

Y2 Atmospheric Data Workshop

Questionnaire

For all questions marked “Likert”, students respond on a 7-point Likert scale, with the descriptions corresponding to 1 and 7 indicated below the question.

For all questions marked “MC”, students can select one of the answers listed.

For all questions marked “Free-Response”, students may write an answer in a text box.

Prior to the submission of the survey, students will be provided with the following privacy notice, and asked to explicitly provide their consent:

This study intends to evaluate a new approach to Python-based Chemistry instruction. The information you provide may be used for educational research, for the purpose of developing better teaching resources for using the University of York Chemistry Department, and for the purpose of disseminating the insights gained from analysing this data. The data will be processed on the basis of your consent, and to carry out research of public interest. None of the information requested can be used to identify individuals; statistical data will only ever be presented in aggregated form. The raw data collected will not be shared with anyone other than University of York researchers directly involved in the project, and data will not be transferred internationally. For the remainder of this privacy notice see [General Privacy Notice](#).

This survey is anonymous, and entirely voluntary; taking part or not taking part in the survey will have no effect on or consequences for your module mark or degree programme performance and result.

I have read and understood the information above, and I agree to participate in this study.

- I agree.

After submission of the survey, students will be given the opportunity to sign up to find out the results of the research:

If you would like to be notified of the results of this research, please use this form to provide your e-mail address. Your e-mail address will not be linked to the answers you have just provided.

Pre-Workshop Questions

Likert: How would you categorise your feelings towards using Python as a tool?

- Confident - Apprehensive
- I am competent - I know nothing yet
- Bored - Excited

Likert: How interested are you in learning programming skills?

- No interest at all - I want to be able to write code regularly

Likert: I feel confident writing for loops and plotting graphs in Python.

- Strongly Disagree - Strongly Agree

Likert: I feel confident in my understanding of NO_x and ozone chemistry.

- Strongly Disagree - Strongly Agree

Free-Response: Write three lines of code which will loop over every integer from 1 to 10 and calculate a running total of those integers. If you're not sure, please enter your best guess.

Free-Response: Describe briefly why NO, NO₂ and O₃ are often studied together in atmospheric chemistry.

Post-Workshop Questions

Likert: How would you describe your feelings about using Python as a tool?

- Confident - Apprehensive
- I am competent - I know nothing yet
- Bored - Excited

Likert: Running and modifying a Python script was

- Confusing - Straightforward

Likert (Group A): I appreciated seeing how code could be used for a chemical application before being taught the programming content of the workshop.

- Strongly Disagree - Strongly Agree

Likert (Group B): I appreciated being taught the programming content of the workshop before seeing how code could be used for a chemical application.

- Strongly Disagree - Strongly Agree

Likert: Seeing pre-written code made me feel

- Overwhelmed - Reassured

Likert: Writing code made me feel

- Overwhelmed - Empowered

Likert: How collaboratively did you work?

- Completely independently - Entirely collaborative

Likert: I feel confident writing for loops and plotting graphs in Python.

- Strongly Disagree - Strongly Agree

Likert: I feel confident in my understanding of NO_x and ozone chemistry.

- Strongly Disagree - Strongly Agree

Free-Response: Write three lines of code which will loop over every integer from 1 to 10 and calculate a running total of those integers. If you're not sure, please enter your best guess.

Free-Response: Describe briefly why NO, NO₂ and O₃ are often studied together in atmospheric chemistry.

Free-Response: What's the most important thing you gained from the workshop?

Free-Response: What would you change about this workshop to make it more useful for you?

Free-Response: What, if anything, did you enjoy about this workshop?

MC: Which of the following best describes your current gender identity?

- Male
- Female
- Non-Binary
- Another term (please state)
- Prefer not to say

Likert: How much experience of programming do you have?

- I've never coded before - I write some code every week