

Biological Sciences Department

Status of the Graduate Program

a report to the Faculty

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Fall Quarter 2001

The Graduate Program is critical to the educational efforts of the faculty, and hopefully you will find this brief report informative. Your comments on this report (especially with respect to how it can be improved) are welcome, and should be directed to Dave Moriarty. Previous reports were issued in Fall 1996, 1997, 1998, 1999, and 2000.

Enrollment

As of September 6, 2001, the program has 93 classified graduate students (list appended – not available in web version). This is an increase of 13 over last year. Not all of these students enroll in classes (supervisory or traditional) every quarter. Some students take formal leaves of absence, and many graduate students are adept at “stopping out” for a quarter without losing their enrollment.

Enrollment in the graduate program, as measured by the number of students taking classes in Fall Quarter, is strong (Fig. 1). Enrollment in Fall 2000 was 58 students, the second highest ever. Over the past 10 years, enrollment has grown at an average of 5% per year. This is very rapid growth – at this rate the program doubles in size every 15 years. Clearly, the department has neither the faculty nor fiscal resources to maintain this rate, and enrollment must stabilize soon.

Admissions

The table below shows Admissions activity over the past six academic years. Data for 1995-96 are approximate because the database to track activity was not implemented until midway through the period.

	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Admitted Classified	~14	11	16	35	26	23
Admitted Conditional	~6	6	5	1	1	0
Denied	~4	9	12	-	-	-
Incomplete/No Action	~26	25	15	15	11	14
Total	~50	51	48	51	38	37

Note that 84 students have been admitted in just the past three academic years. 1998-99 was the first full year of admissions under the sponsored admissions procedure adopted by the faculty in May 1998.

Faculty Sponsors

Twenty-six faculty have sponsored students into the graduate program (as of September 6, 2001). The distribution of the number of students sponsored per faculty member is shown on an attached bar graph, which shows that eight faculty have sponsored one student, six faculty have sponsored two students, and so on. One faculty member has sponsored 24 students. These data include all students sponsored since the admission procedures were changed (May 1998), and therefore total number of students sponsored does not correspond to the number of students currently in the program.

A Philosophy for Sponsoring Applicants

First, allow me to repeat the policy adopted by the faculty, which is that sponsoring an applicant does not constitute an agreement to be the major professor for the student. However, I strongly recommend that faculty use the sponsor procedure to control how many graduate students you have under your direction, and who they are. In other words, I recommend that you only sponsor students that you intend to have as your graduate students, or where you have identified a major professor. For example, faculty who place students in the City of Hope program might sponsor a student planning to enter COH.

I strongly recommend against sponsoring students who you have no intention to work with as major professor, and where there is no plan for placing the student. Although it is not against policy for you to do this, when you sponsor a student that you don't intend to advise, either you have made a lot of work for an unsuspecting colleague, or we have a student in the program who cannot find a major professor, and therefore has no hope of ever graduating.

Even if you warn such a student that they will have to find a major professor, they do not have the background to fully realize what it means to have a major professor and thesis committee. Remember, most of our applicants have no previous experience with graduate education, they only have undergraduate experiences as a point of reference. When you speak to them about a major professor, they think it is like their undergraduate advisor - someone they know exists, but not someone they really need to deal with. Sometimes it is tempting to sponsor a student just because they are academically talented, and you'd like them to be in the program. However, please consider the needs of the student and the workload of your colleagues.

Information Requests

Year	Number of Packets Sent
1995-96	94
1996-97	133
1997-98	82
1998-99	76
1999-00	66
2000-01	28

Requests for information are received by mail (electronic and traditional) and the telephone. The number of informational packets sent to prospective students for the past six years appears in the table. I believe that the drop in total requests is due to more people accessing the information over the world wide web rather than direct contact.

The department is listed at the "gradschools .com" web site:

<http://www.gradschools.com/listings/institutions/CSUPomona.html>

This listing is the source of many requests for information.

The Graduate Coordinator continues to receive many "form" email messages sent by students, primarily from the Peoples Republic of China. A packet is not sent in response to these requests. Instead, a response containing appropriate application information is sent via email. ***If you object to this procedure, please discuss with Dave Moriarty. If necessary, the matter could be discussed at a Department Meeting.***

Graduate Courses and Committees

In response to statements made by the external reviewers in the program review process, a study of graduate course offerings and enrollments was undertaken. The result of this study (released March 14, 2001) is appended to this status report.

World Wide Web Site (<http://www.csupomona.edu/~biology/gradprog/>)

The Graduate Program home page is effective as a recruitment medium and for the dissemination of information in an efficient manner.

Faculty Membership on Thesis Committees

Appended is a list of thesis committee membership for each faculty member. Students for whom the faculty member is the major professor are indicated (not available in web version). *Please inform the graduate coordinator of changes that should be made to this information.*

Students Who Have Not Filed a Program of Courses (GS-101)

Appended (not available in web version) is a list of students who have been classified graduate students for at least one year, but have not yet filed their Program of Courses. The major professor for each student is also listed. Faculty are urged to have their students file the program as soon as reasonably possible. When funds are available to support research for graduate students, one of the usual eligibility requirements is to have the program on file.

Graduate Faculty Information

Included with this report is a listing (not available in web version) of graduate faculty and research interests and/or other pertinent information. This information is included in the informational packets sent to prospective applicants, as well as on the Graduate Program world wide web page (see above). *Please inform the Graduate Coordinator of any changes to your information.* Informational packets are printed "on demand", so your changes become effective as soon as they are received. The web page will also be updated as information is received. If you have a personal web page that is not linked from the graduate page, please send your URL to the graduate coordinator.

Graduate Student Research Funds

In the 1998-99, 1999-00, and 2000-01 years, the department was able to allocate funds to support graduate research. A total of \$16,851.16 was awarded (see attached list - not available in web version) over the three years. This support is very valuable to our students, and it is hoped this funding will continue.

Acknowledgment

I thank the faculty for their strong support of the Graduate Program. The faculty are not credited for the WTU they generate through graduate supervisory courses, for serving as major professors, or for serving on thesis committees. I know you do this work because you recognize the value of a strong graduate program to our students (both graduate and undergraduate) and our faculty. Thank you for your sacrifices. You are a credit to the profession, and I am proud to be your colleague.

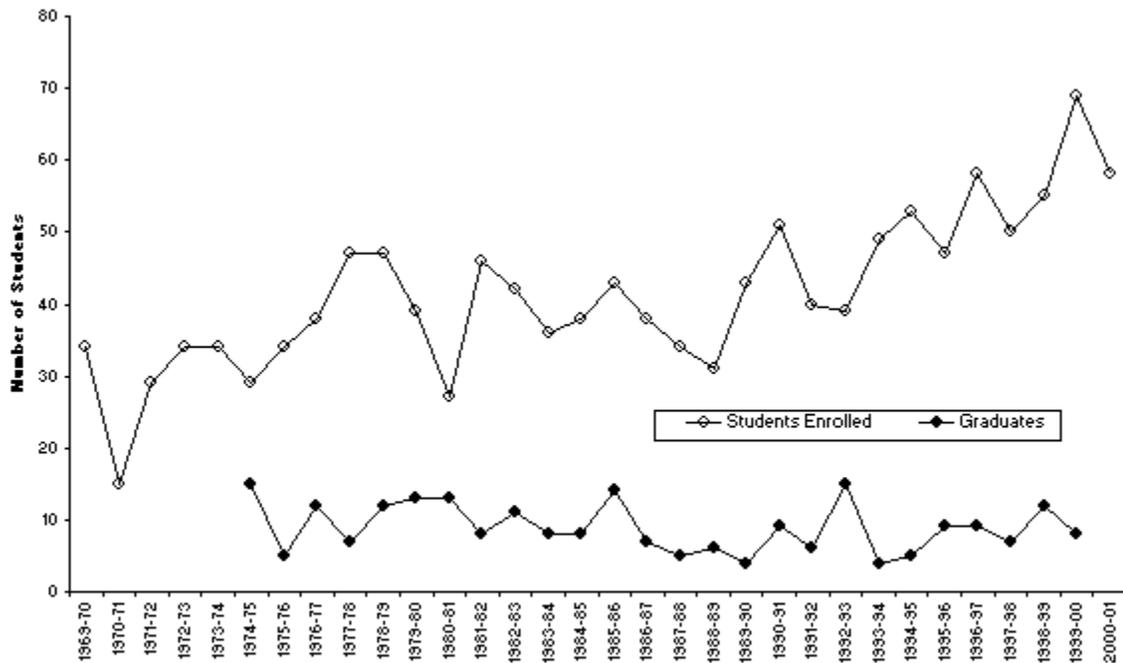


Fig. 1 Students enrolled in Fall Quarter 1969-1970 through 2000-2001 (open circles), and students graduated from 1974-1975 through 1999-2000 (filled circles).

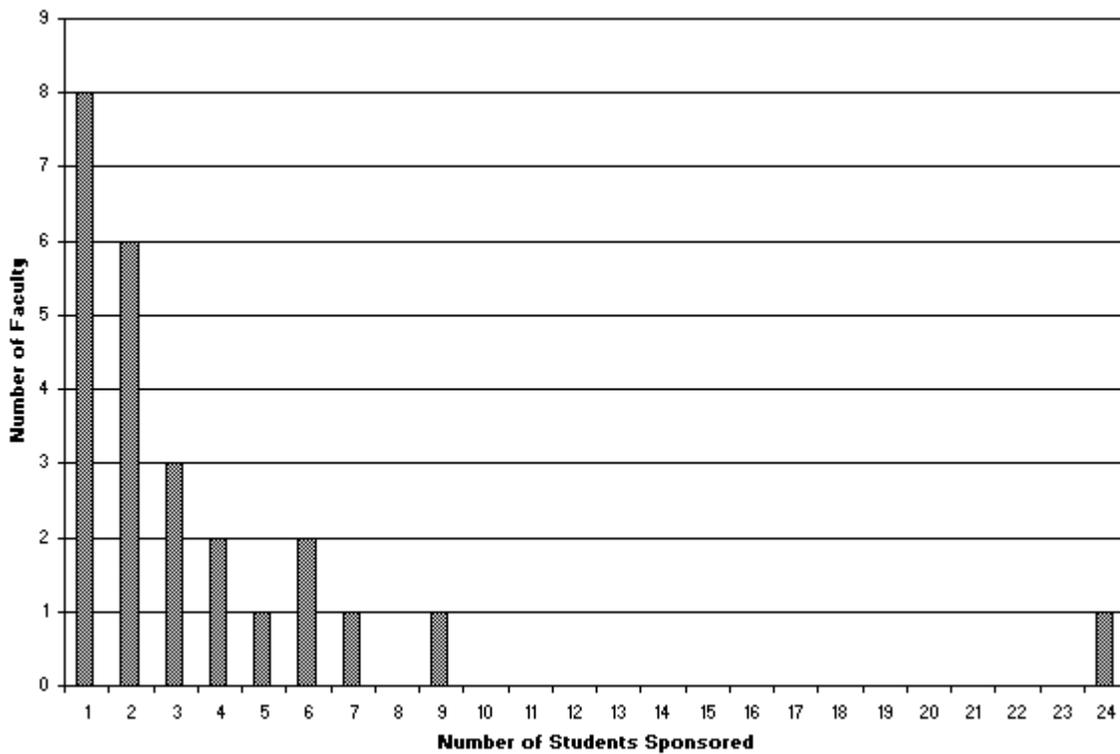


Fig. 2. Height of bar indicates the number of faculty sponsoring the number of students on the abscissa.

The Graduate Committee has been asked to respond to the following statement under the “Curriculum” section of the external program review:

“Evaluate Graduate Program for Sufficiency of Qualified Faculty to Provide Needed Courses and Committees.”

Courses

The statement would appear to question whether sufficient graduate courses are offered. This would be consistent with the often stated, anecdotal observation that the department “doesn’t offer many graduate courses”. In order to address this concern, I examined the number and enrollment of graduate courses (500-level) and supervisory units (BIO 500, 691, 692) taught over eight quarters from Fall 1998 through Winter 2001 (summers were excluded).

Methods

I examined all courses using the “Scheduler’s View of Classes” administrative web site, which lists the maximum seats available and the open seats for each course. This allows calculation of the number of seats filled. I then examined the class list for each course and counted the number of graduate students in the class. Some error is probable here, as I may not have recognized the name of a graduate student. Also, I probably counted some students who are currently graduate students, but may have been taking the class as an undergraduate prior to their entering grad school. Having estimated the number of graduate students, I calculated the number of undergraduates enrolled as seats filled minus grad students.

Graduate students also gain degree credit from supervisory courses: BIO 500 Training in Graduate Research, BIO 691 Directed Study, and BIO 692 Independent Study. Typically, 3 one-unit sections of each of these are available each quarter. Students may enroll in 1 to 3 units, and students must enroll in multiple sections for 2 or 3 units. This scheme maximized the WTU generated under old CSU guidelines. For each of the eight quarters, I determined the number of units taken in all sections of BIO 500, 691, and 692. Note that the required supervisory units for research (BIO 694) and thesis (BIO 696), as well as required graduate seminar (BIO 680) are not included. Only supervisory units that help the graduate students meet the elective course requirements (Part II of the Graduate Program of Courses) are included here.

Results

Twelve different courses were taught over the eight quarter period (Table 1), with an average of 2.75 courses/quarter ($SD = 1.4$, $n = 8$). The actual number of courses offered may be higher, as I don’t know if any scheduled graduate courses were cancelled. Two quarters (Spring 1999 and Winter 2000) had only one course taught, while one quarter (Fall 1984) had five courses. Four courses (BIO 535, 540, 542L, 565L) were taught three

times, two courses (BIO 555, 510L) were taught twice, and the remaining six courses were taught once, for a total of 22 course offerings.

The 22 course offerings made 406 seats available, and 257 (63%) of those were filled (Table 1). Graduate students accounted for 179 (70%) of the filled seats. Therefore, of the 406 available seats in graduate courses, graduate students occupied less than half (44%). However, six course offerings were at or over capacity, and those were all in the cell/molecular biology area. BIO 565L (Animal Tissue Culture) was at or over capacity three times, while BIO 577L (TEM Techniques), BIO 555 (Molecular Biology of Development), and BIO 570/L (Cellular Immunity and Disease) were all over capacity once. All six of these offerings enrolled at least 3 undergraduates (Table 1).

During the eight quarters, students took a total of 353 supervisory (BIO 500, 691, and 692) units (Table 2). This is an average of 44.1 units per quarter ($SD = 8.7$, $n = 8$).

Discussion

In order to evaluate the availability of graduate courses, the need must be considered. The graduate degree program requires 45 quarter units. Thirteen units are required of all students: BIO 680 (3), BIO 693 (1), BIO 694 (6), and BIO 696 (3). Of the remaining 32 units, at least 11 must be at the graduate level (500+ level). Eleven units would be approximately three courses. Therefore, grad students require the equivalent of about three graduate level courses to meet the requirements of the degree program.

In general, there appears to be an excess of seats available in graduate courses. Also, supervisory courses are filling much of the need. The average of 44 supervisory units/quarter is the equivalent of eleven courses at 4 units each. Parenthetically, it should be noted that the faculty providing this opportunity receive no credit toward their teaching load from supervisory courses.

Although there may be sufficient graduate courses in general, the lack of seats in the cell/molecular area is of concern. One way to make more seats available to grad students is to restrict undergraduate enrollment. For example, if a course can handle 18 students, the number of seats available at pre-registration might be set to 10. The instructor could then enroll 8 grad students by using override tickets. However, undergraduates (particularly Biotechnology majors) may need graduate courses to complete their degrees. Offering additional cell/molecular courses (or increasing their frequency) would be desirable. The department should provide both the fiscal and personnel support necessary to enable the faculty to teach these courses.

Committees

The statement with respect to committees is unclear. The committees involved in the graduate program are the Graduate Committee (aka the Graduate Major Committee) and the various thesis committees required for each student. Faculty have been very generous with their time for both the Graduate Committee and thesis committees. I am aware of only one situation where a graduate student had difficulty filling out a thesis committee to the point where progress toward the degree was affected. This incident happened (and was resolved) about twenty years ago. Perhaps I am uninformed, but at this time I do not see a problem with respect to graduate faculty and participation on committees.

David Moriarty
Graduate Coordinator

Table 1. Graduate Courses with enrollments: Fall 1998 - Winter 2001

Year/Quarter	CRN	Course	Title	Instructor	Seats			Grads	Undergrads
					Max	Open	Filled		
20011	13464	510/L	Cytogenetics	Campbell	12	4	8	6	2
20011	14079	535	Advanced Cell Bio	Kageyama	15	4	11	10	1
20011	15730	540	Biogeography	Sziji	24	20	4	2	2
20004	43467	542L	Graphic Pub. In Bio	Clark	12	5	7	7	0
20004	41552	565/L	Animal Tissue Culture	Pal	12	0	12	6	6
20004	45630	577/L	Transmission EM Tech	Kageyama	8	-2	10	7	3
20002	22133	575/542	Wildlife Ecology/Lab	Sziji/Stewart	24	17	7	1	6
20002	22134	555	Molec Bio of Develop	Sperry	40	22	18	15	3
20002	22135	575 (01)	Disturbance Ecology	Carlton	24	14	10	8	2
20002	27449	575 (02)	Conservation Biology	Quinn	12	1	11	8	3
20001	17678	535	Advanced Cell Bio	Campbell	15	1	14	13	1
19994	45434	540	Biogeography	Sziji	24	15	9	7	2
19994	48466	542L	Graphic Pub. In Bio	Clark	12	4	8	7	1
19994	43172	565/L	Animal Tissue Culture	Pal	12	-2	14	8	6
19992	22134	555	Molec Bio of Develop	Sperry	24	-15	39	15	24
19991	16722	510/L	Cytogenetics	Campbell	24	16	8	7	1
19991	17678	535	Advanced Cell Bio	Campbell	34	21	13	11	2
19984	43166	528	Community Ecology	Moriarty	18	8	10	8	2
19984	45434	540	Biogeography	Sziji	24	20	4	2	2
19984	48466	542L	Graphic Pub. In Bio	Clark	12	1	11	11	0
19984	43172	565/L	Animal Tissue Culture	Pal	12	-1	13	8	5
19984	44523	570/L	Cellular Immunity and Dis	Adler-Moore	12	-4	16	12	4
				TOTALS	406	149	257	179	78
					% Max:	37%	63%		
							% Filled:	70%	30%

