

Los Angeles City College
Comprehensive Program Review 2008

Life Science Department

I. Department Mission

Describe the mission of the Department

The mission of the life science department is to provide quality, rigorous courses that meet the needs of our community. To accomplish this goal, we will continue to offer UC/CSU transferable biology classes for majors and non-majors as well as UC/CSU transferable anatomy, physiology, & microbiology classes, which serve as key prerequisites for a variety of programs including nursing, radiation technology, pharmacy, occupational therapy, etc. Though the department maintains high academic standards to ensure that our students are well-prepared to accomplish their educational goals, we offer enough supplemental support so that the students can indeed succeed.

II. Department Overview

a. Response To Demand

Describe the trends in Enrollment, FTES, and Average Class Size.

Given the data, what are the implications for your department? If relevant, discuss each discipline separately

In the past 6 years, the life department enrollment has grown by approximately 71% during the regular FALL & SPRING academic semesters. During the same period, our summer enrollment grew 474% and now represents about 14% of our total (all semesters including winter & summer) annual enrollment. A single winter session class offering was also added, but only contributes about 1% to our total annual enrollment count. This winter enrollment limitation is mostly due to the fact that the 5 week time period is very short and makes it difficult for students to succeed in lab-intensive courses (which are most of our class offerings -- we only have 2 courses that do not have labs) and thus we have not offered those classes. Also during this time period, the campus FALL & SPRING enrollment decreased by 21%, summer enrollment decreased by 32%, and winter enrollment decreased by about 14%. To summarize, during the last 6 years, campus enrollment significantly decreased during all semesters while the life science department enrollment grew immensely (71% for FALL & SPRING, 474% for summer, and addition of a winter class when there was none before). Our department FTES grew during the FALL & SPRING semesters even more than enrollment did. The life science department increased 77% in FTES in comparison to a campus-wide decrease of about 13% for the FALL & SPRING semesters. The life science summer FTES growth numbers for the 6 year period are even more impressive as our summer program grew by 790% (remember, enrollment grew by 474%). This growth is once again in contrast to a campus-wide summer session decrease of 8%. The only session that grew in FTES campus-wide was winter and our department grew as well that session as we added a winter session class offering where there was previously none before. The implication for this trend of significantly increased department enrollment & FTES (despite campus-wide decreases in both enrollment & FTES) is that our department is seriously strained in terms of budget, faculty, and classified support. During this period of time, we have not had any full-time faculty growth despite nearly doubling in enrollment and FTES. Our budget is insufficient to deal with such growth as well and we still have 1 laboratory technician to deal with all of the sections that we offer. In conclusion, if the life science department is to continue to contribute growth in the face of overall campus-wide declines, we must have appropriate support (which means increases) in all relevant categories: faculty, budget, and classified staff.

b. Student Achievements

Given the data, describe the trends in Success Rates, Retention Rates, and Degrees and Certificates awarded. What are the implications for your program(s)?

Despite the tremendous growth by the life science department in the past six years, we have managed to keep student success and retention a priority. Over the last 6 years, retention has increased 10% for an overall respectable retention rate of 88%. Student success has also increased by about 16% to an also respectable 71%. The campus-wide retention is also 88%, but represents a decrease of 2% and campus-wide student success decreased by 15% to a new rate of 58%. Life science department increases in retention and student success, despite campus-wide decreases, in the face of nearly doubling the number of students without faculty increases, inadequate budget, & insufficient classified support was extremely difficult and will not likely be able to be sustained without increased funding. The life science department currently does not offer any degrees or certificates since the main purpose of our classes is to fulfill transfer requirements as well as serve as prerequisites for other programs, mostly in the healthcare fields.

c. FTEF

Discuss how the FTEF trends will impact your program. Include any need for increasing or reducing your program faculty. (Develop Resource if necessary.) Given the data, describe the trend in FTEF/FTES ratio. What are the implications for your program(s)?

During the last 6 years, the life science department regular faculty FTE for FALL semester decreased about 13% while the FALL adjunct hourly skyrocketed 437%. Overall, this led to a total FALL FTEF increase of 17% and an increase of 69% in the FALL ratio of FTES/FTEF. The data for the SPRING semester during the 6 years are as follows: a decrease of 11% in regular faculty FTE, an increase of 526% in adjunct hourly, a total SPRING FTEF increase of 26%, and an increase of 34% in the SPRING FTES/FTEF ratio. All the main disciplines in the life science department has had significant increases in the ratio of FTES/FTEF over the last 6 years. The FTES/FTEF ratios by discipline are as follows: anatomy increased 66%, biology increased 25%, microbiology increased 53%, and physiology increased 128%. Campus-wide, the total FALL FTEF decreased 8% and the FALL FTES/FTEF ratio decreased by 3%. Taken together, the data strongly suggests that the life science department needs more full-time equivalent faculty. We have reduced regular FTE, but increased adjunct and increased FTES/FTEF ratios. Our ratios exceed that of the campus as a whole. These increased duties given our tremendous growth is unreasonable and cannot be sustained. Adjunct faculty cannot adequately meet our demands as the courses we offer are highly specialized and are normally taught by scientists, doctors, etc. who have little incentive to teach few hours a week. The best teachers get offered full-time positions elsewhere or can't teach during our peak daytime hours due to other jobs. This tendency makes keeping up the high standards of the classes we offer that much harder.

III. Vocational Programs

a. Labor Market Demand

1. How does your program meet labor market demand? Cite specific examples and sources.

b. Advisory Board

Advisory Board Member Name	Company / Affiliation	Title	Voc. Program
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Advisory Committee Meetings

Dates	No. of members attending	Voc. Program
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What have been the major outcomes of your advisory board meetings? Of those outcomes, which have been acted upon, and what is your plan of action with regard to other outcomes discussed?

c. Comparable Programs

Outline your plans to investigate other programs that offer comparable training. If known, compare and contrast your program to these other programs in your service area.

d. Program Accreditation

Is this program subject to approval/accreditation by specialized state, regional, or national accrediting agencies?

No

i. Accreditation Status and Recommendations

What is the program's accreditation status?

N/A

Indicate recommendation of the most recent accreditation evaluation of the program and corrective actions taken or planned. Most recent accreditation report and all additional pertinent documentation and explanations should be available on site for consultant review.

N/A

ii. Student performance on licensure or board exams on first attempt.

Provide a brief analysis of student performance on licensure or board exams on first attempt.

iii. Employer Satisfaction Survey attempt.

Provide brief analysis of employer satisfaction with regard to completed survey results.

IV. Curriculum

a. Program Delivery and Effectiveness: Current Courses

Analysis of over-all course offerings and effectiveness

During the last 6 years, the life science section count during the FALL & SPRING semesters has increased 39%, while enrollment has surged 71% with increased student success of 15%. The SUMMER session section count increased 550% with an enrollment increase of 474% and a 25% increase in student success over the 6 years. The WINTER session is newly added so it represents added enrollment and section count. Overall, it also has a lower student success rate as the only class that is offered is the Biology 25 class which has a high proportion of high-school students trying to make up high school biology credits. Overall, our courses are highly effective in terms of enrollment and students success which is a big feat considered overall decreases in regular FTEF and increases in the ratio of FTES/FTEF, inadequate budget, and no increases in classified staff support.

Course-by-course analysis of offerings and effectiveness (optional)

b. Title 5 Updates and Student Learning Outcome Assessment

Analysis of Title 5 Update Status

All of our courses are in the process of being Title V updated (even the ones that are not due yet). There are 4 courses that seem to need out of date, although there are errors in what the curriculum committee has on record as the biology 3 regular and honors courses were both updated after 1999. It doesn't matter, however, because ALL of the courses will be submitted for Title V technical review in May. These revised Title Vs will include SLOs and guide our assessments which we will begin in FALL 2008.

Please update requested information below:

Note: Course list includes all courses ever approved for the department, including archived courses. Courses must be updated through the Curriculum Committee every 6 years. Courses that are out of compliance with this requirement are highlighted. Please update and save information on all pages.

If the Title 5 Update Date seems to be incorrect, contact the Chair of the Curriculum Committee.

Courses Last Updated Before 2002

Course		Title	Title 5 Update Date	SLO Assess. Complete	Change(s) made	Comments
BIOLOGY	3	Intro to Biology	1/1/1999	No	No	
MICRO	20	Microbiology : General Microbiology	3/1/1999	No	No	
BIOLOGY	3H	Intro. To Biology (Honors)	4/1/1999	No	No	
MICRO	40	Micro. Lab Prep.	4/1/1999	No	No	

Courses Last Updated After 2002

Course		Title	Title 5 Update Date	SLO Assess. Complete	Change(s) made	Comments
ANATOMY	1	Intro. To Human Anatomy	5/2/2002	No	No	
BIOLOGY	1	Fund. Of Life Science I	5/2/2002	No	No	
BIOLOGY	25	Human Biology	5/2/2002	No	No	
BIOLOGY	6	General Biology I	4/5/2005	No	No	
BIOLOGY	7	General Biology	12/2/2002	No	No	

Archived & Deleted Courses

Course		Title	Archive / Delete	Comments
ANATOMY	911	Cooperative Education-Anatomy	Delete	
ANATOMY	921	Cooperative Education-Anatomy	Delete	
ANATOMY	931	Cooperative Education-Anatomy	Delete	
ANATOMY	941	Cooperative Education-Anatomy	Delete	
BIOLOGY	911	Cooperative-Education-Biology	Delete	
BIOLOGY	921	Cooperative-Education-Biology	Delete	
BIOLOGY	931	Cooperative-Education-Biology	Delete	
BIOLOGY	941	Cooperative-Education-Biology	Delete	
MICRO	911	Cooperative Education-Microbiology	Delete	
MICRO	921	Cooperative Education-Microbiology	Delete	
MICRO	931	Cooperative Education-Microbiology	Delete	
MICRO	941	Cooperative Education-Microbiology	Delete	

c. Student Learning Outcomes and Assessment

1.a Course-level SLOs - Describe what the faculty in the department have done in developing and conducting assessment of course-level student learning outcomes. Include description/discussion of trainings and workshops attended and department meetings.

Our department is in the process of developing SLOs for all of our courses. We have been in development for over 1 year and have been discussing them in many department meetings. Our work will come to fruition next month as all of our Title Vs will be updated and include SLOs for all our course offerings. All syllabi in the department will reflect those SLOs. We will begin assessments once the Title Vs have been fully approved and implemented, which will be no later than FALL 2008. In the FALL 2008 semester, we will commence our first round of assessments. Though it may seem that we are a bit behind in our SLO development, I think that is not really the case. If one considers that the life science department has had a 75% turn over in the middle of this last 6 year cycle (75% of the full-time faculty retired and were replaced with new probationary faculty) and we have had explosive growth without adequate support and still managed to improve student retention and success, it is amazing that the department had any time at all to contemplate the SLOs (which we did and will be set to complete soon).

1.b Course-level SLOs – Describe any changes implemented as a result of the findings from the assessment of course-level student learning outcomes.

We did not do any assessments yet.

2. Program-level SLOs – Has the department developed SLOs for its program(s)?

Award Type	Program	Program SLO Developed?	Program Outcome
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3. Core Competencies Alignment – How do the department's course and program SLOs address City's Core Competencies?

While our SLOs are still in the process of being completed, the department has discussed the core competencies. Our courses focus on Area 1 most of all and actually address and require all four major points in the area. Life science classes demand that students be able to gather information and critically evaluate data. They must present this data in both written and oral modes. They have to analyze data using statistics and often graph and display the data using various mathematical models. In this day and age, such data gathering and analysis would be virtually impossible without the use of computers and assorted scientific equipment and so our classes require technological competency as well. Hopefully, we inspire the students as well and Area 2 topics are addressed, especially intellectual engagement. Most of our courses also relate how human activities effect the environment and human health so Area 3 topics are covered as well, especially discovering global issues. Interpersonal interaction is also stressed as most of our courses have labs and require students to work together to collect, analyze, and present data. The department also has an environmental club which does various community awareness activities and thus encourages community participation.

d. Proposed New Course and Course Changes

1. Enter new courses and course changes planned (Note: All course changes, additions and archives require Curriculum Committee approval).

Course Name	Advisory Committee Recommendation	New technology developments	Similar CSU/UC lower division requirements	Course needed for sequence	Integrating current trends and new information	Other (please detail)
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e. Course Scheduling

Use this link to ClassTracks to access information about historical course scheduling. Review data over the last 5 years with special attention to scheduling in the afternoon and evening, on Fridays, on Weekends, and on-line. Comment on the enrollment in these sections, and on the feasibility of offering classes at non-standard times. Web site available on LACCD intra-net: <http://classtrack.laccd.edu/lacity/> Password: lac4681

We have increased our course offerings over the last 6 years on Fridays and Weekends and have classes now every day except Sundays. Most of our classes are before 12 PM Monday through Thursday, but we have classes in all 4 of our main disciplines on Fridays and Weekends. We are already at capacity in terms of instructors, supplies, classified support etc. so further additions cannot be accommodated at present. For the department to continue to sustain its current program, much less grow more than the 70% that we already have during these past 6 years, we must have more support. Life science courses fill well in all of our time slots.

Are required courses scheduled in appropriate sequence to permit students to complete the program in the prescribed program length? If yes, describe the rationale upon which the sequence is based. If no, what is the plan for alleviating these problems? Explain.

The courses are scheduled in the appropriate sequence to allow students to complete the program. The major's biology classes (bio 6 & 7) do not have to be taken in sequential order and the number of sections of each class match so that students can complete the one-year sequence no matter what semester (Fall or Spring) they decide to start. Anatomy is a prerequisite for Physiology and is offered all semesters (except for the 5 week Winter session) at a higher section count than any other class. This scheduling allows students to take this difficult class at virtually anytime during the year in order to fulfill their requirements on time.

What outreach and hybrid classes has your department offered? What are the benefits and problems associated with outreach and hybrid classes? How can the outreach and hybrid classes be improved?

During the past 6 years, we have offered several non-traditional classes. We offered a Microbiology 20 class in conjunction with Mt. Sac that was specially funded. This class filled and was successful, but because it was specially funded did not count towards our FTES. It was a lot of paperwork and effort but had no FTES payout so we decided to focus our efforts on FTES generating outreach classes. The life science department partnered with SEIU Healthcare workers division and offered an Anatomy class, 2 Physiology classes, and, in the Fall, will offer a Microbiology class. These classes are filled with their union members and paid for by the union but is processed like any other class and so generates FTES. We wanted to establish a long-term relationship with union so that we would have a steady source of students over the years. These classes can be improved by expanding our offerings. Unfortunately, we do not have the facilities, faculty, classified support, or funding to offer more courses (despite the demand being there).

f. Course Consistency

How does the department determine that classes are taught consistently with the course outline? You may consider such approaches as:

Class syllabi are collected and reviewed for a majority of faculty, mentoring of part-time faculty to ensure integrity of course outline, evaluation of full-time program faculty, evaluation of part-time program faculty, program-wide or course-wide exams, distribution of appropriate course outline to faculty, department chair's review of individual instructor's finals or other exams

We have regular evaluations of the full-time faculty including review of class syllabi. Adjuncts are supervised and guided by full-time faculty in each discipline. Now that SLOs are going to be implemented soon, we are going to review as a department syllabi and SLO assessments.

V. Departmental Engagement

a. What standing committees does your department maintain? What are their charges and membership?

Faculty Evaluation -- evaluates faculty: G Gonsalves, D Hicks.

Technology Committee -- examines our current equipment needs and makes recommendations: G Gonsalves, D Hicks.

Student Aid & Mentoring -- deals with matters regarding supplemental student aid, especially the EOP&S SI program: G Gonsalves, K Khollesi, M Garcia, D Hicks, S Phommasaysy

b. What interdepartmental collaboration has your department been involved in during the past six years?

Over the past 6 years our department has been involved in relatively few interdepartmental collaborations due to the time constraints imposed by our sizeable growth and limited support. We had early associations with the Science club started by A Brown in Chemistry and our Environmental Club sometimes collaborates with Chemistry and does campus-wide promotions and events.

c. What has your department done since the last review to establish connections with schools, institutions, organizations, businesses, and corporations in the community?

Once again, our department has been fighting to sustain our growth with our current resources so our activities in community outreach have been limited. We have, however, formed a collaboration with the local hospital SEIU Healthcare worker union to offer classes for their students, raised community awareness through environmental club activities, and collaborated with Mt. San Antonio College to put on a specially funded Microbiology class.

VI. Professional Development

Are there areas of unmet professional development needs among faculty in this program? Please explain a proposed plan of action for addressing this need and any resources needed to achieve this development.

Our campus committee work as a department has been limited due to the constraints caused our significant department growth and lack of adequate support. Thus, most of our faculty (3/4 of our full-time faculty are still probationary), have been struggling to meet the demands of having high enrollments and significantly higher student/faculty ratios compared to the rest of the campus. It was felt by the department that the campus would best be served if we could increase enrollment and FTES while increasing student success (which we have done despite declines in all of those areas campus-wide). To accomplish this goal, we had to limit our participation in other campus activities. We still, however, are Senate members, go to school events and sponsor them (we do campus presentations to promote our programs and have clubs like the environmental club which contributes to the campus through cleaning activities, Earth day events, and increasing community awareness of environmental issues), as well as being members of other department's faculty evaluation and hiring committees (especially in the nursing and rad tech departments). As a department, we can participate more if we had adequate support to sustain our program, namely, more full-time faculty, additional classified support (another lab technician), and an increased supply budget.

List all professional development activities engaged in by each faculty member in your program in the last 2 years. Activities may include:

- Conference attendance
- Conference presentations
- Other off-campus presentations
- Publications
- Grants
- On-Campus presentations
- Leadership/ Membership in professional organizations (specify)
- Leadership/ Membership in campus-wide or District-wide committees (specify)

Faculty Name	Professional Development Activities
ARAI VICTOR, Part-Time	On campus presentations
CENQUIZCA LEE, Full-Time	On campus presentations
DAFTARI SION, Part-Time	
GARCIA MARTIN, Full-Time	On campus presentations
GONSALVES GREGORY, Full-Time	On campus presentations, membership in senate, membership in Sci/Tech user group, other department faculty evaluation and hiring committees
HICKS DONALD, Full-Time	On campus presentations, membership in Sci/Tech user group, other department faculty evaluation and hiring committees
KHOLLESI KHALIL, Full-Time	On campus presentations
MIKHAIL MOURAD, Full-Time	
PHOMMASAYSY SEAN, Full-Time	On campus presentations, Leadership: Environmental club
REDDY BHASKARA, Full-Time	
RILEY CALVIN, Part-Time	
SANCHEZ DAVID, Part-Time	
SHAHBAZIAN FARAMARZ, Part-Time	
WALLANO EYOB, Part-Time	
YOUSSEF MOHAMED MAGED, Part-Time	

VII. Support and Activities

a. Instructional Support Services

Item	Yes / No
Is there adequate secretarial/Instructional Assistant support for this program?	No
Are the necessary media services to support this program readily available?	Yes
Are the library references provided by the college sufficient to support up-to-date program instruction?	Yes
Are library resources integrated into the program curriculum and coursework?	Yes
Are adequate services provided in compliance with program needs for meeting health and safety guidelines?	No

Item	Yes / No
Are the custodial services to this program in compliance with program needs for meeting health and safety guidelines?	No

If "no" was answered to any of the above, please explain.

We do not have a secretary and our instructional support consists of a single lab technician who has to serve 40 sections of classes all by himself. Obviously, this is impossible for 1 tech to accomplish. Without adequate tech support, our labs cannot be fully compliant and it is difficult to maintain proper health and safety guidelines. Lack of additional full-time faculty also means that our labs are usually filled beyond the capacity of students for which they were designed. Custodial services in our department are often insufficient. We have high needs for paper towels, soap, cleaning, etc. that are often not met (or not met fast enough without many complaints) which of course would affect our ability to meet health and safety guidelines.

b. Student Services, Academic Support, and Marketing

Describe the availability and adequacy of academic counseling and advising for students enrolled in the program. Who performs these services?

Most of academic counseling is done by the school counselors or the individual professors and the department chair. The life science department does not have a degree program, so counseling consists of class advice or planning the sequence of courses, which is often done by the department chair for students who seek such help. One of the most helpful academic support services we have is student mentoring through the EOP&S SI program. It has become an invaluable tool and is probably very responsible for our increase in student success over the past 6 years.

Academic Support Services

Identify the academic support services which are used most often by the students and faculty of this program.

Service	Frequently	Sometimes	Not at all
Specialized testing (OSS)		X	
Tutorial services: writing center		X	
Tutorial services: Pi Shoppe			X
Tutorial services: Learning Skills		X	
Accommodations for disabilities	X		
Use of All-College Computer Lab		X	
Use of specialized departmental lab			X
Consultation for teaching/learning problems		X	

Marketing

What impact do you feel the college catalog, class schedule and college web site have on marketing your program? Describe your program's plan for working with the institutional marketing personnel in developing new promotional materials to enhance the marketing of your program.

I feel that our department is marketed well enough as our classes fill well and we are already at capacity. As discussed before, we do have a relationship with the SEIU Healthcare workers division and through that association, through word of mouth and advertising within the union, the life science department has been getting more exposure. We do not have an explicit plan for enhanced marketing as we have grown well beyond our current capacity. We must stabilize what we already have or else get some additional support so that we can continue to grow.

c. Programs, clubs, organizations, and special activities for students

List the clubs which are designed specifically for students in this program. Describe their significant accomplishments.

We do not have a specific degree program, but we do have an environmental club which raises awareness to environmental issues and also performs cleanup activities, sponsors earth day activities, etc.

List any awards, honors, scholarships or other notable accomplishments of students in the program.

Since we do not have a specific degree or certificate program, we do not have formal tracking of students. On an individual basis, students often tell their professors and the department chair about their accomplishments as they end up usually asking us for recommendations. Most of our students whose goal is to transfer, end up transferring. Most who want to get into some healthcare profession, end up getting into a program. Our student success rates are up and many have gotten into USC Pharmacy School, UCLA Nursing, CSULA programs, etc. At least one student got into an accelerated nursing program at John Hopkins University.

VIII. Resources: Personnel, Equipment and Facilities

a. Classified Staff, Student Workers, and Faculty

Classified Staff

<u>Staff Name</u>	<u>Job Title</u>	<u>Projected for Retirement</u>
Ken Lui	Life Science Laboratory Technician	No

Student Workers

<u>Student Name</u>	<u>Type</u>	<u>End of Employment</u>

Faculty

Projected faculty retirements

We have had a 75% turnover in our full-time faculty in the last 6 years. There are currently no projected retirements.

Are available faculty and clerical staff adequate to support the program?

No. We have had 70% enrollment growth in the last 6 years with ENHANCED student success with essentially the same resources as before the growth. Our current program cannot be sustained for very much longer under these conditions.

b. Equipment inventory, including technology and software

Does your department maintain an equipment inventory?

Yes

Discuss the department equipment needs. Include both equipment/technology upgrades and expansion.

We need modern desktop computers for our offices and for some of our labs. We need enhanced projection equipment (several of our projectors no longer function or no longer function properly). Our Physiology equipment should also be updated as much of it is over a decade old (which is bordering on obsolete in technology terms). We also need laptop computers to go with our projectors as many of our old ones are no longer functioning or are inadequate to handle newer software programs that we use for classroom instruction.

c. Facilities

Are available general use facilities, such as classrooms, laboratories, and faculty office/work space adequate to support the program? Please explain.

For our current needs, the facilities are adequate (if they are properly maintained -- custodial services are often lacking, the building needs to be repainted and repairs to the plumbing, ceiling, etc. need to be performed). However, our facilities cannot sustain new growth, but we are moving into the new SciTech building, which was programmed to meet our needs including limited growth.

IX. Planning and Budgeting

(Past / New Planning Goals & Activities are in separate report.)

a. Budget and Expenditures

Describe the trends in budget and expenditures in your department.

A look at the budget data would give one a misleading picture of the life science department. Our unrestricted budgets for supplies, inst media material, and printing have had massive fluctuations. Our 2003 budget was relatively low and then with the addition of many classes jumped almost 3 fold in 2005 to enable the growth, and then cut by roughly 1/3 even in 2007 though there was increased enrollment (that is the confusing part). Actual expenditures are more difficult to judge unless one knows how ordering is done in the life science department. We maintain a stock of certain items, but are limited by space and budget. Thus, we have massive inventory reviews a couple times a year from which we then determine what items we need and how to order. Unfortunately, we have only 1 lab tech who does the inventory and supports the classes. 40 sections a semester to serve and inventory of supplies is too much for one tech to accomplish well on his own. Obviously, the professors cannot offer much help as they are busy trying to teach their classes effectively despite high FTES/FTEF ratios, high enrollment, and limited budget. As a consequence, we often can not get a good idea of what to order at certain times and we end up not using funds that are badly needed. Our 2003 actual expenditures were 87% of our budget. Our largest budget occurred in 2005 and that year actual expenditures were 93% of our budget. However, inexplicably, despite enrollment growth, our budget was slashed by approximately 1/3 and in 2007, our actual expenditures were 64% of our budget due to administrative issues. That year we put in requisitions for nearly 100% of our 2007 budget, but many orders were cancelled by the administration due to freezing of funds and as a result many of requisitions were not processed and the funds not spent. The result, however, is now we have a budget that really cannot sustain us and inventories that our so low that our program is in danger of not being able to support itself. We need increased classified support so that we can manage our resources more effectively as the professors are too busy trying to deal with the large enrollment and ensure student success despite large FTES/FTEF ratios and increasingly limited supplies.

c. New Departmental Planning Assumptions

In the space below, please list the planning assumptions that will guide your department during the next 6 year period. Include assumptions for at least the following areas:

- *Expected demand*
- *Anticipated curricular trends*
- *Anticipated pedagogical trends*
- *Anticipated technological trends*
- *Anticipated trends in student preparation and/or demographics*
- *Relevant Advisory Group recommendations*

Our department is going to using the following assumptions in the next 6 year period:

We expect demand for our classes to continue to increase due to continued shortages in the healthcare professions for which our classes serve as prerequisites.

We do not expect significant curricular changes to occur except for maybe (if funding and support become available) addition of a biotechnology course, which should increase the skill base for our students and allow them to get jobs in the still robust (even though diminished from its peak at the beginning of the new millenium) biotechnology sector.

We do not anticipate much changes in pedagogy except as further progression in the current trend of enhanced technology use by teachers (in presenting information) and students (in finding, analyzing, and also presenting information) alike.

We anticipate technology use to increase and equipment to get more sophisticated. This technology includes scientific equipment as well as computer hardware, software, and presentation devices.

We anticipate that our current trend of students being massively unprepared for our rigorous science classes to continue. Many students lack language skills, critical thinking skills, reading skills, and sometimes even the ability to follow simple instructions.

We do not have any relevant advisory groups to give recommendations.

d. Self-Assessment of Challenges Facing Department

Please present the Department's analysis of the challenges it will face over the next 6 years in light of the measures of program effectiveness, progress toward past goals, and new planning assumptions.

I think we have effectively accomplished our goals over the past 6 years as we have improved student success, grew in enrollment by 70%, and enhanced FTES by over 80%. However, it will be hard to sustain our program (much less have enhanced growth) given that we have not had any increases in full-time faculty or classified staff and our budget has not kept pace with our increased supply needs. In addition, we are moving into the new Sci/Tech building and as such will need financial support to make the move effective and to modernize our equipment in order to match our new facilities (e.g., it makes little sense to be in a new building using cracking Anatomy models with missing pieces that are over 40 years old).

X. Final Summary by Discipline

a. Based on your program review, summarize:

1. Department Strengths - What is your program doing well?

Our program has shown massive growth in student enrollment, FTES, and student retention and success. We provide quality, rigorous classes that fulfill transfer and prerequisite requirements, which explains continued demand for our classes despite campus-wide decreases in the key measures of student enrollment, FTES, and student success.

2. Department Weaknesses – What areas can your program improve?

In order to maintain not only our life science program but also other healthcare programs (like nursing and rad tech) that rely on our courses as prerequisites, the life science department MUST have increased support in the form of additional full-time faculty, additional classified staff (a laboratory technician), and an increased life science supply budget. Modern equipment and support for our move to the Sci/Tech building could solidify our reputation in the community, enhance our image, and keep us competitive in a world of rapidly increasing technology.

3. Discuss anything else you would like to share about your program that has not been addressed

Our program is vital to our community. We are surrounded by hospitals and the healthcare field is one of the few stable professions in the current economic recession. In order for us to meaningfully contribute to advancing the strategic master plan priorities, we must have adequate support. For a relatively small financial investment, our department can not only enhance revenue generation by increasing our FTES count (our current 80% increase in FTES can already more than pay for what we need to maintain that increase), but also enhance the reputation of the college, maintain the quality of our program and further our primary objective of effectively meeting the needs of our students and serving the community.

b. Seven Principles for Good Practice in Undergraduate Education:

- *Good Practice Encourages Student – Faculty Contact*
- *Good Practice Encourages Cooperation Among Students*
- *Good Practice Encourages Active Learning*
- *Good Practice Gives Prompt Feedback*
- *Good Practice Emphasizes Time on Task*
- *Good Practice Communicates High Expectations*
- *Good Practice Respects Diverse Talents and Ways of Learning*

Additional information about the seven principles for good practice can be found at the following web sites:

<http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/7princip.htm>
<http://www.tltgroup.org/seven/home.htm>

Please identify and discuss one principle that you feel your program does well and one principle that you feel your program could improve upon as a good practice in serving your students.

One principle that our program does well is encouraging student-faculty contact. Our life science faculty are very dedicated and not only spend an inordinate amount of time with students who seek help, but also encourage students to get that help. One principle that our department probably needs to improve upon is respecting diverse talents and ways of learning. Our faculty tries to address all types of learners in our teaching styles (visual, auditory, & kinesthetic), but tends to do so in a framework of our choosing which may not give students the opportunity to express their diverse talents. We will consider as a department ways in which we can encourage students to show their diverse talents and incorporate them into the learning process.

Evaluate each aspect of the program by indicating the appropriate status

ANATOMY					
	Very Strong	Satisfactory	Needs Improvement	Major Concern	N/A
Enrollment	X				
FTES	X				
FTES / FTEF			X		
Retention Rate	X				
Success Rate	X				
Degrees and Certificates					X
FTEF				X	
Course Offerings		X			
Course Outline Consistency	X				
Vocational Program					X
Student Learning Outcomes			X		
Departmental Engagement		X			
Professional Development			X		
Support & Activities				X	
Equipment			X		
Physical Facilities			X		
Budget & Expenditure				X	
Objectives		X			
Resources			X		

Evaluate each aspect of the program by indicating the appropriate status

BIOLOGY					
	Very Strong	Satisfactory	Needs Improvement	Major Concern	N/A
Enrollment		X			
FTES		X			
FTES / FTEF			X		
Retention Rate	X				
Success Rate	X				
Degrees and Certificates					X
FTEF				X	
Course Offerings		X			
Course Outline Consistency	X				
Vocational Program					X
Student Learning Outcomes			X		
Departmental Engagement		X			
Professional Development			X		
Support & Activities				X	
Equipment		X			
Physical Facilities			X		
Budget & Expenditure				X	
Objectives		X			
Resources			X		

Evaluate each aspect of the program by indicating the appropriate status

MICROBIOLOGY					
	Very Strong	Satisfactory	Needs Improvement	Major Concern	N/A
Enrollment	X				
FTES	X				
FTES / FTEF			X		
Retention Rate	X				
Success Rate	X				
Degrees and Certificates					X
FTEF				X	
Course Offerings		X			
Course Outline Consistency	X				
Vocational Program					X
Student Learning Outcomes			X		
Departmental Engagement		X			
Professional Development			X		
Support & Activities				X	
Equipment			X		
Physical Facilities			X		
Budget & Expenditure				X	
Objectives		X			
Resources			X		

Evaluate each aspect of the program by indicating the appropriate status

PHYSIOLOGY					
	Very Strong	Satisfactory	Needs Improvement	Major Concern	N/A
Enrollment	X				
FTES	X				
FTES / FTEF			X		
Retention Rate	X				
Success Rate	X				
Degrees and Certificates					X
FTEF				X	
Course Offerings		X			
Course Outline Consistency	X				
Vocational Program					X
Student Learning Outcomes			X		
Departmental Engagement		X			
Professional Development			X		
Support & Activities				X	
Equipment		X			
Physical Facilities			X		
Budget & Expenditure				X	
Objectives		X			
Resources			X		