Option 2: Exemplar Submission

Introduction
During the Spring 2009 Semester, funding was obtained for an advising center to be housed in the College of Natural Sciences and Mathematics (Natural Sciences Advising Center, NSAC). The purpose of the center was to provide advising for students in majors with highly sequenced courses and to contribute to greater student retention. The 2009-2010 Annual Assessment Report describes the rationale and overall goals for the center and presents data collected during the Center’s first year in existence.

Based on experiences in the 2009-2010 academic year, NSAC staff set the following six goals for the 2010-2011 academic year:

1. To continue to provide advising to NSM students, with first-year freshmen and newly transferred students in Biological Sciences as its primary focus group.
2. To develop and implement a new Exit Survey, to assess and improve its effectiveness in meeting students’ needs.
3. To renew efforts to introduce Biological Sciences faculty to NSAC resources and Sign-in software, and poll faculty on what advising assistance they would find most valuable.
4. To continue to meet with other segments of the university community to identify how existing programs (such as adjunct classes, Student Financial Services, and the Career Center) may tailor their services to better support the academic success of NSM students.
5. To continue to meet with representatives of departments to determine how success in foundational skills such as reading, writing, and mathematics may best be integrated with success in the major.
6. To provide workshops for students in areas such as applying for scholarships, obtaining internships, and applying to graduate and professional schools, as time permits.

1. What question or issue were you addressing with this activity?

Assessment of Effectiveness of the Natural Sciences Advising Center
The primary goal of this activity is to assess the effectiveness of the NSAC in its second year serving students in NSM (related to Goal 1 and 2 above). In this report, we describe the activities of the Center during the 2010-2011 academic year, with an emphasis on the results gathered from exit surveys designed to gauge students’ interests and needs as well as their satisfaction with their advising sessions. A new exit survey administered during the spring 2011 semester contained additional questions regarding students’ abilities to successfully enroll in courses they
were advised to take, as this appears to be a growing problem for science majors. Independent of the advising center, the department also developed three new surveys to collect information on students’ experiences and challenges as they progress through the biology curriculum. Preliminary findings from these surveys are presented.

DATA COLLECTION AND RESULTS FOR FALL 2010

2. What data did you collect to address this question or issue?

During the Fall 2010 Semester, the NSAC continued to serve freshmen and first-semester transfer students majoring in Biological Sciences and other students who sought advising. The NSAC staff continued to be limited to two retired annuitants. The Center was open an average of 20 hours per week, usually from 11:00-3:00.

The Exit Survey was completed by approximately 342 students of 661 students advised in NSAC during Fall 2010. The survey was not available early in the semester due to problems with computer systems. To record the numbers, timing, and purposes of student visits, the Sign-in software program was used. Unfortunately, some data are missing because the server for this software was disabled for a week and a half early in the semester. E-mail communications between NSAC advising staff and other faculty and staff were used as records of interactions between NSAC staff and others.

3. What did the data tell you?

Goal 1: To continue to provide advising to NSM students, with first-year freshmen and newly transferred students in Biological Sciences as its primary focus group.

The Sign-in software recorded 661 student visits with NSAC staff in Fall, 2010. The two NSAC advisors provided over 200 hours of advising during the 320 hours they were available. However, within the 661 visits, only 105 were with self-described freshman and only 78 were with self-described transfer students, for a total of 183 appointments with the targeted student population. Data from the registrar’s office indicated that there were 436 freshmen and first-semester transfer students majoring in Biological Sciences at the start of the semester. Registration holds were placed on all of these students and removed after they received advising; Biological Sciences Department staff placed the holds and removed them after receiving a daily list of students visiting NSAC. At the end of the semester department staff reported that 153 out of 436 students in the target population still had registration holds in place. There is no simple way to tell if those students have left the institution, have changed their major, or intend to register late.

Approximately 342 students completed the Exit Survey after receiving advising. Their responses to the first six items on the survey provide a partial profile of these students. Two hundred and two had never seen an advisor from the Biological Sciences Department; 116 had seen one within the last year. In addition, 89% of the students surveyed were Biological Sciences majors; 26 of 36 non-majors were changing their major to Biological Sciences. Since 172 students indicated that they were Biological Sciences minors, the response to that item was considered
invalid. Only 17 students responded to item #5, and 12 of these indicated that they had received advising about chemistry course requirements. Roughly 50% of the students scheduled appointments in advance; 50% dropped in. This result seemed to be related to students’ difficulty using the on-line appointment-making system and their desire to fit advising in on the spur of the moment. While the NSAC staff is glad to accommodate students’ spontaneity, we had to remind many students to bring their advising folders with them next time. Those students bringing advising records with them seemed better prepared to reflect on their advising.

Table 1 summarizes information from items 7-21 of the Exit Survey. Students could indicate what questions they wanted answered prior to their advising session, what questions were answered by their advising session, and what questions they had after their advising session. The five most prevalent questions students had before their advising session were: (1) how to remove their advising hold (n=146), (2) requirements for graduation (n=108), (3) what courses to take next semester (n=106), (4) requirements for a BA/BS in Biological Sciences (n=96), and (5) how to change major (n=94). It was rather surprising that so many students had questions about changing a major. Perhaps this is a reminder that a large fraction of undergraduates remain undecided about their majors, even after declaring a major. Many students also had questions about what courses from other institutions could be substituted for required courses at CSUS, how to find an advisor, how to explore careers, how to apply for scholarships, and what courses to take after next semester. For most of the questions the advising session answered the students’ questions, even if they had not come in with questions about the issue. The NSAC staff was particularly satisfied to see that over 2/3 of the students indicated that they had learned about degree requirements, selecting courses for one or more semesters, and how to find a faculty member for advising; over 1/3 of the students indicated they had learned something about being more successful in courses.

Those questions most frequently not answered by the advising session were how to apply for scholarships, how to apply to graduate school, how to apply to credential programs, and how to fill out graduate applications. The NSAC staff is not surprised at this result since the last three questions would apply more to students near the end of their degree program and our advising was targeted at students near the start of their degree program here. However, the staff does recognize that it should develop a way of presenting more information about applying for scholarships.

Table 1: Exit Survey responses indicating questions that students had before receiving advising, that were answered by the advising session, and that remained after receiving advising

<table>
<thead>
<tr>
<th>Questions</th>
<th>Had question before advising</th>
<th>Question answered by advising</th>
<th>Still have question</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to remove an advising hold</td>
<td>146</td>
<td>100</td>
<td>28</td>
</tr>
<tr>
<td>What courses to take next semester</td>
<td>106</td>
<td>291</td>
<td>12</td>
</tr>
<tr>
<td>What courses to take after next semester</td>
<td>80</td>
<td>266</td>
<td>37</td>
</tr>
<tr>
<td>What courses can be substituted from other institutions</td>
<td>88</td>
<td>191</td>
<td>35</td>
</tr>
<tr>
<td>What courses must be completed for a BA/BS in Bio Sci</td>
<td>96</td>
<td>259</td>
<td>18</td>
</tr>
<tr>
<td>What are requirements for graduation</td>
<td>108</td>
<td>196</td>
<td>37</td>
</tr>
</tbody>
</table>
Items #22-25 from the Exit Survey showed that advising at NSAC was well received. Over 88% of students completing the Exit Survey considered their advising session to be “extremely valuable” (59.2%) or “very valuable” (29.3%); only 2% rated their experience “slightly valuable” (1.47%) or “not at all valuable (0.59). Roughly 91% of students found the advising environment of NSAC “extremely comfortable” (59.2%) or “very comfortable” (31.7%). About 86% indicated that they would be “extremely comfortable” (53.9%) or “very comfortable” (31.9%) making an appointment to see a faculty member in his/her office. But 70% expressed a preference for receiving advising from NSAC, rather than from individual faculty.

Table 2 shows how frequently students identified specific services as desirable offerings of an advising center. The most frequently identified were: course selection, career advising, internship opportunities, help with forms, and scholarship information.

<table>
<thead>
<tr>
<th>Service</th>
<th># Students Desiring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course selection</td>
<td>291</td>
</tr>
<tr>
<td>Career Advising</td>
<td>267</td>
</tr>
<tr>
<td>Internship Opportunities</td>
<td>225</td>
</tr>
<tr>
<td>Help with Forms</td>
<td>194</td>
</tr>
<tr>
<td>Scholarship Information</td>
<td>188</td>
</tr>
<tr>
<td>Professional School information/application help</td>
<td>185</td>
</tr>
<tr>
<td>To be placed with a career advisor</td>
<td>176</td>
</tr>
<tr>
<td>Transfer credit information</td>
<td>172</td>
</tr>
<tr>
<td>Study Tips</td>
<td>144</td>
</tr>
<tr>
<td>Workshops (e.g. on study skills, career options)</td>
<td>140</td>
</tr>
<tr>
<td>To obtain forms</td>
<td>137</td>
</tr>
<tr>
<td>To find study groups</td>
<td>98</td>
</tr>
</tbody>
</table>
Responses to item #26 of the Exit Survey confirmed that students preferred afternoon (63.9%) to morning (29.3%) and evening (6.7%) advising sessions.

**Goal 2: To develop and implement a new Exit Survey, to assess and improve its effectiveness in meeting students’ needs.**

Modified versions of the Exit Survey were written for fall and spring semesters. The intent of the fall modifications was to simplify recording the reasons students visited NSAC. The Fall 2009 version of the Exit Survey yielded some interesting data (cited above) about what students learned from their advising session, about which they had not initially planned to ask. The modified Exit Survey for Spring, 2011 contains questions to see if students were successful in registering for courses that they were advised to take, and is meant to provide information for those scheduling courses.

**Goal 3: To renew efforts to introduce Biological Sciences faculty to NSAC resources and Sign-in software, and poll faculty on what advising assistance they would find most valuable.**

One of the NSAC staff met with the department’s advising committee prior to the start of the semester, to offer services and facilities. The department faculty were so busy with discussion of new curricula, preparation of a Program Review, and other department issues that no time could be found for NSAC staff to meet with faculty. There was a brief discussion of whether faculty should be introduced to Sign-in software when it seemed that the University was going to implement the advising note portion of its CMS/My Sac State software soon. One faculty member visited during the semester to become familiar with our advising procedures and facilities. In addition, the chair of the department’s Curriculum Revision Committee sent us an e-mail of changes in the curriculum, which is scheduled to be implemented in Fall, 2011.

**Goal 4: To continue to meet with other segments of the university community to identify how existing programs (such as adjunct classes, Student Financial Services, and the Career Center) may tailor their services to better support the academic success of NSM students.**

In September, NSAC staff met with Deidre Sessoms of Teacher Education and David McVey of the Career Center, to plan how services from their departments could be provided at NSAC. By the end of the month both representatives were available regularly on Mondays from 2:00-4:00. Their availability was announced to students via flyers, by NSAC advisors, and on the NSAC website:

**Services include assisting students with:**

- Finding internships, volunteer experiences or part-time jobs
- Developing resumes and cover letters

<table>
<thead>
<tr>
<th>Information on dropping classes</th>
<th>91</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>3</td>
</tr>
</tbody>
</table>
· Exploring career options by major and/or concentration
· Choosing/changing a major, concentration and/or career path
· Learning job search strategies
· Using Career Connection (online job listings)
· Learning about K-12 teaching opportunities for NSM students

Despite offering students services that the students had deemed valuable, Sign-in software recorded just one visit with the Career Center representative and six visits with the Credential Program representative. A few other advising sessions by these representatives may not have been recorded. As a follow-up on discussions of providing faculty with tools for advising, one NSAC staff met with Helen Norris (Associate VP for Administrative Computing), Dennis Geyer (University Registrar), and Vivian Llamas-Green (Associate Registrar), to show them how NSAC uses Sign-in software, to discuss what sort of advising software would best be introduced to faculty members, and to explore ways that institutional software might facilitate NSAC’s work. It was decided that training Biological Sciences faculty to use CMS advising software was not advisable at this time because the CMS software was soon to be revised. It was also suggested that there may be a way to remove registration holds from students through a “batch” process. In fall 2010 holds were again removed manually by office staff, resulting in some delays in removal and students sometimes having to return to NSAC because their hold had not been removed.

Goal 5: To continue to meet with representatives of departments to determine how success in foundational skills such as reading, writing, and mathematics may best be integrated with success in the major.

No formal meetings with representatives of other departments were held. Several phone contacts were made to clarify when diagnostic tests would be given and whether pre-requisite courses from other institutions were considered equivalent to courses at CSUS. Efforts were made to inform students of dates and times the WPJ, IAD, and Chemistry Diagnostic tests would be offered.

Goal 6: To provide workshops for students in areas such as applying for scholarships, obtaining internships, and applying to graduate and professional schools, as time permits. Time did not permit the presentation of any workshops for students this fall.

Time did not permit the presentation of any workshops for students in the fall 2010 term.

4. As a result of faculty reflection on these results, are there any program changes anticipated?

Based on the activities and findings from Fall 2010, NSAC staff continued with the goals for the academic year with special attention devoted to:

- Charting what hours and what messages are most effective in drawing students to NSAC
- Communicating further with the Registrar’s office to have a more efficient way of removing registration holds and identifying which students are still Biological Sciences
majors and within our primary focus group of first-year and first-semester transfer students

- Presenting a workshop on applying for scholarships in advance of the spring application deadlines. This was in response to the finding that “scholarship information” ranked among the highest of specific services students desired and “how to apply for scholarships” was among those questions most frequently not answered by the advising session.

In addition, several goals were added (in response to findings from fall 2010)

- Development of training materials for new advisors
- Meeting with administrators to clarify and create a written description of their vision for NSAC. At the end of Fall, 2010, Mary Ann Reihman announced her retirement as an NSAC advisor. This necessitated finding a replacement for her and initiated discussions with Dean Trainer about future directions for NSAC. It also raised awareness that a more formal statement of responsibilities of NSAC staff would help to institutionalize NSAC and maintain its consistent operation when new staff was added.
- Developing a sequence of courses for Biological Sciences majors who intend to apply to a nursing program (advisors see an appreciable number of pre-nursing students each semester)
- Developing a set of pre-health professionals advising materials and possibly the syllabus for a course to be taken by potential pre-health professional students.

An example of such a course might be **BIO 86: Preparation for the Health Professions**, 1 unit, Cr/NC. The preferred learning approach would be having students carry out activities to find information and share it with others.

**Possible Topics:**

1. How to explore your own strengths and interests
2. How to explore possible careers: aspects of careers to consider on paper (e.g. length of education, skills and interests required, salaries)
3. How to explore possible careers: informational interviews with those currently in the career of interest
4. How to explore possible careers: finding volunteer work and internships
5. Summarizing the strengths, values, interests, skills needed by different health professions
6. Identifying the required courses and levels of performance expected by different health professional schools
7. Becoming familiar with the standardized entrance examinations for different health professional schools
8. Becoming familiar with curricula of different health professional schools and licensing requirements of health professions
9. How to complete applications to professional schools
10. How to request and provide information for letters of recommendation
11. How to find sources of financial support

Ideally the information acquisition and communication skills gained in this course would be useful even if the student decided to pursue another profession.

DATA COLLECTION AND RESULTS FOR SPRING 2011

During the Spring 2011 semester, the Natural Sciences Advising Center (NSAC) continued to serve freshmen and first-semester transfer students majoring in Biological Sciences and other students who sought advising. In addition, sophomores were notified during the semester that they must be advised at NSAC, and NSAC staff explored the possibility of expanding advising to pre-health professional students. Otherwise, the same goals and activities from Fall 2010 were addressed during the spring 2011 term, with the addition of several new initiatives described in the section above.

2. What data did you collect to address this question or issue?

The Exit Survey was completed by approximately 352 students. There were 714 recorded student visits in NSAC, but some students visited more than once and only completed the survey once. The survey was not used during the first week of class and may not have been used when advisors were busy with students and forgot to inform students of the survey. To record the numbers, timing, and purposes of student visits, the Sign-in software program was used. Some student visits may not have been recorded during a week-long period, when the software failed to record visits to one of the advisors. E-mail communications between NSAC advising staff and other faculty and staff were used as records of interactions between NSAC staff and others.

3. What did the data tell you?

Goal 1: To continue to provide advising to NSM students, with first-year freshmen and newly transferred students in Biological Sciences as its primary focus group; after the start of the semester, sophomores were added to this target group.

The Sign-in software recorded 714 student visits with NSAC staff in Spring 2011. Although there was an increase in staff and available advising hours, the increase in student visits was not proportional to the increase in available advising hours, in part because new staff members became familiar with advising information and procedures by shadowing the more experienced advisor. Data from the registrar’s office indicated that there were 196 freshmen, 166 sophomores, and 51 newly transferred students majoring in Biological Sciences at the start of the semester, for a total of 413 students in the primary focus group. Registration holds were placed on all of these students and removed after they received advising; Biological Sciences Department staff placed the holds and removed them after receiving a weekly list of students visiting NSAC. A list of students who should still have holds, along with their contact information was also included, in case it was desired to contact those students. Due to a miscommunication, around week 12 of the semester, office staff mistakenly removed holds from students who had not received advising. Thus, students were able to register whether or not they
had received advising. One hundred and sixty students from the primary focus group failed to receive advising; slightly over 60% of our targeted students were advised. Tracking the persistence and graduation rates of students who received advising versus those who did not may provide evidence of whether or not there is an association between advising and persistence and/or advising and graduation.

Three hundred and fifty-two students completed the Exit Survey after receiving advising. The Exit Survey was modified in spring to obtain more information about the results of advising. Several questions providing a profile of the students were retained. Students’ self-described class levels were: 4% graduating seniors (15), 14% seniors (49), 30% juniors (106), 22% sophomores (78), and 30% freshmen (104). In addition, 91% of the students surveyed were Biological Sciences majors and 8% were Biological Sciences minors; anecdotally, many of the other students seen were pre-nursing students who had to declare a major after completing 60 units. Roughly 57% of the students scheduled appointments in advance; 43% dropped in. There was a slight increase in students making appointments, which may have been related to our efforts to make the color-coding of the appointment-making page more explicit. Thirty-six percent of respondents favored morning advising sessions, 58% afternoon sessions, and 6% evening sessions.

The most prevalent reasons for students visiting NSAC were:
1) To determine courses for next semester (30.11%)
2) To remove an advising hold (26.70%)
3) To develop a coursework plan to graduate with a Biological Sciences major (23.58%)
4) To get help in finding courses for this semester (4.55%)
5) To determine requirements for health professional schools or how to apply (2.84%)

These results suggest that a little more than half the students visiting NSAC perceive its purpose to be as intended by NSAC staff: providing help in course selection and degree planning. It was also noteworthy that a fair number of students sought help in finding courses for the current semester. Questions added to the Spring 2011 Exit Survey confirmed that an appreciable number of students receive advising and then have difficulty enrolling in recommended courses. Responses to question 3 indicated that over 80% of the respondents had planned their schedule with the help of an advisor. Responses to question 4 indicated that about 40% of the respondents were unable to enroll in courses listed in their academic plan. Responses to question 5 were as follows:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>51%</td>
<td>able to enroll in all the courses they were advised to take</td>
</tr>
<tr>
<td>17.6%</td>
<td>unable to enroll in the Chemistry courses they were advised to take</td>
</tr>
<tr>
<td>13%</td>
<td>unable to enroll in the Biological Sciences courses they were advised to take</td>
</tr>
<tr>
<td>12.8%</td>
<td>unable to enroll in science and math courses they were advised to take, but able to enroll in needed General Education courses</td>
</tr>
<tr>
<td>6%</td>
<td>unable to enroll in science and math courses they were advised to take, and took random courses in order to maintain full-time student status</td>
</tr>
</tbody>
</table>

Questions 3-5 may need to be reworded to clarify how much effort the student put into trying to enroll. However, the responses to these questions suggest that despite working with advisors, a
fair number of students were not able to follow their academic plans because seats were not available in classes. Conversations with students who have been advised in NSAC for several semesters underscore how frustrating it is for them to attend chemistry and biology classes for the first two weeks of the semester in hopes of being added and then be denied enrollment. Because there is a sequence of chemistry and biology classes, which must be followed, failure to enroll in the beginning classes has a large impact on students’ subsequent schedules. While over a quarter of those receiving advising were primarily interested in removing their registration hold, almost all students (349 out of 352 completing the survey) indicated that an advising center can offer valuable services. Table 1 shows how frequently students identified specific services as desirable offerings of an advising center. The most frequently identified were: course selection, career advising, internship opportunities, help with forms, and scholarship information. This ranking was the same as that observed in Fall 2010, and will help to shape the services NSAC provides. Unfortunately, pre-health professional advising was omitted from the list of possible services from which students selected.

In terms of satisfaction with their advising, 77% found it to be “extremely valuable,” 19% “moderately valuable,” 3% “slightly valuable,” and 0.29% “not valuable at all.” Moreover, 88% preferred to obtain advising at NSAC, as opposed to 12% preferring visits to faculty offices.

<table>
<thead>
<tr>
<th>Service</th>
<th># Students Desiring</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course selection</td>
<td>303</td>
<td>86.6</td>
</tr>
<tr>
<td>Career Advising</td>
<td>255</td>
<td>73.0</td>
</tr>
<tr>
<td>Internship Opportunities</td>
<td>214</td>
<td>61.3</td>
</tr>
<tr>
<td>Help with Forms</td>
<td>172</td>
<td>49.3</td>
</tr>
<tr>
<td>Scholarship Information</td>
<td>167</td>
<td>47.8</td>
</tr>
<tr>
<td>Transfer credit information</td>
<td>132</td>
<td>37.8</td>
</tr>
<tr>
<td>Workshops (e.g. on study skills, career options)</td>
<td>133</td>
<td>38.1</td>
</tr>
<tr>
<td>Study Tips</td>
<td>110</td>
<td>31.5</td>
</tr>
<tr>
<td>Information on adding or dropping classes</td>
<td>89</td>
<td>25.5</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Table 1. Numbers of Students Desiring Specific Services from an Advising Center, based on response to item # 11 of the Exit Survey

Goal 2: To develop and implement a new Exit Survey, to assess and improve its effectiveness in meeting students’ needs.
The modified Exit Survey for Spring 2011 was implemented. It contained questions to see if students were successful in registering for courses that they were advised to take, and was meant to provide information for those scheduling courses.

**Goal 3: To renew efforts to introduce Biological Sciences faculty to NSAC resources and Sign-in software, and poll faculty on what advising assistance they would find most valuable.**

Two NSAC staff members met with the Department of Biological Sciences tenure-track faculty to provide an update on NSAC activities, introduce them to the Sign-in software, and conduct a survey on services they felt comfortable providing and services they would like NSAC to provide. Table 2 summarizes the results of the survey. Based on these results it appears that NSAC could best support faculty advising activities by working with students on probation; informing students of graduation and mandatory test requirements; helping students integrate general education and major requirements; helping students to find suitable internships; informing students of support services in the university; and helping to advise pre-health professional students.

**Table 2. Results of Survey on Biological Sciences Faculty Advising Preferences**

<table>
<thead>
<tr>
<th>Advising Task</th>
<th># responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informing students of lower division core requirements for the major and their preferred sequence</td>
<td>12 3 1</td>
</tr>
<tr>
<td>Informing students of upper division core requirements for the major and their preferred sequence</td>
<td>13 2 1</td>
</tr>
<tr>
<td>Informing students of concentration requirements for at least one concentration</td>
<td>15 1 0</td>
</tr>
<tr>
<td>Informing students of concentration requirements for more than one concentration</td>
<td>12 2 2</td>
</tr>
<tr>
<td>Advising students about requirements for a minor in Bio Sci</td>
<td>9 5 2</td>
</tr>
<tr>
<td>Writing letters of recommendation</td>
<td>13 3 0</td>
</tr>
<tr>
<td>Helping students explore career options in your area of interest</td>
<td>13 3 0</td>
</tr>
<tr>
<td>Helping students explore graduate and professional school options</td>
<td>10 4 2</td>
</tr>
<tr>
<td>Suggesting and helping students find internships</td>
<td>5 3 8</td>
</tr>
<tr>
<td>Supervising and being instructor of record for internships</td>
<td>9 4 3</td>
</tr>
<tr>
<td>Evaluating course substitutions from other colleges and universities</td>
<td>4 6 6</td>
</tr>
<tr>
<td>Helping students with academic difficulties (e.g. time management, study skills)</td>
<td>10 1 5</td>
</tr>
<tr>
<td>Advising students on probation of their options</td>
<td>4 4 8</td>
</tr>
<tr>
<td>Reminding students of mandatory diagnostic tests (e.g. IAD, WPI)</td>
<td>3 3 10</td>
</tr>
<tr>
<td>Informing students how GE and graduation requirements should fit in with major requirements</td>
<td>2 5 9</td>
</tr>
<tr>
<td>Referring students to campus resources (e.g. Financial Aid, Academic Advising)</td>
<td>4 5 7</td>
</tr>
</tbody>
</table>
Helping students complete graduation applications  
13  2  1

Helping with pre-health advising  
6  6  4

+ = happy and competent doing this task  
o = ok with doing the task, but feeling somewhat challenged by it  
- = not happy and overburdened by doing the task

Comments: 2 wanted NSAC help with setting up internships; 1 wanted pre-health advising by NSAC; 1 wanted “first pass” advising by NSAC.

Goal 4: To continue to meet with other segments of the university community to identify how existing programs (such as adjunct classes, Student Financial Services, and the Career Center) may tailor their services to better support the academic success of NSM students.

During the spring semester, NSAC staff met several times with David McVey of the Career Center. Several workshops were planned and presented together and a course (NSM 86) to guide students through explorations of careers in the health professions was designed. NSAC staff also heard from a student in the American Medical Student Association (AMSA) that interview workshops presented by the Career Center did not suit the students’ needs. We e-mailed the officers of AMSA to arrange a meeting at which students could discuss what kinds of services they desired; however, there was no response to this offer.

Time did not permit discussions with other student service offices. NSAC staff did contact the Business and Criminal Justice Department advising centers to find out how they were staffed and how their responsibilities were assigned. The Business Advising Center did not reply. The Criminal Justice Advising Center told us they were staffed by one full-time advisor and faculty members given assigned time; they advised all pre-majors and any majors who could not find faculty to advise them.

One NSAC staff member conducted discussions with current pre-health advisors and with the Science Educational Equity (SEE) program, to determine how NSAC could best support pre-health advising.

Goal 5: To continue to meet with representatives of departments to determine how success in foundational skills such as reading, writing, and mathematics may best be integrated with success in the major.

An NSAC staff member attended an NSM chairs’ meeting to inform the chairs of NSAC’s activities, but no formal discussions of diagnostic test validity were attempted. Efforts were made to inform students of dates and times the WPJ, IAD, and Chemistry Diagnostic tests would be offered.

Goal 6: To provide workshops for students in areas such as applying for scholarships, obtaining internships, and applying to graduate and professional schools, as time permits.

Five 50 minute workshops were presented this semester:
- February 10 on applying for community, institutional, and departmental scholarships (presented by Melanie Loo)
- February 24 on finding and applying for internships (presented by Dave McVey)
- March 10 on steps to exploring careers in the health professions (presented by Dave McVey)
- April 7 on how to complete graduation applications (presented by Melanie Loo)
- April 14 on opportunities in and financial support for teaching science in high schools (presented by Deidre Sessoms).

Workshops were attended by 1-23 students. Almost all of the students indicated in written evaluations that the information presented was very valuable. Students indicated an interest in more workshops on scholarships, internships, and preparation for health professional school applications. Although workshops were publicized by flyers, SacSend messages, e-mails to instructors, and a Facebook page, many students seemed unaware of them. More effective ways of communicating with students will be sought.

Other NSAC Activities in Spring 2011
- Developed training materials for new advisors.
- Looked up transcripts of over 100 students in our fall 2010 target group, who had not received advising and found that the vast majority had had their admission rescinded.
- Started a Facebook page “Hot Stuff at NSAC” to provide information about events with upcoming deadlines (e.g. seminars, diagnostic tests, workshops, internship/job applications).
- Revised orientation and advising folders to include the new major programs.
- Participated in NSM Student Academic Success Committee meetings.
- Evaluated transcripts of incoming transfer students, so that they can be advised on what classes to take during summer 2011 orientation.
- Met with IT consultants to let them know what kinds of interfacing between current University software programs would be useful for our advising center.
- Developed folders of information outlining how to prepare for and apply to different health professional programs (allopathic and osteopathic medicine, dentistry, pharmacy, optometry, etc) and became a member of the National Association of Advisors in the Health Professions, allowing access to information about students from CSUS who applied to various health professional schools and information of the latest developments in pre-health advising.
- In concert with Dave McVey of the Career Center, developed a course proposal for NSM 86, a course in exploring careers in health professions.

4. As a result of faculty reflection on these results, are there any program changes anticipated?
One of the most significant programmatic changes planned as a result of information derived from student surveys in the NSAC is the development of the new course, Bio 86, which will focus on the exploration of health-related careers in science. In addition to this course, NSAC also plans to continue to develop workshops and advising plans for students seeking a broad range of opportunities in the sciences (including internships, graduate programs, and permanent employment). Based on the outcomes of NSAC activities and the findings from surveys administered during the 2010-2011 academic year, the following goals were set for the 2011-2012 academic year:

1. To continue to provide advising to NSM students, with first-year freshmen, sophomores, and newly transferred students in Biological Sciences as its primary focus group.
2. To modify the Exit Survey, to improve its effectiveness in providing information about meeting students’ needs.
3. To continue efforts to support faculty advising, primarily through the Student Academic Support Committee.
4. To continue to meet with other segments of the university community to identify how existing programs (such as adjunct classes, Student Financial Services, and the Career Center) may tailor their services to better support the academic success of NSM students.
5. To continue to meet with representatives of departments to determine how success in foundational skills such as reading, writing, and mathematics may best be integrated with success in the major. If time permits, data on student success in courses and on diagnostic tests may be analyzed.
6. To provide workshops for students in areas such as applying for scholarships, obtaining internships, and applying to graduate and professional schools, as time permits.
7. To provide more support in pre-health advising and to continue to seek clarification of the role of NSAC in pre-health advising.
8. To continue to let the Registrar’s Office know how it could facilitate advising by providing a mechanism of “batch” hold removals and by providing up-to-date information on which students were really admitted to the university and which students had changed their majors.
9. To develop an advising plan for pre-nursing students who want to major in Biological Sciences, so that they will be able to apply to the nursing program as quickly as possible, but will still have progressed toward the Biological Sciences degree, if not accepted into the nursing program.

New Departmental Surveys Administered During the 2010-2011 Academic Year

In addition to the surveys developed and administered for the NSAC, the Department of Biological Sciences designed three new instruments to survey students at different stages in their degree programs. The collective purpose(s) of the surveys was to obtain a better understanding of the demographics, interests and needs, as well as challenges the biological sciences majors and minors face at different time points in their academic careers. The following provides a brief description of the surveys and the status of data collection and analysis.
1. Transfer Student Survey
This survey was administered during winter orientation sessions to transfer students that were declaring a biological sciences major and beginning their coursework at CSUS in the Spring 2011 semester. The primary intent of this survey was to get an indication of the coursework that students had successfully completed at their previous institution(s). Several additional questions were included to collect general demographic data, determine their plans to seek or maintain outside employment during the school year, and discover how much time they typically dedicate to coursework. Currently, data has been entered for the 87 Spring 2011 transfer students surveyed and data analysis is in progress. Surveys for transfer students beginning in the Fall 2011 semester are currently being administered during summer orientation sessions.

2. Bio 2 Exit Survey
This survey was administered to Bio 2 students at the end of the Fall 2010 semester. The primary intent of this survey was to gather data regarding how long it was taking students to complete their lower division biology sequence (Bio 1 and Bio 2), as well as understand the barriers, if any, to progressing efficiently through these core courses (e.g., Did students encounter difficulty enrolling in or successfully completing Bio 2 or a prerequisite course? Did students encounter scheduling issues with other course or employment?). Basic information regarding student status, major, change of major (if applicable), advising history and intention to take upper division biology course and/or complete a biological sciences degree was collected. Currently, data has been entered for the 99 Bio 2 students surveyed and data analysis is in progress. Preliminary analysis indicates that several questions may need to be re-written in order to clarify the objective and obtain more valuable information.

3. Graduating Sr. Survey
This survey was administered to graduating seniors at the end of the fall 2010 and spring 2011 semesters. The primary intent of this survey was to obtain information regarding the future plans of students graduating with biology majors. Several additional questions were included to obtain feedback regarding the students’ learning experiences in the Biological Sciences department. For instance, the survey asked them to indicate which upper division courses provided the greatest/poorer learning experiences (with an explanation), which learning experiences best prepared them for their futures, and what, if any, deficiencies they believe they still possess. Data has been entered for 42 students that completed the survey in Fall 2010 and data entry is in progress for the Spring 2011 graduates. The following summarizes some of the findings from the Fall 2010 Graduating Sr. Survey (n=42).

Students that:
Already have a job or have accepted a job following graduation =15
Have a job or are seeking a biology-related job = 32 (2 maybe, 2 blank)
*all others plan to go to teacher credentialing, graduate or professional schools in a related field

Plan to attend teacher credentialing program = 6 (2 maybe)

Plan to attend graduate school immediately or in one year =16 (2 maybe)
* the types of programs include forensics, systematics, fisheries/wildlife, marine science, limnology, oceanography and stem cell technology

Plan to attend professional school right away = 5
Plan to apply in 1 year = 9
* Professional programs include CLS, pharmacy, medical and dental

Participated in an internship program while at CSUS = 18

While the comments regarding learning experiences are still being analyzed, the following describes some of the findings to date. Cell Physiology ranked highest among courses that provided a great learning experience; however, many different courses were mentioned and students were very positive in their comments regarding their learning experiences (and the instructors teaching the courses). The fact that Cell Physiology was mentioned often is important information, as Cell Physiology is changing its format and content in the new curriculum plan. Neurophysiology, immunology and general genetics were also listed. Students expressed discontent with various courses, but many comments pertained to required, non-biology courses, courses outside of a students’ concentration and courses taught by part-time instructors. Regarding the deficiencies, the most common comment pertained to laboratory or hands-on skills, and several indicated a lack of opportunity to participate in internships or research.

5. What Assessment Activities are planned for the upcoming academic year?

NSAC will continue to revise and administer exit surveys in order to obtain information about students’ advising experiences, unmet needs, and academic and career interests. See NSAC Goals for the 2011-2012 year for details. After data analysis of the Transfer, Bio 2 Exit and Graduating Sr. Surveys is complete, decisions will be made concerning their value, clarity and the necessity to continue administering each. These surveys provide a profile of students at three different time points; however, only the Bio 2 survey has the capability of capturing data from almost all students. While Bio 2 is a core course that must be successfully completed by all majors and minors, some transfer students have taken the equivalent course(s) at their previous institutions (although more have the equivalent of Bio 1). Additionally, the Assessment Committee plans to evaluate several validated instruments for assessing student-learning gains. This will be particularly important as the new curriculum is rolled out over the next few semesters. A new assessment tool will be designed if it is determined that existing instruments are not adequate or cannot be modified to meet the needs of the department.