# Table of Contents

Introduction 4  
Committee Background and Charge 4  
Executive Summary 5  
2013-2014 Student Success Committee Members 7  
Current Status of Missouri S&T Retention and Graduation Rates 8  
Key Issues Addressed by the Committee 10  
Freshman Online Courses Subcommittee Final Report 11  
Math 2 Subcommittee Final Report 14  
Freshman Engineering Program Subcommittee Final Report 19  
Barriers of Major of Choice Subcommittee Final Report 24  
Academic Policy and Barriers to Graduation Subcommittee Final Report 27  
APPENDIX A- Cumulative Retention & Graduation Rates 30 of First Time, Full Time Degree Seeking Freshmen  
APPENDIX B- Retention Strategies and Tactics 38  
APPENDIX C- Evaluation of Survey Results and Other Documents 41  
APPENDIX D- 2013-2014 Meeting Minutes 69
Special thanks to the following offices as sources of information:

- Department of Chemistry
- Department of History
- Department of English & Technical Communication
- Enrollment Management
- Institutional Research & Assessment
- Student Affairs
- Undergraduate Studies
Introduction
The Student Success Committee (formally the Retention Committee) serves as an advisory committee appointed by the Chancellor to address key issues related to improving student retention and student academic success. During the 2013-14 academic year, the Student Success Committee met every other week under a new co-chair structure of the Vice Provosts for Enrollment Management and Undergraduate Studies. This report includes a summary of the primary issues addressed by the Student Success Committee, as reflected in the 2013-14 meeting minutes.

Committee Background and Charge
The Missouri S&T Student Success Committee is authorized and established by the Chancellor to:

(1) Make a thorough study of attrition on the Missouri S&T campus;
(2) Recommend specific steps which should be taken to increase the retention of Missouri S&T students; and
(3) Implement approved specific steps that will enhance the retention of students, under the guidance of and with timely reports to the Chancellor.

The committee is responsible for its internal organization, i.e. (1) its own rules or procedures; (2) appointment of subcommittees; and (3) estimated costs, subject to the Chancellor's approval prior to commitment.

The Student Success Committee meets every other week (August through May) to discuss issues related to improving student retention and student academic success, and to implement new programs and processes that impact student retention. At the end of the academic year, the Student Success Committee presents its findings and recommendations to the Chancellor. A copy of the annual report is available on the Undergraduate Studies website and upon request.
Executive Summary

Changes in 2013-14

- Changed the name of the Retention Committee to the Student Success Committee to align itself with its purpose of promoting student success as well as retention.
- Adopted the co-chair model for the Student Success Committee
- Continued analyzing critical data on student performance in their first mathematics courses and correlation between their placement and graduation rates.

Accomplishments from the 2012-2013 Recommendations

- English and Technical Communication department has submitted a proposal to the Provost for the recommendation of diagnostic reading and grammar testing for all incoming S&T students.
- English and Technical Communication department has submitted a proposal for the ESL Reading and Writing Program to the Provost.
- One-year funding obtained for the Student Success Center mentor program for 2013-2014. Recurring funding will be sought for future years.
- Submitting a FIPSE-First in the World grant proposal from the Department of Education by June 30, 2014 to increase student success and degrees awarded in STEM.
- MDHE $25000 financial literacy award to support literacy programs in the Student Financial Assistance office.
- COER is posting student worker positions on campus. In the 2013-14 academic year, there were 39 students hired on campus through Miner Jobs.
- Institutional work study program is funded for $80000 beginning fall semester 2014.

Recommendations by the Student Success Committee in 2013-2014

- Hire 3-4 staff advisors to help with the large numbers of FEP students.
- Online instruction only be used in brief instructional periods as a learning tool.
- A more robust assessment during the admission process to facilitate identification of students with motivational challenges.
- Restrict online enrollment options for first-year students.
- Annual updates of previously created data for math courses.
- Reconsider the decision to not offer credit to students participating in M*A*S*H program.
- Continuation of interactive instruction of Math 2.
- Departments becoming more transparent concerning their admission policy for students.
- Continued support for the Math 14 & 15 initiatives.
- Testing for all incoming students in reading comprehension.
- Prerequisite process to use Joe’SS delivered functionality.
- Math placement test changed to be on-line and taken prior to PRO session.
- Purchase Academic Mapping Planner (AMP).
- Funding secured for Student Success Center mentors.
The Student Success Committee reviewed the following documents:

- Cumulative Retention & Graduation Rates of First-Time, Full-Time Degree Seeking Freshmen (Appendix A)
- Retention Strategies & Tactics (Appendix B)
- Calculus Redesign Presentation (Appendix C)

The results from the following survey were evaluated and are included as Appendix C of this report:

- NSSE (National Survey of Student Engagement)
2013-14 Student Success Committee Members

Co-Chairs:
Dr. Jeff Cawlfield, Vice Provost for Undergraduate Studies
Laura Stoll, Vice Provost and Dean for Enrollment Management

Committee Members:
Timothy Albers, Director, Recruitment Marketing and Enrollment Development, Enrollment Management
Bridgette Betz, Director, Student Financial Assistance, Enrollment Management
Dr. Carl Burns, Vice Chancellor of Student Affairs
Dr. Steven Clark, Chair, Mathematics
Tyrone Davidson, Director, Academic Advising, Office of Undergraduate Studies
Cecilia Elmore, Director, Student Diversity, Outreach and Women's Programs, Enrollment Management
Patty Frisbee, Director, Student Success Programs, Enrollment Management
Dr. Larry Gragg, Chair, History
Deanne Jackson, Registrar, Registrar's Office, Enrollment Management
Katie Jackson, Assistant Director, Miner Alumni Association
Dr. Oyebanjo Lajubutu, Director, Institutional Research & Assessment*
Dr. Doug Ludlow, Director, Freshman Engineering
Rachel Morris, Assistant to the Vice Provost, Undergraduate Studies
Adrienne Neckermann, Assistant Director, COER
Dr. Stephen Raper, Assoc. Professor, Engineering Management & Systems Engineering
Dr. Daniel Reardon, Assistant Professor, English and Technical Communication
Kristi Schulte, Associate Director, Residential Life, Student Affairs
Lynn Stichnote, Director, Admissions, Enrollment Management
Ramya Thiagarajan, Institutional Research Associate, Institutional Research and Assessment
Dr. Klaus Woelk, Interim Department Chair, Chemistry
Dr. Nangai Yang, Research Associate, Institutional Research and Assessment

*Joined committee Spring 2014
Current Status of Missouri S&T Retention

In 2008, Missouri S&T achieved a record high first-second year retention rate of 88%. Since then, the figure has fluctuated. In fall 2013, that rate was 83%. While it is likely that the economic downturn largely explains the dip in the retention rate, other factors are contributing to the drop. There was an allocation of $285,000 of need-based aid to the Fall 2012 first-year students which did not produce the anticipated increase in the retention rate.

![Freshmen Retention & Graduation Rates](image-url)
A metric of Theme 4 in the Missouri S&T 2013-2020 Strategic Plan is “first-to-second year undergraduate student retention rate (Baseline: 85%, Target 2020: 88%)”. As the Student Success Committee moves forward with its charge, the measurement of the committee’s achievement of success will be this metric.

A full report of Cumulative Retention & Graduation Rates of First-Time, Full-Time Degree Seeking Freshman, is included as Appendix A of this report. A complete list of Retention Strategies and Tactis is included as Appendix B.
Key Issues Addressed by the Committee
In 2013-14, the Student Success Committee focused on five priority goals deemed critical to retention issues. The committee organized itself into five subcommittees to coordinate the implementation of recommended actions. Action items were pursued as tactical planning items where practical.

Subcommittee #1: Freshman Online Classes
   Members: Carl Burns, Larry Gragg, Deanne Jackson, Katie Jackson, Dan Reardon (chair), Lynn Stichnote, Laura Stoll, Klaus Woelk

Subcommittee #2: Math 2
   Members: Carl Burns (chair), Steven Clark, Rachel Morris, Laura Stoll, Nangai Yang

Subcommittee #3: Freshman Engineering Program
   Members: Jeff Cawlfield, Tyrone Davidson, Cecilia Elmore, Patty Frisbee, Doug Ludlow (chair), Adrienne Neckermann, Stephen Raper, Lynn Stichnote, Kristi Schulte

Subcommittee #4: Barriers to Entering Major of Choice
   Members: Tim Albers, Bridgette Betz, Jeff Cawlfield, Tyrone Davidson, Cecilia Elmore, Larry Gragg (chair), Doug Ludlow, Dan Reardon

Subcommittee #5: Academic Policy and Barriers to Graduation
   Members: Tim Albers, Bridgette Betz, Deanne Jackson (chair), Katie Jackson, Adrienne Neckermann, Stephen Raper, Kristi Schulte, Ramya Thiagarajan
Subcommittee #1: Freshman Online Courses

As online courses using several delivery methods are increasingly offered at Missouri S&T, the Student Success committee formed a subcommittee to investigate online courses available to first-year students, and these courses’ potential impact on freshman success, retention, and persistence. To assess the effects of these courses, the subcommittee agreed on four research questions:

I. Which online courses—synchronous, asynchronous, or blended—are offered online and are eligible for freshman enrollment?
II. What does current research say about online course effectiveness?
III. What assessments are currently ongoing with S&T’s online foundational courses?
IV. Do online instructional delivery methods enhance learning?

Online Course Offerings
The following courses are currently offered online and are available/intended for freshmen:

- Bio Science 110—General Biology
- Chemistry I—contains voluntary online component
- English 20—offered in blended and asynchronous formats, fall 2013
  - Offered in three asynchronous sections, fall 2014
- Geo Engineering 50—Intro to Geological Engineering
- Math 22—Calculus with Analytical Geometry III
- Philosophy 5—Intro to Philosophy
- Philosophy 75—Comparative Religious Philosophies
- Physics 23 and Physics 24—will be offered online fall 2014
- Psychology 50—will be offered in blended format, fall 2014

Research in Online Course Effectiveness
In 42 studies reviewed by Carl Burns and Katie Jackson, online approaches overall resulted in much lower grades with lower division students. Studies examining retention of students throughout the semester found much poorer results for online methods (Collins 2013; Xu & Jaggars 2011; Jaggers & Bailey 2010; Boyd 2008; Morris, Finnegan, & Wu 2005; Sapp & Simon 2005). Additionally, studies looking at engagement or participation also found much poorer outcomes for online methods. Furthermore, institutional support for online instruction is often completely inadequate, because online initiatives usually underestimate actual costs of developing online courses, and resources are often insufficient. The cost of online instruction also often exceeds face-to-face instruction, due to hardware and software start-up costs and increased course development time for instructors. In fact, the research shows that online courses require significantly more instructor hours than do face-to-face courses—in most cases one and one-half to two times more (Rheinheimer 2005). Therefore, little or no efficiency gains are achieved through the use of online course delivery methods. Finally, the research demonstrates that online delivery methods offer at best a comparable experience to face-to-face learning (Lyke & Frank 2012; U.S. Dept. of Ed. 2009); no data to date exists that demonstrates online delivery enhances learning.
Current Assessments of Online Courses

Two departments have conducted formal assessments of their online courses available to freshmen: Chemistry and English/Technical Communication. In Chemistry I, outcomes analysis revealed no significant change in As and Bs at semester’s end, but more students achieved Cs. Fewer Ds and Fs were also reported. These findings remain consistent since the online delivery method’s inception in 2012.

English 20 was offered in three asynchronous sections and three blended sections. Students in the online sections received 27% fewer As, Bs, and Cs than students in face-to-face course sections, and more Ds and Fs. CET scores were also below each instructor’s averages and departmental averages for English 20. After reviewing the data, English and Technical Communication has discontinued blended course instruction. Three asynchronous sections will be offered in fall 2014 to accommodate instructors who do not live in the Rolla area.

Both Physics and Psychology will be piloting online versions of their introductory courses in fall 2014, and have reported that they will conduct formal assessments of these courses at semester’s end.

Recommendations

The subcommittee recommends that online instruction is best used in brief instructional periods, as a learning tool. “Flipped classrooms,” in which lecture material is pre-recorded and made available online so class time may be used for experiential and interactive learning with a face-to-face instructor, is an example of one potentially successful online delivery method. The subcommittee does not recommend online entry-level courses, or any online courses for students who lack strong self-motivation or who lack readily available access to computers. Tracking motivation has long been a concern of those in retention studies; a robust assessment process during the admissions process could facilitate identification of students with motivational challenges. Finally, the subcommittee recommends a university policy of restricted online enrollment options for first-year students, as online methods may be damaging to community engagement—generally regarded by retention experts as most critical to student persistence and success.

References


Subcommittee #2: Math 2

In preparing for the convening of the Retention, now Student Success, Committee (SSC) for the 2013-14 academic year, the Committee reports for previous years were reviewed. What became clear from those reports, specifically from the work of the Math Subcommittee (2011-12 report, Appendix D), was that the long-standing problem with first-year student performance in math courses was no longer a concern. What was a concern was the performance of these students in the math 2 course. While performance in other math courses had improved from the low point of a number of years ago, for math 2 the direction of change was the opposite: if anything, DFW rates had risen even higher for these students.

For the four fall semesters 2008-2011, DFW rates for students enrolled in math 2 averaged 49%. The average ACT Composite score for this group of students was 25.5, somewhat below the average of 28.3 for all students enrolled in math courses those semesters. The DFW rates for other math courses was much lower than for math 2; a number of years ago these rates were also troublingly high, but they had dropped substantially for the semesters tracked in the 2011-12 Committee report, a very encouraging sign. This fact makes the continuing high DFW rates for students in math 2 all the more puzzling. The most encouraging sign of improvement relates to a change in instructional method by Kim Kinder for her math 2 sections in fall semester 2013, with a more interactive model yielding some improvements in performance.

An additional point of concern is that the Math Department instituted an online homework program in fall semester 2011 that was intended to lessen the DFW rate in math 2. Although there has been some improvement, the overall picture is little changed. Similarly, the Math Help program more recently was moved from Harris Hall into 105 Centennial and the structure of the program changed, both intended to improve student performance. The impact of these efforts appears to be minimal. These factors led to the creation of a math 2 Subcommittee of the larger SSC as of fall semester 2013. The role of the subcommittee was to investigate in more detail what might be done to ameliorate the continuing problems with student performance in math 2 and to initiate efforts to redress these problems.

Several actions have been taken by the subcommittee this year:

- Specific data collection recommendations were made, including more precise tracking of academic performance of students enrolled in math 2. Three separate math 2 cohorts exist each year: Students starting in math 2; students starting in math 4 but changing to math 2 after the first 9 weeks (“dropback”); and, in the spring semester, students who are in math 2 second semester who were in math 3 first semester, those who took math 2 first semester but failed, and new incoming students. We chose to analyze the three larger cohorts separately, which has not been done before:

  - Start in math 2 initially in the fall semester
  - Drop back to math 2 from math 4 after 9 weeks
  - Are in math 2 at the start of the second semester (consisting of at least three subgroups)
    - The performance of students enrolled in other math courses their first freshman semester needs to be examined as well, specifically:
First-to-second-year continuation rates, DFW rates, and graduation rates, by math course placement, from FS03-FS12 (continuation/DFW) and FS03-FS07 (graduation). Some of this data has been collected previously (see Table 2, below) but should be done as part of this more comprehensive effort. A column should be added for “Graduated in Engineering”. This request was submitted to Institutional Research and Assessment for processing. Performance data for students dropping from math 4 to math 2 was also compiled for several semesters (see Table 3, below).

- To get a better empirical understanding of how students are responding, emotionally and behaviorally, to placement in math 2, we need to explore these reactions. The choices are surveys, one-to-one discussions, and focus groups. Each method has advantages and disadvantages. The math 2 Subcommittee chose to conduct focus groups and surveys of students in math 2 classes during the fall semester. The goal of this activity should be to develop a programmatic response to the reactions of students to their placement in math 2, if we were to find that these reactions are mostly negative. The plan is to conduct surveys toward the end of the spring 2014 semester, for the purpose of assessing students’ responses to the M*A*S*H* program (see below) as well as to their math 2 experience more generally.

- Determine the path that students take who are enrolled in math 2 the second semester, shown below in Table 1.

- Begin developing an out-of-class math assistance program to augment existing efforts. The chair of the subcommittee had been involved with a program, JAM (Joint Academic Management), in place from fall semester 2004 through fall semester 2007, designed to help primarily students in math 2 and math 3, with some students in math 4 participating as well. That program had boosted GPAs of participating students a great deal (typical semester GPA increase about .7 over the average for students who participated very little or not at all). It was decided to use a similar model (based in part on On Course principles) now to try to counter the persisting high DFW rates for students in math 2. A more detailed description can be found in Appendix A.

Outcomes

- Requests for the above-mentioned data have been submitted to IR&A for processing.
- Preliminary data was compiled by Rachel Morris in the UGS office (see tables below).
- Focus groups and a survey were conducted with math 2 students in fall semester 2013, with another survey to be administered this spring. Results from the fall semester 2013 efforts did not yield anticipated results, with most students seeming to have accepted their placement after a short time.
- The M*A*S*H* program (Appendix A, below) was developed collaboratively among UGS, Student Affairs, and the Mathematics and Statistics department. The program has seen much lower levels of participation than did JAM several years ago, in spite of more effective planning, marketing, and collaboration between instructors and student mentors. The only factor that can be known with certainty that might account for this difference is not providing any credit for participation by instructors this semester.
Recommendations

- The data tables assembled as a result of requests this semester should be updated annually.
- It is recommended that the decision not to offer credit to students for participating be reconsidered if the program is to continue next fall.

Table 1: Spring 2014 Math 2 Profile of Enrolled Students

- 1 student received an F in math 14 and is taking math 2 SP14
- 1 math 2 hearer status for FS13
- 52 students moving up from math 3
- 2 students withdrew from math 4 in FS13
- 1 student hearer status for math 4 in FS13
- 7 students that took math 2 in FS13 are not enrolled in math 2 for SP14
- 7 students did not take math in FS13
- 6 students waitlisted for math 2 SP14
- 65 students retaking math 2 from FS13

Table 2: FS2004-FS2006 Math 2-6 with Graduation Rates

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Table 3: Math 4 Dropback to Math 2, by Grade Received and Engineering/Non-Engineering Status

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Appendix A: Development of “Math Assistance where Success Happens” (M*A*S*H*) Program
The subcommittee met early in fall semester 2013 to set its agenda, and the possibility of developing this program was given the go-ahead. Planning began almost immediately, as the hope was to implement at least a pilot effort in spring semester 2014. Discussions with the Vice Provost of Undergraduate Studies (UGS) and members of that staff began, with additional dialogue with the chairman and some members of the Math Department faculty occurring soon after. A telephone conference with Tamara Madden, the individual who had run a similar program (“JAM”, Joint Academic Management) at S&T from 2004-2006, also took place to aid in structuring the current effort. The success of that program was the inspiration for developing a similar program now. Critical planning conversations took place with Diane Hagni, Coordinator of CERTI, and Stephanie Fitch, the Placement Advisor for the Math Department. Ultimately, Diane Hagni assumed the role of the coordinator for the MASH program.
Once the basic program elements were in place and we had ensured effective collaboration across departments, the process of seeking mentors for the small-group learning-support experiences got underway. A conversation with Jana Neiss, the head of the Teacher Education Program, was set up to see about recruiting Teacher Education students as mentors for MASH. This turned out not to be feasible, but it led to interest on the part of other students in this opportunity. The mentors are upper-level undergraduates with a strong background in math. A thorough training program was developed that the mentors went through the first week of the spring semester. This program, like its predecessor (“JAM”), involved training in On Course principles, a student success program designed for the higher education sector that has been used at S&T for a number of years, and management of the small groups with which the mentors would be working.

The structure of the program involved mentors working with small groups of students (8-10 in each) through an active in-class recruiting process encouraged by the course instructors, with whom planning had occurred before the semester started. The instructors have proved to be very interested in this program and have partnered well with the student mentors, who have also been highly invested in the success of the program. The mentors developed recruiting materials to seek participation from students in the Math 2 classes and attended the classes to ensure that they were familiar with topics covered and expectations of the instructors.

At the time of the writing of this document, several revisions to the MASH program have been necessary as the semester has played out. Current Math 2 students, in spite of strong encouragement by their instructors and excellent outreach efforts by the mentors, have proved very reluctant to participate at the levels we saw several years ago with JAM. Reasons for this change are hard to know with certainty. It may be that students have changed over the last several years and are less likely to make such a time commitment without stronger incentives. Students taking Math 2 in the spring semester are probably among the weakest enrolled at S&T (although this was true when JAM was in place, as well). And, possibly the largest factor is the absence of any grade incentives for students who participate. Most instructors had provided small point incentives for participation at certain levels in JAM, whereas such a consideration was not permitted in MASH this spring. This is an issue that should be examined for potential future iterations of the program.

The primary draw for students this spring has been review sessions, when attendance has been substantially higher. The mentors adapted these as the semester proceeded, to lessen the possibility of reinforcing “cramming” behavior on the part of the students. It has proved difficult, however, to cover the On Course principles effectively due to poor attendance; these are precisely the components which would be most likely to help students be successful not only in Math 2, but in future courses as well.
Subcommittee #3: Freshman Engineering Program

What are the issues in the Freshman Engineering Program that are affecting student success?

Background
The current model of the Freshman Engineering Program has been in place since 1986. At that time the two engineering Deans agreed that each engineering program would provide two faculty “volunteers” as Freshman Advisors to help with the various activities associated with the first year students and prospective engineering students. One of the major activities of the Freshman Advisors has been to provide academic and career advising for all of the students who are enrolled in the FEP. The other major activity has been to support the various recruitment and retention activities associated with the students in, or coming to, the Freshman Engineering Program. Since being established in the mid 1980’s the FEP (and University) enrollments have increased significantly (see Figure 1). Also during this time the FEP was moved out of engineering (due to restructuring) and placed under the Vice Provost of Undergraduate Studies.
Currently, FEP is the largest program in the University in terms of number of students, yet receives little financial support from the University. The current director (50% appointment) receives all of his salary from his home department with an additional two months summer salary from the UGS. The associate director (25% appointment) receives all of his salary from his home department with a one-month summer salary from UGS. There is one administrative assistant in FEP who is doing all of the administrative work, is responsible for processing the files and data for the 1825 (Fall 2013) to 1320 (Spring 2014) students enrolled in the FEP along with advising students.

Enrollments
There has been an increase in the number of students in the FEP program (see Figure 1). This is a function of increased enrollments at S&T, but also there are more students who are recycling in FEP while trying to get into their degree of choice. Figure 1 shows the number of first-time first-year students admitted to FEP program along with the total number of students in the FEP for the last 10 years. These numbers show both the first-time transfers and first-time freshmen incoming students coming in each fall semester as one set of data. A second data set of “new” students shows the total number of first-time students coming each fall plus the transfer student during each of the calendar years. The inclusion of the transfer students only slightly affects the trends. As expected there are more students in the program than are admitted, since many students take more than two semesters to complete the requirements of FEP to become eligible to be admitted into the degree program of their choice. However, the most striking result of the data is that the growth rate (slope) of the total number of students in FEP is more than twice the growth rate of the students admitted to FEP. This indicates that number of students taking more than one year to complete the requirements to finish the FEP and be admitted to their degree program of choice is increasing even faster than the number of students admitted to FEP. Hence there are an increasing number of students spending even more time in order to move out of FEP into their desired degree program. Table 1 gives the data used for this figure as received from the registrar’s office.

Figure 1 – Growth rate of students admitted to FEP and total number of students in FEP
Table 1 – Data for Figure 1 – Growth rate of admitted and total students in FEP

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The FEP requirements include six hours of Chemistry (Chem 1, 2 and 4), eight hours of Mathematics (Math 14 and 15), four hours of Physics (Physics 23), four hours of engineering (FE 10 and IDE 20), English composition (English 20) and six hours of humanities/social science. Many students need to take one or more pre-calculus classes (Math 2, 3, 4 and 6) which will extend the amount of time they need to complete the FEP program requirements. The other requirement to leave FEP is a minimum GPA of 2.00.

Two possible causes for the increased rate of students recycling in the FEP program and taking longer than one year to complete the 31 credit hours in FEP with a GPA greater than 2.00 are: 1) Students admitted are less prepared than needed; or 2) Requirements to enter into their degree of choice are being increased and they are eligible to leave FEP but are not being accepted into their desired degree program, and hence recycle in FEP. ACT and high school class ranking would indicate that the ability of the incoming students should not be decreasing. Other subcommittees are exploring possible causes for poor first-year-student performance.

In the last few years several of the engineering departments have raised the GPA requirements for students to be admitted to their program. The increased GPA thresholds result in students who are eligible to leave FEP but who are not being accepted into their desired degree program and hence
recycle in FEP. These students continue in FEP attempting to raise their GPA in order to become eligible to enter into their desired degree program. Currently the following departments have raised their entrance requirements above the 2.00 GPA required to leave FEP.

- Architectural Engineering GPA 2.50
- Chemical Engineering GPA 2.25
- Civil Engineering GPA 2.50
- Electrical Engineering GPA 2.25
- Mechanical Engineering GPA 2.50 and cumulative Math & Science GPA of 2.25 (currently policy is to ignore grade forgiveness policy in calculating math/science GPA)
- Petroleum Engineering GPA 2.60

We need to develop a mechanism for those students who are not admitted into their degree program. These students cannot recycle forever – could there be another program they could go to such as a General Engineering degree, or Multidisciplinary studies, or even a Technology program. A better approach would be to develop some form of early intervention for those students whose performance is not going to allow them to get into the high demand majors and develop mechanisms to get students to change majors into something they can successfully complete a degree.

An increasing number of students come to S&T without the maturity level to act on their own (partly resulted from “Blackhawk Helicopter parents”) and are very “needy”, lacking coping skills, and are not able to do things on their own. Because of the FEP Administrative Assistant’s caring nature, many of these students end up in the FEP office multiple times each semester to get help (sometimes multiple times in one day). A large portion of the time in the FEP office is spent dealing with these students – Is this what FEP should be doing?

One possibility would be to hire staff members with broad knowledge of majors, an understanding of effective counseling skills and an ability to coordinate with testing on career aptitude instruments to help in guiding the students into majors where they can be successful. These counselors could be based in Freshman Engineering to provide administrative and advising support at peak times and serve administrative roles for faculty advisors and spend a certain amount of time in the Student Success Center or Undergraduate Advising Office. They could counsel the incoming “conditional admit students”, work with the “problem” current students who are bound for the “recycle swirl” of not getting out of FEP. They could also help with PRO advising. In addition to the staff there could be one or two GRA paid positions to support the new Masters in Organizational Psychology who are specifically assigned to Student Success/FEP.

**Advising**

Our current advising model has faculty performing the logistics of academic advising and visiting with each of the students each semester to sign up for classes. For students in the Freshman Engineering Program these faculty advisors are primarily faculty “volunteers” as assigned by the various engineering department chairs. The number of students in the FEP has far outrun the 30 (two per engineering department) Freshman advisors and some departments have provided more faculty, some staff have been recruited and even some emeritus faculty members have been hired to help with the advising load. But all of this has been very ad hoc with no firm or established funding stream. Does the current model of having faculty as advisors for signing up for classes work? A quick, back of the envelope calculation:

\[(8000 \text{ students}) \times (20 \text{ min/student}) \times (1 \text{ hr/60 min}) \times (\text{week}/40 \text{ hr}) \times (\text{year}/45 \text{ weeks}) = 1.5 \text{ faculty years per semester}\]
Can we afford (or are we willing to pay) for three faculty to devote all of their time to advise each year? In the FEP program there are 1320 students enrolled in Spring 2014 Semester. If we take 20 minutes per student to advise each of the 1320 students in FEP to enroll them in classes for next fall semester, it is going to take 11 weeks of faculty time to provide this advising for registration. Should we consider hiring staff advisors to handle the registration and program of study logistics and only have faculty provide professional career advice?

**FEP role in supporting retention/recruiting events**

Historically Freshman Engineering Advisors have supported many of the “special events” responsibilities associated with recruitment and retention. Freshmen Engineering directors and faculty have played a key role in recruitment/retention. While faculty involvement in recruitment sets us apart from our competition with all students, it is especially significant with those “in demand” populations such as high ability students, out of state students, and female and URM STEM majors. These groups are “discerning shoppers” with a plethora of options from which to choose. Since we have insufficient resources to compete solely on scholarship dollars, the faculty involvement in recruitment is even more important. S&T receives some of the strongest students because the personal nature of our recruitment process—when a student visits, they actually get to speak to a faculty member, whether it is an individual visit, Miner Day, Open House, Transfer Day or Fly-In Weekend twice a year for both out-of-state students and out-of-state high school counselors respectively. FEP faculty members have also always been strong players in the retention area. This is not a matter of QUANTITY of students, this personal touch helps the best students decide between S&T and other top universities where they did not receive this personal treatment and this keeps the current students here. Freshmen Engineering faculty have always had a key role in those activities. During the 2012-2013 visit cycle, between departmental visits, Information Fair time for Open House and departmental visits for Miner Days & Transfer Days it took at least 40 hours for these scheduled events. For the individual departmental visits to “Freshman Engineering”, which is where “undecided students” are sent, required roughly 150 hours of faculty time to visit with these students/parents. The FEP directors saw 258 individual prospective student visitors. In addition they participate in St. Louis and Springfield “Showcases”, which requires approximately 14 hours of total appearance and travel time. A conservative estimate of the time involved in recruitment activities, and this is very conservative, would be 210 hours or 5 full weeks of faculty time.

Historically, many Freshman Advisors have also served as PRO advisors. Each year there are 10 PRO days where Faculty volunteers advise between 10 and 15 students for the students’ first semester at S&T. The PRO advisor looks through the students’ high school transcripts, ACT results, and Math placement testing results and recommends a first semester set or courses. There is increasing push back from the departments to provide faculty time for freshman advising and fewer faculty members are “volunteering” to be either freshman advisors or PRO advisors. The current model of departments “loaning” faculty to FEP, and thus still expecting those faculty to teach large course loads impedes the ability of FEP Director/Associate Director to discharge key duties WHEN those duties occur, regardless of what time class meets, is not working. There has to be some structural changes to the FEP program or we need change the way we “brand” the S&T educational experience.

**Recommendations**

**Immediate needs.** Hire three or four staff advisors to deal with the logistics and mechanics of advising the large number of FEP students. This has already been tested successfully in Mechanical Engineering.
which has less than half the number of students as are in FEP. At least some of these advisors need to be trained in effective counseling skills and have the ability to coordinate with testing on career aptitude instruments to help in guiding the students into majors where they can be successful. These advisors can help guide the students who need to decide to change their major. The current FEP “volunteer” Faculty advisors, are not trained or are too inattentive to the needs of poor performing students, to start the intervention early before the students get too far into an academic GPA hole. We could continue to ask the departments to provide two FEP advisors, but these advisors would not be used for the scheduling of classes each semester, but rather as career and professional advisors. These FEP advisors could also be expected to fulfill many of the recruiting/retention activities that are currently associated with FEP. Since these departmental faculty members will not have the additional burden of academic advising of students in the FEP there may be less pushback from the departments to provide these “volunteers”.

Long term year – 2020 recommendations
With the influx of new, non-tenure track faculty to campus (if indeed they are hired to help with teaching and not just as NTT research faculty) it is possible that part of the documented job description for these new NTT hires could be an expectation to serve as FEP advisors. These faculty members could be expected to provide service in the numerous retention and recruitment activities and service in those areas would be part of their annual evaluation process. It would be better to decide this at a university level rather than letting departments where the NTT faculty will reside decide that job description.

The University should seek to consolidate the Undergraduate Advising office, the Freshman Engineering Program and the Student Success Center into a central “Learning Commons” area where students could come to meet their needs for advising, career development and student success. This could serve as location for many of the student retention and recruitment activities.

The University should explore the possibility of additional options for the technology-based students who are not successful in engineering such as a general engineering degree or technology degrees.
Subcommittee #4: Barriers to Choice of Major

Committee members pursued a series of questions related to this challenge:

• Can we learn if high school background predicts success in degree programs?
• What are the binding “legal requirements” for accepting students at S&T?
• What are the department requirements for admission into their degree programs?
• What are the admissions policies at comparator and TRU universities—Mizzou, Purdue, Illinois, Colorado School of Mines, Iowa State, St. Louis U., and Arkansas?
• What are the transfer admission policies at comparator universities?
• Which “gateway” courses serve as a barrier to entry into majors of choice?

Can we learn if high school background predicts success in degree programs?
The committee investigated the 1115 first time college students who entered S&T in fall 2012 and determined if they were in their major of choice three semesters after being admitted—their status in spring 2014. The students fell into one of five categories:

A. In major of choice (426)
B. Had changed major (182)
C. Had entered as undecided, but now in engineering (73)
D. Still in Freshman Engineering (188)
E. Had withdrawn from S&T (246)

The committee used the students’ ACT score to determine the impact of high school background on the students’ status in the spring 2014 semester. Those who were in their major of choice, had changed majors, or had moved from undecided to engineering had ACT scores of nearly 29. The ones who had withdrawn from S&T had an ACT score of nearly 27 and those still in Freshman Engineering had an ACT of 26. In other words, regardless of their status, the ACT scores of the students were strong ranging from 26 to almost 29. Thus, the ACT is not a good predictor of success at S&T.

What are the binding “legal requirements” for accepting students at S&T?
Students are evaluated on a combination of standardized examination percentile (ACT or SAT test), class rank and grade point average (GPA). If the sum of the high school class rank percentile and aptitude examination percentile is:

A. 120 or greater: Generally directly admissible. However, the university’s placement process (math placement exam, etc.) may require remediation and reduced schedules for some students.

B. 100-120: Students may be admitted, but will receive enhanced advising, recommendations for remediation, and reduced academic schedules.
C. **Less than 100:** Students in this range are normally admissible only after additional academic development which is not available at Missouri S&T. Students in this category are encouraged to apply to Missouri S&T through the [Transfer Assistance Program](#).

**What are the department requirements for admission into their degree programs?**

At Missouri S&T, the requirements do not vary dramatically. Most departments accept students not on probation or who are not deficient. However, there are some variations particularly among engineering programs. In a response to enrollment increases or a desire for better quality students, some departments now require a GPA higher than a 2.00. Chemical, Computer, and Electrical Engineering require a GPA of 2.25. Architectural and Civil Engineering require a 2.50 and Petroleum Engineering requires a 2.60. Mechanical and Aerospace Engineering requires a cumulative GPA of 2.50 and a cumulative math and science GPA of 2.25. In addition, Business and Information Systems requires a 2.50. Finally, beginning in fall 2014, all students accepted into “professional standing” in teacher education must have a 2.75 GPA.

4. What are the admissions policies at comparator and TRU universities—Mizzou, Purdue, Illinois, Colorado School of Mines, Iowa State, St. Louis U., and Arkansas?

A. **Mizzou:** ACT math subscore and composite of 24 or class rank in top 25% and college GPA varies from 2.7 to 3.0
B. **Purdue:** Varies among degree programs, but a college GPA of 3.2 for most (2.7 for others)
C. **Illinois:** With a limited number of exceptions, an ACT of 31
D. **Colorado School of Mines:** C or higher in core curriculum courses
E. **Iowa State:** 2.0 in all foundation courses
F. **St. Louis:** 3.00 high school GPA (and 2.00 in college work)
G. **Arkansas:** 2.00 GPA with additional requirements in some degree programs

Missouri S&T engineering programs are roughly in the middle of these requirements for acceptance.

**What are the transfer admission policies at comparator universities?**

A. **Mizzou:** Have a 2.5 with at least a C in English composition and Calculus I.
B. **Purdue:** No transfers in Aeronautical, Biomedical, or Mechanical; otherwise, Chemical requires a 3.5; Civil, Computer, Electrical, Environmental, Industrial, Interdisciplinary, Materials, Multidisciplinary, and Nuclear require a 3.0; Agricultural and Construction Engineering require a 2.5.
C. **Illinois:** Must have a 3.0 and all applicants evaluated on basis of college grades, courses taken, high school grades, ACT or SAT, and essays.
D. **St. Louis:** 2.50 college GPA
E. **Arkansas:** Course work is evaluated before admission

As with requirements for acceptance into degree programs for non-transfer students, the requirements for transfer students vary considerably.
Which “gateway” courses serve as a barrier to entry into majors of choice?
In alphabetical order, here are the “gateway” courses taken by my most freshmen at S&T (GPA for each course in Fall 2013).

Chemistry 1—2.49
English 20—2.72
History 112, 175, and 176—2.88
Math 4—2.74
Math 6—2.31
Math 14—2.09
Math 15—2.65
Physics 23—2.23
Psychology 50—2.96

Two courses in particular, Math 14 and Physics 23, appear to offer the most substantial challenge for students building a general education record prior to seeking acceptance into engineering programs at S&T.

Committee Recommendations:
• S&T departments should be transparent about their admissions policies including in the recruiting of students.
• Continued support for the Math 14 and 15 initiatives.
• Testing for all incoming students in reading comprehension
  ➢ Placement of students into English 20 who do not meet benchmark in reading comprehension diagnostic
  ➢ Re-assess CLEP credit policy
  ➢ Review policies for accepting AP and dual-credit English courses
Subcommittee #5: Academic Policy and Barriers to Graduation

Focus
Review current policies for effectiveness and develop new policies/procedures that enable students to persist and complete their degree.

Laura Stoll currently has a student advisory group and asked them what barriers exist for students. The students submitted their concerns but the overall thought is that we, at S&T, do a lot of things right. Of the barriers presented, many are beyond this committee so we will be making sure the appropriate committees/departments/administrators are aware of the students concerns.

For Graduate Students
Research appointment sometimes conflicts with your research. Graduate students need time for their thesis so that they don’t conflict with research appointment demands.

Example: Dissertation writing fellowship.

For Undergraduate Students
1. More financial aid opportunities to help pay for food and purchase books.
2. More opportunities to get a job on campus. Campus offices are more understanding if a student needs to skip work to study for an exam.
3. Student involvement can hurt GPA, yet students are encouraged to be involved. It’s a difficult balance.
4. Student leaders may have a lower GPA.
5. New advisors may not know enough yet to correctly advise students. They may tell the student the wrong course to take which would cause them to get off-track. New advisors need more training before they are allowed to advise.
6. Some courses are only taught once a year, or once every two years. Some are even only once every four years like astrophysics. The department doesn’t have a professor to teach it now.
7. Lack of space in labs. With growing enrollment there is limited space in labs such as in chemistry. (campus master plan)
8. Prerequisites are enforced inconsistently. You don’t know if they will be enforced or not so you just sign up for the class and wait to see if they kick you out.
9. Some faculty are not very flexible with letting athletes out of class for games/travel.
10. Transfer students need to be careful with evaluation mistakes. It’s best to follow the course transfer guide.
11. It may be helpful to make Word and Excel basic classes available. Some of this is taught in IDE 20.

What we do right: What helps progress students toward graduation?
1. Students that are involved on campus do better, and become better-rounded. Students do better when they are busy. Employers look for them. Need to be balanced.
2. Good advisors.
3. Degree audit.
4. The part of the catalog where it tells you what you should take each year, i.e. freshmen year classes, sophomore year classes, etc.
5. FE 10 was only useful when it talked about the other engineering majors.

The committee spent several meetings going over the Student Academic Regulations and determining if any policies were out of date or needed revisions based on current practices or presented barriers to graduation. The committee determined that at present, the SAR was in pretty good shape.

One completed item for the end of year report is:
1. $80,000 work study grant that FA submitted to UM System in an effort to aid in retention. This was a competitive Comprehensive Retention Initiative (CRI) funded project which each UM campus was asked to submit proposals for. The total amount of funds available was $325,000 to be split between the campuses. Each campus submitted their proposals and a committee reviewed the entries. Three of the four schools were awarded funding for their proposals.

This grant will fund 32 FTC low income and/or underrepresented minority work study students.

2. Hired a Graduation Advisor position within the Registrar’s Office. This position will work with students and their departments to ensure they are meeting their graduation requirements. This position will educate the campus on policy and procedures to maximize the student experience.

Recommendations
1. Moving the prerequisite process to use Joe’Ss delivered functionality to enhance a more uniform and positive process on campus. Or eliminate the process all together. Currently students are allowed to register for any course regardless if they meet the prerequisite or not. Students complain that they are allowed to enroll in the course but then after classes start, they are asked to drop. When they are asked to drop after classes start, many times they are not refunded the full 100% of course fees as they should since they are dropping due to a prerequisite issue. The courses should be removed prior to the start of classes. Students would be more comfortable being stopped from enrolling in the course rather than having to switch classes later due to a prerequisite issue.

2. Math placement test redesign or adaptation. We would like to see this as an online test given prior to the students coming to PRO. Then the results could be reviewed and classes could be selected based on the results. This would help the advisors on the day of PRO to design the optimal schedule and spend more time with the student advising. It would allow the Registrar’s office to plan course availability more accurately. If we know that the students attending the next PRO are heavily placed in math 14 we know we need an adequate amount of Chemistry 1 sections. But if the students are heavily placed in math 3, then we do not need to worry about the chemistry classes. This would also make the PRO day more enjoyable for students. It is a hard sell to have them take a math test on a day that is supposed to be all about the fun of attending college.
Our suggestion would be to pilot the online math test and have the PRO students take it prior to coming to PRO and then also when they attend the PRO. The scores could be compared to see how close they are. By allowing the students to take the test prior, students would know their math readiness and possibly take a summer class to help propel them forward by the start of the fall semester.

3. **Academic Mapping Planner (AMP) tool to be purchased.** This software will provide the missing retention piece that the campus has wanted for years. The AMP software would allow departments to build roadmaps to a degree. It would allow for multiple roadmaps for those that are dual majoring or including a minor. It would help departments plan adequately for course offerings. We would have the ability to run reports of how many students would need a specific course based on their roadmap. It would allow students to better plan their years at S&T and hopefully eliminate those unnecessary semesters where a class wasn’t offered, placing the student out of sequence.
APPENDIX A
Cumulative Retention & Graduation Rates of First Time, Full Time Degree Seeking Freshmen
Class Entering | % Returned or Received Degree After | % Rec’d Deg After
---|---|---
TOTAL ALL | 1 Yr | 2 Yrs | 3 Yrs | 4 Yrs | 5 Yrs | 6 Yrs
88 | 79% | 62% | 59% | 57% | 55% | 51%
89 | 76% | 64% | 60% | 59% | 57% | 53%
90 | 78% | 63% | 61% | 59% | 59% | 52%
91 | 77% | 65% | 61% | 59% | 59% | 52%
92 | 80% | 68% | 63% | 62% | 60% | 55%
93 | 78% | 68% | 64% | 63% | 61% | 55%
94 | 78% | 67% | 64% | 61% | 58% | 52%
95 | 80% | 68% | 66% | 64% | 63% | 57%
96 | 79% | 67% | 63% | 60% | 59% | 55%
97 | 83% | 71% | 64% | 65% | 63% | 60%
98 | 84% | 73% | 70% | 68% | 66% | 64%
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05 | 87% | 79% | 75% | 73% | 71% | 67%
06 | 87% | 78% | 75% | 72% | 68% | 65%
07 | 87% | 76% | 72% | 67% | 66% | 67%
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09 | 85% | 77% | 75% | 71%
10 | 83% | 75% | 72%
11 | 85% | 77%
12 | 83%
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APPENDIX B
Retention Strategies and Tactics
2001-2013
Retention Strategies and Tactics, 2001-2014

Assessment Enhancement

- Created standardized retention and graduation reports by gender and ethnicity and began measuring stop-out rate (students who withdraw and return), 2002
- Began annual retention audit of academic (cognitive) and demographic factors, 2001
- Instituted new-student survey in freshman Preview, Registration and Orientation (PRO sessions), 2002
- Re-instituted the Hogan Personality Index (HPI) assessment to track students by non-cognitive factors, 2002
- Revised withdraw surveys and interviews, 2002
- Started follow-up telephone surveys of non-returning students, 2002
- Began collection and campus-wide distribution of freshman academic profile, specifically new-student survey data about expectations, social activities, GPA, ACT/SAT scores, 2002
- Revised student satisfaction and engagement assessments, Cooperative Institution Research Program and National Survey of Student Engagement, 2001
- Identified classes with very low student success rates, grade of D, F or Withdraw, 2001
- Revised and re-launched the faculty and student advising survey, 2012

Programming: Advising, Tutoring, Learning Communities, Faculty Training and Support

- Learning Enhancement Across Disciplines (LEAD) tutoring program expanded beyond physics classes, Fall 2002
- Joint Academic Management (JAM) sessions established, 2004
- Online tutor request program implemented, 2003
- Opening Week activities restructured around a group project activity, 2002 and 2003
- Expectations of student success addressed in all recruitment and orientation speeches, 2002
- Group building (making friends) and study skills addressed in all orientation and Opening Week activities, 2002–2003
- Advising program expanded with regular advisor training and awards, 2002
- Learning Communities and First-Year Experience Programs to address student academic skills development and social engagement through student life-oriented group events, 2002–2003
- Expanded freshman pre-college “Hit the Ground Running” program to address student academic expectations
- Created the Center for Pre-College Programs (CPCP) to expand the K-12 student workshops and science, technology, engineering, and mathematics (STEM) summer camps.
- Created the Center for Educational Research and Teaching Innovation (CERTI): to address improving the Missouri S&T learning environment and student learning outcomes through collaborative learning, experiential learning, technology enhanced learning, and educational research practices (September 4, 2003).
- Expanded experiential learning programs by promoting student engagement through student design teams, undergraduate research (OUaE expansion) and service learning
• Implemented the Notification of Scholastic Probation Form, 2007
• Established the undergraduate advising office, 2007
• Developed the On-Track Academic Success Program to assist probationary and academically deficient students, 2007
• Updated the online Missouri S&T Advising Handbook, 2011
• Opened Burns and McDonnell Student Success Center, 2013

Policy Changes
• Incomplete grade time limit change, 2002
• Repeat course GPA adjustment policy, 2002
• Scholarship Reinstatement Policy, 2002
• All BS degree programs reduced to fall between 124 and 128 hours, 2002–2003
• Four degree programs most often requested by exiting students added: business, information science and technology, technical communication, and architectural engineering, 2002–2003
• Academic Forgiveness Policy, 2011-12

Financial Assistance
• $285,000 additional need-based funding for first-time college students, 2012
• $80,000 institutional work study grant, 2014
APPENDIX C
Evaluation of Survey Results and Other Documents
<table>
<thead>
<tr>
<th>FTC Non Returning Summary</th>
<th>2008 Cohort</th>
<th>%</th>
<th>2009 Cohort</th>
<th>%</th>
<th>2010 Cohort</th>
<th>%</th>
<th>2011 Cohort</th>
<th>%</th>
<th>2012 Cohort</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registrars Non Returning List</td>
<td>129/1038</td>
<td>12.4%</td>
<td>160/1104</td>
<td>14.5%</td>
<td>195/1140</td>
<td>17.1%</td>
<td>160/1090</td>
<td>14.7%</td>
<td>194/1116</td>
<td>17.4%</td>
</tr>
<tr>
<td>Probation or academic deficiency</td>
<td>47</td>
<td>38.0%</td>
<td>63</td>
<td>39.4%</td>
<td>72</td>
<td>36.9%</td>
<td>60</td>
<td>37.5%</td>
<td>80</td>
<td>41.2%</td>
</tr>
</tbody>
</table>

| Non-Returning | 129 | 12.4% | 160 | 14.1% | 195 | 17.1% | 160 | 14.7% | 194 | 17.4% |

| Gender | 129 | 100.0% | 160 | 100% | 195 | 100.0% | 160 | 100% | 194 | 100% |
| Male | 99 | 76.7% | 125 | 78.1% | 164 | 84.1% | 132 | 82.5% | 164 | 84.5% |
| Female | 30 | 23.3% | 35 | 21.9% | 31 | 15.9% | 28 | 17.5% | 30 | 18.3% |

| Geographic Origin | 129 | 100.0% | 160 | 100% | 195 | 100.0% | 160 | 100% | 194 | 100% |
| Missouri | 104 | 80.6% | 128 | 80.0% | 155 | 79.5% | 127 | 79.4% | 144 | 74.2% |
| Non-Missouri | 25 | 19.4% | 32 | 20.0% | 40 | 20.5% | 33 | 20.6% | 50 | 25.8% |

| Academic Plan | 129 | 100.0% | 160 | 100% | 195 | 100.0% | 160 | 100.0% | 194 | 100% |
| Engineering | 99 | 76.7% | 123 | 76.9% | 145 | 74.4% | 118 | 73.9% | 142 | 73.2% |
| Non-Engineering | 30 | 23.3% | 37 | 23.1% | 50 | 25.6% | 42 | 26.3% | 52 | 26.8% |

| Ethnicity | 129 | 100.0% | 160 | 100% | 195 | 100.0% | 160 | 100.0% | 194 | 100% |
| White | 114 | 88.4% | 123 | 76.9% | 168 | 86.2% | 133 | 83.1% | 160 | 82.5% |
| African American | 5 | 3.9% | 11 | 6.9% | 7 | 3.6% | 9 | 5.6% | 8 | 4.1% |
| Not Specified | 7 | 5.4% | 13 | 8.1% | 5 | 2.6% | 2 | 1.3% | 6 | 3.1% |
| Asian/Pacific Islander | 2 | 1.6% | 1 | 0.6% | 4 | 2.1% | 2 | 1.3% | 5 | 2.6% |
| Hispanic/Latino | 1 | 0.7% | 8 | 5.0% | 6 | 3.1% | 8 | 5.0% | 6 | 3.1% |
| American Indian/Alaskan | 0 | 0.0% | 3 | 1.9% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Native | Nonres Alien | 0 | 0.0% | 1 | 0.6% | 2 | 1.0% | 0 | 0.0% | 2 | 1.0% |
| Multi Race | N/A | N/A | N/A | N/A | 3 | 1.5% | 6 | 3.8% | 7 | 3.6% |

| Cummulative GPA | 129 | 100.0% | 158 | 100% | 193 | 100.0% | 158 | 100.0% | 192 | 100% |
| 3.5-4.0 | 15 | 11.6% | 13 | 8.2% | 13 | 6.7% | 19 | 12.0% | 16 | 8.3% |
| 3.26-3.49 | 6 | 4.7% | 9 | 5.7% | 8 | 4.1% | 11 | 7.0% | 14 | 7.3% |
| 3.0-3.25 | 12 | 9.3% | 19 | 12.0% | 14 | 7.3% | 15 | 9.5% | 13 | 6.8% |
| 2.5-2.99 | 22 | 17.1% | 20 | 12.7% | 45 | 23.3% | 23 | 14.6% | 34 | 17.7% |
| 2.0-2.49 | 20 | 15.5% | 25 | 15.8% | 32 | 16.6% | 23 | 14.6% | 25 | 13.0% |
| 0.1-1.99 | 54 | 41.7% | 72 | 45.6% | 81 | 42.0% | 67 | 42.4% | 90 | 46.9% |

| Composite ACT | 127 | 100.0% | 153 | 100% | 189 | 100.0% | 154 | 100.0% | 184 | 100% |
| 31-35 | 25 | 19.7% | 22 | 14.4% | 32 | 16.9% | 21 | 13.6% | 32 | 17.4% |
| 27-30 | 40 | 31.5% | 52 | 34.0% | 69 | 36.5% | 58 | 37.7% | 67 | 36.4% |
| 24-26 | 33 | 26.0% | 42 | 27.5% | 66 | 34.9% | 55 | 35.7% | 56 | 30.4% |
| <24 | 29 | 22.8% | 37 | 24.2% | 22 | 11.6% | 20 | 13.0% | 29 | 15.8% |

### 2nd Year FTC Non Returning Statistics

<table>
<thead>
<tr>
<th>Fall Term</th>
<th>Cohort (First time-Full time-Degree Seeking Freshmen)</th>
<th>% non returning</th>
<th>Of non returning-# in Good Standing (GOOD/REMP/GDPR/REMD)</th>
<th>Of non returning-% in Good Standing</th>
<th>Of non returning-Ave ACT</th>
<th>Of non returning-Ave GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>250/1090</td>
<td>23%</td>
<td>44</td>
<td>17.6%</td>
<td>27</td>
<td>2.27</td>
</tr>
<tr>
<td>2010</td>
<td>285/1140</td>
<td>25%</td>
<td>29</td>
<td>10.2%</td>
<td>27.1</td>
<td>2.16</td>
</tr>
<tr>
<td>2009</td>
<td>242/1104</td>
<td>22%</td>
<td>25</td>
<td>10.3%</td>
<td>26.4</td>
<td>2.2</td>
</tr>
<tr>
<td>2008</td>
<td>231/1038</td>
<td>22%</td>
<td>29</td>
<td>12.5%</td>
<td>26.3</td>
<td>2.2</td>
</tr>
</tbody>
</table>
Engagement Indicators: Overview

Engagement Indicators are summary measures based on sets of NSSE questions examining key dimensions of student engagement. The ten indicators are organized within four themes: Academic Challenge, Learning with Peers, Experiences with Faculty, and Campus Environment. The tables below compare average scores for your students with those in your comparison groups.

Use the following key:

▲ Your students’ average was significantly higher (p<.05) with an effect size at least .3 in magnitude.

△ Your students’ average was significantly higher (p<.05) with an effect size less than .3 in magnitude.

-- No significant difference.

▽ Your students’ average was significantly lower (p<.05) with an effect size less than .3 in magnitude.

▼ Your students’ average was significantly lower (p<.05) with an effect size at least .3 in magnitude.

### First-Year (FY) Students

<table>
<thead>
<tr>
<th>Theme</th>
<th>Engagement Indicator</th>
<th>Your FY students compared with Peer Institutions</th>
<th>Your FY students compared with Carnegie Class</th>
<th>Your FY students compared with NSSE 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Challenge</td>
<td>Higher-Order Learning</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td></td>
<td>Reflective and Integrative Learning</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td>Learning with Peers</td>
<td>Learning Strategies</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td></td>
<td>Quantitative Reasoning</td>
<td>▼</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Collaborative Learning</td>
<td>--</td>
<td>△</td>
<td>△</td>
</tr>
</tbody>
</table>
## Experiences with Faculty

- **Effective Teaching Practices**
  - ▼
  - ▼
  - ▼

- **Student-Faculty Interaction**
  - ▼
  - ▼
  - ▼

- **Discussions with Diverse Others**
  - ▼
  - ▼
  - ▼

## Campus Environment

- **Quality of Interactions**
  - ▼
  - ▼
  - ▼

- **Supportive Environment**
  - ▼
  - ▼
  - ▼

### Seniors

<table>
<thead>
<tr>
<th>Theme</th>
<th>Engagement Indicator</th>
<th>Your seniors compared with Peer Institutions</th>
<th>Your seniors compared with Carnegie Class</th>
<th>Your seniors compared with NSSE 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Higher-Order Learning</strong></td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td><strong>Reflective and Integrative Learning</strong></td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td><strong>Learning Strategies</strong></td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td><strong>Quantitative Reasoning</strong></td>
<td>▼</td>
<td>△</td>
<td>△</td>
<td>△</td>
</tr>
<tr>
<td><strong>Collaborative Learning</strong></td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td><strong>Discussions with Diverse Others</strong></td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td>Experiences with Faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student-Faculty Interaction</td>
<td>--   --  --  --</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective Teaching Practices</td>
<td>--   ▽  ▽</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Campus Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Interactions</td>
</tr>
<tr>
<td>Supportive Environment</td>
</tr>
</tbody>
</table>
Experiences with Faculty: First-year students

Students learn firsthand how experts think about and solve problems by interacting with faculty members inside and outside of instructional settings. As a result, faculty become role models, mentors, and guides for lifelong learning. In addition, effective teaching requires that faculty deliver course material and provide feedback in student-centered ways. Two Engagement Indicators investigate this theme: Student-Faculty Interaction and Effective Teaching Practices. Below are three views of your results alongside those of your comparison groups.

Mean Comparisons

<table>
<thead>
<tr>
<th>Engagement Indicator</th>
<th>Missouri S&amp;T Mean</th>
<th>Peer Institutions Mean</th>
<th>Carnegie Class Mean</th>
<th>NSSE 2013 Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student-Faculty Interaction</td>
<td>15.9</td>
<td>18. **</td>
<td>19. **</td>
<td>20.0 **</td>
</tr>
<tr>
<td>Effective Teaching Practices</td>
<td>36.9</td>
<td>39.21 *.23</td>
<td>39. **</td>
<td>40.4 **</td>
</tr>
</tbody>
</table>

Note: Results weighted by gender and enrollment status (and institution size for comparison groups); *p<.05, **p<.01, ***p<.001 (2-tailed); Effect size: Mean difference divided by pooled standard deviation; Symbols on the summary page are based on effect size and p before rounding.

Score Distributions

Summary of Indicator Items

**Student-Faculty Interaction**

| Percentage of students who responded that they "Very often" or "Often"... |
|-----------------------------|------------------|------------------|------------------|
| Missouri S&T                | Peer Institutions| Carnegie Class   | NSSE 2013        |
| 3a. Talked about career plans with a faculty member | 1 25 2 3 | 7 9 2 |
| 3b. Worked w/faculty on activities other than coursework (committees, student groups, etc.) | 1 19 1 1 | 6 7 8 |
3c. Discussed course topics, ideas, or concepts with a faculty member outside of class

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>23</th>
<th>2</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>22</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>5</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

3d. Discussed your academic performance with a faculty member

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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<tbody>
<tr>
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</tr>
</tbody>
</table>

**Effective Teaching Practices**

Percentage responding "Very much" or "Quite a bit" about how much instructors have...

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5a. Clearly explained course goals and requirements</td>
<td>7</td>
<td>80</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>82</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>5b. Taught course sessions in an organized way</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5c. Used examples or illustrations to explain difficult points</td>
<td>7</td>
<td>78</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>8</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>5d. Provided feedback on a draft or work in progress</td>
<td>4</td>
<td>58</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>5e. Provided prompt and detailed feedback on tests or completed assignments</td>
<td>5</td>
<td>62</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>0</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Refer to your Frequencies and Statistical Comparisons report for full distributions and significance tests. Item numbering corresponds to the survey facsimile included in your Institutional Report and available on the NSSE Web site.
Experiences with Faculty: Seniors

Students learn firsthand how experts think about and solve problems by interacting with faculty members inside and outside of instructional settings. As a result, faculty become role models, mentors, and guides for lifelong learning. In addition, effective teaching requires that faculty deliver course material and provide feedback in student-centered ways. Two Engagement Indicators investigate this theme: Student-Faculty Interaction and Effective Teaching Practices. Below are three views of your results alongside those of your comparison groups.

Mean Comparisons

<table>
<thead>
<tr>
<th>Engagement Indicator</th>
<th>Missouri S&amp;T</th>
<th>Peer Institutions</th>
<th>Carnegie Class</th>
<th>NSSE 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student-Faculty Interaction</td>
<td>22.</td>
<td>23.</td>
<td>23.</td>
<td>23.2</td>
</tr>
<tr>
<td>Effective Teaching Practices</td>
<td>37.</td>
<td>37.</td>
<td>40.</td>
<td>41.1</td>
</tr>
</tbody>
</table>

Notes: Results weighted by gender and enrollment status (and institution size for comparison groups); *p<.05, **p<.01, ***p<.001 (2-tailed); Effect size: Mean difference divided by pooled standard deviation; Symbols on the summary page are based on effect size and p before rounding.

Score Distributions

Summary of Indicator Items

<table>
<thead>
<tr>
<th>Student-Faculty Interaction</th>
<th>Missouri S&amp;T</th>
<th>Peer Institutions</th>
<th>Carnegie Class</th>
<th>NSSE 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>3a. Talked about career plans with a faculty member</td>
<td>3</td>
<td>38</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>3b. Worked w/faculty on activities other than coursework (committees, student groups, etc.)</td>
<td>2</td>
<td>29</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
3c. Discussed course topics, ideas, or concepts with a faculty member outside of class
   3 3
   1 2
   2 3
   5

3d. Discussed your academic performance with a faculty member
   3 3
   2 3
   5 2

### Effective Teaching Practices

Percentage responding "Very much" or "Quite a bit" about how much instructors have...

<table>
<thead>
<tr>
<th>Practice</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>5a. Clearly explained course goals and requirements</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5b. Taught course sessions in an organized way</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5c. Used examples or illustrations to explain difficult points</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5d. Provided feedback on a draft or work in progress</td>
<td>8</td>
<td>0</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5e. Provided prompt and detailed feedback on tests or completed assignments</td>
<td>5</td>
<td>8</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Refer to your *Frequencies and Statistical Comparisons* report for full distributions and significance tests. Item numbering corresponds to the survey facsimile included in your *Institutional Report* and available on the NSSE Web site.
## Detailed Statistics:
First-year students

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std Dev</th>
<th>Standardized mean</th>
<th>Comparison results</th>
<th>Deg. of freedom</th>
<th>Effect size</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>m</td>
<td>s</td>
<td>M</td>
<td>SD</td>
<td>M</td>
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<tr>
<td>Academic Challenge</td>
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<td></td>
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</tr>
<tr>
<td>Higher-Order Learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missouri S&amp;T (N = 243)</td>
<td>35</td>
<td>3.8</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Peer Institutions</td>
<td>38</td>
<td>3.4</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Carnegie Class</td>
<td>38</td>
<td>3.0</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>NSSE 2013</td>
<td>39</td>
<td>3.0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Top 50%</td>
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<td>3.0</td>
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<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Top 10%</td>
<td>42</td>
<td>3.1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Reflective and Integrative Learning</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Missouri S&amp;T (N = 247)</td>
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<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Peer Institutions</td>
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Academic Challenge

Higher-Order Learning

Peer Institutions

Carnegie Class

NSSE 2013

Top 50%

Top 10%
### Quantitative Reasoning

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### Learning with Peers

### Collaborative Learning

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| **Effective Teaching Practices** |              |                   |                |           |         |         |
| (N = 246)               |              |                   |                |           |         |         |
| Missouri S&T            | .7 9 6 6 8 6 4 0 | 1 1 .7 | 1 2 3 4 6 | .1 2 0 | .0 |         |
| Peer Institutions       | .3 6 9 6 2 0 8 0 | 1 1 | 9 1 3 4 4 6 | .214 | .0 |         |
| Carnegie Class          | .5 0 8 0 2 0 8 0 | 1 1 | 5 0 8 0 | -.216 | .0 |         |
| NSSE 2013               | .4 3 4 0 2 0 2 0 | 1 1 | 4 0 3 4 5 | .282 | .0 |         |
| Top 50%                 | .42 3 .0 | 2 3 4 5 6 | 6.0           | -.461     | .0 |         |
| Top 10%                 | .44 3 .1 | 2 3 4 6 6 | 8.0           | -.579     | .0 |         |

<p>| <strong>Campus Environment</strong> |              |                   |                |           |         |         |
| <strong>Quality of Interactions</strong> |              |                   |                |           |         |         |
| (N = 215)               |              |                   |                |           |         |         |
| Missouri S&amp;T            | .6 2 0 2 6 4 8 8 | 1 1 | .7 | 0 0 0 | .1 2 | .0 |         |
| Peer Institutions       | .9 7 9 0 4 4 0 0 | 1 1 | 4 1 7 1 3 4 5 | .026 | .5 |         |
| Carnegie Class          | .2 3 8 8 4 2 0 0 | 1 1 | 5 1 2 | .033 | .010 |         |
| NSSE 2013               | .41 1 .0 | 1 3 4 5 6 | 259 | .010 |    |         |</p>
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**Supportive Environment**

- Results weighted by gender and enrollment status (and institutional size for comparison groups).
- Standard deviation is a measure of the amount the individual scores deviate from the mean of all the scores in the distribution.
- Standard error of the mean, used to compute a confidence interval (CI) around the sample mean. For example, the 95% CI is the range of values that is 95% likely to contain the true population mean, equal to the sample mean +/- 1.96 * SEM.
- A percentile is the point in the distribution of student-level EI scores at or below which a given percentage of EI scores fall.
- Degrees of freedom used to compute the t-tests. Values vary from the total Ns due to weighting and whether equal variances were assumed.
- Statistical significance represents the probability that the difference between the mean of your institution and that of the comparison group occurred by chance.
- Effect size is the mean difference divided by the pooled standard deviation.
## Detailed Statistics: Seniors

### Academic Challenge

#### Higher-Order Learning

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#### Learning Strategies

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### Collaborative Learning

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### Experiences with Faculty

#### Student-Faculty Interaction

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#### Effective Teaching Practices

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Supportive Environment

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a. Results weighted by gender and enrollment status (and institutional size for comparison groups).
b. Standard deviation is a measure of the amount individual scores deviate from the mean of all the scores in the distribution.
c. Standard error of the mean, used to compute a confidence interval (CI) around the sample mean. For example, the 95% CI is the range of values that is 95% likely to contain the true population mean, equal to the sample mean ± 1.96 * SEM.
d. A percentile is the point in the distribution of student-level EI scores at or below which a given percentage of EI scores fall.
e. Degrees of freedom used in the computation of the t-tests. Values vary from the total Ns due to weighting and whether equal variances were assumed.
f. Statistical significance represents the probability that the difference between the mean of your institution and that of the comparison group occurred by chance.
g. Effect size is the mean difference divided by the pooled standard deviation.
FS2012 FTC students enrolled SP2013 but not yet registered for FS2013

July 2013 – calls made by Tara Stone
114 students were on the list of students who had not registered for the FS2013 as of 06/2013. I was unable to reach 47 students. Of those I could not reach, I left a voice message requesting a call back. Of the students I spoke with, 12 planned on registering, 45 transferred to another university, and 10 were not returning to college/taking a break.

Students Planning on Registering

There were many common reasons student had not registered. 3 students had not registered due to holds on their accounts (financial, immunization and advising holds). 6 students had not registered due to time but plan on registering soon. 1 student was appealing financial aid and indicated this would determine whether he would register for FS2013, 1 student was rearranging his schedule and 1 student is studying abroad.

Students Transferring or Not Returning

Of the students, I spoke with, 45 students transferred and an additional 10 were not returning. Of the students not returning, 7 were related to taking a break or not returning to college, and 3 were related to the military (Navy Academy, Navy, and AIT). One student joined the Navy because of losing his scholarship. The student attending AIT plans to return SP2014.

Of the students called who were transferring, 34 were engineer majors, 5 computer science majors, 1 psychology major, 1 business major, 1 undeclared major, 1 math major, 1 physics major, and 1 English major.

15 of the students transferring were involved on campus in an organization, fraternity, or sport, 24 students were not involved at all, and 5 students did not answer.
24 of the students are transferring to a community or technical college, and 18 students are transferring to another 4-year university (MIZZOU, UMSL, Missouri State, Northwest, University of Wisconsin-Platteville, Missouri Baptist, University of North Carolina-Wilmington, Southwestern Illinois College). There were 2 students who indicated they were transferring but declined answering questions.

27 students stated they were transferring and changing majors, of which 16 of them were transferring to get general education out of the way (6 intend on returning, 9 haven’t decided and 1 is not returning).

16 students stated they were transferring and keeping the same major. Of the engineering students transferring to 4-year universities, 5 continues to major in engineering whereas the others are changing to a non-engineering major (health sciences, education, animal science, biology, construction project management, biology, and animal sciences)

38 students stated they would recommend the university to other students, 3 stated they would maybe recommend the university, and 1 student said he would not. Reasons why include the following:

- It is very academically oriented, and always safe. S&T places students in the appropriate classes very well and the professors are great.
- It’s a great school, but wouldn’t recommend living in Res College 2.
- It’s a phenomenal school, some of the best programs, Cynthia Bolon was amazing—classes and courses S&T offers helps provide for students futures and internships are phenomenal and fantastic. They must go, great COER.
Yes, the size was great and the professors were very helpful.
The academics are hard but worthwhile.
It was a great school, nice environment, great teachers, and I learned many new things there.
Yes, I really liked the smaller classes because it was really one on one with professors. Dr. Gertsch was an awesome advisor; I love that woman.
Yes, depending on who they are. There is a difference between who I know and the people come to S&T. Big demographic at S&T—no parties. I would tell me friends who are focused on studying to go to S&T. Best place to go for engineering.
Yes and no. Yes as far as the friendliness and the other academics know what they are doing and are knowledgeable. I didn’t get the help I needed in the Chemistry department.

Reasons for leaving Missouri S&T included the following:

- Academic (challenging curriculum, low grades, lost scholarship, falling behind, repairing GPA,)
- Financial aid/price (lack of financial aid, cheaper at community college)
- Closer to home (family)
- Connection and Atmosphere (didn’t connect with people, socially awkward campus, small town, nothing to do)
- Problems with faculty (lack of help, communication)
- Unprepared (wasn’t ready, lack of confidence)
- Don’t know
- Lack of majors outside of engineering

The following were additional student comments:

- “The humanity courses were not challenging. I didn’t do any of my homework in my classes, wrote mediocre essays, and still got A’s. I did not get the grades I thought I deserved for the amount of work I put in.”
- “I think those PRO mentors should be hired staff at Missouri S&T that we can go too. We need more of sense of community. Living in the dorms is great, and I made some really good friends, but if they aren’t in your same classes you don’t have anyone to talk to. Most students lack social skills and it’s not something that can really be fixed. It’s just the type of students that are there. If you can’t find that support group or help within the first week, you are lost.”
- “LEAD sessions didn’t help and advisor wasn’t much help because he was extremely busy. I went to LEAD sessions and I would just stand there. I felt like I was just stupid. The professor made me feel like I was dumb and every time he and the tutor tried to explain it I would feel even worse. There are some very very brilliant people at that school and I only got ACT 24. I was recommended to take 16 hours at my PRO day, and that’s too much. After my experience, I feel so defeated. I am not even sure I’m confident enough for a community college.”
- “The one thing that I did notice is that if you are not Greek you are screwed. My friends that weren’t involved in Greek aren’t coming back, and those who were coming back are Greek.”
• “The curriculum was too tough. I couldn’t keep up with it so it would have just been a waste of money. I never really excelled in school and I’m not of the same caliber that most of the students are at Missouri S&T.”

• “Have more one on one tutoring than having group sessions because students don’t get the help they need. When you needed a LEAD tutor, they were always in a rush to get done.”

• “The Chemistry department needs improved. It was the difficult part for me. The class was so stressful- you have to dedicate 20-30 hours a week in order to pass. I needed more attention and my grades starting dropping. I attended LEAD sessions and it helped a little bit. But overall, it didn’t get me anywhere.”

• “I think Residential Life needs more funding, even RHA. They didn’t have enough money to get everything taken care of that they needed to.”

• “I felt like it’s partially my fault that it didn’t work out, but I really enjoyed Missouri S&T. I kind of felt pressured to take more hours than I should have. I think Missouri S&T should staff more people to make sure people don’t get over their heads. Some students get ahead of themselves without thinking. I felt encouraged to push my limits and I did it too much. I let the stress get to me too much and it affected my classes. I went to the counseling center and they were very nice and she did help a little bit but I am afraid it didn’t really help with helping with my classes and the impact it had on my grades.”

• “The meal plan is sucky. They suggest to go with the lowest number of meals but the highest number of points. Everything in Havener requires a whole bunch of points to get a decent amount of food.”

• “It is kind of boring on weekends; there isn’t anything to do. Improve the college town more.”

• “There is a lack of majors outside of engineering. There wasn’t much of a focus on anything besides engineering. The other classes seemed to be throw away classes.”

• “I didn’t like how I was taught by TA’s. I want to be taught by professors. If you are paying the money we are paying, I feel is should be taught by professors.”

• “I am hands on learning, and I didn’t get that at Missouri S&T.”
Missouri S&T Calculus Redesign

An Overview of Core Components

Four Core Components

Redesigned, interactive labs

Enhanced departmental training for GTAs

Extensive online video library

A new program for underperforming students
Current Labs

Calculus I and II labs currently

• Meet two days per week for 50 minutes
• Are directly linked to a lecture section
• Are run by GTAs with minimal training
• Do not encourage student engagement
• Are not standardized
• Are generally quite ineffective

Redesigned Labs

Redesigned Calculus I, II, and III labs will

• Meet one day a week for 75 minutes
• Be open to enrollment for students from any lecture section
• Be run by GTAs with focused training
• Encourage engagement through interactivity
• Be standardized
Timeline for Lab Redesign

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Current GTA Training

Mathematics and Statistics GTA training currently has two components

- Campus GTA workshop
- Departmental GTA seminar

These components are not coordinated, conflict with each other, and do not adequately prepare GTAs
Redesigned GTA Training

The redesigned training will

- Be unified, cohesive, and interactive
- Be housed in the Department of Mathematics and Statistics, exceeding all campus standards
- Prepare incoming GTAs to present material clearly and facilitate interactive learning
- Be modeled off the successful mathematics GTA training at University of Michigan
- Be fully implemented for Fall 2015

Extensive Online Video Library

We will produce an extensive online video library of short videos on calculus and prerequisite topics.

- Will involve participation from multiple faculty
- Prerequisite videos will facilitate just-in-time review
- Calculus videos can be developed into the core of an online lecture option
What Do Underperforming Students Do Now?

Underperforming students choose to
• Drop before the 6 week deadline
• Change to hearer status
• Withdraw
• Fail the course

None of these options improve a student’s background before they retake the course.

Can Struggling Students Be Identified?

Math 14 (Calculus I), Fall 2013
468 students (excluding two on Hearer Status)
Grades compared from two dates:
• After Exam 2 (Week 8)
  – Includes 5 quizzes, one Basic Skills, and two exams
  – Does not include clickers or online homework
• End of Semester
Can Underperforming Students Be Identified?

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A New Program for Underperforming Students

We would like to provide an option for underperforming students which:

- Allows students to maintain full-time status
- Does not result in a GPA penalty to students
- Provides students with a structured opportunity to work on their deficiencies with prerequisite material
A New Program for Underperforming Students

New Course: “Success for Calculus”

• 4 credit hours
  — Same as Math 14 (Calculus I)
• Only offered on a pass/fail basis
• Sections not shown to students in Joe’SS
• Students will only be allowed to take the course one time, regardless of outcome

A New Program for Underperforming Students

New Course: “Success for Calculus”

• Open to Calculus I students with a grade below 70% after Exam 2.
• Replaces Calculus I on schedule and transcript
  — Handled similarly to Math 2 dropback students
• Will not be mandated
  — If participation is low, we may revisit the idea of mandating the success course for certain students
APPENDIX D
2013-2014 Meeting Minutes

Meeting Schedule
The Retention Committee meets every other Thursday, from 8:15-9:15 AM in the Silver & Gold room of the Havener Center.

August 22, 2013
September 5, 2013
September 19, 2013
October 3, 2013 (No Meeting)
October 17, 2013
October 31, 2013
November 14, 2013
November 28, 2013 (No Meeting-Thanksgiving)
December 12, 2013
December 26, 2013 (No Meeting)
January 9, 2014 (No Meeting)
January 23, 2014
February 6, 2014
February 20, 2014
March 6, 2014
March 20, 2014
April 3, 2014
April 17, 2014
May 1, 2014
May 15, 2014
June 11, 2014-Presentation to Chancellor Schrader
Missouri S&T Student Success Committee Meeting

August 22, 2013  
8:15 am – 9:15 am  
Havener Center, Silver and Gold

Members Present:  
Timothy Albers, Bridgette Betz, Carl Burns, Jeff Cawfield, Stephen Clark, Tyrone Davidson, Cecilia Elmore, Larry Gragg, Deanne Jackson, Katie Jackson, Douglas Ludlow, Rachel Morris, Adrienne Neckermann, Stephen Raper, Dan Reardon, Kristi Schulte, Lynn Stichnote, Laura Stoll, Ramya Thiagarajan, Klaus Woelk, Nangai Yang

Member Absent:  
Patty Frisbee

I. Introduction of members / co-chairs  
a. Members introduced themselves. Co-chairs are Jeff Cawfield and Laura Stoll.

II. Name change proposal  
a. The Chancellor and Provost approved the name change. The Retention Committee will now be called the Student Success Committee.

III. Website for 2012-2013 annual report and minutes  
a.  
http://ugs.mst.edu/retentioncommittee/minutes/

IV. 2013 New Student Profile  
a. Laura Stoll presented the 2013 New Student Profile.

V. Comprehensive Retention Initiative – UM System  
a. $1.98 million cost dollars marked for 3 pieces of software to support/improve retention efforts

VI. Strategic Plan goals  
85% Fall 2011 to Fall 2012  
86% Fall 2013 to Fall 2014 goal  
88% Fall 2020 to Fall 2021 goal  
a. What may be possible causes of decline?  
b. Tara Stone at the Student Success Center will begin calls.  
c. Klaus Woelk pointed out that only 12-13 students (out of 1200) will account for a 1% drop.
VII. Announcements
   a. Laura and Jeff requested that any ideas for subcommittees for the year be emailed to Donna or Rachel.
      i. dluechtelfeld@mst.edu
      ii. rachelm@mst.edu
   b. Dan Reardon
      i. English Tech Comm joined LEAD. Eric Bryan will have LEAD tutoring for ESL undergraduate students in basic English writing skills.
      ii. Thu Tran will teach an ESL English 20 course especially for international students.
   c. Laura Stoll
      i. Masters in Psychology has been approved by the Board of Curators.
   d. Bridgette Betz
      i. Student Financial Assistance received a $25,000 default prevention grant from MDHE.

VIII. Next meeting
   a. September 5, 2013
   b. 8:15 am – 9:30 am, Havener Center, Silver and Gold
I. Review and approval of minutes
   a. Minutes were approved with correction.

II. Enrollment Trends Report
   a. Laura Stoll presented the Enrollment Trends report, which included several record high numbers.
   b. Figures are not final until fourth week and are for internal use only.

III. Ideas for Subcommittees
   a. Freshman Online Classes
      i. Laura Stoll would like research and current data regarding how online/blended classes impact freshman success.
      ii. Klaus Woelk suggested we need definitions for the terms online, blended, and flip classroom. He suggested using the term hybrid to describe his Chem 1 class.
   b. Math 2
      i. Carl Burns will chair.
      ii. What are the special mechanisms/issues that make this class challenging to teach?
      iii. How can the pass rate and D/F/W rate be improved?
   c. Freshman Engineering Program/Advising
      i. Jeff Cawlfield stated that a new model is being considered for next year.
      ii. Doug Ludlow stated that the number of students in FEP has increased significantly causing added advising needs.
   d. Barriers to Entering Major of Choice
      i. Jeff Cawlfield said the Provost would like the Student Success Committee to look at this.
      ii. This is a particular issue with FEP when students complete their requirements and then want to transfer to their major of choice.
Missouri S&T Student Success Committee Meeting

e. Barriers to Graduation
   i. Strategic Plan calls for 68% graduation rate.
   ii. Deanne Jackson gave the change to the add policy as an example that will help students be successful.
      1. The 2 week add policy had some small glitches such as international students arrive late.
      2. Klaus Woelk stated that this policy is supported by statistics. Students who enroll in Chem I after the first two weeks are not successful.

f. Academic Alert System
   i. Klaus Woelk asked that this be added as a subcommittee.

IV. 4Ps Model Overview presented by Carl Burns – Based on the article Framing Retention for Institutional Improvement: A 4Ps Framework by David H. Kalsbeek; New Directions in Higher Education, #161, Spring 2013
   a. Profile:
      i. How we characterize our students.
      ii. How our students and their parents characterize our university.
      iii. Difficult to change.
   b. Progress
      i. The only retention goal a school should have is students progressing toward graduation.
   c. Process
      i. What are we doing? Institutions need to look at/eliminate policies and barriers to success.
   d. Promise
      i. Brand Promise: What is implied by an S&T degree? What is the implied promise?

V. Announcements
   a. Laura Stoll reminded everyone that the Enrollment Management Division picnic is tomorrow at Schuman Park.
   b. Patty Frisbee distributed the schedule for the Student Success Center.
   c. Steve Raper suggested we invite Andrew Clum to present a mentoring model he uses with Greek life.
   d. Lynn Stichnote announced that Cathy Tipton had her baby last week.

VI. Next Meeting
   a. September 19, 2013
   b. 8:15 am – 9:15 am, Havener Center, Silver and Gold
Missouri S&T Student Success Committee Meeting

September 19, 2013
8:15 am – 9:15 am

Members Present:
Timothy Albers, Carl Burns, Jeff Cawfield, Cecilia Elmore, Larry Gragg, Deanne Jackson, Katie Jackson, Douglas Ludlow, Rachel Morris, Adrienne Neckermann, Stephen Raper, Dan Reardon, Kristi Schulte, Ramya Thiagarajan, Nangai Yang

Members Absent:
Bridgette Betz, Stephen Clark, Tyrone Davidson, Patty Frisbee, Lynn Stichnote, Laura Stoll, Klaus Woelk

I. Review and approval of minutes
   a. Minutes were approved.

II. Subcommittee Updates
   a. The following timeline was given to committee members
      1. April 3 - Subcommittee presentations
      2. April 17 - Subcommittee presentations
      3. April 22 – Final subcommittee reports due to Rachel
      4. May 1 - Send first draft of report to committee
      5. May 9 - Send final draft of report to committee
      6. May 15 – Final report sent to Chancellor Schrader
      7. May 29 - Report presented to Chancellor Schrader
   b. Charge to each subcommittee / Develop question(s) or specific issue(s) each subcommittee will address
      i. Freshman online classes – First meeting September 25, 2013
         1. Are online classes effective and impacting student success?
         2. Address the information gap with students, parents, staff, and faculty
         3. Develop common terminology
         4. Who is a good fit for online classes? What is the limit of online classes per semester?
      ii. Math 2 – First meeting September 27, 2013
          1. Stephanie Fitch, Math 2 coordinator, will serve as consultant
          2. Look at mechanisms and drivers
          3. What are proven things we’ve done in the past and are no longer doing?
          4. Placement in correct program/class is key to student success.
      iii. Freshman Engineering Program – First meeting October 3, 2013
          1. Hired three retirees to advise students
          2. Hire one full time professionally trained advisor next year (pilot)
          3. Consider part time non-tenure track faculty to advise
          4. Evaluate cost of faculty versus full time advisors
iv. Barriers to Entering Major of Choice—First meeting September 19, 2013
   1. Grade replacement GPA Adjustment
   2. GPA required to enter department
   3. GPA requirements to student teach

v. Barriers to Graduation—First meeting September 24, 2013
   1. Review agenda items from last year
   2. Online add/drop

vi. Academic Alert
   1. Cancelled subcommittee
   2. Implementing new system in next two years

III. Final retention numbers for 1st and 2nd year students
   a. First year retention rate is 83%
   b. Second year retention rate is 77%

IV. Announcements
   a. October 3 – Meeting cancelled – Use time to meet with subcommittee
   b. October 17 – meeting – Non-returning student report presented

V. Next Meeting – October 17, 2013
   a. 8:15 am – 9:15 am, Havener Center, Silver and Gold
I. Review and approval of minutes
   a. Minutes were approved.

II. Fall 2012 Preliminary Analysis of Non-returning Students
   a. Characteristic data
      Rachel Morris distributed a report listing non-returning students by gender, geographic
      origin, academic plan, ethnicity, cumulative GPA, and composite ACT for the past five
      years.
      i. Increasing out-of-state students creates retention challenges.
      ii. Significant changes/increases were noted in percentage of out of state students
          and percentage of students with GPA < 2.0.
      iii. Laura Stoll said there are 32 international first time freshman in Fall 2013.
          Typically there are less than 10. The impact on retention is unknown.
   b. Survey results
      Laura Stoll distributed the results from July 2013 survey calls made to 2012 FTC
      students that were not registered for FS 2013.
      i. 114 students not returning. Contact was made with 45 students.
      ii. There was general discussion and review of results.
   c. Where students went
      Laura Stoll distributed a report listing schools where non-returning students enrolled.
      i. 60% of non-returning freshmen went to a two-year institution.
      ii. May indicate financial or academic issues.

III. Subcommittee Reports – Committee Chairs
   a. Barriers to entering major of choice – Larry Gragg
      i. Next meeting is early November.
      ii. Committee is researching department requirements, transfer policies, high
          school curriculum, and gateway courses.
b. Math 2 – Carl Burns
   i. Committee met late September.
   ii. Developing student focus groups to research students’ attitudes when first placed in Math 2 and how they feel now.
   iii. Discussing current and past out-of-class support mechanisms such as LEAD and JAM.

c. Freshman Engineering – Doug Ludlow
   i. Met two weeks ago.
   ii. Still in progress.

d. Freshman Online Classes – Dan Reardon
   i. Researching goals of online classes.
   ii. Definitions are needed for the terms “online” and “distance” classes.
   iii. Researching the impact of online courses on learning, especially for freshmen.
   iv. Looking at the effect online courses have on engagement and/or isolation.
   v. What do students value in online courses?

e. Academic Policies and Barriers to Graduation – Deanne Jackson
   i. Reviewing the Student academic regulations for outdated policies.
   ii. Have some results from VPDEM Student Advisory Group which lists barriers to graduation from the students’ perspective.
Missouri S&T Student Success Committee Meeting

October 31, 2013
8:15 am – 9:15 am

Members Present:
Timothy Albers, Bridgette Betz, Carl Burns, Jeff Cawlfield, Stephen Clark, Tyrone Davidson, Cecilia Elmore, Larry Gragg, Deanne Jackson, Katie Jackson, Douglas Ludlow, Adrienne Neckermann, Dan Reardon, Kristi Schulte, Lynn Stichnote, Laura Stoll, Ramya Thiagarajan, Klaus Woelk, Nangai Yang

Members Absent:
Patty Frisbee, Rachel Morris, Stephen Raper

I. Review and approval of minutes
   a. Minutes were approved.

II. National Survey of Student Engagement
   a. Jeff Cawlfield distributed the National Survey of Student Engagement (NSSE)
      i. First-year students and seniors participated
      ii. Engagement Indicators: Overview
         1. Academic Challenge, Learning with Peers, Experiences with Faculty, Campus Environment
      iii. Experiences with Faculty
         1. Student-Faculty Interaction
         2. Effective Teaching Practices

III. Noel-Levitz Data
   a. Laura Stoll presented retention and financial data from Noel Levitz for five subpopulations
      i. In-state engineering
      ii. Out-state engineering
      iii. In-state BASE
      iv. Out-state BASE
      v. Athletes

IV. Subcommittee Updates
   a. Freshmen Online Classes – Dan Reardon
      i. Will discuss early assessment data from Eng 20 at the next subcommittee meeting
   b. Math 2 – Carl Burns
      i. Completed one focus group with Math 2 and another is scheduled
      ii. Researching JAM model used in the past
      iii. Will meet with Jana Neiss about teacher education students serving as mentors
   c. Barriers to Entering Major of Choice – Larry Gragg
i. Next subcommittee meeting will be held in November

V. Announcements – None

VI. 

VII. Next Meeting – November 14, 2013
   a. 8:15 am – 9:15 am, Havener Center, Silver and Gold
November 14, 2013
8:15 am – 9:15 am

Members Present:
Timothy Albers, Carl Burns, Jeff Cawfield, Tyrone Davidson, Cecilia Elmore, Patty Frisbee, Larry Gragg, Deanne Jackson, Katie Jackson, Douglas Ludlow, Rachel Morris, Adrienne Neckermann, Stephen Raper, Dan Reardon, Kristi Schulte, Lynn Stichnote, Laura Stoll, Klaus Woelk, Nangai Yang

Members Absent:
Bridgette Betz, Stephen Clark, Ramya Thiagarajan

I. Review and approval of minutes
   a. Minutes were approved.

II. Student Success Center
   a. Patty Frisbee discussed the impact of the Student Success Center.
      i. Centralized location, comfortable environment, free coffee
      ii. Help students help themselves (find resources)
      iii. Tara Stone followed up with 45 of the 120 conditionally admitted students
   b. Suggestions for future development
      i. Special advisor for conditionally admitted students
      ii. Centralized location for LEAD sessions

III. Returning/Non-Returning Student Report
   a. Rachel Morris distributed the Returning/Non-Returning Student Report
   b. Larry Gragg suggested creating interview questions for the Provost/Dean search that will indicate the type of culture selected individuals hope to create
   c. Laura Stoll suggested that funding for a permanent staff advisor could be recommended in final committee report
   d. Other future enhancements to the report
      i. Identify return rate of conditionally admitted students
      ii. Match some groups (i.e. high GPA) with survey response of why they didn’t return.

IV. Subcommittee Updates – none

V. Announcements – none

VI. Next Meeting – December 12, 2013
   8:15 am – 9:15 am, Havener Center, Silver and Gold
Missouri S&T Student Success Committee Meeting

December 12, 2013
8:15 am – 9:15 am

Members Present:
Timothy Albers, Bridgette Betz, Carl Burns, Jeff Cawlfield, Stephen Clark, Tyrone Davidson, Cecilia Elmore, Patty Frisbee, Deanne Jackson, Douglas Ludlow, Adrienne Neckermann, Dan Reardon, Kristi Schulte, Lynn Stichnote, Laura Stoll, Ramya Thiagarajan, Klaus Woelk, Nangai Yang

Guests:
Diane Hagni, Dana Rapier

Members Absent:
Larry Gragg, Katie Jackson, Rachel Morris, Stephen Raper

I. Review and approval of minutes
   a. Minutes were approved.

II. Math 2 Update
   a. Carl Burns, Jeff Cawlfield, Tyrone Davidson, and Diane Hagni presented a Math 2 subcommittee update.
      i. Improve data upon which retention related decisions are made
      ii. Get better info from students about their experiences
         1. Diane Hagni conducted focus groups and in-class surveys
      iii. Develop Math Learning Groups program
         1. Recruiting student mentors to work with Stephanie Fitch and the math department
      iv. Questions for future consideration
         1. How many students in Math 2 finish in engineering or some other major and how many leave S&T?
         2. Would more students be retained by placing them in calculus despite placement test scores?
         3. If students are identified earlier, will they take advantage of resources such as summer classes, online programs, HGR?
            a. Would free courses entice more students to take part?

III. Subcommittee Updates
   a. Academic Policies that are a Barrier to Graduation – Deanne Jackson, Chair
i. Next meeting will be held on December 18, 2013

b. Freshmen Online Classes - Dan Reardon, Chair
   i. Preliminary examination of data shows 60% of students are satisfied with online classes
   ii. Instructors report student disengagement, difficulty motivating students

IV. Announcements
   a. Noel Levitz contract has been renewed for one year.
      i. Open meeting, Tuesday, December 17, 9:00 am – 11:45 am
   b. Laura Stoll gave update on the Comprehensive Retention Initiative (UM System)
      i. $325K of 1.98M set aside for campus projects
      ii. One-time $80K grant funded at S&T for institutional work study program
          effective FS2014 through FS2015 for up to $2500 for 32 students
             1. Target low income students eligible for work-study
             2. Students (new freshmen) will work in “champion” departments
                a. Students must journal about their successes and challenges
                b. Department to follow up with students to encourage success and file quarterly reports
   c. Jeff Cawlfield stated that the Provost is forming “transition to deans” committees and is looking for volunteers
   d. Bridgette Betz stated that she and Larry Gragg are serving on the Provost search committee and all are welcome to share any questions or concerns
   e. Patty Frisbee stated that Missouri S&T is reported in Kiplingers as 81st best value

V. Next Meeting – January 23, 2014
   8:15 am – 9:15 am, Havener Center, Silver and Gold
January 23, 2014  
8:15 am – 9:15 am

Members Present:  
Timothy Albers, Bridgette Betz, Carl Burns, Jeff Cawfield, Stephen Clark, Tyrone Davidson, Cecilia Elmore, Patty Frisbee, Larry Gragg, Deanne Jackson, Katie Jackson, Douglas Ludlow, Rachel Morris, Adrienne Neckermann, Stephen Rapier, Dan Reardon, Kristi Schulte, Lynn Stichnote, Laura Stoll, Ramya Thiagarajan, Klaus Woelk, Nangai Yang

Members Absent:  
None

I. Review and approval of minutes  
a. Minutes were approved.

II. Curtis Laws Wilson Library: Strategic Plan and other Observations  
a. Tracy Primich, director of the library, presented their strategic plan and short term goals.

III. Math 2 Mentoring  
a. Carl Burns gave an update on the Math 2 Mentoring program.  
   i. Program is for Math 2 students.  
   ii. Student mentors are hired and will receive training next week.  
   iii. Will invite students to join during class.  
   iv. Will be located in McNutt Hall.  
b. Lynn Stichnote suggested posting information in the Family eConnection.  
c. Klaus Woelk stressed the importance of attractive, aggressive, repetitive advertising.

IV. Retention Software Updates  
a. Rachel Morris gave an update on Starfish.  
   i. There are frequent meetings with campus personnel, UM personnel, and vendor representatives.  
   ii. Tyrone Davidson, Erica Long, and Rachel Morris received access to the Early Alert system last week.  
   iii. Pilot is scheduled to roll out in mid-February; campus-wide in summer.  
b. Deanne Jackson gave an update on Schedule Builder.  
   i. Purchased three weeks ago.
ii. All four campuses will use Schedule Builder.

iii. Schedule Builder sits outside People Soft, generates schedule options, and imports the schedule into People Soft.

iv. There is student and administrator access.

c. Deanne Jackson gave an update on Darwin.

i. Current Missouri S&T degree audit program.

ii. UMKC will pilot the Darwin upgrade, u.achieve, to see what is gained and lost.

   I. Decision to purchase u.achieve will be made after the pilot.

iii. RFPs are not required for u.achieve.

V. Subcommittee Updates
   a. None

VI. Announcements
   a. None

VII. Next Meeting – February 6, 2014

8:15 am – 9:15 am, Havener Center, Silver and Gold
February 6, 2014
8:15 am – 9:15 am

Members Present:
Timothy Albers, Bridgette Betz, Carl Burns, Jeff Cawfield, Stephen Clark, Cecilia Elmore, Patty Frisbee, Larry Gragg, Deanne Jackson, Katie Jackson, Douglas Ludlow, Adrienne Neckermann, Stephen Raper, Dan Reardon, Kristi Schulte, Lynn Stichnote, Laura Stoll, Nangai Yang

Members Absent:
Tyrone Davidson, Rachel Morris, Ramya Thiagarajan, Klaus Woelk

I. Review and approval of minutes
   a. Minutes were approved.

II. Fall 2014 Housing Plans
   a. Kristi Schulte, interim director of Residential Life, presented plans for the Fall 2014 housing.
      i. Most freshmen will be housed in Thomas Jefferson and Residential College.
      ii. Approximately 300 sophomores, juniors, and seniors will return to Thomas Jefferson and Residential College.
      iii. Downtown Campus Housing District will house remaining sophomores, juniors, and seniors.
         1. North Pine Apartments.
         2. RollaMO Building.
         3. Sally Building.

III. Math 2 Mentoring
   a. Carl Burns gave an update on the Math 2 Mentoring program.
      i. Program name is M * A * S * H - Math Assistance where Success Happens.
      ii. Full implementation planned for February 11. Inclement weather delayed the February 4 start date.
      iii. Will conduct another round of recruiting.
      iv. Have good instructor support.

IV. Subcommittee Updates
   a. None.
V. **Announcements**
   
   a. Bridgette Betz stated the Institutional Work Study is moving forward.
      
      i. 25 “Champion Departments” proposed.
      
      ii. 32 student workers will participate.
   
   b. Deanne Jackson stated the first student has used the academic forgiveness policy.
      
      i. Three semesters of work was forgiven, raising GPA from 1.8 to 2.6.
   
   c. Patty Frisbee stated the phrase “conditionally admitted” in the admissions letter will be changed to “Success Mentor Program”.
      
      i. Doug Ludlow stated this may improve advisors’ attitudes.
   
   d. Laura Stoll stated the unofficial Fall to Spring return rate may increase by as much as 2%.
   
   e. Admissions is reviewing several factors to determine the likelihood that a student can be successful at Missouri S&T.
   
   f. Lynn Stichnote stated she would pay her student ambassadors to promote non-engineering majors to currently enrolled freshmen engineering students.

VI. **Next Meeting – February 20, 2014**

8:15 am – 9:15 am, Havener Center, Silver and Gold
February 20, 2014
8:15 am – 9:15 am

Members Present:
Bridgette Betz, Carl Burns, Jeff Cawfiled, Stephen Clark, Cecilia Elmore, Patty Frisbee, Deanne Jackson, Katie Jackson, Douglas Ludlow, Rachel Morris, Adrienne Neckermann, Stephen Raper, Dan Reardon, Kristi Schulte, Lynn Stichnote, Laura Stoll, Nangai Yang

Members Absent:
Tim Albers, Tyrone Davidson, Larry Gragg, Ramya Thiagarajan, Klaus Woelk

I. Review and approval of minutes
   a. Minutes were approved.

II. Calculus I Redesign
   a. Paul Runnion, assistant teaching professor, presented proposed plans for calculus redesign.
      i. Redesigned, interactive labs.
         1. Meet one day a week for 75 minutes.
         2. Enrollment open to student from any lecture section.
         3. Standardized activities presented by trained GTAs.
         4. Calculus I pilots in FS14 and SP15, and all sections FS15.
         5. Calculus II pilot in FS15 and all sections SP16.
         6. Calculus III pilot in SP16 and all sections FS16.
      ii. Enhanced departmental training for GTAs.
         1. Prepare incoming GTAs to present material clearly and facilitate interactive learning.
         2. GTA training at University of Michigan used as a model.
         3. Fully implemented for FS15.
      iii. Extensive online video library.
         1. Short videos on calculus and prerequisite topics.
         2. Participation from multiple faculty members.
         3. Prerequisite videos will facilitate just-in-time review.
         4. Calculus videos can be developed into the core of an online lecture option.
      iv. Program for underperforming students – Success for Calculus.
1. Open to Calculus I students with a grade below 70% after Exam 2.
2. Four credit hours, students maintain fulltime status.
3. Replaces Calculus I on schedule and transcript, similar to Math 4/6 drop back to Math 2.
4. Will not be mandated.
5. Does not result in GPA penalty to students, offered as pass/fail.
6. Provides structured opportunity to work on deficiencies with prerequisite material.
7. Students can take the course only once.

III. Subcommittee Updates
   a. None.

IV. Announcements
   a. Lynn Stichnote stated 176 students attended open house on 02-17-14. This is the second largest February open house in ten years.
   b. Patty Frisbee stated the first PRO is on 02-22-14.
   c. Nangai Yang stated the CIRP Freshman Survey results are complete and will be shared.
   d. Laura Stoll stated enrollment projections will be completed the first week of March.

V. Next Meeting – March 6, 2014
   8:15 am – 9:15 am, Havener Center, Silver and Gold
Missouri S&T Student Success Committee Meeting

March 6, 2014
8:15 am – 9:15 am

Members Present:
Bridgette Betz, Carl Burns, Jeff Cawfield, Stephen Clark, Tyrone Davidson, Cecilia Elmore, Patty Frisbee, Larry Gragg, Deanne Jackson, Katie Jackson, Douglas Ludlow, Rachel Morris, Adrienne Neckermann, Dan Reardon, Kristi Schulte, Lynn Stichnote, Laura Stoll, Ramya Thiagarajan, Klaus Woelk, Nangai Yang

Members Absent:
Tim Albers, Stephen Raper

I. Review and approval of minutes
   a. Minutes were approved.

II. Hit the Ground Running data
   a. Rachel Morris reviewed data for Hit the Ground Running. A handout was given.

III. Fall 2014 Freshman Enrollment Projections
   a. Laura Stoll presented fall 2014 freshman enrollment projections.
      i. Very early projections indicate an increase of 4% - 8%.
      ii. Noel-Levitz consultant indicates a projected increase of 3% - 5%.

IV. On Track Mid-Semester Recovery Program
   a. Tyrone Davidson presented information about the On-Track Program and Mid-Semester Recovery Program.
      i. Students who have completed the program have seen at least a 0.8 increase in GPA.
      ii. 15 former deficient students graduated in December 2013.
      iii. 13 former deficient students have been readmitted into their degree seeking department since January 2014.
      iv. 3 undecided students declared a major since January 2014.

V. Subcommittee Updates
   a. None.

VI. Announcements
   a. None.

VII. Next Meeting – March 20, 2014
8:15 am – 9:15 am, Havener Center, Silver and Gold
March 20, 2014
8:15 am – 9:15 am

Members Present:
Carl Burns, Jeff Cawfield, Tyrone Davidson, Cecilia Elmore, Patty Frisbee, Deanne Jackson, Douglas Ludlow, Rachel Morris, Adrienne Neckermann, Stephen Raper, Kristi Schulte, Lynn Stichnote, Ramya Thiagarajan, Klaus Woelk, Nangai Yang

Members Absent:
Tim Albers, Bridgette Betz, Stephen Clark, Larry Gragg, Katie Jackson, Dan Reardon, Laura Stoll

I. Review and approval of minutes
   a. Minutes were approved.

II. Academic Policies that are a Barrier to Graduation Subcommittee Presentation
   a. Deanne Jackson presented preliminary findings.

III. Freshman Engineering Subcommittee Presentation
   a. Doug Ludlow presented preliminary findings.

IV. Announcements
   a. Beth Tankersley-Bankhead will present on Missouri College Advising Corp on April 3.

V. Next Meeting – April 3, 2014
   8:15 am – 9:15 am, Havener Center, Silver and Gold
April 3, 2014
8:15 am – 9:15 am

Members Present:
Bridgette Betz, Jeff Cawfield, Stephen Clark, Tyrone Davidson, Cecilia Elmore, Patty Frisbee, Larry Gragg, Deanne Jackson, Katie Jackson, Oyebanjo Lajubutu, Douglas Ludlow, Rachel Morris, Adrienne Neckermann, Kristi Schulte, Lynn Stichnote, Laura Stoll, Klaus Woelk, Nangai Yang

Members Absent:
Tim Albers, Carl Burns, Stephen Raper, Dan Reardon, Ramya Thiagarajan

Guests:
Beth Tankersley-Bankhead and Brittany Schlup

I. Review and approval of minutes
   a. Minutes were approved.

II. Missouri College Advising Corp (MCAC)
   a. Beth Tankersley-Bankhead and Brittany Schlup presented an overview
      i. August 2013, MCAC partnered with four higher education institutions to coach previous MCAC advisees.
         1. Metropolitan Community College – Penn Valley.
         2. Missouri University of Science and Technology.
         3. University of Central Missouri.
         4. University of Missouri (MU).
      ii. 37 advisees enrolled as freshman.
      iii. 100% of students were introduced to the retention component via e-mail.
      iv. 94.6% returned for spring semester.
      v. 51.3% met with the coach at least once; 24.3% met with coach multiple times.
      vi. Average GPA of students who did not connect/meet with coach is 2.87.
      vii. Average GPA of students who did connect/meet with coach is 3.12.

III. Subcommittee Updates
      i. Entrance barriers at comparators and TRUs vary widely.
      ii. Some programs (Illinois, Purdue) do not accept transfer students.
   b. Freshman Online Courses
      i. Lynn Stichnote said that during a spring break trip to Peru, sophomore students had a lot to say about online courses, especially how homework is handled.
      ii. Larry Gragg said that evidence shows that student success and connection are best in English 20 sections that are not on-line, so all classes will be face to face.
iii. Klaus Woelk said that at a recent conference there was very little about MOOCs and more about the care and planning required when deciding which courses can/should be offered online.

IV. Announcements
Larry Gragg encouraged everyone to attend the upcoming open forums for the Provost candidates.

V. Next Meeting – April 17, 2014
8:15 am – 9:15 am, Havener Center, Silver and Gold
Missouri S&T Student Success Committee Meeting

April 17, 2014
8:15 am – 9:15 am

Members Present:
Tim Albers, Bridgette Betz, Carl Burns, Jeff Cawfield, Stephen Clark, Tyrone Davidson, Cecilia Elmore, Patty Frisbee, Larry Gragg, Deanne Jackson, Katie Jackson, Douglas Ludlow, Stephen Raper, Kristi Schulte, Lynn Stichnote, Laura Stoll, Ramya Thiagarajan, Klaus Woelk, Nangai Yang

Members Absent:
Oyebanjo Lajubutu, Rachel Morris, Adrienne Neckermann, Dan Reardon

I. Review and approval of minutes
   a. Minutes were approved.

II. Final Presentation Date
   a. The Student Success Committee presentation to Chancellor Schrader has been rescheduled for June 11, 2014 from 8:15 am – 9:45 am.
   b. Doug Ludlow will not be available to present for the Freshmen Engineering Subcommittee. Another subcommittee member will be responsible for this task.

III. Math 2 Subcommittee Presentation
   a. Carl Burns presented preliminary findings.

IV. Barriers to Entering Major of Choice Subcommittee Presentation
   a. Larry Gragg presented preliminary findings.

V. Freshman Online Courses Subcommittee Presentation
   a. Presentation postponed till next meeting.

VI. Announcements
   a. Kristi Schulte gave an update on housing for Fall 2014.
      i. Demand for the Downtown Campus Housing District exceeded capacity, and large groups of students have requested to move together.
      ii. Miner Village is full.
      iii. All students will be accommodated and using hotels will not be necessary.
      iv. Residential Life is developing plans that focus on the second year experience.
   b. Lynn Stichnote thanked those who volunteer at Admissions events. The open house on 04-18-14 may be the largest ever and she is still looking for engineering faculty to help at the general engineering table.

VII. Next Meeting – May 1, 2014
     8:15 am – 9:15 am, Havener Center, Silver and Gold
May 1, 2014
8:15 am – 9:15 am
Havener Center, Silver and Gold

Members Present:
Bridgette Betz, Carl Burns, Jeff Cawfield, Stephen Clark, Tyrone Davidson, Cecilia Elmore, Patty Frisbee, Larry Gragg, Deanne Jackson, Katie Jackson, Rachel Morris, Adrienne Neckermann, Stephen Raper, Dan Reardon, Kristi Schulte, Laura Stoll, Klaus Woelk

Members Absent:
Tim Albers, Oyebanjo Lajubutu, Doug Ludlow, Lynn Stichnote, Ramya Thiagarajan, Nangai Yang

I. Review and Approval of Minutes
   a. Minutes were approved.

II. Review Timeline
   a. Rachel Morris reviewed timeline for final report.
      May 8 Subcommittee written report and 2-3 slides due to Rachel.
      May 15 Rachel to send draft of report to committee.
      May 22 Feedback due to Rachel.
      May 29 Rachel to send final report to committee.
      June 2 Rachel to send final report to Chancellor Schrader.
      June 11 Presentation to Chancellor Schrader.

III. Freshman Online Courses Subcommittee Presentation
    a. Dan Reardon presented preliminary findings.

IV. Announcements
   a. May 29 meeting is cancelled.

V. Next Meeting – May 15, 2014
   8:15 am – 9:15 am, Havener Center, Silver and Gold
May 15, 2014
8:15 am – 9:15 am
Havener Center, Silver and Gold

Members Present:
Bridgette Betz, Carl Burns, Jeff Cawfield, Stephen Clark, Tyrone Davidson, Cecilia Elmore, Larry Gragg, Katie Jackson, Oyebanjo Lajubutu, Doug Ludlow, Rachel Morris, Adrienne Neckermann, Dan Reardon, Lynn Stichnote, Laura Stoll, Klaus Woelk

Members Absent:
Tim Albers, Patty Frisbee, Deanne Jackson, Stephen Raper, Kristi Schulte, Ramya Thiagarajan, Nangai Yang

I. Review and Approval of Minutes
   a. Minutes were approved.

II. Review Timeline
   a. Rachel Morris reviewed timeline for final report.
      May 8   Subcommittee written report and 2-3 slides due to Rachel
      May 15   Rachel to send draft of report to committee
      May 22   Feedback due to Rachel
      May 29   Rachel to send final report to committee
      June 2    Rachel to send final report to Chancellor Schrader
      June 11   Presentation to Chancellor Schrader

III. Identify 3-5 Key Themes or Recommendations from the Student Success Committee to the Chancellor
   a. Professional Staff Advisors.
      i. Faculty teaching load makes it difficult to focus on both advising and research.
      ii. Engineering departmental admissions requirements vary greatly, and professional advisors would be well informed.
   b. Freshman Engineering Program.
      i. Identify process for departmental admission decisions.
      ii. Improve transparency of departmental requirements for admission. Professional degree advisors could facilitate this.
      iii. Official course grade replacement policies should be followed.
      iv. Further study could be initiated by Vice Provost and Dean of the College of Engineering and Computing.
   c. Freshman Online Courses.
      i. Closely examine which courses are more or less conducive to online instruction.
      ii. Online instruction enables students to further isolate themselves instead of engaging with other students.
iii. Should there be campus standards, guidelines, or oversight for online instruction?

   d. Math 2.
      i. Will probably continue efforts next year.

         ii. More interactive and less traditional instruction.
         iii. More closely examine the issue and data.
         iv. Better counseling of students toward correct course choice.

IV. Suggestions for Next Year
   a. Membership.
      i. Tracy Primich, director of Curtis Laws Wilson Library.
      ii. Patty Fleck, director of Counseling, Disability Support and Student Wellness.
      iii. Jim Drallmeier, Department Chair, mechanical engineering.
   b. Subcommittees.
      i. Professional Staff Advisors.
      ii. Transfer student success and review of course equivalencies.
      iii. Starfish advising tool.
      iv. Analysis of Institutional Work Study.
   c. Presentations.
      1. Provost Marley - Montana State and Student Success.
      2. Rose Horton – Student Success Committee impact on the Strategic Plan.

V. Announcements
   a. May 29 meeting is cancelled.

VI. Next Meeting – Presentation to the Chancellor - June 11, 2014
   8:15 am – 9:45 am, Havener Center, Silver and Gold