Mathematical Modeling in Synthetic Biology Course/Webinar Survey

This survey aims to gather feedback on the mathematical modeling component of the synthetic biology course. Your responses will help us understand your learning experience and improve the course for future students.

Section 1: Demographics

Collects basic information about the students' year of study and field of study to understand the background of respondents.

1. What year of study are you in?
    - 2nd year
    - 3rd year
    - 4th year
    - Other (please specify)
2. What is your major or field of study?
    - Biology
    - Biotechnology
    - Bioengineering
    - Chemistry
    - Other (please specify)

Section 2: Understanding and Learning

Assesses students' confidence in their understanding of mathematical modeling concepts and evaluates the effectiveness of the course content.

3. How confident do you feel in your understanding of mathematical modeling concepts after completing the course?
    - Very confident
    - Somewhat confident
    - Neutral
    - Somewhat unconfident
    - Very unconfident
4. How well do you think the course explained the principles of mathematical modeling in synthetic biology?
    - Extremely well
    - Very well
    - Moderately well
    - Slightly well
    - Not well at all
5. Which topics did you find the most challenging? (Select all that apply)

- Introduction to modeling
- Mathematical modeling and ODEs
- Modeling reactions and law of mass action kinetics
- Constitutive expression and induced promoters
- Using experimental data with models
- Designing genetic circuits using models
- Advanced topics in modeling

6. How effectively did the course materials (slides, scripts, etc.) aid your understanding of mathematical modeling?

    - Extremely effectively
    - Very effectively
    - Moderately effectively
    - Slightly effectively
    - Not effectively at all

Section 3: Engagement and Interest

Gauges students' interest and engagement in the mathematical modeling part of the course and the impact of webinars on their interest.

7. How interesting did you find the mathematical modeling part of the course?

    - Extremely interesting
    - Very interesting
    - Moderately interesting
    - Slightly interesting
    - Not interesting at all

8. Did the webinars enhance your interest in mathematical modeling within synthetic biology?

    - Significantly increased
    - Somewhat increased
    - Neutral
    - Somewhat decreased
    - Significantly decreased

9. How engaging were the webinar sessions?

    - Extremely engaging
    - Very engaging
    - Moderately engaging
    - Slightly engaging
    - Not engaging at all

Section 4: Practical Application

Evaluates how prepared students feel to apply mathematical modeling techniques to real-world problems and their practical application of these techniques.

10. How prepared do you feel to apply mathematical modeling techniques to real-world synthetic biology problems after taking this course?
    - Very prepared
    - Somewhat prepared
    - Neutral
    - Somewhat unprepared
    - Very unprepared
11. Have you applied any of the mathematical modeling techniques learned in this course to other projects or coursework?
    - Yes
    - No

Section 5: Overall Satisfaction

Measures overall satisfaction with the mathematical modeling component of the course and gathers qualitative feedback on what students liked and areas for improvement.

12. How satisfied are you with the mathematical modeling component of the course?
    - Extremely satisfied
    - Very satisfied
    - Moderately satisfied
    - Slightly satisfied
    - Not satisfied at all
13. What did you like most about the mathematical modeling part of the course?
14. What improvements would you suggest for the mathematical modeling part of the course?
15. Would you recommend this course to other students interested in synthetic biology?
    - Definitely
    - Probably
    - Not sure
    - Probably not
    - Definitely not

Section 6: Additional Feedback

Provides an opportunity for students to share any additional comments or suggestions for the course.

16. Any additional comments or suggestions?