Option 2: Exemplar Submission
Assessment of effectiveness of the Natural Sciences Advising Center (NSAC)

Background:
During the Spring 2009 Semester, funding was obtained for an advising center to be housed in the College of Natural Sciences and Mathematics. The purpose of the center was to provide advising for students in majors with highly sequenced courses and to contribute to greater student retention.

Staffing for the center was to be provided by two recently retired faculty members from the Department of Biological Sciences. Both faculty members had considerable advising experience both in major advising and in other advising capacities. One faculty member had served as a Liberal Studies advisor for many years. Both faculty members had experience in General Education and pre-health professional advising.

An initial meeting of the designated advising center staff, the Chair of the Department of Biological Sciences, and Biological Sciences faculty with particular interest in student advising took place during Spring 2009. At that meeting, a preliminary advising survey was designed. This survey was administered to BIO 1 (the first biology class taken for the major) and BIO 121 (one of the last classes taken by all majors) students. The purpose of the survey was to provide baseline data on student advising.

Several subsequent meetings took place during Summer, 2009. The purpose of these meetings was to determine the objectives of the advising center and to design an exit survey to be administered in the advising center. A faculty member from the Chemistry Department and IT personnel from Student Affairs, who had designed and provided support for student sign-in and appointment scheduling software and student surveys used by the Academic Advising Center, were present at some of the meetings.

At these meetings, it was determined that the center would primarily serve majors in Biological Sciences. These majors were targeted for advising since Biological Sciences has the greatest number of majors within the College of Natural Sciences and Mathematics. The Chemistry Department declined to have the center do major advising but suggested that students with minors in Chemistry and Chemistry majors with minors in Biological Sciences be advised in the center. Additionally, the center received permission to use and help to implement the sign-in and appointment software utilized in General Education advising and assistance with implementation of the exit survey from the Student Affairs IT personnel. It was also determined that only the
designated advising staff would meet with students during Fall 2009 to provide consistent advising.

The advising center staff and the Chair of Biological Sciences developed the following mission statement:

The goal of the Natural Science Advising Center (NSAC) is to support the academic success of students in the College of Natural Science and Mathematics. We believe that major contributors to success are students' awareness of requirements, development of appropriate study skills, familiarity with college and university resources, connectedness with peers and faculty, and overall personal development. Thus, the mission of NSAC is to introduce incoming freshmen and transfer students to:

- academic requirements for their selected degree program
- university and college resources, including study skills and career advising programs
- the academic, social, and personal decisions they will face as they progress toward their degree
- faculty who will potentially serve as advisors and mentors.

We further hope to provide a coherent body of information to facilitate further advising of students by faculty.

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

To work toward the mission of NSAC, three particular advising issues to be addressed by the center were identified. These are 1) students not seeking advising 2) faculty feeling overwhelmed by the quantity of information they need to provide, and 3) students are not being retained and/or successful in graduating. To address these issues, goals and objectives for the Natural Sciences Advising Center were set and possible assessment strategies were developed. These are summarized in the table below:

<table>
<thead>
<tr>
<th>Issue</th>
<th>Related Goal/Objective</th>
<th>Existing Assessments Opportunity</th>
<th>New Assessment Possibility</th>
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<tr>
<td>I. Students do not seek advising</td>
<td>Focus on frosh and sophs to get them more comfortable and familiar with seeing advisors</td>
<td>counts of numbers of students seeking advising late</td>
<td>survey in Bio 1 and 2, and other core classes</td>
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<td>Inform students of their responsibilities and our expectations</td>
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<td></td>
<td>Make advising materials more visible and more succinct</td>
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<td>track use and satisfaction</td>
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<tr>
<td>Provide informational sessions for groups of students with similar interests</td>
<td>track use and satisfaction</td>
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<td>Help advisors to provide consistent information</td>
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<td>Refer students to suitable advisors</td>
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<td><strong>II. Faculty feel overwhelmed by the quantity of information they need to provide</strong></td>
<td><strong>see previous 3</strong></td>
<td><strong>survey faculty on help they desire</strong></td>
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<td>Focus individual faculty's advising on upper division students</td>
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<td>Provide hard copy and electronic FAQ guide for faculty</td>
<td>track use and satisfaction</td>
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<td>Provide electronic database forms to track progress to degree</td>
<td>use Sign-in software to track student and faculty participation</td>
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<td>Schedule faculty who would like advising assistance to advise with more experienced faculty in the advising center</td>
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<td>Better define faculty advising roles; establish clear lines of responsibilities for different areas of advising by Academic Advising Center, Career Center, and faculty</td>
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<td><strong>III. Students are not retained and/or successful in graduating</strong></td>
<td><strong>Identify limiting courses (gateways), skills (time management, study skills), approaches (e.g. too many hours of employment, taking courses out of sequence)</strong></td>
<td><strong>Institutional Research Data</strong> Establish form to advise and collect data from students who have been on probation or reinstated</td>
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<tr>
<td>Engage available resource providers for study skills and time management workshops</td>
<td>track use and satisfaction</td>
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Objectives for Fall 2009

The decision to utilize only the two retired annuitants as the Advising Center staff limited the advising hours available (approximately 15 hours per week with slightly increased hours during the first week and registration for Spring semester). Therefore, two major objectives were set.

1. The primary Fall, 2009 objective for the Natural Sciences Advising Center (NSAC) was to meet with each freshman and transfer first semester Biological Sciences major. To accomplish this objective, each student was to schedule and/or attend an advising appointment. The number of students in this population, based on CMS data, was 336.
2. NSAC also was to provide drop-in advising to any student seeking help, especially during the first week of classes and during registration for Spring 2010.

Objectives for Spring, 2010 (based on Fall 2009 report)

The objectives identified in the NSAC Report on Fall, 2009 are listed below:

1. The primary Spring, 2010 objective for NSAC was to meet with each freshman Biological Sciences major. To accomplish this objective, each freshman student had a hold placed on his/her registration until an advising appointment had been completed. To assess whether students were more likely to seek out advising in spring after completing their advising in fall, the number of advising holds that had to be set was to be monitored and the number of students meeting with faculty advisors outside of NSAC was to be tracked.
2. The exit survey was to be modified to obtain data that would be useful in assessing the effectiveness of NSAC activities.
3. Faculty participation was to be expanded by informing Biological Sciences faculty of NSAC activities, inviting faculty to hold office hours in NSAC, and introducing faculty to Sign-in software, which enables them to record in digital student advising files the dates, times, and topics of advising sessions with the student. Such files would be accessible by other faculty advising the student and for reports tracking the names of students advised by various faculty.
4. Communication with faculty from departments other than Biological Sciences was to be expanded to increase student success in completing requirements for the major.
5. Efforts to identify and minimize obstacles to student success were to be continued. If time permitted, workshops were to be presented on topics such as applying for scholarships or internships.

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

Survey data were collected from students when they signed in for advising appointments using Sign-in software. Sign in software allowed the collection of data regarding the purpose of the visit. Furthermore, an exit survey was also administered in Fall 2009 to assess the value of the advising session and determine the student needs during advising sessions. The exit survey was
not administered in Spring 2010 because of necessary modifications that were not completed in time to administer the exit survey.

3. What did the data tell you?

RESULTS FROM FALL 2009

1. The sign-in software used by NSAC recorded 603 student visits during Fall 2009. In addition to the targeted population many students visiting NSAC were those changing their major to Biological Sciences or seeking advising for the first time after transferring in several semesters ago.
2. Some students in the target populations were advised early in the semester. However, by the tenth week in the semester it was necessary to set advising holds and send an e-mail announcement that students would not be able to register for Spring classes unless their hold was removed. Of the 186 holds set, 149 were cleared by the end of the semester by students attending advising or providing evidence of changing their major.
3. The exit survey was completed by 365 students. However, some students who were advised were inadvertently not directed to complete the survey (particularly when advisors were caught up in a busy advising period), and some students had multiple appointments and completed the survey after each appointment.
4. Two problems with the exit survey were identified: 1) two questions mysteriously disappeared from the survey during the course of the semester and 2) due to the design and formatting of questions 5-19 data from these questions are essentially lost.

Results—survey data

1. 90% of the students completing the survey were Biological Sciences majors.
2. 70% (252 students) had either not seen an advisor or had not seen an advisor in the previous year [not surprising, since our target audience was newly enrolled Biological Sciences majors].
3. 93% (335 students) found the advising session extremely or very valuable. Only 1 student found the session not valuable.
4. 94% (338 students) found NSAC to be a comfortable advising environment. Only 1 student was not comfortable.
5. 79% (284 students) would prefer advising sessions in an advising center rather than faculty offices. However, this may change as students become acquainted with faculty.
6. Most students (62%) would prefer advising sessions in the afternoons, 32% prefer advising sessions during morning hours, and 6% prefer evening sessions.
7. The services identified as the primary ones they wish the center to provide are:

   - Course selection 85%
   - Career advising 82%
   - Internship opportunities 71%
   - Help with University forms 62%
   - Pre-professional advising 61%
   - Scholarship information 57%
Discussion:

For the reasons noted above, the efforts of the NSAC staff during Fall 2009 addressed Advising Issue I. In Spring 2010, the Center will continue to put primary emphasis on advising new students, with second semester freshman as the target population, and reinforcing student awareness that accessing faculty advisors and university resources is worthwhile. Time devoted to other objectives will be limited because the staff advisors are retired annuitants, who will be limited to working a combined average of 13 hours per week.

NSAC advising sessions this Spring will also make use of observed student behaviors and stated interests. For example, it was observed that many students did not remember information from summer orientation, did not remember their instructors’ names or office hours, and were not participating in study groups or other regular study sessions. This was a potent reminder that entering freshmen and transfer students may not yet be at a developmental stage in which they know how to study and how to interact with faculty productively. Thus, it suggests that effective advising should help students access resources for developing study skills and forming relationships with faculty. In addition, the exit survey indicates that students are primarily concerned with course selection, career advising, and placement in internships. If time permits, group workshops on internships, scholarships, and professional school applications will be scheduled.

Another objective for Spring 2010 that relates to student advising is to continue data collection. Data from the student surveys and sign-ins suggest that more students are beginning to seek advising and are receiving important information about requirements in the major. Moreover, procedures used to record student visits and satisfaction with advising proved to be valuable ways of assessing advising efforts and might be used instead of or in addition to conducting surveys in Bio 1 and 2. It will be interesting to see how many freshmen return for spring advising without multiple reminders. This can be tracked by comparing the number of advising holds that must be set in Spring with those set in Fall. A willingness to seek advising would be a good indicator that students recognize the value of being advised and will continue to seek advising. If possible, an attempt will be made to track how many students continue to seek advising with faculty after receiving initial advising sessions with staff at NSAC. It may be possible to do this by having faculty utilize the sign-in software. Additionally, return visits to NSAC will be tracked using the exit survey and sign-in software.

NSAC’s data collection efforts will include modification of the exit survey (e.g. to record students’ class level and how they heard about NSAC). The Center staff will work with IT staff to create a program that connects data from NSAC surveys with data from CMS. More specifically, the Department of Biological Sciences had to place holds on all students identified by CMS as being freshmen or newly transferred and manually remove holds by matching student ID numbers of students who had signed in for advising. It seems within reason to have a program written which will do this automatically. This would save time and also enable e-mail reminders about required advising to be sent to only those students who had not yet seen NSAC advisors.
A second set of objectives for spring focuses on Advising Issue II in the table above. (Issue II deals with NSAC as an advising resource for faculty.) Biological Sciences faculty will be informed about NSAC activities, and they will be polled to determine what advising information and resources NSAC can provide for them. The NSAC staff will meet with the Department of Biological Sciences faculty to present this report and also to invite interested faculty to schedule advising sessions in NSAC during one of their office hours. Faculty will also be informed of how they can access student advising records. This will allow the faculty to see what information a student received previously and to add their own notes about their meeting with the student. Thus, even if a student visits different advisors, there may be more continuity in the advice provided.

With regard to Advising Issue III, improving retention and graduation of students, it is the hope of the NSAC staff that efforts to inform students about requirements and resources will be helpful. A concern in the area of student retention and graduation that the NSAC staff wishes to express is that a significant number of students advised in the Center were unable to enroll in courses they were advised to take. This was due to key courses such as CHEM 1A and BIO 1 being full. This caused the students considerable stress. A spot-check of classes in which some freshmen had enrolled this Spring showed that students enrolled in classes quite different from those recommended during the advising sessions. A major reason was that CHEM 1A and many other foundational classes (e.g. BIO 1, STAT 1) were fully enrolled by the time freshmen registered. Students instead enrolled in “back-up” classes to ensure they would have a full-time load (required for financial aid, insurance provided by parents, and tax purposes). The NSAC staff was told by the Chemistry Department that most qualified students would eventually be enrolled in CHEM 1A if they were persistent, because some enrolled students would be dropped for failing to pass the Intermediate Algebra Diagnostic Test (IAD) and/or the Chemistry Diagnostic Test (given during the first week of school). Regardless of whether most qualified students will eventually get enrolled, the current process for their enrollment is stressful, requires students to enroll in classes that they will eventually drop, and is a barrier to the Center's efforts to have students take courses in logical and required sequences.

One objective relating to Advising Issue III for this spring is to inform administrators of this problem and urge them to change existing procedures. For example, it would be helpful to have the diagnostic test requirements for CHEM 1A clearly stated. (Presently the IAD is not mentioned by name, and the catalog states that an “adequate” score is required without naming that score). The NSAC staff suggests that departments or Institutional Research staff access past student records to see if greater success in CHEM 1A and other introductory science courses is associated with a particular level of math or English proficiency. In addition to providing an adequate number of sections of Learning Skills and developmental courses, administrators might also find a way to publicize and offer the diagnostic tests before the registration period. This would allow students to register for appropriate classes and avoid some turmoil at the beginning of the semester. In our advising, the NSAC staff also noted that if a student did not have an IAD score high enough to qualify for a college level math course, he/she would have to take Math 9 or Math 11. Math 9 is identified by the Physics Department to be the appropriate preparatory class for Physics 5A (required for Biological Sciences majors) but Math 11 is identified as the appropriate preparatory class for Math 26A, the calculus taken by most Biological Sciences majors. It would be most helpful to students and advisors if NSM departments could confer with
one another and decide which, if either, preparatory class is more appropriate for biology majors. The NSAC staff considers the inability of students to enroll in required coursework due to lack of seats and confusion about the requirements for enrollment in required courses to be major obstacles to student retention and graduation.

Finally, the NSAC staff considers it an on-going objective to inform administrators of systemic obstacles to students’ retention and graduation. One of these obstacles seems to be that high schools are preparing fewer students to meet the expectations of college course work. Evidence of the lack of preparation comes from the growing numbers of students taking “pre” courses, such as CHEM 4, PHYS 1, and MATH 9 or 11, as well as the numbers of students having to repeat courses. We encourage greater communication between the University and K-12 school systems to clarify what levels of knowledge, skills, and attitudes should be developed in high school for success in university course work.

**SPRING 2010 RESULTS**

*Number of visits and visit purpose data*

1. The Sign-in software used by NSAC recorded 502 student visits in Spring 2010 compared with 603 student visits during Fall 2009.
2. Thirty-two students in the target second semester freshman population were advised early in the semester before advising holds were set. However, it was necessary to set 189 advising holds. Second semester freshman had received three email reminders to schedule an advising appointment prior to hold placement. By the end of the semester 46 students still had holds in place.
3. The Sign-in software allows students to designate three specific visit purposes: first year, transfer and contract [for students on probation]. Table 1 summarizes the reasons for visits designated by students in Fall, 2009 and Spring, 2010.

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<tr>
<th>Recorded Reasons for Visits</th>
<th>Fall, 2009</th>
<th>Spring, 2010</th>
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<tbody>
<tr>
<td>First-Year Advising</td>
<td>98</td>
<td>71</td>
</tr>
<tr>
<td>Transfer Advising</td>
<td>98</td>
<td>31</td>
</tr>
<tr>
<td>Contract</td>
<td>12</td>
<td>22</td>
</tr>
</tbody>
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Visit description data
NSAC Sign-in software allows students to record a description of why they are visiting the Center. The results for Spring 2010 are listed below by number of students designating each type of visit description. Ninety-eight students did not indicate a visit description.

1. Biological Sciences major advising = 70
2. Class schedule/find classes = 49
3. Clear advising hold = 46
4. Advising = 43
5. First year advising = 38
6. Change major = 22
7. Graduating = 21
8. Graduation application = 20
9. Summer courses = 13
10. Pre-health advising = 11
11. Probation = 9
12. Equivalent course = 8
13. Math courses = 6
14. Minor advising = 6
15. Biological Sciences concentrations = 6
16. Internship opportunities = 6
17. Repeating courses = 5
18. Chemistry courses = 4

Modification of Exit Survey
The exit survey was not administered in Spring, 2010. While redrafting of the survey was planned, it was not accomplished. The Fall, 2009 survey was not utilized partly due to the problems identified in the Fall Report and partly due to NSAC staff time limitations. The exit survey is in the process of modification for use in Fall, 2010 and Spring, 2011. The draft revision for both semesters is attached to this report, and revisions will be completed mid-summer to allow Fall implementation.

Enhanced Biological Sciences Faculty Participation
The Fall, 2009 NSAC report was distributed to Biological Sciences faculty early in the spring semester and NSAC staff invited faculty to hold office hours in NSAC. NSAC staff also expressed to the department a willingness to provide an information session, along with a demonstration of how faculty could access the digital student advising files (Sign-in software). There was no concrete response to this offer; so, no information session was provided. During the semester one faculty member, who was on sabbatical, visited NSAC and learned about some of its resources. Additionally, only two faculty members have utilized the Sign-in software in their advising practice. Both of these faculty members used the software for limited sessions in Fall. No faculty utilized it in Spring.

Communication with other Departments
Progress was made on working with faculty from other departments on identifying and minimizing obstacles to student retention and success. The NSAC staff members met with the Chemistry Department Chair to discuss student difficulties with chemistry courses. One major difficulty was the inability of students to enroll in CHEM 4 and CHEM 1A due to limited seats. Another difficulty was the lack of student preparation in mathematics and its effect on success in completing chemistry coursework. The discussion resulted in cooperation between NSAC staff and the Chemistry Chair in advising students who were attempting to repeat chemistry courses for the second time. While students are currently not allowed to repeat Chem 1A twice, students who meet with NSAC advisors to identify the sources of their failure, identify plans to try new approaches, identify how they will demonstrate their academic success in other classes with the new approaches, and then provide evidence of their academic success will be allowed a third
attempt at Chem 1A. Two contracts with students who wanted to repeat Chem 1A or 1B again were signed with an NSAC staff member (Loo) and forwarded to the Chemistry Department Chair.

Additionally, the NSAC staff met with both the Chemistry Department Chair and the Mathematics and Statistics Department Chair to discuss student preparation in math as related to success in chemistry and physics. One concern the NSAC staff identified was the new requirement that students score at least 27 on the IAD exam to remain in CHEM 1A. The concern was that the IAD would not be administered until after Fall 2010 registration, and some students would be disenrolled from 5 units of coursework and would be unable to enroll in units that would allow degree progress due to budget cuts. The result of this meeting was that an NSAC staff member (Reihman) was allowed by the Math Department to administer the IAD prior to Fall registration. This allowed students to determine whether they were eligible to enroll in CHEM 1A, STAT 1, or MATH 26A or if they should select a different courses. Eighteen students took the IAD, but only 8 received a score of 27 or higher.

**Identification and Minimizing of Obstacles to Student Success**

Advising sessions allowed NSAC staff to identify several obstacles to student success.

- Many students were not aware of requirements and deadlines (e.g. for the WPJ, IAD, and major requirements), but did respond to consequences such as holds on registration forcing them to receive such information. A bulletin board between the Physics Department Office and the Science Educational Equity office, formerly used by a student group, was taken over by NSAC staff and information about the WPJ, IAD, and graduation application was posted.
- Some students on probation or not doing well in science classes were unaware of effective study skills. Even though some were engaged in study groups, they spent much of their time memorizing facts and going over steps in problems that had been solved for them, rather than identifying concepts and seeing if they could create or attempt new problems based on these concepts.
- Some students on probation or not doing well in science classes were employed for over 20 hours a week and did not have sufficient time to study. Some of these students did not have a clear idea of the choices they could make to balance their expenses and income, while maintaining time for effective studying. One NSAC staff member (Loo) sent an e-mail to Student Financial Services requesting information that could be given to students about financial planning and time management; no reply was received.
- Many students were not aware of scholarships available for them. Early in February a scholarship application workshop was announced via faculty and posted flyers; the date was chosen to give students time to apply for scholarships with March 1 deadlines. The workshop was presented from 5:30-6:30 on Thursday, February 11. It covered such topics as where to access information about general, institutional, and departmental scholarships; what information was needed to apply for scholarships; and how to access recommendations from faculty. Fifteen students attended the workshop; 13 stayed to complete a survey. Of those 13, 10 heard about the workshop in a class and 3 saw a
flyer; 9 found the workshop very valuable and 4 found it somewhat valuable. Other possible workshop topics for which students expressed an interest included applying to graduate and professional schools and finding internships. A report from department office staff indicated a slight increase in the number of applicants for scholarships this year compared to last year: for the 10-11 Academic Year, we had 28 actual applicants for 6 scholarships;…for the 9-10 Academic Year, we had 18 actual applicants for 5 Scholarships.

In another attempt to identify obstacles to student success, the NSAC staff did some preliminary analyses of associations between success in Bio 1 (grades of C- or better) and level of accomplishment in English courses (enrollment in LS or Eng 1 vs Eng 1A). A two by two contingency test indicated no significant association for the limited population examined. Interestingly, in this same population there seemed to be a significant association between success in Bio 1 and class level; freshman standing was associated with less success in Bio 1. While such analyses are presently inconclusive, the NSAC staff feels that it may be worthwhile to expand such analyses and expand them to include associations between levels of mathematics readiness and success in chemistry classes. Results of these analyses could then be used to set prerequisites for classes or at least inform students of how levels of accomplishment in different subjects are related.

Discussion of Results and Progress in Meeting Objectives Identified in Fall Report

A reduced number of NSAC visits in Spring 2010 compared to Fall 2009 was expected for two reasons. First the number of hours the Center was opened was reduced, and, second, new transfer students were not required to seek advising in NSAC. This is reflected in the reduced number of visits by transfer students. The number of visits by contract students almost doubled (12 in Fall vs. 22 in Spring). This was presumably due to the setting of advising holds on these students early in the semester.

Only 32 of the expected second semester freshman population of sought advising prior to advising holds being set in April. It was necessary to send several email reminders to get compliance despite NSAC advisors reminding freshman of required advising during Fall advising sessions. Also, late in the Fall, 2010 registration process, many freshman visiting the center expressed surprise or annoyance at having an advising hold. It is troubling that only 72 first year visits were recorded by the Sign-in software. It appears that the Sign-in software needs to be modified to better track reasons that students are visiting NSAC. Apparently more than 98 freshman received advising from NSAC, based on data from the department office staff on the number of holds removed.

The department office staff report that 46 students still had holds pending at the end of the semester is troubling. While these students may have changed majors and are being retained at CSUS, it would be helpful if CMS software could allow ongoing and readily accessible tracking of student retention at CSUS by departments.

Several problems emerged with respect of advising holds. First, despite several requests for access to a list of Biological Sciences second semester freshmen so holds could, those in charge
of providing this information did not comply until April. Due to CMS limitations, blanket holds on all second semester freshmen were set. However, due to staff limitations in the Biological Sciences office the holds on students who sought advising early were not removed immediately. This necessitated a second visit to NSAC by those students and resulted understandable annoyance. The NSAC staff would like to repeat requests that software be developed to link CMS and Sign-in, such that holds would not have to be manually removed.

Data from the visit description portion of the sign in software, indicate the primary purposes of student visits was selecting courses for the current semester, program planning or removing an advising hold. The description “advising” indicated by many students is unhelpful since that is the purpose of the Center. Surprising is the number of students seeking advice on graduating (21) or having graduation applications signed (20). While the number of upper division students seeking advising at NSAC may reflect their making use of convenient advising availability, it may also reflect their failure to form a connection with a full-time faculty member. Also noteworthy is the low number of students seeking pre-health advising since many Biological Sciences majors are interested in this area. The number of students receiving pre-health advising at NSAC may be under-recorded because such students may have designated the reasons for their visit as “Advising” or to “Remove Advising Hold.” In addition, pre-health students may be following NSAC referrals to meet with full-time faculty regarding preparation for health professions. Many such referrals have been made, leading to a concern that the four full-time faculty (Rechs, Lundmark, Nguyen, Holland) volunteering to advise in the pre-health area may be inundated with advisees. The NSAC staff recommends that the Department of Biological Sciences review its advising policies to either increase the number of faculty advising in this area or relieve pre-health advisors from other responsibilities.

Of the three advising issues that provided the focus for NSAC in 2009-2010: 1) students do not seek advising, 2) faculty feel overwhelmed by advising responsibilities, and 3) students are not retained and graduate, limited progress was made on the goal/objectives identified in the table included in the Fall Report. Perhaps the greatest progress has been made in providing accessible advising, which students will increasingly seek out.

No progress seems to have been made in assisting faculty in their advising responsibilities. Most troubling is the lack of advising coordination between NSAC and faculty advisors. Additionally, obtaining lists of specific student populations for setting holds has proved difficult and information on student retention is difficult to access.

**Observations and Concerns**

One of the primary concerns shared by the NSAC staff members is the disconnect between the advice given regarding coursework and degree progress and the ability of students to enroll in the classes they are advised to take. Most of the second semester freshmen were unable to enroll in the courses they were advised to take because the courses were closed to registration by the time they could register. Seats in courses are understandably limited due to budget cuts. While it was possible to track initial demand for courses in the old SIS software and make adjustments to
sections of courses offered to accommodate student demand, this does not seem to be possible with the CMS system.

Surely with all the time and money invested in CMS, enrollment planning should be improved rather than limited. Enrollment planning should be possible. Is there not some means to track demand for courses and shift funding to high demand courses? While limitations on staffing, equipment and space exist, is it fair to admit students to specific majors and then deny them seats in the courses they need to graduate? If the students cannot take the beginning courses in long course sequences, their progress in the degree is not possible. In several majors pre-majors have been instituted, but if the students cannot find seats in the pre-major courses, their progress toward even declaring majors is slowed or stopped. The fundamental questions becomes, what good is advising if the students cannot follow the advice?

The primary impediment to progress in the Biological Sciences major is the inability to enroll in chemistry courses in a timely way. The majors face at least two years of chemistry coursework. Some of this coursework is required for specific biology courses. Not being able to enroll in the appropriate course delays graduation by at least one semester. If this happens several times during a student’s career, the delay is longer. In the past, if a chemistry course was closed, a math or physics course or a GE course could have been recommended instead. However, with the budget cuts these options are not available. This causes students to enroll in any course that is available, and often results in a student’s taking unnecessary or inappropriate courses. The problem is compounded by the legislature or parents demanding that students graduate on a timetable. If this is the goal, then adequate funding needs to be provided or resources within the University need to be diverted to programs in which student progress to graduation is impeded by lack of space in courses.

4. **As a result of faculty reflection on these results, are there any program changes anticipated?**
   a. If so, what are those changes?
   b. How will you know if these changes achieved the desired results?

One of the most critical elements that these results have identified is the need to have greater communication among NSAC advisors, faculty advisors, Biological Sciences office staff and CMS. Currently, it is difficult to coordinate advising and gathering of student information and survey results from all of these sources. The department is currently considering options that would increase the coordination among all of these areas. Furthermore, communication between departments and administration regarding both success and enrollment impaction in gateway courses is a major issue for student retention and success. The Department of Biological Sciences is currently trying to develop solutions to these problems.

The hope is that in the next year, the Department of Biological Sciences will be able to develop a system to track individual student advising patterns in order to determine how many times a student seeks advising, which advisors they see and why they see advisors. Collection of these results in a common format would indicate that these changes have been effective. Furthermore, finding a mechanism to expedite the placement and release of advising holds would make the work of advisors in Biological Sciences much less burdensome.
The greatest obstacle to student success in the Biological Sciences major is the inability to enroll in chemistry courses in a timely way. The majors face at least two years of chemistry coursework. Some of this coursework is required for specific biology courses. Not being able to enroll in the appropriate course delays graduation by at least one semester. If this happens several times during a student’s career, the delay is longer. In the past, if a chemistry course was closed, a math or physics course or a GE course could have been recommended instead. However, with the budget cuts these options are not available. This causes students to enroll in any course that is available, and often results in a student’s taking unnecessary or inappropriate courses. The problem is compounded by the legislature or parents demanding that students graduate on a timetable. If this is the goal, then adequate funding needs to be provided or resources within the University need to be diverted to programs in which student progress to graduation is impeded by lack of space in courses. We understand that this is a complicated issue that is very difficult to address in the current budgetary climate. However, these factors may play a major role in student retention and success. Early intervention and intensive advising may help to divert students who are having trouble succeeding to more appropriate majors.

5. **What assessment activities are planned for the upcoming academic year?**

The focus of the assessment activities in Biological Sciences in the next year will shift toward a programmatic assessment of student learning in the major concepts and “themes” in biology. The Biological Sciences Assessment committee is currently working on the development of a Ten-Word Test to assess the depth of student understanding of some of the major concepts in Biology. The Ten Word Test will be administered in a similar format to that used to assess the One Book Program at Sacramento State. The test will be administered at the beginning of the first Introductory Biology course in the major (The first week of BIO 1), at the end of the introductory series (The last week of BIO 2), and in the last week of the current capstone course in the major, Cell Physiology (BIO 121). The Assessment committee and a team of volunteers will score a subset of tests from each of these levels in order to assess changes in student understanding of these concepts. These results will provide baseline data for student learning. In the next year, the Department plans to submit a substantive program change to revise the major and concentration course requirements. Continued assessment using a modified ten-word test will allow us to assess the effectiveness of the revised program.