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Learning Support Centers Program Review

Program Name: **Anatomy and Physiology Center**Program Contact: **Martin, Theresa M.**Academic Year: **2013-2014**Status: **Submitted**

1. Description of Center

Provide a brief description of the program and how it supports the college's [College Mission and Diversity Statements](#), [Institutional Priorities, 2008-2013](#), [5 in 5 College Strategies, Spring 2011](#), and other [Institutional Program Planning](#) as appropriate.

The Anatomy and Physiology (A & P) Center in Bldg 36 Room 217, provides a supportive study environment to help CSM students succeed in their anatomy and physiology courses, addressing the first Institutional Priority: to improve the academic success of all students (including course completion, retention and persistence), and the second: to promote academic excellence (and improve transfer rates). The Anatomy and Physiology Center consists of two spaces: one lab room with 6 tables seating a total of about 35 students, anatomy and physiology textbooks, anatomy models, specific course textbooks and supplements, histology slides and microscopes, several internet-connected student computers and a faculty desk; a smaller adjoining room with 3 cadavers, specimens and dissecting tools. Students enrolled in any anatomy and physiology course at CSM are welcome to use the Anatomy and Physiology Center. The A & P Center is one of the busiest rooms on campus. Human Anatomy labs run all day and night on Mondays and Wednesdays, and the Center has Biol 260 labs Tuesday and Thursday mornings and evenings. This leaves Friday mornings and weekends as the only convenient times for anatomy students to utilize the Center outside of regular class time.

The Center is primarily used as an open lab for Biol 250 – Human Anatomy students. They are required to complete 16 hours by arrangement (HBA) in the A & P Center while they are enrolled in their anatomy class. This ensures that the anatomy students will have the resources they need to study for the very rigorous and extensive lecture and lab testing that they engage in. The Biol 260 students are also welcome in the Center, and they often come in to get help with their class or to meet a study group. These students are pre-allied health majors who are taking Biol 250 and Biol 260 as prerequisites for clinical programs. The A & P Center hours are supplemented by the nearby Integrated Science Center, which also contains anatomy models, textbooks, and histology slides and a microscope. In addition, the library and the Learning Center both contain boxes of bone models and A & P textbooks for use by anatomy students.

Faculty-staffed, the Anatomy and Physiology Center offers a friendly, comfortable atmosphere, popular with students. It affords students the opportunity to consult with anatomy and physiology faculty and use other resources, work with other students in study groups, or work alone in the company of other students. Faculty staffing is required for the students' HBA work. Management of the Anatomy and Physiology Center facility, scheduling, supplies, assistance with computers, and many other supporting and technical tasks are performed by Biology faculty, assisted by the Biology Dept. laboratory technician.

A newly formed student club, the Anatomy Club, has its home in the Anatomy and Physiology Center. Students in the club engage in activities that include service to the department in the form of cadaver preparation, development of study resources, and volunteer hours in the Center. The club and the Center also serve the community and have sponsored a program at Family Science Day and offered local high school students tours of the Center.

Center staff are excited to be in the position of getting to hire a new F/T Anatomy Instructor. The new tenure-track faculty member will come on board in the fall. We expect that this new addition will bring new ideas and resources to bear on A & P Center leadership.

2. Student Learning and Center Data

A. Discuss Student Learning Outcomes Assessment

Reflect on recent SLO assessment results for courses and degrees and certificates offered by the program.

In November 2012, new SLOs were developed for the ISC in collaboration with all the Learning Support Centers at CSM. A common SLO (SLO#1) was adopted by every center. These new SLOs were assessed in Spring 2013. The Anatomy and Physiology Center SLOs are:

1. Students will have knowledge of Anatomy and Physiology Center resources, including how to access them.
2. Students will demonstrate awareness of study strategies for anatomy and physiology courses.
3. Students will express increased optimism about their abilities to pursue science learning.

The SLOs were assessed by a student survey that was administered by the Center faculty in each of their anatomy classes. There were 103 respondents to the survey. 95% said they were familiar with the resources, and 94% said they were able to access those resources (SLO #1). 89% said the A & P Center helped them develop study strategies for their biology classes (SLO#2). 90% said that coming to the A & P Center increased their confidence that they can succeed in their biology classes (SLO #3). Of the three SLOs, only #2 did not meet success criteria established by the A & P Center faculty of 90% attainment. This highlights the need for the A & P Center to develop tools to help students develop study skills and habits that contribute to student success. (Tracdat)

The student survey administered by PRIE only netted 25 respondents and is not reported here.

In Spring 2014, Center faculty administered an investigative questionnaire that they paired with an interview of 14 random students. The intent of the survey was to investigate students' study habits and needs for success. In particular, we wanted to learn more about how we can address the lack of achievement of SLO #2 – the development of effective study strategies for anatomy. This investigation will drive planning for the A & P Center. Results from the questionnaire and subsequent interviews confirm the need for additional resources in the Center, including: peer tutors, study guides, and digital study tools like mini-quizzes, tutorials, and videos. Many students were unaware of the CSM Anatomy Webpage resources, which exposes the need for better communication about existing resources for A & P students.

B. Center Usage Indicators

1. Review center usage and discuss any differences across demographic variables. Refer to [Planning, Research and Institutional Effectiveness \(PRIE\) reports](#), SARS records, and other data sources as appropriate.

In the Spring 2013, there were 1300 visits by 161 students using the Anatomy and Physiology Center. They attended 2022 total hours. In the Fall 2013, there were 1120 visits by 123 students for a total of 1716 total hours. Each student visited approximately 8-9 times, with average total hours of 14 per semester. Original enrollment in Human Anatomy is approximately 180 students per semester. 79% of these students use the Anatomy and Physiology Center.

The Center serves a higher ratio of under-represented students than the college as a whole. Filipino students make up 11% of the users. White students make up a smaller proportion (22% vs. 34%) than the college population. The majority (67%) of users were female. The average age was 20-24yrs. (Student Profile Data http://collegeofsanmateo.edu/programreview/docs/lsc_anatomy/2014/AnatomyPhysiologyCtr2014StudentProfile10-28-2013.pdf)

Most of the students using the lab were part-time students (73%), but most (99%) took more than three units. This is a little different than college-wide demographics in which 30% of students take less than 3 units, and only 18% are enrolled full-time. 27% of A & P Center students are enrolled full-time. These demographics reflect the student population who have, as their academic goal, a degree and/or license in a medical field, and are often working in addition to going to school, or are returning to school for a change in career. The majority of students are pre-nursing students who wish to attend CSM's Nursing Program, or another nursing program in the state. The evening students also use the Anatomy and Physiology Center. Evening students comprise 28% of the users, and day students comprise 43%. This is reflective of the student anatomy and physiology course population in which approximately 1/3 of students are evening students.

2. Discuss any differences in student usage of center across modes of delivery. If applicable, refer to [Delivery Mode Course Comparison](#).

NA

C. Center Efficiency. Is the center efficient in meeting student needs?

Discuss center efficiency, including staffing, hours of operation, tutorial and other services, space utilization, equipment, or technology as appropriate.

The center's schedule is designed to maximize the number of students we serve. Since four of the six sections in anatomy meet on Fridays for lecture, the center is open for four hours on Fridays. The center is open on selected weekends before laboratory exams, especially to help accommodate evening students (but open to all sections). The Center is often full, especially close to test days, with mostly anatomy students. Currently, few physiology students make use of the Center. Faculty teaching anatomy and physiology staff the Center during these hours and provide one-to-one help, and group help during these times. Per semester, 65 hours of staffing are paid hours. The rest of the hours are done as office hours or on a volunteer basis. Effort is made to compensate adjunct faculty for all the hours they staff the Anatomy and Physiology Center, with the full-time faculty being paid for some of their hours, and using office hours for some.

Coordination of the Anatomy and Physiology Center is being performed by a full-time Biology faculty on a volunteer basis.

Many of the evening students do not have Center day-time hours convenient to them during the week. They typically attend during weekend hours. The limited open hours are supplemented by the Integrated Science Center, the Learning Center and the library. However, only the library has weekend hours that would support working students. Student tutors in the Learning Center are available by drop-in or appointment for help with anatomy and physiology coursework. Weekend hours are well utilized by evening students.

The Anatomy and Physiology Center maintains a comprehensive inventory of models and specimens for student use. We were able to purchase all the models and slides requested from our 2013 program review and these are being incorporated into instruction. The Center faculty maintain an Anatomy website that provides distance learning resources including tutorials, animations, videos, worksheets, and practice quizzes.

3. Additional Factors

Discuss additional factors as applicable that impact the center, including changes in student populations, state-wide initiatives, transfer requirements, advisory committee recommendations, legal mandates, workforce development and employment opportunities, community needs. See [Institutional Research](#) as needed.

The Anatomy and Physiology Center supports pre-allied health students. These students are often applying for extremely competitive programs with strict entrance requirements. As a result, the students have a high grade anxiety, and tend to be very motivated. These courses also feed our Nursing CTE program, and as such, have strict content requirements and are very rigorous.

The Center offers one-to-one faculty help to students facing the challenges of Biol 250 and Biol 260. Its resources are intended to help the students become more effective learners in order to master the course content. We would like to increase student success in anatomy and physiology by incorporating increased use of peer tutors, digital resources, and training on effective academic habits we would like to increase student success in these gateway courses.

We would also like administrative support for the center so that faculty is released from the administrative tasks associated with the Center in order to focus on student success more directly.

The addition of the Learning Center resources has been a positive development over the past two to three years. The Learning Center provides peer tutoring in anatomy and physiology. Supplemental instruction has also been offered to two sections of Anatomy for the first time in Spring 2014. We would like to expand SI to all 6 sections. We would like to integrate peer-tutoring services provided by the Learning Center into the Anatomy and Physiology Center, so that the tutors can use the specimens and models with their tutees.

4. Planning

Note: For centers that serve a single department, a portion of the information included in a departmental program review may be referred to or

inserted here.

A. Results of Plans and Actions

Describe results, including measurable outcomes, from plans and actions in recent program reviews.

Faculty members continue to discuss student success, and most of the faculty members have adopted the Reading Apprenticeship Program (RAP) that engages teacher and students in metacognitive conversations about reading and learning. This program has been a rich source of discussion about productive student behaviors. Faculty Santiago Perez studied student success in relation to time spent in the Center and found a positive relationship between time spent in the Center and lab practicum grades. Data available by request. In response to student concerns over old and damaged models we were able to purchase a new vascular model to supplement the old and damaged one. We also were able to purchase several small models to supplement our collection.

Plans from 2013 Program Review

Plan 1-Skill Development Activities: Faculty were not funded to develop study activities, however, the Center has invited students to presentations by speakers, and has continued to host a vibrant Anatomy Club. Student volunteers are involved in peer-to-peer mentoring and prosecting cadavers.

The assessment of SLO 2 revealed a need to address students' study skills. As it happens, there is a concomitant initiative on the CSM campus to help students develop their Habits of Mind, those habits that students engage in that lead to their academic success. Center faculty are involved in campus-wide and state-wide discussions about Habits of Mind, and we expect these inquiries will result in new directions for us to work with our students.

Plan 2 - A & P Student Scholars Program: While we did not pursue an A & P Scholars program, Center faculty members continue to discuss student success in Pre-Allied Health. Center faculty are active in the National Science Foundation sponsored Community College Biology Faculty Enhancement Through Scientific Teaching Program (CCBFest). This program develops faculty capacity to engage students in active learning strategies and also provides networking with other anatomy and physiology programs in the bay area. The Reading Apprenticeship program has also provided important professional development opportunities for Center staff. All the faculty have been trained in RA strategies, and tutors in the LC are also versed in routines to help students find meaning in their texts. These professional development opportunities have direct impacts on student success pedagogies used by Anatomy and Physiology Center faculty.

We were able to purchase all the models and slides requested from our 2013 program review and these are being incorporated into instruction. Since Spring 2013 faculty in anatomy have sponsored a student-led Anatomy Club. The Anatomy Club shares study tips and tools, engages in dissection and research about anatomy, has social activities, and provides service to the CSM A & P community. These efforts have supported a stronger community around the pre-allied health students.

B. Center Vision

What is the program's vision for sustaining and improving student learning and success during the *next six years*? Make connections to the [College Mission and Diversity Statements](#), [Institutional Priorities, 2008-2013](#), and other [Institutional Program Planning](#) as appropriate. Address trends in the SLO assessment results and student usage and data noted in Section 2.

[Note: Specific plans to be implemented in the *next year* should be entered in Section 4C.]

Faculty would like to see the Center be more effective at improving anatomy and physiology student success rates. Success rates in Biol 250 traditionally are lower than college rates: 54% in 2010 (<http://collegeofsanmateo.edu/institutionalresearch/docs/enrollmentdata/SuccessRatesHighEnrollCoursesF10Final9-4-2012.pdf>), and 62.7% in 2012, compared to a college average of 70% (http://collegeofsanmateo.edu/2013selfevaluation/docs/final_report/CSMSelfEvalVol1_8-21-13FINAL.pdf#page=54). While we are encouraged by the increase in success, we know that we can do more to help students achieve success.

To achieve the goal of improved student success, we would like the center to be available more hours for students, with peer tutors, SI leaders, and faculty on hand to help students with their anatomy and physiology coursework. We would like to involve students in developing their Habits of Mind – those habits that engender student success. We would like the A & P Center to take on the role of learning community for the pre-allied health students with a focus on successful completion of pre-allied health prerequisites. We would like to integrate student services resources into the Center. We believe an interdisciplinary emphasis placed on the study skills accessed at the Center is the right approach. Providing these resources would enhance and expand the learning community activities occurring at the

Center.

The A & P Center will actively participate as part of a network of student support centers at the college. Over the next six years, the Learning Support Centers Committee, as a standing committee of the Academic Senate, will continue its regular meetings to maximize the ability of all centers to serve student needs. The committee will strategize to align hours of operation, computer and technology resources, staffing, and other services to create comprehensive learning support network for all students.

The combined work of the ISC and other learning support centers serves four Institutional priorities: 1: improve the academic success of all students (completion, retention, persistence), by increasing student participation in academic support services and improving such services; 2: promote academic excellence (improve transfer rates), by offering study opportunities and faculty consultation in a supportive environment; 4: promote integrated planning, fiscal stability and the efficient use of resources (support decision making in institutional planning that is informed by evidence, research and use of outcome measures), by basing decisions on data from all learning support centers; 5: enhance institutional dialogue (improve campus-wide communication), by the collaboration between the learning support centers.

1. To guide future faculty and staff development initiatives, describe the professional enrichment activities that would be most effective in carrying out the program's vision to improve student learning and success.

Faculty need time to plan and develop a more comprehensive learning community experience for our anatomy, physiology, and microbiology (the three main pre-allied health biology courses) students. The A & P faculty have no shared time in which to plan and develop a more comprehensive student success program.

Faculty need training on the development of cognitive and non-cognitive skills (Habits of Mind) that students need to be successful. They need time to form collaborative partnerships that will facilitate a comprehensive program for the pre-allied health students. They need training on culturally competent communication and teaching.

Faculty in the Anatomy and Physiology Center are currently participating in the Reading Apprenticeship Program (RAP) and Community College Biology Faculty Enhancement through Scientific Teaching (CCB FEST), as well as networking with the Community College Success Network (3CSN), the national Biology Vision and Change Initiative, and Association of American Colleges and Universities (AAC&U): Project Kaleidoscope, Ramping Up for STEM Success Initiative, and the Human Anatomy and Physiology Society (HAPS). These initiatives, along with Leading from the Middle Academy and CSM Cares, the college's mental health grant, provide rich sources of information and support for developing transformational change within our Center. However, because of limited travel funds, faculty participation in associations that hold meetings beyond the Bay Area is limited. We would like to have funds available to travel to organization meetings like HAPS in order to maintain a professional network.

2. To guide future collaboration across student services, learning support centers, and instructional programs, describe the interactions that would help the program to improve student success.

Faculty for the pre-allied health students work with campus programs to embed nonacademic support into services provided at the Anatomy and Physiology Center. We have a close relationship with the Learning Center which provides trained peer tutors and SI leaders. We would like to see Supplemental Instruction expanded to include all the anatomy and physiology class sections. Learning Center tutoring is excellent, and we would like to see tutoring occur at both the Learning Center and on-site at the Anatomy and Physiology Center.

We could add Counseling and transfer advice onsite. Center faculty have had transfer center presentations in their classes. The freshly minted student Anatomy Club is also housed at the Anatomy and Physiology Center. Their activities enrich the experience of anatomy students interested in being a part of the community. The A & P Center staff will continue to engage across campus boundaries in communities of practice for Reading Apprenticeship, Habits of Mind, culturally competent practices, and closing of achievement gaps.

3. To guide the **Institutional Planning Budget Committee** (IPBC) in long-range planning, identify any major changes in resource needs anticipated during the next three years. Examples: faculty retirements, equipment obsolescence, space allocation.

Equipment and Technology

Faculty:

Currently Anatomy and Physiology faculty include two full-time faculty and two part-time faculty. A F/T faculty member that currently teaches 2-3 sections of anatomy/year and 3 sections of physiology/ year will be retiring within the next 3 years. This individual has also used office hours to assist in the staffing of the A & P center both during the week and on weekends. Another F/T faculty member is receiving release time for professional development coordination, and is not teaching anatomy or physiology next fall and possibly beyond. We will be hiring a new full time faculty for anatomy and physiology that starts next year, but we really have a need for two new F/T faculty. In addition, we need funding to extend the hours of Center operation in order to provide access to all students.

Equipment and Technology: The Center will need to continue to maintain and/or replace damaged or worn out models, and computers. These materials coincide with the Biology Department's requests, since the Anatomy and Physiology Center materials and equipment also serve the department classes. Potentially the Center could house a printer using the centralized printer system. We have three student IMac purchased in 2010 that will be replaced this academic year. The Center currently has no student printing capabilities. We typically send students to the Integrated Science Center for their print needs.

Instructional Materials

The Center will need to continue to maintain and/or replace damaged or worn out models, and specimens. These materials coincide with the Biology Department's requests, since the Anatomy and Physiology Center materials also serve the department classes. We also want to produce study tools for students to use while in the Center. These would consist of worksheets and handouts to help guide their study. Faculty need time to investigate, plan, and develop these tools.

The A & P Center needs to develop a digital library of resources accessible in one place. Staff need time or student assistant help to compile and curate this library.

Classified Staff

None needed.

Student Assistant

Student assistants are needed to help compile and curate digital resources for students, mentor students, maintain our library of books, help repair and clean models, help track student hours. Five hours per week would be sufficient.

Facilities

Currently classes held in the Center space are limiting scheduling of Center hours. We would like to make course schedule adjustments that will increase the hours the Center can be available to our A & P students, especially our evening students.

C. Plans and Actions to Improve Student Success

Prioritize the plans to be carried out next year to sustain and improve student success. Briefly describe each plan and how it supports the **Institutional Priorities, 2008-2013**. For each plan, list actions and measurable outcomes. (Plans may extend beyond a single year.)

We will continue to serve as a resource for A & P students by providing a lab environment in which to study. In addition we will continue to collaborate with the Learning Center and the LC Coordination Committee to find the best solutions for issues facing the Centers. In addition, Center faculty will continue to engage in professional enrichment activities that directly impact student success such as RA and Habits of Mind.

Plans:

1) Peer Tutors in the Center supports Institutional Priorities 1, 2, and 3:

Actions - recruit peer tutors and SI leaders, coordinate sessions in the Center with Learning Center staff.

