healthcare Experience provides expert-guided training for early-stage undergraduates interested in healthcare careers by showcasing a variety of healthcare professions through a combination of in-person clinical shadowing, guided coursework, and simulation experiences. Coursework includes training in: professionalism, requirements for immunization, dress code, conduct code, ethics, safety, HIPAA, and patient confidentiality. Additional assignments include critical readings, presentation and discussion of healthcare literature, and completion of learning assessments.

TEXTBOOK: None

LEARNING OUTCOMES:

Upon successful completion of this course, the student should be able to:

1. Present themselves in a professional manner in healthcare situations
2. Gain a deeper understanding of multiple healthcare professions
3. Attain in-person clinical shadowing experience
4. Ability to properly debrief and discuss experiences and healthcare literature
5. An understanding of medical and healthcare ethics and etiquette
6. Completion of HIPAA training and compliance with principles
7. Knowledge of a variety of professional school entry requirements and processes

ASSIGNMENTS and GRADING:

Attendance and participation (100 points)- approximately 5 points per class session, or 1% of your final grade each day. Attendance in this course is mandatory.

HIPAA Certificate (25 points)- Completion of the HIPAA training through WVU system. Must submit certificate by due date as instructed.

In class assignments (125 points)- There will be a mix of in class assignments including short in class papers/assessments approximately 5-10 points per in class assignment.

Clinical feedback (200 points) – clinicians will provide feedback on your participation in the clinical experiences. More details on this grading will be provided during the semester.

Self-assessment/discussions. (150 points) – After each experience you will assess the event and discuss it with the class.

Grading Scale

letter grade	grade percentage	total number of points
A	90-100%	540-600
B	80-89%	480-539
C	70-79%	420-479
D	60-69%	360-419
F	≤ 59%	360 or less

Further details of grading criteria for each assignment will be provided through the semester.

No extra credit assignments will be considered for individual students.

Late assignments: Not Allowed. You will be penalized 5% of total available points for each day late, including weekends and holidays. If you do not submit your assignment to the current instructor by the due date it will be counted late!

ATTENDANCE POLICY: Attendance at all classes and shadowing experiences is **required**. Content provided is meant to be discussion instead of lecture. Anyone who misses more than 30% of class sessions or shadowing experiences will receive an automatic “F” in the course. Note that there will not necessarily be a traditional lecture each week however you should plan on being in attendance for the entire time as many class times are set aside for guided coursework and discussions.

Make-Up Policy If you cannot make your scheduled shadowing experience then you need to arrange for a make-up experience on your own. You can reach out and ask the clinician you were scheduled to be with or you can ask another clinician that you find on your own. If you find one on your own, you will need to get them to sign a document stating you completed the experience. You need to have this experience arranged to occur **PRIOR** to missing your WVU Tech arranged experience. If something comes up beyond your control and you miss an experience at the last minute you will need to rectify this and get a new experience ASAP. Missing an experience entirely is not just unprofessional, but will also result in you missing all of the points possible for that week for the experience, missing points for the debriefing, and also missing points for any assignments that would have culminated from that experience.

TENTATIVE TOPICS AND SCHEDULE:

Date	Topic	Location
W August 18.	Introduction to the course and scheduling	Classroom
M August 23.	Introduction to healthcare	Classroom
W August 25.	Careers in healthcare	Classroom
M August 30.	Professionalism 1: Attire and Conduct	Classroom
W September 1.	Professionalism 2: Ethics in healthcare	Classroom
M September 6.	Labor Day. No Class	
W September 8.	Professionalism 3: Patient confidentiality and HIPAA	Classroom - Online
M September 13.	Professionalism 4: Answers	Classroom
W September 15.	Preparation for first shadowing experience	Classroom
R/F September 16/17.	Clinical Experience #1	TBA _____
M September 20.	Experience Debriefing #1	Classroom
W September 22.	Discussion #1	Classroom
R/F September 23/24.	Clinical Experience #2	TBA _____
M September 27.	Experience Debriefing #2	Classroom
W September 29.	Discussion #2	Classroom

R/F Sept 30/October 1.	Clinical Experience #3	TBA _____
M October 4.	Experience Debriefing #3	Classroom
W October 6.	Discussion #3	Classroom
R/F October 7/8.	No Class	
M October 11.	Mid semester assessment	Classroom
W October 13.	Guest speaker or panel	Classroom
R/F October 14/15.	Clinical Experience #4	TBA _____
M October 18.	Experience Debriefing #4	Classroom
W October 20.	Discussion #4	Classroom
R/F October 21/22.	Clinical Experience #5	TBA _____
M October 25.	Experience Debriefing #5	Classroom
W October 27.	Discussion #5	Classroom
R/F October 28/29.	Clinical Experience #6	TBA _____
M November 1.	Experience Debriefing #6	Classroom
W November 3.	Discussion #6	Classroom
R/F November 4/5.	Clinical Experience #7	TBA _____
M November 8.	Experience Debriefing #7	Classroom
W November 10.	Discussion #7	Classroom
R/F November 11/12.	Clinical Experience #8	TBA _____
M November 15.	Experience Debriefing #8	Classroom
W November 17.	Discussion #8	Classroom
R/F November 18/19.	Clinical Experience #9	TBA _____
November 22-26	Thanksgiving Break, No Class	
M November 29.	Experience Debriefing #9	Classroom
W December 1.	Discussion #9	Classroom
R/F December 2/3.	Clinical Experience #10	TBA _____
M December 6.	Experience Debriefing #10	Classroom
W December 8.	Discussion #10	Classroom
W December 15.	Final assessment	Classroom

EMAIL COMMUNICATION: Please use your MIX account or communicate through eCampus. When sending an email please do so in a professional manner. Include a subject and make sure that you are formatting as you would a letter; not a text or snapchat message. Please ensure that you also include your name (MIX doesn't always include) and which class you are from. I have a multitude of students and while I know most of you it makes it easier, especially if I have you in multiple classes. Send emails to the address listed at the top of this syllabus. I have this email linked to my phone and get most emails immediately and respond promptly. Though this is not a promise, as network errors sometimes delay emails. Any course cancellations will be sent out through eCampus email as early as possible. Grades must be discussed in person and will not be sent out via email.

CELL PHONE POLICY: During lectures and during Clinical Experiences cell phones should be silenced.

WVU ACADEMIC INTEGRITY STATEMENT: The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the West Virginia University Academic Catalog at <http://catalog.wvu.edu/undergraduate/coursecredittermsclassification/#academicintegritytext>. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter.

ADVERSE WEATHER COMMITMENT: In the event of inclement or threatening weather, everyone should use his or her best judgment regarding travel to and from campus. Safety should be the main concern. If you cannot get to class because of adverse weather conditions, you should contact me as soon as possible. Similarly, if I am unable to reach our class location, I will notify you of any cancellation or change as soon as possible using MIX message to prevent you from embarking on any unnecessary travel. If you cannot get to class because of weather conditions, I will make allowances relative to required attendance policies, as well as any scheduled tests, quizzes, or other assessments.

WVU INCLUSIVITY STATEMENT: The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion.

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Disability Services (Morgantown: 304-293-6700).

For more information on West Virginia University's Diversity, Equity, and Inclusion initiatives, please see <http://diversity.wvu.edu>.

INCOMPLETE GRADES: Students who want to be considered for an Incomplete must apply to their instructor prior to the end of the term. If the instructor agrees, the instructor and the student must negotiate the conditions under which the grade of I will be changed to a letter grade and sign a contract. The date to submit the incomplete work should not be set beyond the last day of class of the following semester. If the student does not complete the terms of contract then the instructor should submit a grade of F. All incomplete contracts must be filed with the department and Dean's Office.

Supplemental Material 2. Student reflection and debriefing form.

Name: _____

Date: _____

Clinical Experience: _____

Experience Debriefing (15 points)

1. Briefly describe your experience.

2. How do you think it went?

3. What are two things you can take away or remember from this event?

4. How do you feel about this experience?

Circle the number that best represents how much you liked this experience with 1 being “did not enjoy” and 5 being “enjoyed immensely”

0 1 2 3 4 5

Supplemental Material 3. Student-selected and led discussion presentation topics 2021-2022.

	Student-selected Discussion Topic	Year
1	Burnout Among Healthcare Professionals	2021
2	Careers in Anesthesiology	2022
3	Clinician Assisted Suicide: Case Studies	2021
4	Day in the Life - A Physician's Assistant Specializing in Orthopedics	2021
5	Detailed Perspective: Life As An OB-GYN	2021
6	Details of 14 Health Care Professions	2021
7	Exercise and Brain Health-Implications for Multiple Sclerosis	2021
8	Finances of Professional School	2021
9	Getting into Professional School: Traditional and Nontraditional Ways	2021
10	Interviews with Current Medical School Students	2021
11	Legislative Acts of Healthcare	2022
12	Life as a Clinical Neuropsychologist	2021
13	Medical Ethics	2022
14	Mental Illnesses – Awareness and Treatments	2022
15	Military Health Care Careers	2021
16	Neuropsychology – The Present and Future	2022
17	Pediatric Diseases and Conditions	2022
18	Telehealth: A Technological Take on Healthcare	2021

Supplemental Material 4. Student-led Presentation Discussion Notes.

BIOL 393C - Discussion Notes

As your classmate (or a group) presents, take your notes here:

Presenter(s):	
Topic:	
Key Message: (summarize the key message or theme of the presentation)	
1st Key Point: (summarize the 1st point)	
2nd Key Point: (summarize the 2nd point)	
3rd Key Point: (summarize the 3rd point)	
Important vocabulary: (include list of key vocabulary referenced; if you do not know the term(s), look up and add a definition for the word(s))	
Questions (write insightful, appropriate and in-depth follow-up question(s) to expand discussion)	

Supplemental Material 5. Shadowing Mentor Feedback Form.

Shadowing Mentor Feedback



Student Name

Score 4	Outstanding effort, with excellent success!
Score 3	Good effort and acceptable behavior.
Score 2	Some effort with limited success.
Score 1	Little or no effort during this period.

Use the performance-level rubric of 4 to 1 to score each student:

Mentor Assessment	Score #
Student was on time.	
Student was dressed appropriately.	
Student avoided interrupting mentor.	
Student spoke respectfully.	
Student greeted with a smile and eye contact.	
Student followed instructions the first time given.	
Student changed tasks effectively.	
Student demonstrated a positive attitude.	
Student gave their best effort.	
Student avoided cell phone use.	
Student was professional.	

General Comments on Student Behavior:

Supplemental Material 6. Protected health information, confidentiality, and security agreement.

Shadowing in Healthcare Experience Course Release

PROTECTED HEALTH INFORMATION, CONFIDENTIALITY, AND SECURITY AGREEMENT

- Protected Health Information (PHI) includes patient information based on examination, test results, diagnoses, response to treatment, observation, or conversation with the patient. This information is protected, and the patient has a right to the confidentiality of his or her patient care information whether this information is in written, electronic, or verbal format. PHI is individually-identifiable information that includes, but is not limited to, patient's name, account number, birth date, admission and discharge dates, photographs, and health plan beneficiary number.
- Medical records, case histories, medical reports, images, raw test results, and medical dictations from healthcare facilities are used for student learning activities. Although patient identification is removed, all healthcare information must be protected and treated as confidential.
- Students are exposed to PHI during their clinical shadowing rotations in healthcare facilities.

Initial each to accept the Policy

Initial	Policy
	It is the policy of the school/institution to keep PHI confidential and secure.
	Any or all PHI, regardless of medium (paper, verbal, electronic, image or any other), is not to be disclosed or discussed with anyone outside those supervising, sponsoring or directly related to the learning activity.
	Whether at the school or at a clinical site, students are not to discuss PHI, in general or in detail, in public areas under any circumstances, including hallways, cafeterias, elevators, or any other area where unauthorized people or those who do not have a need-to-know may overhear.
	Unauthorized removal of any part of original medical records is prohibited. Students and faculty may not release or display copies of PHI. Case presentation material will be used in accordance with healthcare facility policies.
	Students and faculty shall not access data on patients for whom they have no responsibilities or a "need-to-know" the content of PHI concerning those patients.
	Computer IDs or passwords may not be disclosed to anyone. Students and faculty are prohibited from attempting to learn or use another person's computer ID or password.
	Students and faculty agree to follow healthcare facility's privacy policies.
	Breach of patient confidentiality by disregarding the policies governing PHI is grounds for dismissal from shadowing.

- I agree to abide by the above policies and other policies at the clinical site. I further agree to keep PHI confidential.
- I understand that failure to comply with these policies will result in disciplinary actions.
- I understand that Federal and State laws govern the confidentiality and security of PHI and that unauthorized disclosure of PHI is a violation of law and may result in civil and criminal penalties.

Signature of Participant

Date

Print Name

Supplemental Material 7. Themes and definitions from students' responses in the HCE course.

Coded Theme	Theme Definition
Learning something new	Student mentions gaining new knowledge.
Insights	Major take-home message student learned from the experience that may shape the student's future practice.
Communication	Student mentions impact or importance of communication.
Specific functions	Describes specific duties.
General role/purpose	Global description of role/purpose.
Career guidance	Student mentions receiving career validation or direction in career selection.
Limited exposure	Mentions limited exposure to patients and discipline.
Value of discipline's role	Specific comment on the value or importance of the discipline's role.
Interacting/networking	Description of working relationships among health care disciplines.
Workflow	Understanding of clinical/health care workflow.
Team or teamwork	Terms "team" or "teamwork" present in reflection.
Patient safety	Student notes practices that promote patient safety.
Role differences	Specific comment on how the roles of the disciplines differs.

Supplemental Material 8. Pre and Post-HCE Student Assessment of Interest.

Student: student
 Student Assessment of Interest #1
 Integrated Healthcare Experience 2021



Page: 1

Scale:
 0 = Strongly Disagree
 1 = Disagree
 2 = Agree
 3 = Strongly Agree

Science

- S1. I like learning science. 1 2 3 4 5
- S2. I enjoy doing experiments. 1 2 3 4 5
- S3. I plan to take a lot of science classes. 1 2 3 4 5
- S4. I would like to make discoveries using science. 1 2 3 4 5
- S5. More time in school should be spent doing science experiments. 1 2 3 4 5
- S6. I like learning how to use science in my life. 1 2 3 4 5
- S7. I enjoy reading about science. 1 2 3 4 5
- S8. I would like to work in a science laboratory. 1 2 3 4 5
- S9. Learning about science makes me a better person. 1 2 3 4 5

Healthcare

- H1. I want to learn more about careers in medicine. 1 2 3 4 5
- H2. Studying how parts of the body work is boring. 1 2 3 4 5
- H3. Making discoveries in medicine would be interesting. 1 2 3 4 5
- H4. I would like to become a doctor or nurse someday. 1 2 3 4 5
- H5. I enjoy reading about doctors. 1 2 3 4 5
- H6. I like helping people get healthy. 1 2 3 4 5
- H7. I would enjoy working in a medical laboratory. 1 2 3 4 5

Student: student
 Student Assessment of Interest #1
 Integrated Healthcare Experience 2021



Page: 2

Scale:

0 = Strongly Disagree

1 = Disagree

2 = Agree

3 = Strongly Agree

- | | | | | | | |
|--|----|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| H8. I would like to work in a doctor's office. | 8 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H9. Helping a doctor or nurse over the summer would be interesting. | 9 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H10. Working in a hospital over the summer would be interesting. | 10 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H11. I would like to work in a medical field. | 11 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H12. I want to know what it is like to be a rural health practitioner. | 12 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H13. I would like to be a rural health practitioner. | 13 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H14. I am interested in how the body works. | 14 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H15. I would like to help improve people's health. | 15 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H16. I would like to learn more about jobs in rural healthcare. | 16 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H17. I would enjoy caring for people in a rural community. | 17 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H18. I plan to pursue a career in rural healthcare. | 18 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H19. I feel confident in my understanding of healthcare careers. | 19 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |
| H20. I feel confident in my healthcare experience. | 20 | <input type="checkbox"/> | <input type="radio"/> 0 | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 |

Supplemental Material 9. Qualtrics Cross-Sectional Survey.

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Qualtrics Survey Software



Participant Characteristics

Q1. What is your graduation year OR when will you be graduating from WVU Tech?

- 2021
- 2022
- 2023
- 2024
- 2025
- 2026
- 2027
- 2028

Q2. What is (or was) your undergraduate major?

- Biology
- Chemistry
- Psychology
- Other

Q3. What is your current year at WVU Tech?

- Year 1
- Year 2
- Year 3
- Year 4
- Year 5
- Not Applicable

Q4. What is your gender?

- Male
- Female

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Qualtrics Survey Software

- Non-binary / third gender
- Prefer not to say

Q5. Do you have a rural background?

- Definitely not
- Probably not
- Might or might not
- Probably yes
- Definitely yes

Q6. What is your health care interest area?

- Dentistry
- Generalist specialty
- Nursing
- Pharmacology
- Physical therapy
- Primary care
- Psychology
- Other specialty
- No interest in health care

Q7. Rank of preferred location for work:

Large urban center

Small city

Suburban

Rural

Remote

Global

Q8. Did you complete the BIOL 393: Healthcare Experience course through WVU Tech?

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- Yes, in 2021
- Yes, in 2022
- No

Q9. Have you applied to post-undergraduate professional school program(s)?

- Yes (how many programs?)
- No, I do not plan to apply
- No, I plan to apply later

Q10. Have you been accepted to post-undergraduate professional school program(s)?

- Yes (what programs?)
- No, have not heard back yet about my application
- No, application was not accepted

Q11. Are you currently attending a post-undergraduate professional school program?

- No
- Yes (what school program?)

Health Care Experience Items

Q12. I am competent in presenting myself in a professional manner in healthcare situations.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q13. I have a deep understanding of multiple healthcare professions.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

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Qualtrics Survey Software

Q14. I am confident in my ability to properly debrief and discuss health care experiences.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q15. I am competent in my ability to discuss health care literature.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q16. I understand medical and health care ethics and etiquette.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q17. I am confident I understand HIPAA and compliance with its principles.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q18. I understand a variety of health professional school entry requirements and processes.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

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Qualtrics Survey Software

Q19. I understand how health care professionals interact with patients in a clinical setting.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q20. I am familiar with a variety of health care settings.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q21. I feel confident in my ability to perform well in a clinical setting.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q22. I have a good understanding of what it takes to be a successful candidate in applying to professional schools.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q23. I feel confident in my understanding of health care careers.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

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Q24. I feel confident in my health care experience.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Rural Careers

Q25. I want to know what it is like to be a rural health practitioner.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q26. I would like to be a rural health practitioner.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q27. I would like to learn more about jobs in rural health care.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q28. I would enjoy caring for people in a rural community.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

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Q29. I plan to pursue a career in rural health care.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q30. I have a strong positive feeling when I think of working in a rural setting.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q31. People tell me I should work in a rural setting.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q32. I see people like me taking up rural practice.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q33. Rural practice is too hard.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree
- Strongly agree

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Q34. I plan to practice in a rural community.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q35. I have the necessary skills to practice in a rural setting.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Underserved Community Careers

Q36. I want to know what it is like to be a practitioner in an underserved community.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q37. I would like to be a practitioner in an underserved community.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q38. I would like to learn more about jobs in underserved community health care.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

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Qualtrics Survey Software

Q39. I would enjoy caring for people in an underserved community.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q40. I plan to pursue a career in underserved community health care.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q41. I have a strong positive feeling when I think of working in an underserved setting.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q42. People tell me I should work in an underserved setting.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

Q43. I see people like me taking up underserved clinical practice.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree
- Strongly agree

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Qualtrics Survey Software

Q44. Underserved clinical practice is too hard.

- Strongly Disagree
 Disagree
 Agree
 Strongly Agree

Q45. I plan to practice in an underserved community.

- Strongly Disagree
 Disagree
 Agree
 Strongly Agree

Q46. I have the necessary skills to practice in an underserved setting.

- Strongly Disagree
 Disagree
 Agree
 Strongly Agree

Open response questions

Q47. What is the number of times you have shadowed health care professional(s)?

Q48. Has your health care experience(s) influenced your plans after graduation?

Q49. Describe the setting(s) of your previous health care experience(s):

Q50. What is an approximate number of hours per week experienced in health care?

Q51. What is your number of years experienced in health care?

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Qualtrics Survey Software



Powered by Qualtrics

Supplemental Material 10. Table of items for rural health care careers.

Items Rural Health Care Career	Biology-CG (n=9)		Biology-HCE (n=10)		U-value	P-value
	Median	Frequency	Median	Frequency		
Q25. I want to know what it is like to be a rural health practitioner. ‡	A	67%	SA	60%	29.00	0.1307
Q26. I would like to be a rural health practitioner. ‡	D	56%	SA	60%	14.50	0.0126
Q27. I would like to learn more about jobs in rural health care. ‡	A	67%	SA	60%	26.00	0.1198
Q28. I would enjoy caring for people in a rural community. ‡	A	56%	SA	60%	31.00	0.2607
Q29. I plan to pursue a career in rural health care. ‡	D	44%	SA	50%	18.00	0.0208
Q30. I have a strong positive feeling when I think of working in a rural setting.	A	44%	SA	50%	25.50	0.1570
Q31. People tell me I should work in a rural setting.	A	33%	SA	50%	29.50	0.2647
Q32. I see people like me taking up rural practice.	A	67%	SA	50%	25.50	0.1060
Q33. Rural practice is too hard. ‡*	D	67%	D	60%	39.00	>0.999
Q34. I plan to practice in a rural community.	D	67%	SA	40%	13.00	0.0248
Q35. I have the necessary skills to practice in a rural setting.	A	67%	SA	60%	22.50	0.0644

‡ Question was in pre-post surveys for HCE course 2021-2022 (H12, H13, H16, H17, and H18)

. *P < 0.01; Mann-Whitney U-test; Reject H0 if U < 13. ($\alpha = 0.01$)

* Negatively-worded item

Abbreviations SD = Strongly Disagree; D = Disagree; A = Agree; SA = Strongly Agree

Supplemental Material 11. Table of items for underserved health care careers.

Items Underserved Health Care Career	Biology-CG (n=8)		Biology-HCE (n=10)		U-value	P-value
	Median	Frequency	Median	Frequency		
Q36. I want to know what it is like to be a practitioner in an underserved community.	A	50%	SA	63%	19.50	0.2037
Q37. I would like to be a practitioner in an underserved community.	A	50%	SA	63%	24.50	0.4093
Q38. I would like to learn more about jobs in underserved community health care.	A	63%	SA	63%	20.00	0.2103
Q39. I would enjoy caring for people in an underserved community.	A	63%	SA	63%	18.00	0.1276
Q40. I plan to pursue a career in underserved community health care.	A	63%	A	38%	19.50	0.2365
Q41. I have a strong positive feeling when I think of working in an underserved setting.	A	63%	SA	63%	20.00	0.1501
Q42. People tell me I should work in an underserved setting.	A	50%	SA	50%	23.00	0.4429
Q43. I see people like me taking up underserved clinical practice.	A	63%	SA	50%	24.00	0.3193
Q44. Underserved clinical practice is too hard.*	D	75%	D	63%	31.50	0.9231
Q45. I plan to practice in an underserved community.	D	50%	SA	50%	17.00	0.1585
Q46. I have the necessary skills to practice in an underserved setting.	D	50%	SA	50%	10.00	0.0264

*P < 0.01; Mann-Whitney U-test; Reject H0 if U < 7. ($\alpha = 0.01$)

* Negatively-worded item

Abbreviations SD = Strongly Disagree; D = Disagree; A = Agree; SA = Strongly Agree