

## LEARNING SUPPORT CENTERS PROGRAM REVIEW: SPRING 2013 SUBMISSION CYCLE

Program Name: Anatomy and Physiology Center  
Center Contact: Theresa Martin

Academic Year: 2012-2013  
Program Review Submission Date: March 25, 2013

### I. 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 planning documents as appropriate.

The Anatomy and Physiology Center in 36-217 provides a study support 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, several internet-connected student computers and a faculty desk; a smaller adjoining room with 2 cadavers, specimens and dissecting tools. Students enrolled in any anatomy and physiology course at CSM are welcome to use the Anatomy and Physiology Center.

Faculty-staffed, the Anatomy and Physiology Center offers a friendly, comfortable atmosphere, popular with anatomy students. It provides for students to consult anatomy and physiology faculty, work with other students in study groups, or work alone in the company of other students. The Anatomy and Physiology Center is open Friday mornings, and other selected times, including some weekend hours. Faculty staffing is required for the student hours to be used for course TBA work. Management of the Anatomy and Physiology Center facility, scheduling, supplies, assistance with computers, and many other supporting and technical tasks are performed by 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 are developing activities that include service to the department and to the community.

### II. Summary of Student and Center Data

#### A. Student Learning Outcomes Assessment

Summarize recent SLO assessments, identify trends, and discuss areas in need of improvement.

In November 2012, new SLOs were developed for the ISC. This was done in collaboration with all the Learning Support Centers at CSM, and a common SLO was adopted by every center. These new SLOs will be 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.

In a 2009 survey of students (n= 26) who use the Anatomy and Physiology Center, 82% felt the center was "very helpful" to their success in their courses. A 2012 survey did not have enough respondents to

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adequately gauge the SLO attainment. In the future we will use more intrusive techniques to capture student opinions.

79% of Anatomy and Physiology Center users were successful in their courses, compared to 71% for the college.

([http://collegeofsanmateo.edu/programreview/docs/lsc\\_anatomy/2013/AnatomyPhysiologyCtr2013StudentProfile11-14-2012.pdf](http://collegeofsanmateo.edu/programreview/docs/lsc_anatomy/2013/AnatomyPhysiologyCtr2013StudentProfile11-14-2012.pdf)) However, success rates in Human Anatomy (Biol 250) are far short of this measure, 54% in 2010

(<http://collegeofsanmateo.edu/institutionalresearch/docs/enrollmentdata/SuccessRatesHighEnrollCoursesF10Final9-4-2012.pdf>).

### 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 Fall 2012, there were 1374 visits by 139 students using the Anatomy and Physiology Center. They attended 2018 total hours. In the Spring 2012, there were 1394 visits by 150 students for a total of 2198 total hours. Each student visited approximately 9-10 times, with average total hours of 14 per semester. Original enrollment in Human Anatomy is approximately 180 students per semester. 83% of these students use the Anatomy and Physiology Center.

The center served more Filipino students (11%) than the college as a whole (7%), and less black students than the college population (1% vs. 4%). The majority (65%) of users were female. The average age was 20-24yrs. (Student Profile Data  
<http://collegeofsanmateo.edu/programreview/learningsupport.asp>)

Most of the students using the lab were part-time students (80%), taking between three and twelve units. This is very similar to college-wide demographics. 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 31% of the users, and day students comprise 69%. This is reflective of the student anatomy and physiology course population, although evening students are underrepresented slightly.

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

Not applicable

### 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, the center is open for four hours on Fridays. The center is open on selected Saturdays before laboratory exams to accommodate evening students. The Center is often full, especially close to test days, with mostly anatomy students. Currently, few

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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.

Management of the Anatomy and Physiology Center is being performed by a Biology faculty with unpaid time.

The evening students do not have Center hours convenient to them during the week. The underusage by the evening students is seen in the student profile data. 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. The center maintains an Anatomy website that provides distance learning resources including tutorials, animations, videos, worksheets, and practice quizzes.

### D. Course Outline Updates (if applicable)

Review the course outline update record. List the courses that will be updated in the next academic year. For each course that will be updated, provide a faculty contact and the planned submission month. See the Committee on Instruction website for course submission instructions. Contact your division's COI representatives if you have questions about submission deadlines. Career and Technical Education courses must be updated every two years.

Courses to be updated	Faculty contact	Submission month
NA		
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### E. Website Review

Review the center's website(s) annually and update as needed.

The Anatomy and Physiology Center has two websites that provide information about the Center. The first is mostly a placeholder at <http://collegeofsanmateo.edu/anatomy/index.asp>. This website is linked to from the Learning Support Center's webpage. The second is more comprehensive and contains the schedule each semester: <http://www.smccd.net/accounts/martin/anatopenlab.html>. This is linked to from an Anatomy Webpage that the anatomy students are directed to each semester.

Theresa Martin, with help from Marketing, maintains both pages. The plan is to merge these two websites to create one information and resource portal for students to use.

Contact(s)	Date of next review/update
Theresa Martin	4/6/2013

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### III. Student Learning Outcomes Scheduling and Alignment

#### A. Course SLO Assessment (if applicable)

Explain any recent or projected modifications to the Course SLO assessment process or schedule.

NA

#### B. Center SLO Assessment

Explain any recent or projected modifications to the Center SLO assessment process or schedule.

PRIE and the Center co-developed a survey of student satisfaction in 2009. The survey will be updated to reflect the new SLOs. After disappointing participation results, we plan to modify the process of survey completion by students in the Anatomy and Physiology Center. Of 150 students using the Center in the Spring 2012, only 6 students took the survey. Our plan is to ask all anatomy and physiology instructors to post the link to the survey in their WebAccess anatomy and physiology courses, and then strongly encourage all students to take the survey as a part of their course participation. We will open the survey in May, for two weeks. Results will be compiled by PRIE.

#### C. SLO Alignment (as applicable)

Discuss how Center SLOs support Program SLOs. Discuss how Course and/or Center SLOs support Institutional/GE SLOs. Refer to TracDat related program and institutional SLOs reports.

In general, the Anatomy and Physiology Center's SLOs support the AS Major in Biology: Pre-Nursing, and AS Major in Biology: Medical SLOs:

- Explain the scientific method and its applications, and use the scientific method in a laboratory setting.
- Explain the principles of evolution as a fundamental process of all biology.
- Describe how structure and function contribute to homeostasis at all levels of human biology.
- Demonstrate proficiency in basic lab skills and analysis.
- Demonstrate knowledge of common and current clinical issues.

The Center SLOs

1. Students will have knowledge of Anatomy and Physiology Center resources, including how to access them. This supports the program SLOs by providing resources that will contribute to the Program SLOs.
2. Students will demonstrate awareness of study strategies for anatomy and physiology courses. Program SLOs will be enhanced as students develop skills to be more proficient learners
3. Students will express increased optimism about their abilities to pursue science learning. Students will have gains in self-perception of their abilities to be learners of science. The Anatomy and Physiology Center community of learners supports development of that self-image.

The Center SLOS also support the Institutional and GE SLOs by providing a resource that enhances development of student learning skills, including, but not limited to: effective communication, quantitative skills, and critical thinking.

### IV. Additional Factors

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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 recent Student Success Act places student achievement at the forefront of the community colleges' priorities. This aligns with CSM's Mission and Priorities. The Anatomy and Physiology Center supports those priorities by providing students one-to-one help with their studies. We want to expand the access to the Center so that the evening students are better supported, and we want to enhance instructors' abilities to assess and intervene on student behaviors within the context of their studies so as to support positive thoughts and behaviors by students. We also see other measures that can contribute to the role of the Anatomy and Physiology Center. Those measures include supplemental instruction, student scholars program, peer tutoring, and embedded counseling. Those initiatives require funding to: staff the center more hours (including student assistant funding), solve space limitations, and provide professional development for instructors. We would also like administrative support for the center so that faculty are 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. 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.

### V. Institutional 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.

Our efforts to increase access to the Center have resulted in more faculty who have committed to staffing the Center, especially on weekends. Our FTE for staffing increased from 1.5 (35 hours) in 2008, to 2.8 in 2013 (65 hours). In response to student concerns over old and damaged models we were able to purchase a new vascular model to supplement the damaged one. Faculty continue to discuss student success, and most of the faculty 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. In addition, all center faculty members 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. RAP and CCBFest both have direct impacts on student success pedagogies used by Anatomy and Physiology Center faculty.

#### 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 planning documents as appropriate. Address trends in the SLO

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assessment results and student usage and data noted in Section II. Summary of Student and Program Data.

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

Faculty would like to see the Center be more effective at improving anatomy and physiology student success rates. To that end, we would like the center to be available more hours for students, with peer tutors 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. Ideally, the Anatomy and Physiology Center serves as a site for premedical and pre-nursing students to form a learning community with a completion agenda. Success rates in anatomy traditionally are lower than college rates (54% vs. 69% respectively in 2010) (<http://collegeofsanmateo.edu/institutionalresearch/docs/enrollmentdata/SuccessRatesHighEnrollCoursesF10Final9-4-2012.pdf>). Faculty would like to integrate student services resources into the Center. There would also be an interdisciplinary emphasis placed on the study skill accessed at the Center. 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 Coordinating 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 faculty community has no shared time in which to plan and develop a more comprehensive student success strategy. Faculty need training on the development of cognitive and non-cognitive skills 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. 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.

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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 would work with student services to embed nonacademic support into services provided at the Anatomy and Physiology Center. The Learning Center tutoring service could be integrated into the services provided at the Anatomy and Physiology Center. Counseling and transfer advice could occur onsite. The freshly minted student Anatomy Club is also housed at the Anatomy and Physiology Center. Their activities will enrich the experience of anatomy students interested in being a part of the community.

3. To guide the Institutional Planning Committee (IPC) in long-range planning, discuss any major changes in resource needs anticipated in the *next six years*. Examples: faculty retirements, equipment obsolescence, space allocation. Leave sections blank if no major changes are anticipated. Specific resource requests for the next academic year should be itemized in Section VI.A below.

**Faculty retirements:** A faculty member that currently teaches 2-3 sections of anatomy/year and 3 sections of physiology/ year will be retiring within the next 6 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.

**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.

**Instructional Materials:** 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.

Classified Staff: NA

**Student Assistant:** We would like to have student assistants for the Center. We could for see 6-8 hours per week of work for those assistants. The assistants could mentor students, maintain our library of books, help repair and clean models, help track student hours.

**Student Scholars Program:** We would like to have a scholarship program for outstanding anatomy students. As part of this scholarship program, students would also have an obligation to the center as student mentors.

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Facilities: Ideally the Anatomy and Physiology Center would be housed in a space that allowed group events in addition to quiet study. Currently the lab space that the center is in is too small to accommodate both types of activities effectively. We could use 400 additional square feet in a separate room for group events. The second floor of building 36 is highly impacted with class scheduling.

### 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.

#### Plan 1

Title:

Skill Development Activities

Description

Add activities that improve instructor-student and peer interactions by developing cognitive and non-cognitive skills. A & P Center activities will add small self-evaluations, small group tasks, and activities that induce discussions of skills for success. This plan is to increase the abilities of students to be successful

Action(s)	Completion Date	Measurable Outcome(s)
1) Develop a portfolio of 17 activities and test and implement them during Fall 2013 and Spring 2014.		Students will express increased optimism about their abilities to pursue science learning. (SLO #3) Students will demonstrate awareness of study strategies for anatomy and physiology courses. (SLO#4)
2) Invite counselors, transfer experts, industry experts, interdisciplinary experts to come and provide resources to students. Have Anatomy Club meetings.		A calendar of events accessible by students on the Anatomy webpage. Students will express increased optimism about their abilities to pursue science learning. (SLO #3)
3) Hire student assistants for each semester: Fall 2013 and Spring 2014. These students will help implement action #1		Students will express increased optimism about their abilities to pursue science learning. (SLO #3) Students will demonstrate awareness of study strategies for anatomy and physiology courses. (SLO#4)



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4) Provide students completing a set number of activities a certificate of completion and a CSM logo item. Fall 2013, and Spring 2014		Certificates given to 90% of students using the A & P center.
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**Plan 2**

Title:

A & P Student Scholars Program

Description

Develop an A & P Center Student Scholars Program in which student scholarships are given for exemplary performance in Biology 250 or 260, and which would be tied to an obligation to the Center as student mentors.

Action(s)	Completion Date	Measurable Outcome(s)
Apply for funding from granting bodies. (internal or external) Fall 2013		Grant applications linked to RFPs.
Develop program for Fall 2012		Scholar program in place with assessment strategies developed
4T		4T

For additional plans, cut/paste from above and insert here. Or add an additional page. Number your additional plans accordingly.

*[Note: Itemize in Section VI.A. Any additional resources required to implement plans.]*

**VI. Resource Requests**

*A. Itemized Resource Requests*

List the resources needed for ongoing program operation and to implement the plans listed above.

Equipment and Technology

Description (for ongoing program operation)	Cost
NA	

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Description (for prioritized plans)	Plan #s)	Cost
NA		

**Instructional Materials**

Description (for ongoing program operation)	Cost
New and replacement Anatomy and Physiology models	\$3772
Type II Diabetes Model (\$145.00)	
Digestive tract model (\$843.00)	
Child ear model (\$649.00)	
Colon model with pathologies (\$73.90)	
Fetal development model (\$170)	
Histology of the small intestine model (\$649.00)	
Obesity Model (\$106.00)	
Liver Pathologies Model (\$72.45)	
Osteoporosis Model (\$329.00)	
Basic Skin Health Model (\$75.15)	
Human Kidney, Nephron, and Glomerulus Model Set (\$660.00)	

Description (for prioritized plans)	Plan #s)	Cost
Skill Development Activities: Hard Copies of activities for students and faculty	1	\$500
Development of portfolio of activities: Requires development by faculty; Portfolio of 17 activities, each taking 4 hours to develop (68hrs) @ special rate of \$55/hr = \$3740	1	\$3740
Certificate of program completion and logo item for 135 – 150 students	1	\$750

**Classified Staff**

Description (for ongoing program operation)	Cost
NA	

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Description (for prioritized plans)	Plan #s)	Cost
NA		

**Student Assistant**

Description (for ongoing program operation)	Cost
Student assistants to help with Anatomy and Physiology Center. 64 hours per semester @ \$10/hour	\$640

Description (for prioritized plans)	Plan #s)	Cost
Student assistants to help with Anatomy and Physiology Center. 64 hours per semester @ \$10/hour	1	\$640

**Facilities**

For immediate or routine facilities requests, submit a [CSM Facility Project Request Form](#).

Description (for prioritized plans)	Plan #s)	Cost
Need additional space for meeting	1	Facilities TBD

**B. Cost for Prioritized Plans**

Use the resources costs from Section VI.A. above to provide the total cost for each plan.

Plan #	Plan Title	Total Cost
1	Skill Development Activities	\$5630
2	A & P Student Scholars Program	0
	For additional plans, add rows and number accordingly.	