

Date: Tue, 26 Feb 2008 16:42:02 -0800  
From: "Kimmen Sjolander" <kimmen.sjolander@gmail.com>  
To: "Rafael Palacios" <palacios@ccg.unam.mx>  
Subject: Re: Undergraduate Program in Genomic Sciences

Dear Rafael

I'm travelling (in Europe), and had an NIH grant proposal due last week, so I've been a bit swamped.

I hope you can accept this email as my review of your program, since I won't be getting back to California until March 9.

I am very impressed with the thoughtfulness and decisions made in developing this computational biology curricula. Your students are outstanding. I wish we had this kind of curriculum here at Berkeley!

I recommend that the following be added:

A second statistics course, going into probabilistic/statistical models (e.g., HMMs, support vector machines, etc.). In my opinion, most students find statistics fairly un-intuitive and difficult, and it may not be until the second class before it starts to sink in.

I also encourage you to consider the inclusion of a significant written and oral presentation component in at least two courses, with a focus on written English. Becoming a skilled communicator in both written and oral presentation, like acquiring an understanding of statistics, can take some time to develop. But success in science depends on the ability to communicate one's ideas effectively, so this should start early in the program (say, in the first year). Since your curriculum is already quite packed, it doesn't make sense to add another course, but it may be possible to include a strong writing/oral presentation component in a couple of courses.

Lastly: I would encourage you to require students to perform an independent and significant software development project in at least one course, so that they are forced to develop significant programming skills. Some software engineering training (e.g., writing solid and well-documented modular code, algorithm design, testing for correctness, etc.) should be provided.

Your students are already outstanding, but these additional measures should help to increase their ranking when they apply to competitive PhD programs.

Best regards

Kimmen