

To: Dean Yatrakis
From: Columbia College Class of 2007 Class Council
Re: Frontiers of Science

Preface

The majority of students are not opposed to the idea of a Science Core, nor are they against the concept of Frontiers of Science in general. In fact, many students have commented that they first received a description of the course in a summer letter sent to all those pre-registered in the new Science Core.¹ From this, we conclude that the backlash against Frontiers arises from the execution of the initial conception of the course rather than the idea of the course itself. On this note, we have summarized the most common first-year concerns regarding Frontiers, and possible solutions to these problems.

Concerns

- The prevailing sentiment of the class is that Frontiers was primarily unsuccessful due to the lack of continuity between the lectures, discussions, and problem sets. One student commented that the specialized, complex nature of each lecture caused difficulties when his TA tried to re-explain the material in his discussion section.² The diversity of the subjects covered in the course and the brevity of the time spent on each section forced students to move along from topic to topic without gaining a full understanding of the issues involved in each area addressed in the course. This lack of time, coupled with a class composition that included students with an extensive science background as well as those with little knowledge of the sciences, resulted in a frustrating attempt to cater to both groups.³ Finally, the topics were never coagulated until the last lecture, which seemed to introduce a new topic instead of unifying the diverse curriculum.⁴ As another student noted, “any course that is trying to be a whirlwind tour of scientific research is going to be difficult.”⁵
- Some students have expressed concern that the automatic substitution of Frontiers for the stand-alone requirement limits the number of options available to science and non-science majors alike. The flexibility of the stand-alone requirement has traditionally given non-science majors an opportunity to explore their interest in science. Therefore,

¹ An example of such appraisal reads: “I would have loved the class had it been about what was described initially.”

² “My TA... was incapable of explaining or even properly working out the equation that Professor Helfand did during the first lecture.” – student, CC '07

³ “Three weeks is not enough time to get into a subject: because everyone is at a different level coming into the class, the professors must start with the very basics, which immediately puts a large part of the class to sleep.” – student, CC '07

⁴ “The different subjects have never been related together. I’m not sure if this is a goal of the class, but if this is not, I think they should try.” – student, CC '07

⁵ student, CC '07

limiting students to a science requirement that includes the combination of Frontiers and a sequence might impact non-science majors negatively. The same issue applies to science majors who must use the stand-alone requirement for a course that does not count toward their majors.

- Another widespread criticism of Frontiers focuses on the problem sets, which one student described as “extremely time-consuming, patronizing, difficult, and unsuccessful in making us apply what we learn in class.” The same criticism can be applied to the readings some of which, a student commented, “were not related to the lectures at all.”
- Finally, scheduling seems to be an equally contentious subject for students who argue that Friday morning is “not a good time to have a lecture,” as is evidenced by the low turnouts at the lectures.⁶

Solutions

- Content reform should be a top priority in reorganizing Frontiers:
 - i. The current readings, comprised of dry scientific reports and light magazine articles, can be replaced by ones that focus on application and “issues that are a little more popular.”
 - ii. The course itself can be divided into two separate sections in order to accommodate the diversity of science backgrounds. For example, one course can focus on the biological sciences, while another can move towards the history of science and the manner in which science is applied socially.⁷
- If Frontiers of Science is adopted as the new Science core, the University should re-examine the function of the stand-alone requirement in order to provide the same amount of flexibility to both science and non-science majors in fulfilling both core and major requirements.

Thank you for your attention to this matter.

Sincerely,
Columbia College First Year Class Council

⁶ The student continued to remark, “...Nowhere near the whole class ever comes on days when problem sets are not due, and even when they are due, a lot of people have other people turn in the work or drop it off and leave.”

⁷ “The class would be infinitely better if it traced the progression of science through history, truly paying tribute to the frontiers of science.”