

## STEMcx...Just Connects the Dots - Francis

### Appendix. STEMcx Individual Interview Protocol.

The interviews with individual interns will follow a semi-structured format using the questions below as a guiding framework. The language will be similar to the phrasing below, but exact wording may change to follow the flow of conversation and/or clarify questions as necessary. Points under each question indicate the kinds of prompts that will be used for follow-up questions. The interview protocol is designed for the interview to take approximately 30-60 minutes, and result in between 20-45 minutes of recorded and transcribed length.

**As you know, the research objective for these interviews is to better understand how the features of your specific internship influence your understanding of future possibilities for careers in STEM and academic pathways to reach those careers. During our conversation, I will ask you questions that intend to explore your research or experiential Internship components. However, remember that your internship also included a college tour, field trips, guest speakers, book discussions, and other elements that were intended to help you better understand what careers in your field might look like. As you think about how you might respond to my prompts, you might be able to draw on all of those experiences in response.**

#### Demographic information:

I'd like to begin by getting a little bit of information about you:

What year of schooling are you entering in 2024-2025?

How would you describe your ethnic or racial background?

What is your gender?

What high school do you attend?

Does your high school have advanced courses in mathematics and science? (e.g., Does your high school have AP, IB, or similar designation in courses such as physics, chemistry, biology, or calculus?)

Does your school require or provide access to programming or computer science courses?

Are you considering a STEM/STEAM major in college? Describe how you believe your high school will prepare you for this major.

What types of extra-curricular activities do you participate in at your school?

Aside from school, what other significant influences help to envision and prepare you for your academic or professional careers?

- What significant family or other close relationships are most influential in your thinking about future academic or professional pathways?
- Please describe how your community or cultural characteristics, strengths, or weaknesses influence your thinking about future academic or professional pathways?

#### Questions related to your internship:

**We're trying to understand the influence of STEMcx programs on interns' future career plans. I want to ask you a couple questions related to your participation in your specific internship and how it potentially intersects with your future plans.**

Which STEMcx internship did you participate in?

- How did you learn about STEMcx?
- Who, if anyone, encouraged you to apply to the STEMcx internship?

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- How does your STEMcx experience fit within the broader influences shaping your thinking about future academic or professional pathways?

First, I want to ask about your understanding of [the main topic of your internship]:

- What is [the main topic of your internship]?
- What is your role in achieving [the main topic of your internship] in your current or future communities?

Questions related to project work:

Next, I want to ask you about the project you completed for the internship:

- What was your project's overall objective or hypothesis?
  - Did you choose this objective or hypothesis?
  - If so, please describe why you chose this hypothesis. What observations, experiences, or data led you to select this research objective or hypothesis?
  - How do you feel your experience compares with the experience or practices of current professionals?
  - If not, please describe the observations, experiences, or data collection and analysis you engaged in to satisfy this objective or hypothesis.
- Please describe the methods of data collection and analysis you used to complete your project and achieve your objective.
- Please describe an important success or accomplishment you experienced in this project. How would you describe the significance of this accomplishment for your personal journey?
- Please describe a challenge or obstacle you faced in this project. How did you overcome it?
- Please describe any conflicts or unmet expectations you may have experienced in this internship. How did you overcome it?

Questions related to future careers:

Next, I want to ask you about how your experience relates to your future plans:

- What did this experience reveal to you about careers and opportunities in the fields you are seeking?
- What did this internship reveal to you about careers and opportunities in STEM fields more generally?
- How did this internship influence your ability to participate in STEM fields and [your chosen field's] careers?

Conclusion:

Are there any questions I didn't ask related to your internship, fields of interest, or STEM careers that I didn't ask that I should have asked?