

**Division of Biological Sciences**  
**BILD 99/BISP 199/BISP 196 Research Plan**

UCSD GPA Requirement for BILD 99/BISP 199 → 3.0 overall  
UCSD GPA Requirement for BISP 196 → 3.7 overall and in the major

*For any and all research coursework, students are expected to work a minimum of 3 hours per week per unit of credit (4 units = 12 hours per week)*

Please answer each question completely and legibly. Attach a separate sheet if necessary. Please note there are separate sections to be completed & signed by the student and faculty.

To be completed by the **student**:

1. What question(s) will be addressed by your research project? Briefly describe how these questions relate to existing knowledge arising from previous work conducted in the sponsoring research laboratory and/or elsewhere.
  
  
  
  
  
  
  
  
  
  
2. Outline the general plan of your work, including the broad design of activities to be undertaken. This should include a description of your research approach, including an adequate description of the methodologies, procedures and how the results will be analyzed. Any substantial collaboration with other individuals (e.g., graduate students, faculty, and other undergraduates) should be described.
  
  
  
  
  
  
  
  
  
  
3. List the papers that have been assigned as required readings.
  
  
  
  
  
  
  
  
  
  
4. Describe how you will participate as a member of the supporting research lab/unit.

**Safety Training:** *The PI is responsible for ensuring students receive appropriate safety training. By signing this form, student acknowledges they have discussed this with the PI, has or will complete the training within the allowable time, and provide proof of training to the faculty.*

<http://blink.ucsd.edu/safety/resources/training/general-lab.html>

Signature of the student \_\_\_\_\_

**Division of Biological Sciences**  
**BILD 99/BISP 199/BISP 196 Research Plan**

To be completed by the **faculty (PI)**:

1. How will you, as the faculty member responsible for assigning the final grade, be involved in the individual research experience?

2. Who will directly supervise and guide the student research? Describe how the supervision will be conducted.

\*\*\*Please indicate the status of the supervisor: \_\_\_\_\_PI \_\_\_\_\_Post doc \_\_\_\_\_PhD Student

3. Describe the safety training the student will receive.

**Safety Training:** *The PI is responsible for ensuring students receive appropriate safety training. By signing this form, PI acknowledges they have discussed this with the student, that the student has or will complete the training within the allowable time, and that the appropriate records are kept of the student's training.*

<http://blink.ucsd.edu/safety/resources/training/general-lab.html>

[http://www-ehs.ucsd.edu/lab/pdf/new\\_worker\\_checklist.pdf](http://www-ehs.ucsd.edu/lab/pdf/new_worker_checklist.pdf)

Please indicate the number of individuals in each category currently in the lab:

\_\_\_\_\_ PhD Students  
\_\_\_\_\_ Post docs  
\_\_\_\_\_ Masters Students  
\_\_\_\_\_ 199's  
\_\_\_\_\_ Volunteers  
\_\_\_\_\_ Research Scientist/Visiting Scholar  
\_\_\_\_\_ Technician  
\_\_\_\_\_ Other (please describe)

In order for a student to receive a passing grade for individual research, the student should:

- be able to give - at the end of their research experience - a coherent presentation or write a report/paper.
- have participated in the design of the project; have contributed to a coherent/self-contained project; have been intellectually engaged and have had an intellectual foundation allowing him or her to make intellectual contributions (rather than just work as a technician).
- have learned concepts, methods and gained experience with primary literature.
- have acquired data analysis experience; be - at the end of their research experience - able to analyze and manipulate data in more than one way.
- have developed communication skills in presenting scientific work.

In order for a student to receive a passing grade, faculty should evaluate the quality of a student's:

- effort
- ability to communicate the research project (research question, experimental approach, data and data analysis)
- overall work

Signature of faculty (PI) \_\_\_\_\_ Print Name \_\_\_\_\_

Phone \_\_\_\_\_ Mail Code \_\_\_\_\_ UCSD Email \_\_\_\_\_

Division of Biological Sciences, January 17, 2011

### **Expectations for undergraduate student mentoring and supervision.**

The Division of Biological Sciences encourages the faculty to actively and enthusiastically participate in undergraduate education at all levels: freshman seminars, lower division courses, upper division courses, 195 courses, 196 courses, and 99 and 199 independent study courses. For the purposes of these guidelines, independent study students include: BS/MS students in their first year (before formally entering into the MS phase); students taking 196 courses (honors thesis); students taking 199 courses (independent study); laboratory volunteers; and student employees (work-study, paid, etc). All such individuals must have basic laboratory safety training and be registered with the USIS for students enrolled in independent study courses or Divisional Human Resources office for volunteers or paid employees—BEFORE they can commence work in the laboratory. The expectation is that every PI who mentors/supervises undergraduates understands how to comply with this policy without repeated instruction and reminders from human resources. Although there will occur an occasional transgression, repeated violations of this principle will result in the removal of the privilege to accept undergraduate students into the laboratory, or potentially a complete laboratory shutdown. It is the responsibility of the PI to accurately fill out the required forms and submit them in a timely manner.

The Division mandates that undergraduates have a level of supervision commensurate with their need for training in a laboratory environment. To aid the faculty in understanding this principle, the Division has created guidelines to help PIs in deciding how many undergraduates to admit into their laboratories. With no other obligations, a PI can personally supervise 6 undergraduates. For each postdoctoral fellow, whom the PI determines to be interested and able to mentor undergraduates, an addition two undergraduates can be added. For each PhD student, whom the PI determines to be interested and able to mentor undergraduates, an additional undergraduate can be added.

Thus:

$$UG = 6 + 2PD + 1GD$$

We note that this is a guideline, and in rare circumstances exceptions may be granted. A PI may petition the Council of Chairs no more than once per quarter for exceptions. The petition will be no more than one page and must explain the reason for requesting the exceptions to the above guideline. The Council of Chairs will consider the exception request within their regular meeting schedule, and will provide a response no later than one week following the meeting in which the request was considered.