

**Summary of Formative Evaluation by Mentors  
NIH-NSF SoCal BSI Program  
Cal State Los Angeles  
Summer 2003**

Please type directly onto the form.  
Don't worry about preserving format, spacing, or number of pages.

Name of Mentor:      n = 5 of 8 mentors responded regarding 8 of 13 interns

I.      Comments on your intern's preparedness for the project itself

1. Computer knowledge?

7 of 8 interns    Basic computer knowledge/skills appropriate for project  
2 of 8 interns    Programming skills  
2 of 8 interns    Willingness to learn new programs  
1 of 8 interns    MATLAB experience  
1 of 8 interns    Familiarity with spreadsheet programs  
1 of 8 interns    Well organized

2. Math knowledge?

3 of 8 interns    Basic math skills/knowledge  
2 of 8 interns    Not sure  
2 of 8 interns    Understanding of basic statistics  
1 of 8 interns    Knowledge of advanced statistics/clustering algorithms  
1 of 8 interns    Nothing indicated

3. Biology knowledge?

4 of 8 interns    Basic biology ("better than mentor")  
2 of 8 interns    Fundamental understanding of microarrays  
2 of 8 interns    None indicated

B.      Weaknesses as they apply to the project

1. What computer-related skills had you expected/hoped would be more fully developed in your intern than they are?

4 of 8 interns    Nothing indicated  
2 of 8 interns    Programming experience ("Takes 2-3 times longer to produce results than expected.", prior C++ experience not adequate for involvement in software development project.)  
1 of 8 interns    Organizational skills (spreadsheets confusing)  
1 of 8 interns    Familiarity with specific languages/programs

2. What math concepts had you expected your intern to have more completely internalized prior to their research experience?

5 of 8 interns    Probability and statistics (specifically clustering methods, multivariate statistics)  
5 of 8 interns    None

3. What biology concepts had you expected your intern to have more completely internalized prior to their research experience?

6 of 8 interns None

1 of 8 interns Knowledge of microarrays (“We expected more familiarity with express purposes of microarrays in biochemical and pharmaceutical research...”)

1 of 8 interns Molecular Biology/Human Genetics Knowledge

4. Would you view the acquisition of the skills and knowledge you have cited above as

a) an appropriate part of college or graduate curriculum,

2 of 8 interns Probability and statistics/math major/either required or elective

1 of 8 interns Organizational skills/any major/required

1 of 8 interns Programming skills/computer science/required (“learn by doing class projects under time constraints”)

or,

b) material that would more likely be acquired outside of school, on the job.

2 of 8 interns Statistics if computer science/biology major

1 of 8 interns Knowledge of microarrays

1 of 8 interns Specific computer languages (“The only weakness is time. The expertise can only be gained after a prolonged use of the programming tools.”)

1 of 8 interns Specific biological knowledge

5. If you answer “a” to #4 above, in which part of an undergraduate/M.S. curriculum would you expect it to be included.

SEE 4 ABOVE.

a) What major?

b) Required or elective in that major?

6. What have you or your intern done to make up for any weaknesses noted above?

3 of 8 interns Intern and mentor worked together to debug and fix errors – “The weakness may simply require practice.”; “The intern has excellent dedication and a strong work ethic, and has done his best to make up for the time impact.”

2 of 8 interns Intern has taken responsibility for researching topics and self-teaching

2 of 8 interns “It is too short to make it up.”

2 of 8 interns Mentor conducts tutorials

2 of 8 interns Mentor provides reading materials

2 of 8 interns Mentor enlists help of others in lab/at worksite

1 of 8 interns Intern self-teaches

1 of 8 interns Intern shows no hesitation in seeking advice

II. Comment on your intern's work ethic.

A. Does your intern

1. Arrive at work on time? 6 Yes/ 2 not applicable
2. Put in a full, wisely spent workday? 5 Yes/ 3 do not know
3. Respond to suggestions and criticisms positively? 6 Yes/ 2 do not know ("Yes, and asks for them.")
4. Interact positively with all individuals in the workplace? 6 Yes/ 2 do not know
5. Take initiative? 7 Yes/1 could use improvement
6. Use good judgment about whom, when and how frequently to ask for help? 6 Yes/ 2 do not know ("Could ask more. If I stop by to check, he will ask.")
7. Study on his/her own time to make up for deficiencies? 3 Yes/ 5 do not know ("I don't know how long it should take to learn what she is learning, so it is hard to judge.")

B. Your responsibilities as a mentor – Have you

1. made clear to your intern your expectations with respect to
  - a. the project? 7 Yes/ 1 no answer ("as clear as possible, as the current project rapidly changes")
  - b. Workplace "rules"? 6 Yes/2 No (several mentors note that there are few/no rules)
2. provided help when you were asked? 8 Yes ("intern takes volunteered help very well"; "I have referred her to our programmer for more technical help")

III. Please provide any additional comments you feel would be helpful at this time. Include any issues you would like to see addressed on subsequent evaluations.

- intern found all available clustering algorithms for use in the lab in the future
- "...I hope that the major lesson he gets from this project is how rapidly data can accumulate, and how rapidly one may get confused without guidelines – particularly with microarrays."
- "...has been a model intern, anxious to learn. S/he was not upset when we determined that a software development role was not appropriate, and has sought multiple ways of contributing. His/her interests are more heavily weighted towards math than biology, but is quite capable of understanding and biological concepts needed."
- "Although I was somewhat critical above, I wish to emphasize that X has a very strong work ethic, has been serious about his project, and has been a pleasure to work with."
- "X has an excellent work ethic and is a pleasure to work with."
- "It is simply too early to judge how s/he will work out. Until now, s/he's spent all her time learning the background (reading books on perl, cgi, dbi, etc., as well as trying to understand existing code). S/he only started generating code herself this week. In a few weeks we'll know whether s/he accomplished anything. S/he seems OK with how things are proceeding, so I'll wait and see."
- "X's progress is above what I would consider average progress in the program."