RETENTION COMMITTEE
2011-2012 ANNUAL REPORT
**Table of Contents**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Committee Background and Charge</td>
<td>4</td>
</tr>
<tr>
<td>2011-2012 Retention Committee Members</td>
<td>5</td>
</tr>
<tr>
<td>Current Status of Missouri S&amp;T Retention and Graduation Rates</td>
<td>6</td>
</tr>
<tr>
<td>Key Issues Addressed by the Committee</td>
<td>9</td>
</tr>
<tr>
<td>Math Performance Subcommittee Final Report</td>
<td>10</td>
</tr>
<tr>
<td>Student Persistence Subcommittee Final Report</td>
<td>12</td>
</tr>
<tr>
<td>Alternate Majors Subcommittee Final Report</td>
<td>22</td>
</tr>
<tr>
<td>Fit in Missouri S&amp;T Environment Subcommittee Final Report</td>
<td>23</td>
</tr>
<tr>
<td>Financial Aid Subcommittee Final Report</td>
<td>24</td>
</tr>
<tr>
<td>A2S Subcommittee Final Report</td>
<td>27</td>
</tr>
<tr>
<td>Summary of Recommended Actions</td>
<td>29</td>
</tr>
<tr>
<td>APPENDIX A- Cumulative Retention &amp; Graduate Rates of First Time, Full Time Degree Seeking Freshmen</td>
<td>30</td>
</tr>
<tr>
<td>APPENDIX B- Retention Strategies and Tactics</td>
<td>38</td>
</tr>
<tr>
<td>APPENDIX C- Evaluation of Survey Results and Other Documents</td>
<td>40</td>
</tr>
<tr>
<td>APPENDIX D- Math data summary</td>
<td>49</td>
</tr>
<tr>
<td>APPENDIX E- 101 Course Syllabi Sample</td>
<td>52</td>
</tr>
<tr>
<td>APPENDIX F- 2011-2012 Meeting Minutes</td>
<td>54</td>
</tr>
</tbody>
</table>
Special thanks to the following offices as sources of information:

- Department of Chemistry
- Department of History
- Enrollment Management
- Institutional Research & Assessment
- Student Affairs
- Student Council
- Undergraduate Studies
  - First-Year Programs
  - Second-Year Programs
  - Undergraduate Advising Office
Introduction
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 2011-12 academic year, the Retention Committee met every other week. This report includes a summary of the primary issues addressed by the Retention Committee, as reflected in the 2011-12 meeting minutes.

Committee Background and Charge
The Missouri S&T Retention 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 which 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 Chancellor’s approval prior to commitment.

The Retention 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.
2011-12 Retention Committee Members

Co-Chairs:
Dr. Harvest L. Collier, Professor of Chemistry, Vice Provost for Undergraduate Studies
Dr. F. Scott Miller, Assistant Director, Freshman Engineering Program

Committee Members:
Tyrone Davidson, Academic Advisor, Office of Undergraduate Studies
Brooke Durbin, Programmer/Analyst, Enrollment Management
Cecilia Elmore, Director, Women’s Leadership Institute, Enrollment Management
Stephanie Fitch, Associate Teaching Professor, Mathematics Department.
Patty Frisbee, Director, New Student Programs.
Anna Gaw, Director, Academic Advising, Office of Undergraduate Studies *
Dr. Larry Gragg, Curators’ Teaching Professor, Chair, History & Political Science
Dr. Edna Grover-Bisker, Director, Career Opportunities Center
Katie Jackson, Student Program Administrator, Residential Life
Dr. C.R. Thulasi Kumar, Director, Institutional Research & Assessment
Rance Larsen, Director, Admissions*
Rachel Morris, Assistant to the Vice Provost, Undergraduate Studies
Will Perkins, Director, Pre-College and Student Diversity Programs*
Dr. Stephen Raper, Assoc. Professor, Engineering Management & Systems Engineering
Kristi Schulte, Associate Director, Residential Life
Carol Smith, Manager Student Experience Programs, Office of Undergraduate Studies
Brad Starbuck, Enrollment Management
Lynn Stichnote, Director, Student Financial Assistance
Laura Stoll, Registrar, Registrar’s Office
Ramya Thiagarajan, Institutional Research Associate, Institutional Research and Assessment
Nangai Yang, Analyst, Institutional Research and Assessment
Summer Young, Manager Student Experience Programs, Office of Undergraduate Studies

The above committee member list includes all members as of the beginning of the 2011-2012 academic year. Those denoted with an asterisk (*) are those that are no longer on the committee.
Current Status of Missouri S&T Retention and Graduation Rates

In 2008, Missouri S&T achieved an historic high 1st-2nd year retention rate of 88%. Since then, we've seen a gradual decrease in the 1st-2nd year retention (FS2010 1st-2nd year retention was at 83%). It was suspected that the economic downturn was contributing to fewer students returning for their second year. This understanding was supported by the responses of non-returning students and by an assessment conducted by the Noel-Levitz organization. The Noel-Levitz study confirmed that at least 30 students entering S&T for the fall 2010 semester were in good academic standing, but likely did not return due to affordability based on their unmet financial need. Eighteen of the thirty were contacted and reiterated that affordability contributed to them not returning.

Looking at 2008 (the historic 1st year retention rate) again, the fall to spring (FS2008-SP2009) retention was at 96%. In 2010, the fall to spring retention fell to 94% and respectively we saw a decline in the 1st to 2nd year retention rate. The fall to spring retention rate for fall 2011 has mirrored what we experienced in 2008 and we are looking to keep the momentum for the fall to fall (1st to 2nd year) retention rate.

The FY2012-FY2016 strategic tactical plan was approved by Interim Chancellor Wray in December 2011. The plan details annual targets that would meet the overall strategic planning goals. The desired student profile developed by the Strategic Planning Committee in 2004 has not changed drastically with the new plan and includes the following long-term targets:

- **Academic Preparedness:**
  --27.8 average ACT score (upper 10% in nation)
  --90% having completed the full Missouri college-prep curriculum
  --50% from the upper 20% of high school class

- **Geography:**
  --70% in-state
  --25% out-of-state
  --5% international

- **Gender:**
  --26% female
  --74% male

- **Ethnicity:**
  --13% under-represented minority students

- **Majors:**
  --70% Engineering (all programs)
  --17% Math, Sciences, Computing (math, chemistry, biological sciences, physics, computer science, information science & technology, and geology & geophysics)
--6.5% Business, Economics, Psychology
--3% Humanities, Liberal Arts (Technical communications, history, English, Philosophy)

**Success Rate:**
--90% first to second year retention rate
--80% return for third year
--70% graduate in six years

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 Tactics is included as Appendix B.
Freshmen Retention & Graduation Rates

Fall to Spring Retention for First Time, Full Time, Degree Seeking Freshmen FS2007-SP2012
Key Issues Addressed by the Committee
In 2011-12, the Retention Committee focused on six priority goals the committee deemed critical to retention issues. The committee organized itself into six subcommittees to coordinate the implementation of recommended actions. Action items were pursued as tactical planning items where practical.

Subcommittee #1: Academic Performance in Math
   Members: Stephanie Fitch (chair), Scott Miller, Rachel Morris, Carol Smith

Subcommittee #2: Student Persistence
   Members: Harvest Collier, Tyrone Davidson, Cecilia Elmore, Larry Gragg (chair), Edna Grover-Bisker, Deanne Jackson, Katie Jackson, Stephen Raper, Kristi Schulte, Laura Stoll, Ramya Thaigarajan

Subcommittee #3: Alternate Majors Promotion
   Members: Stephanie Fitch, Larry Gragg, Edna Grover-Bisker, Brad Starbuck, Lynn Stichnote, Laura Stoll (chair), Summer Young

Subcommittee #4: Fit in S&T Environment
   Members: Tyrone Davidson, Cecilia Elmore, Larry Gragg, Edna Grover-Bisker, Katie Jackson, Scott Miller (chair), Stephen Raper, Kristi Schulte, Brad Starbuck

Subcommittee #5: Financial Aid
   Members: Rachel Morris, Carol Smith, Brad Starbuck, Lynn Stichnote (chair)

Subcommittee #6: Access to Success (A2S)
   Members: Harvest Collier, Tyrone Davidson, Cecilia Elmore, Edna Grover-Bisker, Rachel Morris, Scott Miller, Brad Starbuck (chair), Laura Stoll
Subcommittee #1: Academic Performance in Math

Student academic performance at S&T is assumed to be a major factor in retention. Mathematics courses are among the more challenging courses a student will take during the initial semesters of enrollment, so investigation of these courses with a goal of improving student performance is warranted if we seek to improve retention.

The subcommittee identified a large amount of specific data to be collected and began this process. With the records we have assembled so far, several issues were identified, along with possible actions. The subcommittee wishes to recommend certain of these actions to the Retention Committee.

Background Information
The relevant course sequence in mathematics progresses as follows:
Math 1 (1 cr hour) – Foundations of Mathematics (math majors only)
Math 3 (3 cr hours) – Intermediate Algebra (remedial)
Math 2 (5 cr hours, meets daily all semester) – College Algebra
Math 2 (5 cr hours, meets daily last 6 weeks of semester) – College Algebra, fall only; students not passing Math 4 (below) are switched to this course for more algebra rather than continuing to trig
Math 4 (3 cr hours, meets daily, first 9 weeks of semester) – College Algebra, same material as Math 2
Math 6 (2 cr hours, meets daily, last 6 weeks of semester) – Trigonometry, same semester as Math 4
Math 6 (2 cr hours, meets 3 days/wk) – Trigonometry, stand-alone course
Math 8 or 14 (4 or 5 cr hours) – Calculus I, course depends on major
Math 12 (4 cr hours) – Business Calculus
Math 15 or 21 (4 or 5 cr hours) – Calculus II, course depends on major
Math 22 (4 cr hours) – Calculus III
Incoming students take a placement exam, as well as workshops during freshman Opening Week, which are used as major determining factors in their original math placement at S&T.

Issues Identified – (see attached tables)

- Over time, more students are placing in lower-level courses, and more sections have been added. This situation could be exacerbated by the upcoming A2S initiative.
- Students enrolled in both Chem 1 and Math 2 generally perform poorly in both courses. Students are told not to take both, but this often happens in the spring semesters. Students who fail Math 2 in the fall sign up for it in spring without dropping Chem 1 from the spring schedule.
- Math 2 has a low success rate.
- Other areas we may investigate in future semesters: success of students transferring in all or part of their mathematics sequence and where these courses are taken, compare level of success in transfer math classes to success in the follow-on course here at S&T, determine average number of courses a student repeats, determine how many students drop back in mid-semester to a lower-level course, determine 6-year graduation rates of students starting at each level of math as FTCs, determine percentage of engineering majors who start in Math 3, determine graduation rates of freshmen at each starting level.
Possible Actions

- Students placing into Math 3 and Math 2 could be contacted (phone or email) over the summer or earlier and encouraged to improve their chances for success by engaging in mathematics over the summer (HGR, summer classes here or elsewhere, online resources, etc.). The difficulty with this is that the placement information is not available until after the student attends a PRO session, which can be as late as June, or possibly even August.

- When students sign up for PRO, they should be encouraged to prepare for the placement exam. Anecdotal evidence is that many students take the placement exam with little or no preparation.

- Restructure HGR to include more math, and no chemistry if students are underprepared in math. Also be sure instructors are of exceptional quality.

- Make Math 2 a prerequisite for Chem 1, and encourage chemistry instructors to strongly enforce this prerequisite.

- Hold LEAD sessions for Math 2. Offering incentive points for attending LEAD sessions is a possibility, as previous attempts at Math 2 LEAD have failed due to extremely poor attendance. This option is not viewed favorably by many faculty, and may even be seen as intruding upon academic freedom by some. We must remember that students in Math 2 are very different from students in Phys 23 or most other courses with LEAD sessions, so we may not see the same behavior.

- Be sure that high-performing instructors are teaching Math 2. In the same vein as the previous bullet, it must be kept in mind that the math department makes decisions as to which faculty are teaching which courses, and making suggestions to influence this must be done with extreme care.

- Offer advanced training or workshops for instructors teaching Math 2 and Math 3.

Recommended Actions

- Contact students placing into Math 2 and 3, encourage summer mathematics experiences.

- Encourage incoming students to prepare for the placement exam more strongly than we currently do.

- Restructure HGR to include more math (IMPLEMENTING 7/12) and select instructors based on demonstrated teaching ability.

- Officially make Math 2 a prerequisite for Chem 1.

- Explore ways to improve performance in Math 2. It is probably best if such methods come from the Math Department and the Math 2 instructors, but this committee could certainly offer possible options (i.e. LEAD sessions in the Residential College) and perhaps some training support.

- Continue to collect data pertaining to the issues discussed above in future semesters.
Committee members met five times in the spring 2012 semester. They began with a study of the literature on the subject of persistence of undergraduate students, an endeavor they took on with two cautions offered by a recent scholar: “One of the greatest challenges in retention research is identifying variables that have a prominent effect on persistent decisions.” “Retention appears to be affected by a constellation of interrelated variables with direct and indirect effects.” Nonetheless, scholars investigating the manifold problems associated with persistence have reached some meaningful conclusions with a notable focus upon students majoring in engineering programs.

Causes of Persistence Problems

- Students transfer from engineering because of “poor teaching and advising and the difficulty of the engineering curriculum” and a sense that they do not belong in engineering.\(^2\)
- The attrition in engineering majors is due to difficulty of the curriculum and “some students still lack math preparation or aren’t willing to work hard enough.” “Other deterrents are the tough freshman classes, typically followed by two years of fairly abstract courses leading to a senior research or design project.”\(^3\)
- Factors most influencing students’ departure from engineering: “difficulty of the engineering curriculum and poor teaching/advising.” “For most students, however, the feeling that they didn’t ‘belong’ in engineering was the biggest determining factor. This was especially true for students of color.”\(^4\)
- “Students who withdraw from college have failed to successfully integrate either academically or socially in a college environment.” “Important factors influencing college persistence is the students’ intention to persist, college GPA, and the institutional commitment to the student.”\(^5\)

A review of the literature also yielded some suggested paths in addressing the problems with improving persistence seen below.

---

**Approaches to Addressing Persistence Problems**

A study by Noel Levitz found the following approaches “very effective” at Four-Year Public Universities:

- Honors programs for academically advanced students
- Academic support program or services
- Programs designed specifically for first-year students
- Programs designed for conditionally admitted students

Additionally, scholars investigating the challenges recommend the following with a special concern with students majoring in fields of engineering:

- “Great care needs to be taken with those students who enter engineering with weaker high school preparation than their peers.” “Inclusiveness should be not only a goal for engineering programs but also a demonstrated priority by creating a variety of welcoming spaces, especially for women and minority students.”

- “The single most important student service schools can offer to increase student persistence is academic advising.” In addition, three other factors contribute to greater persistence: “student academic integration, student social integration, and student confidence in the quality of the institution.”

- “Institutional factors are much less important than student factors in determining persistence.” Best practices include: “assisting students in developing study skills, learning how to manage their time and money, and planning for their careers. Fostering a sense of community may be important so students do not feel adrift.” Several institutions have focused upon study groups, class discussions, and learning communities as key strategies. Students also need “access to tutorial support, adequate student aid, faculty advisors and counselors.”

- First-Year programs must assist students “with college-level study and academic expectations.”

Following a review of the literature on the subject committee members decided to consult with students at S&T in a two-step approach in an effort to see if our students face the same challenges revealed in the literature and, if so, how they have overcome them and persisted. First, the committee members selected nine questions from the study by Jacob B. Lindheimer and submitted them to students who have been successful (defined as those not on probation and active in student organizations) and those facing academic challenges. One hundred and seven students responded to

---

7 Rodgers and Marra, “Why They’re Leaving,” 43.
the survey. Most of them were junior and senior female students involved in three or more student organizations and had a GPA above a 3.50.

Second, some committee members conducted focus group discussions with successful students: officers of STUCO, the Enrollment Management Student Advisory Group, Greek officers, and students in Residential Life. Drawing upon both sources, the following is clear among successful students at S&T:

- Eighty percent of these students acknowledge that they have experienced stress at S&T. For many stress results from having unrealistic expectations of the academic challenges at S&T, caring deeply about achieving high grades, and having difficulty finding their advisors at critical times. Most importantly, nearly three quarters “very often” or “somewhat often” feel overwhelmed by their academic workload. However, a few of the students pointed out that some stress is actually positive because it pushed them to be more successful.

- Over seventy percent of the students are “somewhat” or “very” satisfied with the quality of the instruction provided at S&T. Still, it is clear that students see excellent instruction as “hit or miss.” Indeed, barely half acknowledged that they understood the thinking of their instructors “very well” or “well.”

- Focus group conversations revealed that students view the quality of faculty advising as “hit or miss.” Students in smaller departments generally are satisfied because advisors generally know them and their strengths and weaknesses while students in the larger engineering departments note they have had more than one advisor and normally that advisor has little time to get to know them and their career ambitions.

- There clearly is a general satisfaction with both social life at S&T (eighty-six percent are “very satisfied” or “satisfied”) and the campus’s efforts to communicate with students about academic rules, course requirements, and financial assistance (over fifty percent say the campus does “very well” or “well”).

- Nearly fifty percent conclude that the advantages “far outweigh” the disadvantages at S&T and another thirty-three percent conclude the advantages “somewhat outweigh” the disadvantages. They like the small campus, the university’s reputation, and the relative ease in joining student organizations. The disadvantages include beginning students not being prepared for the rigor of the academic program at S&T and the challenge in developing “soft skills.”

- Most importantly, seventy-five percent are “very certain” they will earn a college degree.

This study has provided useful insight from successful students, but it provides little insight from the unsuccessful ones. Few participated in the survey (Only nine percent of the respondents to the survey had a GPA below 2.50.) and students facing academic challenges refused to participate in focus group discussions. Committee members who regularly work with students suggest that students at S&T must experience failure before they seek assistance and even then they generally disregard advice from faculty advisors. However, they will connect with fellow students or staff.

**Conclusions**

Missouri S&T is already utilizing some of what the literature suggests are “best practices”: honors programs for academically advanced students, academic support program or services, programs designed specifically for first-year students, learning communities, and access to tutorial support.
Yet, the campus must provide greater assistance to “students who enter engineering with weaker high school preparation than their peers,” create “a variety of welcoming spaces, especially for women and minority students,” improve academic advising, do a better job “assisting students in developing study skills, learning how to manage their time and money, and planning for their careers,” provide greater financial assistance to our students, and foster “a sense of community may be important so students do not feel adrift.”

Recommendations

• Develop a more organized mentoring program, one that could develop from the first week experience for all entering freshmen. Mentors could be students, staff, and faculty. They should meet with their students two to three times a semester to monitor their progress and assess the challenges they are facing.

• Work with the campus academic department chairs to emphasize and promote the importance of faculty advising particularly with freshman students.

• Endorse the recommendation of the Financial Assistance Sub-Committee to seek funding for need-based aid and student employment opportunities on campus.

• Support the campus’s developing “1st Year Success Course” project in an effort to strengthen student academic and social integration as well as build peer-to-peer student confidence.

Results of the Student Survey

<table>
<thead>
<tr>
<th>Gender</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male (44%)</td>
</tr>
<tr>
<td>2</td>
<td>Female (56%)</td>
</tr>
</tbody>
</table>
Class Standing

1. Freshman (12%)
2. Sophomore (24%)
3. Junior (26%)
4. Senior (34%)
5. Graduate (4%)

Extra-Curricular Involvement

1. No campus involvement (5%)
2. One activity (14%)
3. Two activities (16%)
4. Three activities (30%)
5. Four activities (21%)
6. Five or more (17%)
Question #1: Students differ in how stressed they get over various aspects of college life. Overall, how much stress would you say that you experience while attending S&T?

1. Very much stress
2. Much stress
3. Some stress
4. A little stress
5. Very little stress
6. N/A

Cumulative GPA

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 4.00—3.51</td>
<td>45</td>
</tr>
<tr>
<td>2 3.50—3.01</td>
<td>30</td>
</tr>
<tr>
<td>3 3.00—2.51</td>
<td>15</td>
</tr>
<tr>
<td>4 2.50—2.01</td>
<td>5</td>
</tr>
<tr>
<td>5 Less than 2.00</td>
<td>0</td>
</tr>
</tbody>
</table>
Question #2: In general, how satisfied are you with the quality of instruction you are receiving at S&T?

1. Very satisfied
2. Somewhat satisfied
3. Neutral
4. Somewhat dissatisfied
5. Very dissatisfied
6. N/A

Question #3: How difficult is it for you or your family to be able to handle college costs?

1. Very difficult
2. Somewhat difficult
3. Neutral
4. Somewhat easy
5. Very easy
6. N/A
Question #4: How well do you understand the thinking of your instructors when they lecture or ask questions in class?

1. Very well
2. Well
3. Neutral
4. Not well
5. Not well at all
6. N/A

Question #5: When you think about your overall social life at S&T (friends, college organizations, activities, and so on), how satisfied are you with yours?

1. Very satisfied
2. Satisfied
3. Neutral
4. Somewhat dissatisfied
5. Very dissatisfied
6. N/A
Question #6: There are many things that can interfere with students making progress toward a degree; feelings of uncertainty about finishing are likely to occur along the way. At this moment in time, how certain are you that you will earn a college degree?

1. Very certain
2. Somewhat certain
3. Neutral
4. Somewhat uncertain
5. Very uncertain
6. N/A

Question #7: How often do you feel overwhelmed by the academic workload at S&T?

1. Very often
2. Somewhat often
3. Sometimes
4. Rarely
5. Very rarely
6. N/A
Question #8: How well does S&T communicate important information to students such as academic rules, degree requirements, individual course requirements, campus news and events, extracurricular activities, tuition costs, financial aid & scholarship opportunities?

1 Very well
2 Well
3 Neutral
4 Not well
5 Not well at all
6 N/A

Question #9: When you think about the advantages and disadvantages of attending S&T, how much do you think the advantages outweigh the disadvantages, or vice versa?

1 DA far outweigh the A
2 DA somewhat outweigh the A
3 DA and A are equal
4 A somewhat outweigh the DA
5 A far outweigh the DA
6 N/A
Subcommittee #3: Alternate Majors Year-End Report

Historical data collected from surveys to non-returning first year students consistently lists responses that the student went elsewhere because they no longer what to major in engineering. When asked what they are switching to, it is usually a major that is available at Missouri S&T. When questioned further, the student may respond that they didn’t realize we offered a degree in English, History, or you could be certified to teach, so they went elsewhere. Students that have a strong connection to Missouri S&T will successfully change their major.

The subcommittee met and discussed how alternate majors and career paths could be promoted to encourage students to stay when they no longer want to pursue their initial major.

Objective
To reduce attrition (increase retention) by raising awareness of the diversity of majors and career paths found at Missouri S&T.

Challenges
- With 70% of our incoming freshmen majoring in engineering, the minority majors often feel they are “second-class citizens”. There is a campus culture that needs to be overcome to recognize the value of non-engineering majors.
- Students may be unprepared for the academic rigors of an engineering program and rather than work to overcome the challenge, they leave campus to pursue another major at a campus that is not as focused on engineering.
- When students come to Missouri S&T for engineering, they are often not aware of other majors if they should decide to leave their engineering discipline. Students have been heard to say “Why would you come to Missouri S&T if you aren’t majoring in engineering?”
- The process to change your major is not widely known and students don’t know where to go for career counseling.

Recommended Actions
- The preregistration period when students sign up for courses to take next semester is an ideal time for communication to students about the process and resources available to those who wish to consider change their major. A website in the Information could also be given to advisors about other majors that are available to the campus.
- A campus resource fair for currently enrolled students, similar to the Open House for prospective students, could be used to publicize the diversity of Missouri S&T majors, how to change your major, and where to obtain career testing information and/or counseling.
- As part of the 101 course in each discipline, students could be given information about related majors and similarities/differences that exist. With this information they will know that there are alternatives to consider.
- The development of a Student Success Center would assist students that need help with tutoring, advising, career counseling, student financial assistance, and general guidance. The Center would be a one-stop shop for academic enhancement.
• Particularly for 1st-generation students it would be beneficial to share information about alternate majors, career counseling, and the major change process with parents via the parent electronic newsletter.
• Setting up a website similar to the one at MIT, http://gecd.mit.edu/career/explore.major, would help students make informed decisions about choosing a major.

Conclusion
While strong connections to Missouri S&T will help a student persist through any challenges, the above recommended actions will assist those students who seek an alternate major to successfully change their major, and continue their career at Missouri S&T.
Subcommittee #4: Fit in Missouri S&T Environment Year-End Report

The committee had two face-to-face meetings, and numerous email and informal discussions centered on the retention topic of students leaving S&T because they felt that they didn’t fit into the environments in which they found themselves.

Issues surrounding the idea of welcomeness or fit in the S&T environment:

Students find fit when the values they hold are similar to those held by their institution. If not, they will ask themselves “Do I feel welcome here?” Both engineering and non-engineering students suffer from feeling out of place. Non-engineering students may struggle to fit as a result of our STEM branding. Many report feeling intimidated by the predominant engineering emphasis, especially at events such as the Career fair, or in the residence halls.

Recommendations:

The committee discussed the effect of “difference makers”. Repeatedly we hear that students need to connect to someone on campus in order to feel welcome and comfortable. Where will that happen; classroom, advising, residence? Also, most non-STEM majors are transfers from other departments, so how do we get them the necessary information as sophomores or above? Some suggestions were: 1) put our very best instructors in front of the introductory (101) classes. 2) put our best advisors advising the freshmen students. The committee also recommend that talking points are provided to all university employees through training and development venues in an effort to facilitate conversations about fit with students.

Specifically:

- **Career Exploration** - More career information in the introductory (101) classes and from the COER would be worth pursuing. Promoting career exploration and both engineering and non-engineering majors in summer camps and our partner schools (MCC, MAC, STLCC) presentations should be encouraged. A one hour credit course in Career Exploration that students could take if they were feeling undecided or unsure about their current choice should be developed.

- **Faculty and Peer mentoring** - Explore the idea of a student-to-student mentoring program over the long haul not just opening week. It need not be for all new students though that might be useful. Also, implement a faculty-to-student mentoring program that would be longer term with smaller groups of students, perhaps coming out of orientation week. If the numbers who would desire this were not very high the potential could be there for willing faculty and staff to take a group and stay with them as long as desired.

- **Revised Content in Introductory Classes** – The “101” instructors need to send a common and comprehensive message that there are abundant resources on campus whenever problems arise. They need to make students aware of the many resources around the campus that could help them find their niche.
- **Residence Halls** – Students are required to live in campus approved housing for their first and second year. Do non-engineers feel welcome? One solution is to explore opportunities for intentional faculty and staff engagement in university approved housing (residence halls, Greek housing, and Christian Campus House) while exploring avenues for additional learning community development.

- **Student Success Center** – Many of the efforts we discussed are already occurring in some form around the campus, but many students (and faculty or staff) are not aware of them. Students can explore different career options at the Counseling, Disability Support, and Student Wellness (CDSW) office, can get job hunting or explore who is hiring at the Career Opportunities and Employer Relations (COER) Office, can get academic help at LEAD or the Writing Center, advising in their departments, financial assistance from the Student Financial Aid office, etc. All of these efforts would benefit from being centrally located in a well-advertised Student Success Center, staffed with individuals trained to direct the students to what they need to help them succeed.
Subcommittee #5: Financial Aid Year-End Report

There are three key areas of concern related to financial aid and retention that were identified by the Financial Aid Subcommittee. The first concern is the effectiveness and funding of the Merit-based scholarships for undergraduates. The second concern is the negative impact of unmet financial need on retention.

The current merit-based aid program for undergraduates has two weaknesses. The first is that the amount of the scholarships (which has not changed since Fall of 2002) is no longer fully effective in attracting high ability students. The increase in tuition over that period has reduced the “buying power” of the awards. The second weakness is that the university merit-based aid program funding structure depends almost exclusively on general revenue. Currently about 14 million per year is spent on university scholarships for new and returning undergraduate students.

The second area in which we could improve would be institutional need-based grants that meet a portion of need with gift aid. Missouri S&T has not historically had a need-based institutional grant program, and this lack of ability to meet at least a portion of unmet need has resulted in retention declines among our students with very high or moderate need (low income and low/middle income students).

The final area of possible improvement is a more coordinated communication and action plan among the offices that identify and have resources to assist our most at-risk students with their financial issues.

The influence of merit-based aid on the recruitment of high ability students and how that impacts Retention: The Noel Levitz report and our own university studies have made it clear that high school and/or transfer sending institution academic credentials (test score, class rank, high school or college GPA) have a direct correlation to retention. For this particular review, we are looking primarily at first-time entering freshman (FTC). The Noel Levitz measurement of Academic index for FTC undergraduates is based on a scale of 100. NL analysis of the admitted freshmen for 2010 and 2011 resulted in five groups that showed statistically significant differences in yield and retention. The indices for these groups are: 94+ (highest academic credentials); 89-93; 81-88; 71-80; and 70 & below. The top two indices had the best retention rates (93% and 89% respectively) and were the only groups that approach the campus goals of 90% retention. Unfortunately, the NL data indicated that these groups also demonstrated a decline in yield for Fall 2011 that was related to merit scholarship level. Initial data indicates that merit scholarships need to be adjusted in order to maintain and/or increase the yield (recruitment) for the type of students who have the strongest probability for improving campus retention goals.

The subcommittee recommends an increase in the amount of merit based aid for FTC based on the Noel Levitz recommendations for ideal yield. Because the primary funding for institutional merit based aid is general revenue funds, and because the continuing budgetary challenges pose political challenges regarding allocation of general revenue to scholarships, the subcommittee also strongly recommends that the Strategic Planning Committee for the campus include specific short and long term targets for fundraising for university merit based aid.
The influence of financial need on Retention: Noel Levitz data developed “breakpoints” in Retention related to Estimated Family Contribution (EFC) of S&T students. Those levels are EFC of $0, $1 - $5273, $5274 - $18,499", $18,500 - $24,999, > $25,000 and no-need merit (student who did not file a FAFSA but received merit aid) and full-pay (did not receive any merit aid). Data from the Noel Levitz review demonstrated that the students who were in the three need levels with the highest need/lowest EFC (EFC $0 - $18,499) had retention levels ranging from 74% to 84%. Further analysis of the data showed a significant difference in retention for students in those levels depending on the level of their unmet need which was met by institutional aid. The breakpoints for level of unmet need that most negatively influenced retention was > $3000 in unmet need for Missouri students and > $6500 in unmet need for nonresidents. The take away is that we have some data that clearly indicates that specific need-based institutional aid provided to key populations could improve retention of some of our largest groups of students (high need/ moderate need).

The recommendation of the subcommittee would be to institute an institutional need-based grant program to address a portion of the unmet need of the populations for whom additional aid might increase retention. Because the primary funding for institutional need-based aid is general revenue funds, and because the continuing budgetary challenges pose political challenges regarding allocation of general revenue to undergraduate student aid, the subcommittee also strongly recommends that the Strategic Planning Committee for the campus include specific short and long term targets for fundraising for university merit based aid.

Identify areas of collaboration for helping high risk students: There are clear points in the standard processes of a university where various campus faculty and staff “see” where financial aid and need issues are influencing retention. Examples are Academic Advisors (faculty) who see “financial holds” that prevent a student from registering or see poor academic performance that a student explains is related to working too many hours to pay their costs. The Financial Assistance, Cashiers and Registrars office see this when holds are applied, and the SFA office has particular times of the year when students are notified that they have not met criteria for scholarship awarding, or they have Satisfactory Academic Progress issues that may delay or impede their ability to receive state/federal aid. As these “contact points” are identified, other campus offices/staff/faculty may be able to share information to allow SFA to help these students or vice versa. Establishing a standard communication plan among the key offices is a very important step to helping students realize there are options in overcoming financial issues before they “panic” and leave school.

Recommendation of Subcommittee:
1) The S&T merit and need-based aid awarding strategy should be updated to attempt to attract and retain students effectively. Campus Strategic Planning committee should include goals for private fundraising to provide funding in the future for this additional merit aid and two key institutional need-based awards.
   a. The current level of university merit aid is roughly $14 mil. This would require a $280,000,000 endowment to fully fund. Needless to say, this is not a practical short or long-term goal but it might be used as a basis for planning….perhaps a campaign to raise 10% over ten years ($2.8 mil per year) or some other goal established as practical by the development office in conjunction with other priority fundraising for campus. Privately funded income from endowments/annual gifts to provide approximately $2,000,000 per year in need-based aid to address the populations identified by Noel
Levitz ERMS whose retention is most influenced by financial issues, i.e. the students defined as “high, moderate and middle-need”. These include students with an EFC of $0 to $18,499 and unmet need of greater than $3000 for residents and greater than $6500 for nonresidents.

b. Privately funded income of $200,000 per year from endowments/annual gifts to establish 100 additional work positions on campus for high-risk students to address unmet need through the opportunity to work on campus. Work programs provide both financial assistance and inherent mentoring and support from faculty/staff in the hiring offices. Currently 81% of our incoming freshman class indicate an interest in working while our current level of Work Study Funding allows for only about 135 jobs for the entire population of nearly 6000 undergraduates.

2) UGS and SFA will establish proactive activities to collaborate on ways to address needs of current students who appear at risk for not returning or who are not attaining academic success due to financial issues:
   a. UGS will send an email to Academic Advisors asking them to send an email to sfa@mst.edu with name of student(s) the advisor feel has any kind of financial aid challenge
   b. UGS will identify current students not pre-registered for Fall 2012 and call those students to ascertain why they have not pre-registered. If there are financial issues, UGS will forward the name/student number for each student to sfa@mst.edu. SFA staff will follow up to see if we can assist.
   c. SFA will generate a dataset of all currently enrolled students with University Scholarships (Miner, Trustees or Excellence) who may be at risk of failure to renew their scholarships (students whose GPA is a 3.0 or below). That dataset will be provided to UGS for follow-up. SFA will also contact them regarding the appeal process for university scholarships.
   d. SFA (Josh Lind) and UGS (Carol Smith) will establish a regular meeting schedule to determine opportunities for the two divisions to collaborate on retention activities related to financial issues.

Conclusions: The Financial Assistance subcommittee believes that proactive outreach and communication among UGS, SFA and Academic Advisors can help identify high-risk students. However, that activity is not sufficient to address the issues. Lack of financial resources of non-loan aid to provide financial help will limit the effectiveness of the outreach. Successful retention begins with recruiting students who demonstrate high expectations of success and continues with data-driven allocation of outreach and financial resources to address high risk students. These strategies will require significant financial resources that are not available from current S&T budgetary resources and therefore require a dedicated fundraising effort to develop privately funded resources.
Subcommittee #6: Access to Success (A2S) Year-End Report

By embracing our land-grant mission of providing affordable access to high-quality STEM education to the students of Missouri and beyond, the Access to Success (A2S) initiative provides S&T an opportunity to refine strategic targets for affordability and diversity, plus ensure that we are meeting the education, workforce and research needs of our state while creating a diverse student body that richly enhances the educational experience. S&T has made diversity and student success priorities for many years by including targets and metrics for success in the campus’s strategic plan and by assigning executive leadership to address issues around access and student success. The A2S initiative will reemphasize the importance of data gathering and assessment as S&T strives to achieve established targets.

Targets
1. Maintain the academic quality of our incoming student classes: average new student entrance exam scores will remain in the upper 10% of the nation (as measured by average standardized test scores of incoming students).
2. Increase the number of Pell Grant eligible students to 30% of the undergraduate population by the fall 2015 semester.
3. Increase the percentage of underrepresented minority (African-American, Hispanic/Latino, Native Hawaiian/Pacific Islander, Underrepresented Asian, and American-Indian or Alaskan Native) students to 12% of the total campus population by the fall 2015 semester.
4. Maintain freshman-to-sophomore retention for all students at 88% or higher annually.
5. Increase the six-year graduation rate for all students to at least 65% by the fall 2012 semester and maintain that success rate.

AY2011-12 Metrics
- Underrepresented minority students made up 8.5% (n=482) of undergrad population (n=5,672). *(African American, American Indian/Alaskan Native, Hispanic, URM Multiple Race)*
- Pell eligible students increased to 28.9% of undergraduate population (n=1,588) from 25.4%.
**FS2010 – First-year Retention by Academic Area**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Majors</td>
<td>881</td>
<td>742</td>
<td>84%</td>
<td>$9,439</td>
<td>$4,424</td>
<td>$7,227</td>
<td>27.8</td>
<td>3.84</td>
<td>3.20</td>
<td>83</td>
</tr>
<tr>
<td>Math, Science, Computing Majors</td>
<td>189</td>
<td>150</td>
<td>79%</td>
<td>$9,529</td>
<td>$4,283</td>
<td>$6,439</td>
<td>28.2</td>
<td>3.81</td>
<td>3.29</td>
<td>82</td>
</tr>
<tr>
<td>Humanities &amp; Business Majors</td>
<td>48</td>
<td>35</td>
<td>73%</td>
<td>$9,688</td>
<td>$2,629</td>
<td>$8,727</td>
<td>26.2</td>
<td>3.66</td>
<td>3.10</td>
<td>73</td>
</tr>
<tr>
<td>Totals (all students)</td>
<td>1118</td>
<td>927</td>
<td>83%</td>
<td>$9,463</td>
<td>$4,334</td>
<td>$7,156</td>
<td>27.8</td>
<td>3.84</td>
<td>3.21</td>
<td>83</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Majors</td>
<td>881</td>
<td>139</td>
<td>16%</td>
<td>$11,697</td>
<td>$3,012</td>
<td>$8,869</td>
<td>27.1</td>
<td>3.51</td>
<td>2.14</td>
<td>71</td>
</tr>
<tr>
<td>Math, Science, Computing Majors</td>
<td>189</td>
<td>39</td>
<td>21%</td>
<td>$12,689</td>
<td>$2,604</td>
<td>$8,162</td>
<td>27.8</td>
<td>3.46</td>
<td>1.95</td>
<td>70</td>
</tr>
<tr>
<td>Humanities &amp; Business Majors</td>
<td>48</td>
<td>13</td>
<td>27%</td>
<td>$18,807</td>
<td>$4,544</td>
<td>$5,915</td>
<td>26.4</td>
<td>3.74</td>
<td>2.70</td>
<td>83</td>
</tr>
<tr>
<td>Totals (all students)</td>
<td>1118</td>
<td>191</td>
<td>17%</td>
<td>$12,383</td>
<td>$3,033</td>
<td>$8,524</td>
<td>27.2</td>
<td>3.52</td>
<td>2.14</td>
<td>72</td>
</tr>
</tbody>
</table>

**A2S Progress AY2010-11**

- The Admissions Office expanded prospect name purchasing to enhance recruitment of low-income and underrepresented students.
- A recruitment plan was written and implemented to attract more underrepresented students to S&T.
- The Admissions Office printed Application Fee Waiver cards to distribute to low-income students.
- Financial Assistance conducted 16 financial aid workshops for local high schools and community organizations.
- Financial Assistance added two additional positions recommended by the Educational Capacity Task Force and federal auditors so that outreach, aid and scholarship administration needs could be addressed.
- $10,000 was raised at the S&T Gala to support need-based summer camp scholarships.
- The Centers for Pre-College Programs and Student Diversity Programs were merged to realize programming and staffing efficiencies.
- The Assistant Director of Pre-College and Diversity Programs position was assigned to address retention of underrepresented students and work with AISES, SHPE and NSBE student organizations.
- A recruitment plan for the National Consortium of Specialized Secondary Schools of Math, Science and Technology (NCSSSMST) was written to help S&T attract low-income and underrepresented students from these high schools.
- Additional regional recruiter positions to be based in Nashville, TN and Kansas City, MO have been approved to enhance the recruitment efforts of underrepresented students from Nebraska, Kansas, Tennessee, Kentucky, Mississippi, Alabama and western Missouri.
- Student Affairs identified a staff member to serve as the “champion” for family support and outreach services.
A2S Progress AY2011-12

- The first year of a two year Noel-Levitz financial aid leveraging audit was completed and resulted in scholarship and need-based aid recommendations for first-year students that have been presented to the Chancellor and are awaiting approval.
- The Centers for Pre-College Programs and Student Diversity Programs were merged with the Women’s Leadership Institute to form a new department called Student Diversity, Women’s and Outreach Programs; a staffing plan for this new group is nearing completion to better address the needs of recruiting and retaining minority students.
- Financial Assistance conducted 18 financial aid workshops for local high schools and community organizations that reached 274 families in south-central Missouri.
- Financial Assistance conducted 36 biweekly presentations (involving 201 S&T students) during its newly-launched “M3” financial literacy series.
- The university allocated $265,000 to support need-based aid which was awarded to Pell-eligible fall 2012 entering freshmen.
- The university redirected $100,000 in additional scholarship support for underrepresented minority students from the H. Block endowment.
- Initial planning has been done to implement uDirect to assist with academic advising.
- A proposal to develop a Student Success Center was developed and submitted to the Chancellor.

A2S Challenges AY2012-13

From the inception of the A2S Initiative, S&T has recognized that additional resources would be required to meet the low-income targets outlined in the A2S implementation plan. The largest challenge continues to be meeting the financial need of current and prospective students so they can afford to enroll at Missouri S&T. A new scholarship and aid awarding model—based on findings of the Noel-Levitz financial aid leveraging audit—has been presented to the Chancellor and is awaiting approval. S&T is making small gains in securing need-based scholarships and grant monies for low-income students and has reached out to several companies and foundations to support scholarships for underrepresented students, but with limited success. Additional changes to student loan limits, credit restrictions for Parent PLUS loans and changes to federal Perkins loan programs further impede our ability to meet A2S targets. A proposed Student Success Center will assist with retention of low-income and first-generation students, but is also awaiting approval.

Ideas to Consider AY2012-13

How can S&T impact student success among low-income and underrepresented minority students that go beyond just “more money” for scholarship support?

Early and intrusive intervention

- Common first-year course for all students
- “Master student” course for institutional need-based aid recipients
- Cover cost of HGR for all URM students
  cost: $176,400/ year
- Cover cost of HGR for Pell-eligible students
  cost: $366,750/year
• Expand HGR to a 6-week program
  cost: $1,000,000/year if free for all URM and Pell-eligible students
• Expand use of HPI data and “success chain” emails

**Student employment and aid**

• Encourage hiring student workers across campus
• Website to advertise student worker positions
• Foster a learning/work environment
• Campus “workshop” program
  cost: $265,300/year ($1,500/student for 150 students + staff support)
• Continuously improve financial literacy programming in Student Financial Assistance
• Extend merit-based scholarships for all students to 10 semesters
  cost: $2,300,000/year
• Extend diversity scholarships to 10 semesters
  cost: $180,000/year

**Engagement and mentoring**

• Expand experiential learning
• Intro to research
• Community service
  o Connect students to S&T
• Launch a “local version” of Engineers Without Borders (Engineers With Borders…?)
• Mentoring program for SDP and low-income students
• Strengthen NSBE, SHPE, AISES
• One-stop “student success” center

**Advising and academics**

• Continually improve academic advising
• Repeat course policy options
• Pass/no-fail first-year or first-semester
• Consider an institutional policy to forgive “D” and “F” grades first semester option if students repeat course (i.e. “pass no fail” policies similar to what some other technological research universities like MIT do).
• Set the tone for academic expectations at PRO
• Launch uDirect to assist with advising
• Mandatory student success course for any student placed on probation after the first semester
The results from the following survey were evaluated and are included as Appendix C of this report:

- Non-Returning Student Survey Results for 2008 & 2009 & 2010 Cohorts

In addition, the Retention Committee reviewed the following documents:

- Cumulative Retention & Graduate Rates of First-Time, Full-Time Degree Seeking Freshmen (Appendix A)
- Retention Strategies & Tactics (Appendix B)
- Noel Levitz ERMS Summary Report
- Math data summary (Appendix D)
- Persistence & Retention data summary
- 101 Course Syllabi (Appendix E)
**Recommended Actions**
The 2011-12 Retention Committee minutes reflect six common themes relative to improving student retention:

1. Academic Performance in Math
2. Student Persistence
3. Alternate Majors Promotion
4. Fit in Missouri S&T Environment
5. Financial Aid
6. Access to Success (A2S)

Based on the evaluation of survey results and other considerations, the Retention Committee recommends the following actions:

1. Focus new financial aid resources to increase need-based student financial aid availability.
2. Collaborate with other offices on campus to help high risk students succeed.
3. Improve strategies for early, intensive and continuous intervention for students.
   - Student-faculty engagement
   - Academic advising
   - Academic support services
   - Peer mentoring
   - 101 Course collaboration/1st year success course
   - Student Success Center
4. Continue and enhance academic advising support and training.
5. Enhance programs that promote student-faculty interactions.

The Retention Committee will prioritize the recommendations above and establish action items around these recommendations. Action items will be pursued as Strategic/Tactical Planning items where practical. The committee will establish subcommittees to coordinate the implementation of recommended actions.
APPENDIX A
Cumulative Retention & Graduate Rates of First Time, Full Time Degree Seeking Freshmen
<table>
<thead>
<tr>
<th>Class Entering</th>
<th>% Returned or Received Degree After</th>
<th>% Rec'd Deg After</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TOTAL ALL</td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>79%</td>
<td>51%</td>
</tr>
<tr>
<td>89</td>
<td>76%</td>
<td>53%</td>
</tr>
<tr>
<td>90</td>
<td>78%</td>
<td>52%</td>
</tr>
<tr>
<td>91</td>
<td>77%</td>
<td>52%</td>
</tr>
<tr>
<td>92</td>
<td>80%</td>
<td>55%</td>
</tr>
<tr>
<td>93</td>
<td>78%</td>
<td>55%</td>
</tr>
<tr>
<td>94</td>
<td>78%</td>
<td>52%</td>
</tr>
<tr>
<td>95</td>
<td>80%</td>
<td>57%</td>
</tr>
<tr>
<td>96</td>
<td>79%</td>
<td>55%</td>
</tr>
<tr>
<td>97</td>
<td>83%</td>
<td>60%</td>
</tr>
<tr>
<td>98</td>
<td>84%</td>
<td>64%</td>
</tr>
<tr>
<td>99</td>
<td>83%</td>
<td>64%</td>
</tr>
<tr>
<td>00</td>
<td>83%</td>
<td>63%</td>
</tr>
<tr>
<td>01</td>
<td>84%</td>
<td>61%</td>
</tr>
<tr>
<td>02</td>
<td>83%</td>
<td>61%</td>
</tr>
<tr>
<td>03</td>
<td>85%</td>
<td>63%</td>
</tr>
<tr>
<td>04</td>
<td>87%</td>
<td>66%</td>
</tr>
<tr>
<td>05</td>
<td>87%</td>
<td>66%</td>
</tr>
<tr>
<td>06</td>
<td>87%</td>
<td>66%</td>
</tr>
<tr>
<td>07</td>
<td>87%</td>
<td>67%</td>
</tr>
<tr>
<td>08</td>
<td>88%</td>
<td>67%</td>
</tr>
<tr>
<td>09</td>
<td>85%</td>
<td>73%</td>
</tr>
</tbody>
</table>
### Male Freshmen Retention & Graduation Rates

<table>
<thead>
<tr>
<th>Class Entering</th>
<th>% Returned or Received Degree After</th>
<th>Rec'd Deg After</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Yr</td>
<td>2 Yrs</td>
</tr>
<tr>
<td>88</td>
<td>78%</td>
<td>61%</td>
</tr>
<tr>
<td>89</td>
<td>75%</td>
<td>63%</td>
</tr>
<tr>
<td>90</td>
<td>78%</td>
<td>63%</td>
</tr>
<tr>
<td>91</td>
<td>76%</td>
<td>64%</td>
</tr>
<tr>
<td>92</td>
<td>78%</td>
<td>66%</td>
</tr>
<tr>
<td>93</td>
<td>76%</td>
<td>67%</td>
</tr>
<tr>
<td>94</td>
<td>76%</td>
<td>65%</td>
</tr>
<tr>
<td>95</td>
<td>78%</td>
<td>66%</td>
</tr>
<tr>
<td>96</td>
<td>79%</td>
<td>66%</td>
</tr>
<tr>
<td>97</td>
<td>82%</td>
<td>70%</td>
</tr>
<tr>
<td>98</td>
<td>83%</td>
<td>72%</td>
</tr>
<tr>
<td>99</td>
<td>82%</td>
<td>72%</td>
</tr>
<tr>
<td>00</td>
<td>81%</td>
<td>71%</td>
</tr>
<tr>
<td>01</td>
<td>84%</td>
<td>75%</td>
</tr>
<tr>
<td>02</td>
<td>82%</td>
<td>72%</td>
</tr>
<tr>
<td>03</td>
<td>83%</td>
<td>74%</td>
</tr>
<tr>
<td>04</td>
<td>87%</td>
<td>76%</td>
</tr>
<tr>
<td>05</td>
<td>86%</td>
<td>77%</td>
</tr>
<tr>
<td>06</td>
<td>85%</td>
<td>76%</td>
</tr>
<tr>
<td>07</td>
<td>85%</td>
<td>75%</td>
</tr>
<tr>
<td>08</td>
<td>88%</td>
<td>78%</td>
</tr>
<tr>
<td>09</td>
<td>85%</td>
<td>77%</td>
</tr>
<tr>
<td>10</td>
<td>81%</td>
<td></td>
</tr>
<tr>
<td>Class Entering</td>
<td>% Returned or Received Degree After</td>
<td>Rec’d Deg After</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td>1 Yr</td>
<td>2 Yrs</td>
</tr>
<tr>
<td>88</td>
<td>78%</td>
<td>61%</td>
</tr>
<tr>
<td>89</td>
<td>75%</td>
<td>63%</td>
</tr>
<tr>
<td>90</td>
<td>78%</td>
<td>63%</td>
</tr>
<tr>
<td>91</td>
<td>76%</td>
<td>64%</td>
</tr>
<tr>
<td>92</td>
<td>78%</td>
<td>66%</td>
</tr>
<tr>
<td>93</td>
<td>76%</td>
<td>67%</td>
</tr>
<tr>
<td>94</td>
<td>76%</td>
<td>65%</td>
</tr>
<tr>
<td>95</td>
<td>78%</td>
<td>66%</td>
</tr>
<tr>
<td>96</td>
<td>79%</td>
<td>66%</td>
</tr>
<tr>
<td>97</td>
<td>82%</td>
<td>70%</td>
</tr>
<tr>
<td>98</td>
<td>83%</td>
<td>72%</td>
</tr>
<tr>
<td>99</td>
<td>82%</td>
<td>72%</td>
</tr>
<tr>
<td>00</td>
<td>81%</td>
<td>71%</td>
</tr>
<tr>
<td>01</td>
<td>84%</td>
<td>71%</td>
</tr>
<tr>
<td>02</td>
<td>87%</td>
<td>72%</td>
</tr>
<tr>
<td>03</td>
<td>91%</td>
<td>74%</td>
</tr>
<tr>
<td>04</td>
<td>87%</td>
<td>76%</td>
</tr>
<tr>
<td>05</td>
<td>86%</td>
<td>77%</td>
</tr>
<tr>
<td>06</td>
<td>85%</td>
<td>76%</td>
</tr>
<tr>
<td>07</td>
<td>85%</td>
<td>75%</td>
</tr>
<tr>
<td>08</td>
<td>88%</td>
<td>78%</td>
</tr>
<tr>
<td>09</td>
<td>85%</td>
<td>77%</td>
</tr>
<tr>
<td>10</td>
<td>81%</td>
<td></td>
</tr>
</tbody>
</table>
# Under Rep Minority Freshmen Retention & Graduation Rates

## % Returned or Received Degree After

<table>
<thead>
<tr>
<th>Class Entering</th>
<th>% Returned or Received Degree After</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Yr</td>
</tr>
<tr>
<td>88</td>
<td>83%</td>
</tr>
<tr>
<td>89</td>
<td>80%</td>
</tr>
<tr>
<td>90</td>
<td>80%</td>
</tr>
<tr>
<td>91</td>
<td>78%</td>
</tr>
<tr>
<td>92</td>
<td>86%</td>
</tr>
<tr>
<td>93</td>
<td>84%</td>
</tr>
<tr>
<td>94</td>
<td>85%</td>
</tr>
<tr>
<td>95</td>
<td>86%</td>
</tr>
<tr>
<td>96</td>
<td>78%</td>
</tr>
<tr>
<td>97</td>
<td>87%</td>
</tr>
<tr>
<td>98</td>
<td>87%</td>
</tr>
<tr>
<td>99</td>
<td>86%</td>
</tr>
<tr>
<td>00</td>
<td>88%</td>
</tr>
<tr>
<td>01</td>
<td>84%</td>
</tr>
<tr>
<td>02</td>
<td>87%</td>
</tr>
<tr>
<td>03</td>
<td>91%</td>
</tr>
<tr>
<td>04</td>
<td>88%</td>
</tr>
<tr>
<td>05</td>
<td>93%</td>
</tr>
<tr>
<td>06</td>
<td>91%</td>
</tr>
<tr>
<td>07</td>
<td>92%</td>
</tr>
<tr>
<td>08</td>
<td>87%</td>
</tr>
<tr>
<td>09</td>
<td>87%</td>
</tr>
<tr>
<td>10</td>
<td>88%</td>
</tr>
</tbody>
</table>
Class Entering | % Returned or Received Degree After | % Rec'd Deg After
--- | --- | ---
88 | 82% 57% 55% 52% 45% 43% | 43 Yrs
89 | 74% 49% 46% 47% 46% 33% | 45 Yrs
90 | 79% 69% 64% 62% 57% 45% | 45 Yrs
91 | 82% 72% 64% 59% 62% 38% | 45 Yrs
92 | 72% 52% 48% 48% 43% 26% | 45 Yrs
93 | 83% 74% 60% 60% 63% 49% | 49 Yrs
94 | 73% 58% 52% 45% 39% 33% | 49 Yrs
95 | 87% 69% 69% 64% 64% 60% | 60 Yrs
96 | 79% 63% 58% 55% 55% 42% | 60 Yrs
97 | 88% 71% 75% 71% 67% 63% | 63 Yrs
98 | 90% 74% 71% 74% 74% 61% | 61 Yrs
99 | 68% 63% 59% 59% 56% 41% | 41 Yrs
00 | 91% 73% 73% 69% 63% 67% | 67 Yrs
01 | 94% 77% 73% 73% 70% 60% | 60 Yrs
02 | 91% 78% 80% 74% 70% 73% | 73 Yrs
03 | 76% 72% 70% 70% 58% 57% | 57 Yrs
04 | 89% 68% 66% 57% 57% 50% | 50 Yrs
05 | 83% 78% 67% 69% 57% 52% | 52 Yrs
06 | 95% 79% 76% 69% 66% | 52 Yrs
07 | 87% 79% 77% 72% | 72 Yrs
08 | 92% 79% 71% | 71 Yrs
09 | 73% 61% | 61 Yrs
10 | 85% | 61 Yrs
### African American Freshmen Retention & Graduation Rates

<table>
<thead>
<tr>
<th>Class Entering</th>
<th>% Returned or Received Degree After</th>
<th>Rec'd Deg After</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Yr</td>
<td>2 Yrs</td>
</tr>
<tr>
<td>88</td>
<td>79%</td>
<td>62%</td>
</tr>
<tr>
<td>89</td>
<td>76%</td>
<td>65%</td>
</tr>
<tr>
<td>90</td>
<td>78%</td>
<td>63%</td>
</tr>
<tr>
<td>91</td>
<td>76%</td>
<td>65%</td>
</tr>
<tr>
<td>92</td>
<td>80%</td>
<td>69%</td>
</tr>
<tr>
<td>93</td>
<td>78%</td>
<td>68%</td>
</tr>
<tr>
<td>94</td>
<td>78%</td>
<td>68%</td>
</tr>
<tr>
<td>95</td>
<td>80%</td>
<td>68%</td>
</tr>
<tr>
<td>96</td>
<td>79%</td>
<td>67%</td>
</tr>
<tr>
<td>97</td>
<td>83%</td>
<td>71%</td>
</tr>
<tr>
<td>98</td>
<td>84%</td>
<td>73%</td>
</tr>
<tr>
<td>99</td>
<td>84%</td>
<td>74%</td>
</tr>
<tr>
<td>00</td>
<td>82%</td>
<td>72%</td>
</tr>
<tr>
<td>01</td>
<td>84%</td>
<td>74%</td>
</tr>
<tr>
<td>02</td>
<td>82%</td>
<td>73%</td>
</tr>
<tr>
<td>03</td>
<td>85%</td>
<td>76%</td>
</tr>
<tr>
<td>04</td>
<td>87%</td>
<td>78%</td>
</tr>
<tr>
<td>05</td>
<td>88%</td>
<td>79%</td>
</tr>
<tr>
<td>06</td>
<td>86%</td>
<td>78%</td>
</tr>
<tr>
<td>07</td>
<td>86%</td>
<td>76%</td>
</tr>
<tr>
<td>08</td>
<td>87%</td>
<td>78%</td>
</tr>
<tr>
<td>09</td>
<td>86%</td>
<td>79%</td>
</tr>
<tr>
<td>10</td>
<td>83%</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B
Retention Strategies and Tactics
2000-2012
Retention Strategies and Tactics, 2001-2012

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 in 2001

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 (OURE 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

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
APPENDIX C
Evaluation of Survey Results
### FTC Non Returning Summary

<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>
</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>
</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>
</tr>
</tbody>
</table>

### Non-Returning

<table>
<thead>
<tr>
<th></th>
<th>2008 Cohort</th>
<th>%</th>
<th>2009 Cohort</th>
<th>%</th>
<th>2010 Cohort</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registrars Non Returning List</td>
<td>129</td>
<td>12.4%</td>
<td>160</td>
<td>14.1%</td>
<td>195</td>
<td>17.1%</td>
</tr>
</tbody>
</table>

### Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>2008 Cohort</th>
<th>%</th>
<th>2009 Cohort</th>
<th>%</th>
<th>2010 Cohort</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>99</td>
<td>76.7%</td>
<td>125</td>
<td>78.1%</td>
<td>164</td>
<td>84.1%</td>
</tr>
<tr>
<td>Female</td>
<td>30</td>
<td>23.3%</td>
<td>35</td>
<td>21.9%</td>
<td>31</td>
<td>15.9%</td>
</tr>
</tbody>
</table>

### Geographic Origin

<table>
<thead>
<tr>
<th>Geographic Origin</th>
<th>2008 Cohort</th>
<th>%</th>
<th>2009 Cohort</th>
<th>%</th>
<th>2010 Cohort</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missouri</td>
<td>104</td>
<td>80.6%</td>
<td>128</td>
<td>80.0%</td>
<td>155</td>
<td>79.5%</td>
</tr>
<tr>
<td>Non-Missouri</td>
<td>25</td>
<td>19.4%</td>
<td>32</td>
<td>20.0%</td>
<td>40</td>
<td>20.5%</td>
</tr>
</tbody>
</table>

### Academic Plan

<table>
<thead>
<tr>
<th>Academic Plan</th>
<th>2008 Cohort</th>
<th>%</th>
<th>2009 Cohort</th>
<th>%</th>
<th>2010 Cohort</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>99</td>
<td>76.7%</td>
<td>123</td>
<td>76.9%</td>
<td>145</td>
<td>74.4%</td>
</tr>
<tr>
<td>Non-Engineering</td>
<td>30</td>
<td>23.3%</td>
<td>37</td>
<td>23.1%</td>
<td>50</td>
<td>25.6%</td>
</tr>
</tbody>
</table>

### Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>2008 Cohort</th>
<th>%</th>
<th>2009 Cohort</th>
<th>%</th>
<th>2010 Cohort</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>114</td>
<td>88.4%</td>
<td>123</td>
<td>76.9%</td>
<td>168</td>
<td>86.2%</td>
</tr>
<tr>
<td>African American</td>
<td>5</td>
<td>3.9%</td>
<td>11</td>
<td>6.9%</td>
<td>7</td>
<td>3.6%</td>
</tr>
<tr>
<td>Not Specified</td>
<td>7</td>
<td>5.4%</td>
<td>13</td>
<td>8.1%</td>
<td>5</td>
<td>2.6%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>2</td>
<td>1.6%</td>
<td>1</td>
<td>0.6%</td>
<td>4</td>
<td>2.1%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>1</td>
<td>0.7%</td>
<td>8</td>
<td>5.0%</td>
<td>6</td>
<td>3.1%</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>0</td>
<td>0.0%</td>
<td>3</td>
<td>1.9%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Nonres Alien</td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
<td>0.6%</td>
<td>2</td>
<td>1.0%</td>
</tr>
<tr>
<td>Multi Race</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>3</td>
<td>1.5%</td>
</tr>
</tbody>
</table>
### Cumulative GPA

<table>
<thead>
<tr>
<th>GPA Range</th>
<th>Count</th>
<th>Cumulative</th>
<th>GPA Range</th>
<th>Count</th>
<th>Cumulative</th>
<th>GPA Range</th>
<th>Count</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5-4.0</td>
<td>129</td>
<td>100.0%</td>
<td>158</td>
<td>100%</td>
<td>193</td>
<td>100.0%</td>
<td>158</td>
<td>100%</td>
</tr>
<tr>
<td>3.26-3.49</td>
<td>15</td>
<td>11.6%</td>
<td>13</td>
<td>8.2%</td>
<td>8</td>
<td>4.1%</td>
<td>14</td>
<td>7.3%</td>
</tr>
<tr>
<td>3.0-3.25</td>
<td>6</td>
<td>4.7%</td>
<td>9</td>
<td>5.7%</td>
<td>8</td>
<td>4.1%</td>
<td>13</td>
<td>6.7%</td>
</tr>
<tr>
<td>2.5-2.99</td>
<td>12</td>
<td>9.3%</td>
<td>19</td>
<td>12.0%</td>
<td>13</td>
<td>6.7%</td>
<td>22</td>
<td>14.4%</td>
</tr>
<tr>
<td>2.0-2.49</td>
<td>22</td>
<td>17.1%</td>
<td>20</td>
<td>12.7%</td>
<td>45</td>
<td>23.3%</td>
<td>25</td>
<td>15.8%</td>
</tr>
<tr>
<td>0.1-1.99</td>
<td>54</td>
<td>41.7%</td>
<td>72</td>
<td>45.6%</td>
<td>81</td>
<td>42.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Composite ACT

<table>
<thead>
<tr>
<th>ACT Range</th>
<th>Count</th>
<th>Cumulative</th>
<th>ACT Range</th>
<th>Count</th>
<th>Cumulative</th>
<th>ACT Range</th>
<th>Count</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>31-35</td>
<td>127</td>
<td>100.0%</td>
<td>153</td>
<td>100%</td>
<td>189</td>
<td>100.0%</td>
<td>153</td>
<td>100%</td>
</tr>
<tr>
<td>27-30</td>
<td>25</td>
<td>19.7%</td>
<td>22</td>
<td>14.4%</td>
<td>32</td>
<td>16.9%</td>
<td>22</td>
<td>14.4%</td>
</tr>
<tr>
<td>24-26</td>
<td>40</td>
<td>31.5%</td>
<td>52</td>
<td>34.0%</td>
<td>69</td>
<td>36.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;24</td>
<td>33</td>
<td>26.0%</td>
<td>42</td>
<td>27.5%</td>
<td>66</td>
<td>34.9%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 2nd Year Cohort

<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>1090</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2010</td>
<td>1140</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2009</td>
<td>242/1104</td>
<td>78%</td>
<td>25</td>
<td>10%</td>
<td>26.4</td>
<td>2.2</td>
</tr>
<tr>
<td>2008</td>
<td>231/1038</td>
<td>78%</td>
<td>29</td>
<td>13%</td>
<td>26.3</td>
<td>2.2</td>
</tr>
</tbody>
</table>
APPENDIX D
Math Data Summary
### FS2008-FS2011 Summary of Students in Entry Level Math with Ave GPA and ACT Scores

<table>
<thead>
<tr>
<th>Math Course</th>
<th># Students</th>
<th># D F WD</th>
<th>% D F WD</th>
<th>Ave GPA</th>
<th>Ave ACT COMP</th>
<th>Ave ACT Math</th>
<th>Math Course</th>
<th># Students</th>
<th># D F WD</th>
<th>% D F WD</th>
<th>Ave GPA</th>
<th>Ave ACT COMP</th>
<th>Ave ACT Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 1</td>
<td>9</td>
<td>0</td>
<td>0%</td>
<td>3.28</td>
<td>27</td>
<td>30.6</td>
<td>Math 1</td>
<td>12</td>
<td>0</td>
<td>0%</td>
<td>3.45</td>
<td>29</td>
<td>30.6</td>
</tr>
<tr>
<td>Math 2</td>
<td>120</td>
<td>64</td>
<td>53.3%</td>
<td>2.28</td>
<td>25.4</td>
<td>25.5</td>
<td>Math 2</td>
<td>137</td>
<td>85</td>
<td>59.9%</td>
<td>2.27</td>
<td>25.7</td>
<td>25.1</td>
</tr>
<tr>
<td>Math 3</td>
<td>65</td>
<td>20</td>
<td>30.8%</td>
<td>2.58</td>
<td>23.7</td>
<td>22.4</td>
<td>Math 3</td>
<td>67</td>
<td>85</td>
<td>59.9%</td>
<td>2.27</td>
<td>25.7</td>
<td>25.1</td>
</tr>
<tr>
<td>Math 4</td>
<td>221</td>
<td>3</td>
<td>1.4%</td>
<td>3.00</td>
<td>26.2</td>
<td>26.9</td>
<td>Math 4</td>
<td>258</td>
<td>85</td>
<td>59.9%</td>
<td>2.27</td>
<td>25.7</td>
<td>25.1</td>
</tr>
<tr>
<td>Math 5</td>
<td>274</td>
<td>43</td>
<td>15.7%</td>
<td>2.98</td>
<td>26.5</td>
<td>27.2</td>
<td>Math 5</td>
<td>312</td>
<td>85</td>
<td>59.9%</td>
<td>2.27</td>
<td>25.7</td>
<td>25.1</td>
</tr>
<tr>
<td>Math 6</td>
<td>13</td>
<td>1</td>
<td>7.7%</td>
<td>3.27</td>
<td>30.1</td>
<td>31.5</td>
<td>Math 6</td>
<td>13</td>
<td>1</td>
<td>7.7%</td>
<td>3.27</td>
<td>30.1</td>
<td>31.5</td>
</tr>
<tr>
<td>Math 7</td>
<td>5</td>
<td>0</td>
<td>0%</td>
<td>3.53</td>
<td>27.7</td>
<td>26.7</td>
<td>Math 7</td>
<td>2</td>
<td>0</td>
<td>0%</td>
<td>3.53</td>
<td>27.7</td>
<td>26.7</td>
</tr>
<tr>
<td>Math 8</td>
<td>287</td>
<td>43</td>
<td>15.0%</td>
<td>3.24</td>
<td>29.1</td>
<td>30.6</td>
<td>Math 8</td>
<td>237</td>
<td>85</td>
<td>59.9%</td>
<td>2.27</td>
<td>25.7</td>
<td>25.1</td>
</tr>
<tr>
<td>Math 9</td>
<td>16</td>
<td>1</td>
<td>6.2%</td>
<td>3.9</td>
<td>33.4</td>
<td>34.6</td>
<td>Math 9</td>
<td>16</td>
<td>1</td>
<td>6.2%</td>
<td>3.9</td>
<td>33.4</td>
<td>34.6</td>
</tr>
<tr>
<td>Math 10</td>
<td>98</td>
<td>4</td>
<td>4.1%</td>
<td>3.58</td>
<td>30.4</td>
<td>32.3</td>
<td>Math 10</td>
<td>136</td>
<td>1</td>
<td>6.2%</td>
<td>3.9</td>
<td>33.4</td>
<td>34.6</td>
</tr>
<tr>
<td>Math 11</td>
<td>7</td>
<td>0</td>
<td>0%</td>
<td>3.63</td>
<td>30.4</td>
<td>31.6</td>
<td>Math 11</td>
<td>7</td>
<td>0</td>
<td>0%</td>
<td>3.63</td>
<td>30.4</td>
<td>31.6</td>
</tr>
<tr>
<td>Math 12</td>
<td>23</td>
<td>6</td>
<td>26.1%</td>
<td>3.30</td>
<td>30.2</td>
<td>31.4</td>
<td>Math 12</td>
<td>35</td>
<td>0</td>
<td>0%</td>
<td>3.63</td>
<td>30.4</td>
<td>31.6</td>
</tr>
<tr>
<td>Total/Ave</td>
<td>1122</td>
<td>184</td>
<td>16.1%</td>
<td>3.15</td>
<td>27.9</td>
<td>28.8</td>
<td>Math 12</td>
<td>35</td>
<td>0</td>
<td>0%</td>
<td>3.63</td>
<td>30.4</td>
<td>31.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Math Course</th>
<th># Students</th>
<th># D F WD</th>
<th>% D F WD</th>
<th>Ave GPA</th>
<th>Ave ACT COMP</th>
<th>Ave ACT Math</th>
<th>Math Course</th>
<th># Students</th>
<th># D F WD</th>
<th>% D F WD</th>
<th>Ave GPA</th>
<th>Ave ACT COMP</th>
<th>Ave ACT Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 1</td>
<td>10</td>
<td>0</td>
<td>0%</td>
<td>3.45</td>
<td>29</td>
<td>30.6</td>
<td>Math 1</td>
<td>7</td>
<td>0</td>
<td>0%</td>
<td>3.45</td>
<td>29</td>
<td>30.6</td>
</tr>
<tr>
<td>Math 2</td>
<td>142</td>
<td>85</td>
<td>59.9%</td>
<td>2.27</td>
<td>25.7</td>
<td>25.1</td>
<td>Math 2</td>
<td>186</td>
<td>85</td>
<td>59.9%</td>
<td>2.27</td>
<td>25.7</td>
<td>25.1</td>
</tr>
<tr>
<td>Math 3</td>
<td>65</td>
<td>26</td>
<td>40.0%</td>
<td>2.66</td>
<td>23.3</td>
<td>22.1</td>
<td>Math 3</td>
<td>89</td>
<td>85</td>
<td>59.9%</td>
<td>2.27</td>
<td>25.7</td>
<td>25.1</td>
</tr>
<tr>
<td>Math 4</td>
<td>266</td>
<td>7</td>
<td>2.6%</td>
<td>3.01</td>
<td>26.6</td>
<td>27.0</td>
<td>Math 4</td>
<td>176</td>
<td>85</td>
<td>59.9%</td>
<td>2.27</td>
<td>25.7</td>
<td>25.1</td>
</tr>
<tr>
<td>Math 6</td>
<td>330</td>
<td>36</td>
<td>10.9%</td>
<td>3.00</td>
<td>26.8</td>
<td>27.2</td>
<td>Math 6</td>
<td>234</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 8</td>
<td>27</td>
<td>7</td>
<td>25.9%</td>
<td>3.25</td>
<td>28.9</td>
<td>30.0</td>
<td>Math 8</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 12</td>
<td>3</td>
<td>0</td>
<td>0.0%</td>
<td>3.68</td>
<td>29.3</td>
<td>28.7</td>
<td>Math 12</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 14</td>
<td>270</td>
<td>35</td>
<td>13.0%</td>
<td>3.17</td>
<td>29.5</td>
<td>30.9</td>
<td>Math 14</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 15</td>
<td>128</td>
<td>4</td>
<td>3.1%</td>
<td>3.58</td>
<td>30.2</td>
<td>32.1</td>
<td>Math 15</td>
<td>131</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 21</td>
<td>15</td>
<td>2</td>
<td>13.3%</td>
<td>3.49</td>
<td>31.8</td>
<td>32.3</td>
<td>Math 21</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 22</td>
<td>33</td>
<td>5</td>
<td>15.2%</td>
<td>3.35</td>
<td>31.2</td>
<td>32.1</td>
<td>Math 22</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total/Ave</td>
<td>1289</td>
<td>207</td>
<td>3.17</td>
<td>28.4</td>
<td>28.9</td>
<td>Total/Ave</td>
<td>1121</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FS2004-FS2006 Math 2-6 with Graduation Rates**

### FS2004

<table>
<thead>
<tr>
<th>Math</th>
<th>Total</th>
<th>Graduated</th>
<th>% Graduated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 2</td>
<td>100</td>
<td>48</td>
<td>48.0%</td>
</tr>
<tr>
<td>Math 3</td>
<td>43</td>
<td>14</td>
<td>32.6%</td>
</tr>
<tr>
<td>Math 4</td>
<td>235</td>
<td>158</td>
<td>67.2%</td>
</tr>
<tr>
<td>Math 6</td>
<td>275</td>
<td>190</td>
<td>69.1%</td>
</tr>
</tbody>
</table>

### FS2005

<table>
<thead>
<tr>
<th>Math</th>
<th>Total</th>
<th>Graduated</th>
<th>% Graduated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 2</td>
<td>95</td>
<td>37</td>
<td>38.9%</td>
</tr>
<tr>
<td>Math 3</td>
<td>58</td>
<td>21</td>
<td>36.2%</td>
</tr>
<tr>
<td>Math 4</td>
<td>266</td>
<td>190</td>
<td>71.4%</td>
</tr>
<tr>
<td>Math 6</td>
<td>307</td>
<td>224</td>
<td>73.0%</td>
</tr>
</tbody>
</table>

### FS2006

<table>
<thead>
<tr>
<th>Math</th>
<th>Total</th>
<th>Graduated</th>
<th>% Graduated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 2</td>
<td>110</td>
<td>44</td>
<td>40.0%</td>
</tr>
<tr>
<td>Math 3</td>
<td>97</td>
<td>36</td>
<td>37.1%</td>
</tr>
<tr>
<td>Math 4</td>
<td>217</td>
<td>133</td>
<td>61.3%</td>
</tr>
<tr>
<td>Math 6</td>
<td>281</td>
<td>164</td>
<td>58.4%</td>
</tr>
</tbody>
</table>
APPENDIX E
101 Course Syllabi Sample
101 Course Recommended Additional Information for Syllabi

1. Degree Requirements
   a. Four to six year schedule- have students map out each semester to help them understand the importance of staying on schedule and help them to prepare for advising appointments
   b. CAPS report- have students learn to read CAPS reports on JOE’s

2. Academic Dishonesty/Student Honor Code (http://stuco.mst.edu/about/honor-code), (http://ugs.mst.edu/academicintegrity/studentresources-ai )
   a. Emphasis on academic conduct and ethics in the classroom
   b. Consequences- share with students what happens when they cheat, plagiarize etc.

3. Academic Resources
   a. LEAD- share information about hours, courses offered and benefits of attending (http://lead.mst.edu )
   b. Writing Center- offer hours and services provided (http://writingcenter.mst.edu )
   c. Library- resources for researching topics
   d. Math Tutor Room- in addition to LEAD math provides a place for students to seek assistance (http://math.mst.edu/currentcourses/mathhelproom).
   e. Academic Alert- share with students how Academic Alert works, what they should do if they receive one and how it is meant to be a service to help them, not punish them (http://academicalert.mst.edu/media/administrative/academicalert/documents/Fall2009-Academic_Alert_flyer.pdf)

4. Learning Styles Inventory (LASSI)
   a. Have students take the LASSI (UGS will pay for it?) review results with them.
   b. Provide resources (website) that will have suggestions for improving any areas of weakness for the students
APPENDIX E
2011-2012 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.

September 8, 2011
September 22, 2011
October 6, 2011
October 20, 2011
November 3, 2011

November 17, 2011-Presentation to Interim Chancellor Wray
December 1, 2011
December 15, 2011

*December 29, 2011 *NO Meeting
January 12, 2012
January 26, 2012
February 09, 2012
February 23, 2012
March 08, 2012
March 22, 2012
April 5, 2012
April 19, 2012
May 3, 2012
May 17, 2012
May 31, 2012
June 14, 2012
Missouri S&T Retention Committee Meeting
September 8, 2011
8:15-9:15 AM

Members Present: Harvest Collier, Edna Grover-Bisker, Cecilia Elmore, Anna Gaw, Larry Gragg, Deanne Jackson, Katie Jackson, Rance Larsen, Scott Miller, Rachel Morris, Carol Smith, Brad Starbuck, Lynn Stichnote, Laura Stoll, Ramya Thiagarajan, Summer Young.


Guest Member: Stephanie Fitch.

Review and Approval of Minutes
The committee members reviewed the minutes from the June 30, 2011 meeting. A motion was made (Cecilia Elmore) and seconded (Anna Gaw) to approve the minutes. Corrections made to the minutes:

II. New Business:
a. change “work” to “word” (4th line), Revisions to Policy a.1.3 “Student’s must” change to “Students must”, a.1.4 “Only student” change to “Only students”, b. last paragraph on last line change “idea” to “ideas”.

I. Old Business
a. Academic Forgiveness Policy (AFP): Dr. Miller stated he will send an email to get the policy added to the agenda for RP&A, which will meet in the 2nd week of October. He will work to get the AFP added to the Faculty Senate agenda by the end of the calendar year.

b. Annual Retention Report Draft discussion: Dr. Collier asked that each subcommittee to give a brief presentation from the draft to the chancellor at the November 17th meeting. He received no objections. There will be no additional changes made to the Annual Retention Report Draft. We will provide the report to the chancellor. Lynn Stichnote made a motion to approve the report as written and Laura Stoll seconded it. Deanne Jackson asked for a copy of the report, as she is new to the committee.

II. New Business
a. 1st and 2nd year retention efforts: Carol Smith and Summer Young were asked to present their findings of the 1st and 2nd year non returning survey. Both provided “snapshot” handouts with their survey results summarized.

Preliminary 1st year retention looks to have decreased by 5% since fall semester 2009. We will know definitively by 4th week. Laura Stoll stated that there is a nationwide decrease in 4 year public institution retention and an increase in the 2 year public institutions. More
than likely it was stated to be due to the economy. ACT scores for FTC S&T students to remain high. There is a need to find more quantitative measures of the impact of the economy on student retention. Harvest Collier passed out a handout that revealed we are in the ballpark in retention with our TRU comparators. Rance Larsen announced that the Admissions office has changed the communications that are sent to parents. They are gearing their communications towards making parents “partners”. Laura Stoll announced that one quarter of our new freshmen have had their parents sign the FERPA waiver. This process has been encouraged at all PRO sessions and Open Houses. According to Katie Jackson, prior to a student enrolling, Academic Affairs captures parent email off of the applications and puts that information into Google Group. Lynn brought up a report on SFA leveraging that will look at historical data. There will be more information in the coming weeks. Carol asked if she could have the students’ entry level math information on the output of the COGNOS report for non returning students. A request will be made to IT by Deanne Jackson. Stephanie Fitch asked if she could get a copy of the list. Scholarship appeals happen mid June. Lynn Stichnote asked Carol (as she calls non returning students) if the question of financial assistance is brought up, to direct them to her office. The question of where students are going/transferring was brought up by Lynn Stichnote and Cecilia Elmore. Carol stated Junior Colleges. Laura Stoll related that FSR (Former Student Returning) have increased but they have not tracked those in the past, but would be a good idea to start. Larry Gragg played the role of the chancellor asking the “hard questions” and how will we answer.

Summer Young discussed her 2nd year retention efforts. Her report shows that 2nd year retention has gained a percentage point on top of recouping the 1st year loss. Response rates for 2nd – 3rd year are much lower. The students she did contact did not cite financial as a reason for not returning, but a change of major.

Both Carol Smith and Summer Young reported that if the non returning student was an engineering student, they would recommend the university to other students. If they were not engineering, they would not recommend the university to other students.

b. Lynn Stichnote announced the Financial Aid 101 sessions that Tracy Wilson will be conducted. To increase student participation, Lynn asked that academic areas add extra credit for students that attend the sessions. September 14th is the first session.

III. Next Meeting: Thursday, September 22, 2011 in Silver & Gold.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting  
September 22, 2011  
8:15-9:15 AM  

Members Present: Harvest Collier, Tyrone Davidson, Anna Gaw, Larry Gragg, Deanne Jackson, Katie Jackson, Rance Larsen, Scott Miller, Rachel Morris, Will Perkins, Kristi Schulte, Carol Smith, Laura Stoll  

Members Absent: Edna Grover-Bisker, Brooke Durbin, Cecilia Elmore, Thulasi Kumar, Stephen Raper, Brad Starbuck, Lynn Stichnote, Ramya Thiagarajan, Summer Young  

Guest Member: Stephanie Fitch.  

Review and Approval of Minutes  
The committee members reviewed the minutes from the September 8, 2011 meeting. A motion was made (Larry Gragg) and seconded (Laura Stoll) to accept the minutes as corrected. The minutes was approved by committee voice vote.  

I. Old Business  
c. Approval of Annual Retention Committee Report: The Retention Committee formally adopted the annual committee report to the Chancellor with a motion (Katie Jackson) and seconded (Kristi Schulte).  

d. Retention Update: The committee briefly discussed the preparation of the official campus retention report that will be provided by the Institutional Research and Assessment office. Comments were offered for interest in the report reflecting student demographics, non-STEM majors, scholarships, and diversity. It was acknowledged that the report would not be available until student enrollment data was frozen after the 4th week of the semester.  

The committee members briefly discussed the “Access to Success” commitment that Missouri S&T has made along with the other UM System campuses to reduce the gap for access to education for pell-eligible and underrepresented minority students by one-half. Concerns were expressed about addressing financial need, semester academic performance, first-generation status, academic unpreparedness, fit in the S&T community, realistic expectations, etc., factors that will have an impact on their success.  

A brief discussion was conducted on the consideration of “persistence” (as compared to retention) as a more definitive thematic focus for pursuing student success efforts. Topics including commitment to earn the degree, connection with the S&T community, fit in the
university environment, maturity development, and need-based financial aid were
mentioned as critical areas to consider addressing to assist student success.

e. **Suggested Retention Subcommittees**: The committee discussed potential
subcommittees to establish for this academic year. The suggestions included financial aid,
academic performance, pre-college preparation, fit in the S&T community, and alternative
majors promotion. The assignment of members to subcommittees will be considered at
the next committee meeting.

II. **New Business**

a. **FE 10 Initiative Update**: Scott Miller provided a brief update on the redesign of the
freshman engineering introductory FE 10 course. He related that smaller groups of
students (approximately 50) meet every other week with specific assignments to
complete during the weeks that the groups don’t meet. A few large sessions
(approximately 300 students) will meet for special presentations. It was noted that
some student tended to forget their bi-weekly meetings.

b. **Noel-Levitz Webinar on Financial Leveraging Update**: Laura Stoll and Lynn
Stichnote related S&T’s effort to conduct an assessment related to financial aid
leveraging in order to inform strategies for providing financial aid to S&T students.
Additional comments were shared about the importance of factors that influence
student college attendance including cost, institution 1st choice, and ability/willingness of
families to pay. Lynn Stichnote related the establishment of the Campus Financial Aid
Task Force that is serving to identify and address student financial assistance priorities.

c. **Intrusive Intervention In Chemistry and History Update**: This report was
postponed until the next committee meeting.

III. **Next Meeting**: Thursday, October 6, 2011 in Silver & Gold.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting
October 6, 2011
8:15-9:15 AM


Members Absent: Tyrone Davidson, Brooke Durbin, Thulasi Kumar, Rance Larsen, Rachel Morris, Will Perkins, Carol Smith, Brad Starbuck, Ramya Thiagarajan, Summer Young

Review and Approval of Minutes
The committee members reviewed the minutes from the September 22, 2011 meeting. A motion was made (Larry Gragg) and seconded (Cecilia Elmore) to approve the minutes as submitted.

I. Old Business

a. Intrusive Intervention Update: Larry Gragg provided a brief summary of the “Intrusive Intervention Lite” project he is conducting with students in his introductory History course. His strategy has been to proactively engage his students to conduct the LASSI and consider their learning styles. His students were encouraged to take advantage of the effective practices for academic skills development relative to their LASSI outcomes. He described how he engaged his students at the beginning of the semester with interviews seeking to determine each student’s learning style and also promote a level of student comfort by meeting with the professor his office. He indicate that his first attempt with this approach was a failure, but he persisted and he has had more response from students in seeking help for the first exam. He indicated that ultimate success is still to be determined. Most students report they learn not by doing, but they report by listening and taking notes. Larry noted that Kellie Grassman reports the opposite student outcome. It was suggested that there is perhaps a perception that that is what is expected in a History class.

Larry also asks his students what their most enjoyable learning experience is, and they report a wide range of activities, not all doing. 80-85% are first semester freshmen.

Lynn Stichnote asked what year the students are in Kellie’s class, wanted to know if we were comparing the same students, or are they learners?

b. Harvest Collier provided a brief update on the on-going chem 1 intrusive intervention project. He shared that a new approach to promoting students to learning chemical nomenclature was instituted this semester. The tool was designed as a game strategy with four levels of nomenclature quizzes organized with increasing levels of difficulty. This strategy was piloted with the HGR students this summer and proved to be effective in improving student learning. Collier related that the strategy was used with the Chem 1 students this fall and resulted in a significant improvement in student learning based on the nomenclature exam outcomes.
He related that academic alerts had been issued for approximately 200 of the nearly 800 students taking the course this semester. The students were encouraged to take advantage of the effective practices for academic skills development relative to their LASSI outcomes. The students were also encouraged to participate in more LEAD sessions, online discussion board, and to visit with their instructor or GTA for additional assistance.

Lynn Stichnote asked if Katie Jackson could put a note in the Parents Newsletter announcing that academic alerts are being issued, and how students should respond.

Collier related that the English and Technical Communication department has developed a diagnostic tool for students taking the English 20 course. Initially, the outcomes from application of the diagnostic tool support the observed poor student reading and writing skills. An aspect of the diagnostic outcome correlates positively with the “selecting main ideas (SMI) factor found in the LASSI.

Laura Stoll asked Harvest Collier to report on the changes to Chem 1 for Spring 2012. Harvest related that the Chemistry department was engaged in the development of a restructured, blended Chem 1 course. This effort is in response to the State of Missouri’s call to increase electronic instruction. Please visit the following web site for additional details (http://www.thencat.org/States/MO/Abstracts/MUST%20Chemistry_Abstract.html).

Katie Jackson reported from the CERTI elearners group that results show that the lowest results (learning outcomes) were in blended courses compared to face-to-face and totally online courses.

Harvest related a concern that freshmen students may not be prepared for this blended learning approach as it is presently described.

Larry related that the incredible lead up time to develop a blended course is worth the payoff and he is looking forward to the reports that show the effectiveness or not of the approach.

Deanne expressed concern as to how we will market this new course at PRO.

II. New Business

a. Discussion of AY 2011/2012 Retention Committee Subcommittees

The committee discussed possible subcommittees each member might serve on in order to pursue insight for increased student success. The subcommittees include Alternate Majors Promotion, Financial Aid, Fit in the S&T Environment, Access to Success Commitment, Academic Performance in Math, and Student Persistence

b. Questions for the Next Round of Chancellor Interviews

As chair of the chancellor search committee, Larry Gragg requested suggested questions from the retention committee that may be used in the next round of chancellor search interviews.
Larry related that common question posed in the initial round of interviews was what the university will look like in 5, 10 years. He indicated that common responses included assess and affordability (and accountability).

For possible questions/concerns:
Steve Raper suggested addressing student graduation (4, 5 or 6-year) rate.

Anna reported that at NACADA discussion the focus was around shifting retention discussion from freshmen to transfer or students who stop out, or students who change majors and go to other schools. Stress needs to be on student success, not just one school’s retention rate.

Harvest suggested affordability and costs of online versus face-to-face; how do we address the unique nature of this campus versus a comprehensive institution?

III. **Next Meeting:** Thursday, October 20, 2011 in Silver & Gold.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting
October 20, 2011
8:15-9:15 AM

Members Present: Harvest Collier, Tyrone Davidson, Cecilia Elmore, Stephanie Fitch, Anna Gaw, Larry Gragg, Edna Grover-Bisker, Deanne Jackson, Katie Jackson, Rance Larsen, Scott Miller, Stephen Raper, Kristi Schulte, Carol Smith, Brad Starbuck, Laura Stoll, Tracy Wilson (for Lynn Stichnote), Ramya Thiagarajan, Summer Young.

Members Absent: Brooke Durbin, Thulasi Kumar, Rachel Morris, Will Perkins

Agenda Items:

I. Review and Approve Minutes from October 6, 2011 Meeting
   Motion to approve Stoll, second Carol Smith, approved unanimously with corrections

II. New Business
   Discussion of AY 2011/2012 Retention Committee Subcommittees
   1. Alternate Majors Promotion
      Gaw, Gragg, Grover-Bisker, Starbuck, Stichnote, Stoll, Young, Fitch, Larsen
      Also, some students are afraid to change majors, because advisors will not let them
      Perhaps change name of this committee to promotion of all majors

   2. Financial Aid
      Morris, Starbuck, Stichnote, Smith

   3. Fit in the S&T Environment
      SMiller, Elmore, Grover-Bisker, D Jackson, Raper, Schulte, Starbuck, Davidson
      Larry Gragg spoke to History club, biggest issue is hostility and dismissive nature towards History majors at S&T, perception is that most courses are “blow off”
Harvest reports that he has had conversations with over 25 students who made poor choices in majors, need to be successful, realized that they made poor choices, but hadn't reached the maturity level to succeed.

Tracy Wilson says that similar to our Chem4 class, students need a course on financial responsibility, development stages, Time management, etc.

4. **Access to Success Commitment**
   SMiller, Collier, Grover-Bisker, Starbuck, Larsen, Davidson

Brad gave a summary of A2S, and talked of the challenges of increasing the numbers of Pell, URM students. There are not enough low income families interested in Science and Technology to reach our state wide goals, so we would have to recruit our own. Most participants in this program control the two year colleges, but Missouri system does not. The benefits of participating is that our minority students and low income students are more successful than national average, this would give us national exposure in this area, allow us to advertise these facts.

Larry shares that the climate study consultant said that when students say they are not returning because of affordability, they are typically covering up some other issue.

Discussion about determining which students have not registered or still have advising holds after priority registration, and contacting them. Some FEP students are reporting that they have heard that their advisor is discourage the "get acquainted" visits.

5. **Academic Performance in Math**
   SMiller, Morris, Fitch, Smith

Steph hopes we can get data on where students start in Math, and their progression. We need to be better at preparing students who start in Math 3 for their proper path to a degree. Tracy reports that many students take calculus off campus.

Laura reports that we have 300 students during Fall semester at Columbia College. Larry asks if we have correlated scores in subsequent math courses for Columbia college students, and Laura says that there is not a difference from students who take their intro Math at S&T

6. **Student Persistence**
   Collier, Elmore, Gaw, Gragg, Grover-Bisker, D Jackson, Raper, Schulte, Stoll, Thiagarjan, Davidson
Global culture of student success, not just focused on numbers of first or second year students. Persistence is a more global approach. Do students have a good understanding of the degree programs they are pursuing. Steve Raper reports he advises students that he will help them to get wherever they want to go, Harvest will send documents pertaining to persistence to subcommittee members

**Preparation for Annual Report to Chancellor**

Harvest presented an overview of the report to the chancellor
Chancellor Wray will visit on Nov. 17th
Current first year retention rate numbers will be 83%
Each of the previous groups should meet and prepare 10 minutes or so to present to Chancellor.

Larry reports that during chancellor search, he met with Matt Coco and they discovered one of the keys to retention for engineering students was a program similar to Freshmen Engineering.

### III. Announcements

Courses

### IV. Next Meeting: Thursday, November 3, 2011 at 8:15 am
Missouri S&T Retention Committee Meeting
November 3, 2011
8:15-9:15 AM

Members Present: Harvest Collier, Edna Grover-Bisker, Tyrone Davidson, Cecilia Elmore, Stephanie Fitch, Anna Gaw, Larry Gragg, Deanne Jackson, Katie Jackson, Rance Larsen, Scott Miller, Rachel Morris, Will Perkins, Kristi Schulte, Carol Smith, Brad Starbuck, Lynn Stichnote, Laura Stoll, Summer Young.

Members Absent: Brooke, Durbin, Thulasi Kumar, Stephen Raper, Ramya Thiagarajan

Review and Approval of Minutes
The committee members reviewed the minutes from the October 20, 2011 meeting. A motion was made (Edna Grover-Bisker) and seconded (Carol Smith) to approve the minutes with no corrections.

I. Old Business
   a. Harvest Collier briefly reviewed the subcommittees and asked that Will Perkins be added to the A2S Subcommittee chaired by Brad Starbuck.

II. New Business
   a. Harvest Collier briefly reviewed the subcommittees and asked that Will Perkins be added to the A2S Subcommittee chaired by Brad Starbuck. Dr. Collier also requested from the subcommittee chairs that goals for each subcommittee be shared by November 15th/16th so that the new goals can be added to the annual presentation given to Chancellor Wray on the 17th.
   b. The committee reviewed the 2010-2011 Annual Retention Committee powerpoint presentation and made some changes:
      • Per Laura Stoll, remove slides with the national data (#9 & #10)
      • Narrow First generation % on slide #11 to one year
      • Dr. Collier questioned whether or not to take out the NSSE slide.
      • Add numbers of respondents to non returning student survey slides
      • Break down GPA and ACT data further and per Laura Stoll, remove 0.0 GPA’s of numbers
      • Add a MO/OOS of slide of non returners with majors

III. Next Meeting: November 17th with the 2010-2011 Annual Retention Committee Presentation to Chancellor Wray. The meeting is scheduled for 8:15-10:00.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting
November 17, 2011
8:15-10:00 AM

Members Present: Harvest Collier, Tyrone Davidson, Cecilia Elmore, Stephanie Fitch, Patty Frisbee, Anna Gaw, Larry Gragg, Deanne Jackson, Katie Jackson, Thulasi Kumar, Rance Larsen, Scott Miller, Rachel Morris, Will Perkins, Stephen Raper, Kristi Schulte, Brad Starbuck, Lynn Stichnote, Nangai Yang, Summer Young.

Members Absent: Edna Grover-Bisker, Brooke Durbin, Carol Smith, Laura Stoll, Ramya Thiagarajan

Guest: Chancellor Wray

Review and Approval of Minutes
The committee members reviewed the minutes from the November 3, 2011 meeting. A motion was made (Cecilia Elmore) and seconded (Kristi Schulte) to approve the minutes with no corrections.

I. Old Business
   a. Harvest Collier briefly reviewed the subcommittees and asked that Will Perkins be added to the A2S Subcommittee chaired by Brad Starbuck. Dr. Collier also requested from the subcommittee chairs that goals for each subcommittee be shared by November 15th/16th so that the new goals can be added to the annual presentation given to Chancellor Wray on the 17th.
   b. The committee reviewed the 2010-2011 Annual Retention Committee powerpoint presentation and made some changes:
      a. Per Laura Stoll, remove slides with the national data (#9 & #10)
      b. Narrow First generation % on slide #11 to one year
      c. Dr. Collier questioned whether or not to take out the NSSE slide.
      d. Add numbers of respondents to non returning student survey slides
      e. Break down GPA and ACT data further and per Laura Stoll, remove 0.0 GPA’s out of numbers
      f. Add a MO/OOS of slide of non returners with majors

II. New Business

   a. Annual Retention Committee presentation to Chancellor Wray.

III. Next Meeting: December 1st, 2011.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting
December 1, 2011
8:15-9:15 AM

Members Present: Harvest Collier, Tyrone Davidson, Cecilia Elmore, Stephanie Fitch, Patty Frisbee, Anna Gaw, Larry Gragg, Deanne Jackson, Katie Jackson, Scott Miller, Stephen Raper, Kristi Schulte, Carol Smith, Nangai Yang, Laura Stoll, Ramya Thiagarajan.

Members Absent: Edna Grover-Bisker, Brooke Durbin, Thulasi Kumar, Rance Larsen, Rachel Morris, Will Perkins, Brad Starbuck, Lynn Stichnote, Summer Young.

Review and Approval of Minutes
The committee members reviewed the minutes from the November 17, 2011 meeting. A motion was made (Stephen Raper) and seconded (Anna Gaw) to approve the minutes with no corrections.

Old Business
  a. No old business.

I. New Business

  a. Initial report for FS11 FTC students not enrolling for SP12
    Harvest Collier reported on the numbers of FTC students who had not enrolled or still had advising holds at the beginning of this week. FTC full time should be 1101 total students.
    Laura Stoll recommends calling all of the 100 students identified as not enrolled. Deanne reports that there is a wishlist that students can get on if they cannot register at this time, and there are 320 on that list now. Carol Smith reports that some are not planning to return; others are waiting to see if they have the money for next semester, and are directed to contact financial aid. Harvest Collier suggest we be more proactive and contact these students before they leave campus. Scott Miller reports that of the 170 FEP advising holds, 48 were FSR or transfers that will not be on campus until January, 10 had indicated they were not returning and 13 had withdrawn for the university earlier in the semester. It was suggested that MapWorks would keep track of the student/advisor communications, and Harvest stated that we will look into a demonstration of the project.

  b. FAST Coaching update

    HGR students not doing well 36 students in all, are mentored by Summer, Carol and Rachel. Original invitation got no responses. One week later, another message was sent, and Carol got 7/12 to respond. Carol met regularly with the 7 until midterm, only 2 persisted in the meetings until now. Carol also reports that the grades have not significantly improved. Laura asked if the student’s instructors were contacted to see if the students were attending classes. The students report that their issues are: getting adjusted, level of work, even after going through HGR
Larry Gragg polled his classes asking why they didn't ask for help, many replied that it was pride, they were not used to asking for help, and many were the people who were asked to help in HS.
Carol said that the FAST students were told about all the academic resources that were available.
Patty Frisbee wants to extend the relationship between the freshmen students and their Opening Week mentors through the first semester. Patty suggests that if we cannot mentor all, we could focus on students going into algebra and Chem 1.

c. Summary of Chem 1 Section AA withdraws

About 200 students in Harvest's Chem 1 lecture. As drop date approached, the students wishing to drop were asked to come to a meeting with Harvest and discuss why they were dropping.

Qualitative results:

Incomplete understanding of academic requirements and effort needed to be successful.
Steve Raper asks what percentage didn't have Chemistry in HS. Harvest asks his section, and it is usually small numbers, less than 5%. A few report they had it back in ninth or tenth grade and had forgotten.
Not doing the work as a conscious decision. Students don't have any experience with failure, so they didn't know what to do. They complain about the instructors, etc., and no personal responsibility to succeed.
Lost motivation after initial failures. Again, reluctant to ask for help.
Gave up because of frustration at not succeeding, and reluctance to ask for help. Students relate that they didn't want anyone else to know they didn't know. When asked why they think their instructors are there.
Larry Gragg related that he talked with a teacher from Nevada HS who reported she had a student who couldn't cope with failure, and just shut down when faced with failure.
Student lacked coping skills.
Many students related that they didn't know what to do. LEAD is encouraged, and Chem 1 students are given bonus points for going. Patty Frisbee related that some students don't feel LEAD is effective, it is too noisy.
Some students, especially some transfer students who were a bit more mature, reported that it was on them, and hoped it would get better as the semester went on.
Steve Raper noted that this habit continues on to the upper level courses, it is not only in the beginning courses.
In speaking with the FAST students or others who come in often, will relate that there are a lot of external influences as well, family problems, etc. Harvest tries to get them to think about the future, co-ops, internships and careers.
Harvest related that when he spoke to students in academic dishonesty cases, the students spoke about pressure to get good grades, the workload and pressure drove them to the dishonesty. Stephanie Fitch shared that also, faculty are being more active in reporting cases of academic dishonesty now.
Tyrone has spoken to some students who say they wished that an advisor at PRO had told them that it would be as difficult as it is.
Stephanie Fitch said that much of what we are talking about is On Course strategies, and we should have a freshmen level course where students receive this information and practice the On Course principles.

II. **Next Meeting**: December 15th, 2011.

III. The meeting was adjourned.
Missouri S&T Retention Committee Meeting
December 15, 2011
8:15-9:15 AM

Members Present: Harvest Collier, Tyrone Davidson, Patty Frisbee, Anna Gaw, Larry Gragg, Katie Jackson, Scott Miller, Rachel Morris, Kristi Schulte, Carol Smith, Ramya Thiagarajan, Nangai Yang, Summer Young.


Guest Member: Tracy Wilson (for Lynn Stichnote)

Review and Approval of Minutes
The committee members reviewed the minutes from the December 1\textsuperscript{st}, 2011 meeting. A motion was made (Larry Gragg) and seconded (Ramya Thiagarajan) to approve the minutes with 2 corrections.

I. Old Business
   b. No old business.

II. New Business
   a. Update on wish list numbers from the Registrars

   205 students on JOESS wish list as of 12-14-2011. This number is down from 300.

   b. Update on FS2011 FTC students not enrolled for SP2012

   There are 61 on the list, down from 100. Summer and Carol have talked to students. Of those they have contacted:
   4 have returned
   4 may possibly return
   4 are going to a community college
   2 are going to their first choice school
   The rest stated “not a good fit”

   c. Discussion on articles of persistence and recession (5 Barriers)

   1. Economic

      Economic-As a university, we talk about student commitment and students talk about good jobs and making money. We see that students are concerned with initial issues and outcomes of college but the middle
has so much water that we need to help build their bridge. Scott Miller said that he would like to call FEP students in between semesters who lost their scholarships and explain the appeal process. Summer Young brought up the fact that we (as a campus) don’t see the economic barrier as a failure, but the students do. Tracy Wilson stated that the sending out SAP (Satisfactory Academic Progress) emails to students after their 1st semester is a good idea. The SFA office has always sent emails after the academic year.

2. Societal

Environment for non engineers can be harassing. Question was raised if there are more non engineering, non returners in perspective. Summer Young stated that it’s a complicated issue of tracking majors in that we are not clear of all possible changes a student makes. We have a subcommittee focusing on majors.

3. Psychological

Harvest Collier talked to several students making poor decisions on academic conduct. Students were asked what needs to happen to not find themselves in those situations. Students responded by saying they needed to be frightened and experience something drastic (most student feel these situations would never happen to them). Kristi Schulte brought up “Academic Rebounding” with the key being engaging students in discussion/reflecting on what they should have done and what they can do. Give them tools and conversation starters. The discussion continued about how soon we could start something like this and how can we require students to attend. Maturity is a psychological issue that is hard to address as well. Kristi Schulte stated how students have to figure out how choices affect their mistakes. For some of our students, it takes a huge crisis to understand that.

4. Organizational

It was stated by Summer Young that class size is rarely an issue. Scott Miller has heard of issues that instructors expect students to know the pre-requisites for courses. Students can and do go to other institutions and receive better grades and then transfer back in those pre-reqs.

5. Interactionalist

Focuses on the interaction between the student and the college. The lack of the feeling of being connected to the campus/classroom has a detrimental effect on student success. We need to find a way to address this. Patty Frisbee is concerned with the excuses students make of “weird” people when asked why they are not returning. Summer stated that you can’t make everyone happy all of the time.
d. The committee looked at the Persistence vs. Retention graph.
   i. Persistence is greater than retention by a significant amount. Harvest brought up the question of how does this change our perception/focus on retention?
   ii. Scott Miller shared the FE10 grade distribution. 63/924 failed FE10 and were invited back for Spring 2012. This is very concerning data and Scott is breaking the data out over the semester and putting it together.

III. **Next Meeting**: January 12th, 2012.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting
January 12, 2012
8:15-9:15 AM


Members Absent: Scott Miller, Edna Grover-Bisker, Brooke Durbin, Thulasi Kumar, Rance Larsen, Carol Smith, Ramya Thiagarajan, Summer Young.

Review and Approval of Minutes
The committee members reviewed the minutes from the December 15th, 2011 meeting. A motion was made (Cecilia Elmore) and seconded (Stephen Raper) to approve the minutes with 1 correction.

I. Old Business
c. No old business.

II. New Business

a. Insight/Summary from Noel Levitz
   Lynn Stichnote gave a summary on Noel Levitz data. Ave ACT and GPA we are considered highly selective but retention does not reflect this. Lynn states that we are not categorized as highly selective per MDHE. Since we bring in a high number of first generation students, S&T retention rate is something we should be proud of. Ability level...highest to lowest is how Noel Levitz broke down our retention rate. We are recruiting low income, low ability. We need to find out how to help them be successful, using money and programs to intervene early. Transfer and freshmen have very similar issues. End of January is when we should expect Noel Levitz to have their final summary. Quick snapshot...certain groups...EFC less than 18000 ($1200 offered will help). $29000 or less family income is (25% of our students) where we typically max Pell ($5500). There's a big financial gap the student needs to fill. Laura Stoll stated that it is interesting the very clear data of academic and financial levels comparing returners vs non returners. Noel Levitz identified 30 students that could have possibly been retained had their financial package been different. Undergraduate Studies office compared those 30 to the non returning survey results and found that ½ of the 30 students stated financial reasons for reasons of not returning to S&T. Very difficult to retain need based students and so, we have been committed to the A2S project. Entitlement attitude is another issue (Collier) for not returning. Four student financial assistance literacy seminars are being set up. Counselors in the SFA office are being set up for incoming freshmen. Stephanie Fitch requested that there be desk copies of on course be available for advisors. Lynn Stichnote stated that students may be loan adverse and say they are not coming back due to fin aid reasons but have loans available. There are 2 major categories that
our students fit into…low income and low ability. The Noel Levitz data does not point to reasons for low ability. Harvest Collier shared that much of students’ perceived failure is psychological. They just don’t know…they don’t have an understanding to change. The question was then raised, how do you bring that to students? Stephanie Fitch answered that their needs to be bigger consequences. They are not doing what they want to do they are doing what their parents want them to do and not doing what they are passionate about, according to Patty Frisbee. They need to know what is out there, whether it’s other engineering disciplines or other majors. Maturity development is something we need to look further into. Larry Gragg shared that department chairs are wanting to see the Noel Levitz results.

b. Entering Freshmen Survey
Entering freshmen survey is given before the math placement test. It is currently a very lengthy survey. Patty Frisbee is asking for comments and suggestions for the survey. May need to take out other questions if there are several added questions. There is another survey given to entering freshmen, the opening week survey. Some questions may be better suited there. Feb 25th is first pro day. Patty Frisbee asked about other surveys that Institutional Research delivers- CIRP is every 3 years. Patty would like to see those results. Rachel Morris will look for previous CIRP results in previous retention notes. Student interest (SI) survey from last semester was brought up. We need to ask a student council rep to join our meetings. SI survey needs to be shared with committee.

c. Math Subcommittee Update
Stephanie Fitch presented for the math subcommittee. Reviewed math course numbers and what they mean. Math ACT score of 22 or lower are automatically placed in math 3 (intermediate algebra).

40% of our incoming freshmen start in calculus 1, 45% start in a lower course. Math 3 graduation rates are higher than she expected. S&T’s overall graduation rate is 66-67%. Students that start in Math 4/6 have that graduation rate. Math 2 and 3 graduation rates are not great but are as expected. Graduation rates are of all students (she wants just first time college students) in math 2, 3, 4, 6. The question was raised for total students in 2004-2006: Does the numbers go up because the enrollment goes up or is it because students are not as prepared? An additional section of math 3 had to be opened last semester. The math department was expecting to have to open additional math 4/6 but that was not the case. A2S brings in lower academic preparation according to Stephanie Fitch. Lynn Stichnote asked if there was consideration of instructors chosen to teach lower classes. Stephanie Fitch replied that math 2 and 3 are generally not grad students, they are adjuncts or teaching professors. The math department tends to keep same people teaching. Harvest Collier brought up the question-what do we do? We have the students and faculty we have. These issues may need to be addressed to the new
chancellor. Stephanie Fitch stated that the math 2 harsh grading is being addressed. There is an issue of faculty availability to teach.

Enrollment breakdown by course-slide- math 8/12/14 combined together and math 12/21/22 combined together. Math 6 is not listed due to the fact that students already taking math 4 or 14 and are covered in other numbers on the slide. Math department considers math 3 and possibly math 2, remedial. If they have college credit, they are put in the next courses even if their math placement does not warrant that but are strongly advised to do what their placement scores suggest. Admission standpoint is the same that if their courses are not “rigorous” that they should take it here.

Math 2 issues…low success rate in spring. 77/117 (66%) d/f/wd. Of the 77, 35 were in Chemistry 1. 13 were successful (c or better). The rest received d, f, withdrew or hearer. Of the 77, 12 had taken Chemistry 1 previous to the semester they were enrolled in math 2. Only 2 of those were successful. Chemistry is seriously considering making math 4 a co-requirement. Math and chemistry need to meet with registrars before fall to discuss. Math department is continuing LEAD sessions.

III. **Next Meeting:** January 26th, 2012. A2S subcommittee (chaired by Brad Starbuck) will present.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting
January 26, 2012
8:15-9:15 AM

Members Present: Harvest Collier, Tyrone Davidson, Cecilia Elmore, Stephanie Fitch, Trish Watson (for Patty Frisbee), Larry Gragg, Deanne Jackson, Katie Jackson, Rance Larsen, Scott Miller, Rachel Morris, Stephen Raper, Kristi Schulte, Carol Smith, Brad Starbuck, Lynn Stichnote, Laura Stoll, Ramya Thiagarajan.

Members Absent: Edna Grover-Bisker, Brooke Durbin, Thulasi Kumar, Will Perkins, Nangai Yang, Summer Young.

Review and Approval of Minutes
The committee members reviewed the minutes from the January 12, 2012 meeting. A motion was made (Larry Gragg) and seconded (Stephanie Fitch) to approve the minutes with several corrections.

I. Old Business
d. No old business.

II. New Business
a. A2S Subcommittee presentation
Brad Starbuck presented on behalf of the A2S subcommittee.
A2S is a privately funded grant program with 20 public higher education systems. A2S goals were set 2 years ago. ACT and income are the highest correlation according to Noel Levitz. Lowest EFC (estimated family contribution) correlates to lowest retention rates. Question then is “What are ways we can impact low income minority students?” There are four themes:
1. Early and intrusive intervention
2. Student engagement and mentoring
3. Student employment and financial aid
4. Advising and academics

b. Administering and Assessing First Year Success Course
Undergraduate Studies is working to get the “101” introductory course instructors together as well as Student Affairs to talk about things that affect student success. The instructors will meet three times this spring over lunch to plan the first year course information to present to students. Larry Gragg noted the importance of having himself and Scott Miller (both 101 instructors) on the Retention Committee for understanding what the committee is doing and where we are coming from. Laura Stoll suggested that looking at fall 2011 enrollments would give us an idea of how many students that would be in the 101 cohort.

c. Carol Smith brought up the changes in HGR for summer 2012. Harvest Collier talked about the possibility of the Provost’s office approving university subsidizing of HGR.
d. Katie Jackson announced the name change of CITF (Critical Incident Task Force) to UCARE (University Committee for Assistance, Response, and Evaluation). ucare@mst.edu is the new email address.

III. **Next Meeting**: February 9, 2012.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting
February 9th, 2012
8:15-9:15 AM

Members Present: Harvest Collier, Cecilia Elmore, Stephanie Fitch, Patty Frisbee, Larry Gragg, Deanne Jackson, Katie Jackson, Rance Larsen, Scott Miller, Rachel Morris, Will Perkins, Kristi Schulte, Brad Starbuck, Lynn Stichnote, Laura Stoll, Nangai Yang, Summer Young.

Members Absent: Edna Grover-Bisker, Tyrone Davidson, Brooke Durbin, Thulasi Kumar, Stephen Raper, Carol Smith, Ramya Thiagarajan.

Review and Approval of Minutes
The committee members reviewed the minutes from the February 9th, 2012 meeting. A motion was made (Cecilia Elmore) and seconded (Will Perkins) to approve the minutes with one correction.

I. Old Business
   e. No old business.

II. New Business

   a. Retention Subcommittee Updates (Math and A2S Subcommittee has presented at earlier meetings)

   The Student Persistence Subcommittee has not met per Larry Gragg (chair person) and is currently waiting on the final report from Noel Levitz on financial aid leveraging (The final report was given to Chancellor Wray on January 31st, 2012). Harvest Collier talked with Kumar Thulasi and Kumar will be looking into a survey tool to gage student persistence.

   Per Lynn Stichnote (chair person) the Financial Aid Subcommittee has yet to meet as well (waiting on the final report from Noel Levitz as well as the campus task force summary). There are two items to look at from the Noel Levitz report: 1. Need based aid (we need to look at implementing need based grants) and 2. Improving the financial aid communication plan (i.e. making families more aware of what is available, getting students to take responsibility, etc).

   Scott Miller’s group (Fit in S&T Environment) has met one time (01/20/12) to brainstorm. Most of the discussion was directed toward the non engineering students. There were several ideas that were brought to the table. Some of those were:
   • Implementing a non-STEM grad school fair and/or non engineering career fair
   • Co-op and internships for non engineering students
   • Explore the idea of student to student mentoring program over the course of a student’s career here at S&T.
   • Gather data on students that succeed here but take longer to do so (what traits did they have, what were changes they went through)
• Implement a student success center (similar to Mizzou career.missouri.edu)
• Promote career exploration for both engineering and non engineering majors in summer campus and our partner schools presentations

Alternate Majors Promotion subcommittee, chaired by Rance Larsen, has met once. The objective of this subcommittee is to reduce attrition and increase retention by raising awareness of the diversity of majors and career paths found at S&T. There are several challenges which the subcommittee shared such as:

- Campus culture
- Students who leave because they can get their education in a less strenuous environment
- Students undecided about their major and not knowledgeable of other majors on campus
- Process for major change is not widely known

Larry Gragg noted that many of the subcommittees talk about the importance of the 101 courses students take their first semester. Laura Stoll also commented on another common theme among the subcommittees is the student success center. A “one stop shop” for students to find information they need. Larry Gragg summarized what we know and that is climate, environment, fit and academic preparation are all very important pieces to student success.

b. Discussion of Retention Annual Report
The annual report needs to be prepared by the end of the semester (May 2012) to present to Chancellor Schrader.

c. Update of President Wolfe’s visit
President Wolfe listened to everyone’s concern while visiting S&T campus. Harvest Collier shared with the retention group that Wolfe has asked Harvest to communicate our retention/student success needs to him.


IV. The meeting was adjourned.
**Missouri S&T Retention Committee Meeting**

February 23rd, 2012
8:15-9:15 AM

**Members Present:** Harvest Collier, Scott Miller, Edna Grover-Bisker, Tyrone Davidson, Cecilia Elmore, Stephanie Fitch, Patty Frisbee, Larry Gragg, Katie Jackson, Rance Larsen, Scott Miller, Rachel Morris, Stephen Raper, Carol Smith, Lynn Stichnote, Laura Stoll, Ramya Thiagarajan, Nangai Yang, Summer Young.

**Members Absent:** Brooke Durbin, Deanne Jackson, Thulasi Kumar, Will Perkins, Kristi Schulte, Brad Starbuck.

**Guests:** Jennifer Thorpe

**Review and Approval of Minutes**

The committee members reviewed the minutes from the February 9th, 2012 meeting. A motion was made (Larry Gragg) and seconded (Rance Larsen) to approve the minutes with one correction.

I. **Old Business**

   f. No old business.

II. **New Business**

   a. **Noel Levitz Final Report- Laura Stoll presenting**

      According to the Noel Levitz findings (presented by Deb Schreiber of Noel Levitz), S&T is doing many things right. The break points that were discovered when looking at our campus data were ACT and EFC (Estimated Family Contribution). Pell eligible students are struggling to persist at S&T. We captured fewer students with high ACT/GPA in 2011 than in 2010. First year retention was 93% (in 2011) by academic level (higher act/income level). Low persistence level with Pell eligible students.

      Recommendations:

      - New need based aid, focusing on Pell eligible students. Noel Levitz feels we don’t have enough funding to pursue all middle income students.
      - Need for greater coordination of faculty/dept awards thru Financial Assistance office to maximize impact of dollars.
      - Funnel management for target populations; qualifying and grading
      - Utilize NSC (National Student Clearinghouse) information and net price calculator to expand what we know about our competition
      - Boost the number of FASFA filers
• Gauge marketplace reaction to financial aid awards (depth sounding)
• Enhance financial assistance communication flow to prospective students and families

Follow up: Enrollment Management is submitting data weekly to Noel Levitz and participate in conference calls every 2 weeks.

S&T needs $280,000 of need based aid to reach 1st year Pell eligible students. Interim Chancellor Wray has set aside $265,000 since tuition increase.

Larry Gragg asked what was Interim Chancellor Wray’s reaction to report? - Deb presented a lot of data to Wray. She gave examples of families with certain incomes. Wray was concerned that it was such a small number that fell into the need based aid. He was told that small numbers represent such a large % change. There was no hesitation to commit to need based aid in a follow up meeting. Laura Stoll feels that once we make a commitment to need based aid that there is no going back. We should as a campus be able to continue offering to the students.

Harvest Collier asked about current students and what we can do, financially, for them. The Financial Assistance Office will assist current students as they contact the office to help with discretionary funds.

Financial Assistance update: The office of Financial Assistance is setting up personalized customer service. Each student will be assigned a specific counselor depending on the first letter of the student’s last name. The office has started financial aid literacy and, as a long term plan, would love to attach need based aid to 101 financial assistance seminars.

A goal that the Office of Undergraduate Studies and Financial Assistance are working on is reaching out to students on SAP (Satisfactory Academic Progress) before they leave campus. Get the students the help they need before the end of the current semester. Harvest Collier wants to identify students with financial need before the semester ends (as they are going through pre-registration) and send those students to the Financial Assistance office. Lynn Stichnote stated we could do that with midterm grades. Laura Stoll said that we are submitting data to Noel Levitz once a week and we will be able to match that data with pre-registration.

Positive item brought up by Harvest Collier is the fall semester to spring semester retention. In previous years, when we were at 88% fall to spring retention was 96%. Currently for FS11 to SP12 we are at 96%. Efforts made by 1st and 2nd year managers and academic advisors have had a positive impact.
III. **Next Meeting**: March 8th, 2012. Persistence subcommittee will present.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting
March 8, 2012
8:15-9:15 AM

Members Present: Harvest Collier, Scott Miller, Edna Grover-Bisker, Tyrone Davidson, Cecilia Elmore, Stephanie Fitch, Patty Frisbee, Larry Gragg, Deanne Jackson, Katie Jackson, Rance Larsen, Rachel Morris, Kristi Schulte, Carol Smith, Lynn Stichnote, Nangai Yang, Summer Young.

Members Absent: Brooke Durbin, Thulasi Kumar, Will Perkins, Stephen Raper, Brad Starbuck, Laura Stoll, Ramya Thiagarajan.

Review and Approval of Minutes
The committee members reviewed the minutes from the February 23rd, 2012 meeting. A motion was made (Cecilia Elmore) and seconded (Tyrone Davidson) to approve the minutes with three corrections.

I. Old Business
   g. No old business.

II. New Business

b. Student Persistence subcommittee report-Larry Gragg reported
   Dr. Gragg handed out two handouts.
   One is an article from The Chronicle on graduation rates.
   The findings from that article are that there are factors beyond our control:
   • We don’t know what kind of obligations the students have
   • We have no control over their academic preparation.
   There are things that we can control as a campus:
   • Quality of instruction in general education courses (101 courses).
     The literature the subcommittee presented focused on calculus and physics. 101 courses are deliberately meant to help students become engaged and gain an understanding of requirements to be successful per Harvest Collier.
   • Quality of advising: student compared Mizzou to S&T. Hard to get in to see an advisor at Mizzou but had a very personal experience at S&T in the History department.
   • Class size: According to the literature, the larger the class size, the harder to retain the students.
   • Faculty and staff interaction with students: We are surrogate parent/coach.
     Students need the intense relationships with different people on campus. Not all students need this, but a large amount. Sometimes the staff interaction is more important than the faculty (per the literature). Do the students feel they belong to this institution (social isolation)? Kristi stated that science and engineering students feel they found a home. Other students feel intimidated by the size of
the campus. Campus can sometimes be larger than their hometown. The Fit subcommittee is struggling with “a sense of academic isolation”. Do they feel comfortable? Some students that have been told for years that they are good in science and math come here and realize that they are not as good as they thought. In high school they were told what notes to take and when (Scott Miller). Kristi stated a lot of students don’t know how to deal with being “average” once they get to campus, it becomes a personal crisis.

c. Cecilia Elmore spoke about the Campus Climate Survey going live on April 2nd, 2012. The survey will focus around diversity and a comfortable environment on campus. The survey is intended for students, faculty and staff and consists of 110 questions. Those that complete the survey will be entered into a drawing for an iPad 3.

d. Harvest Collier mentioned that the Annual Retention report will be presented to Chancellor Schrader in May.

III. **Next Meeting:** March 22nd, 2012. Financial Assistance subcommittee will present.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting
March 22, 2012
8:15-9:15 AM

Members Present: Harvest Collier, Scott Miller, Edna Grover-Bisker, Tyrone Davidson, Cecilia Elmore, Stephanie Fitch, Patty Frisbee, Larry Gragg, Deanne Jackson, Katie Jackson, Rachel Morris, Will Perkins, Kristi Schulti, Carol Smith, Brad Starbuck, Lynn Stichnote, Nangai Yang, Summer Young.

Members Absent: Brooke Durbin, Thulasi Kumar, Rance Larsen, Stephen Raper, Laura Stoll, Ramya Thiagarajan.

Review and Approval of Minutes
The committee members reviewed the minutes from the March 8th, 2012 meeting. A motion was made (Cecilia Elmore) and seconded (Larry Gragg) to approve the minutes with no corrections.

I. Old Business
   h. No old business.

II. New Business

e. We will ask Chancellor Schrader to attend either May 3rd or May 17th Retention Committee meeting in order to present the Annual Retention Report to her.

f. Harvest Collier asked who will present at next committee meeting. All subcommittees have presented once. It was decided to discuss the 101 courses.

g. Student Financial Assistance subcommittee report-Lynn Stichnote reported

   Lynn handed out the subcommittees meeting minutes from their March 16th meeting.

   There are several recommendations that the subcommittee is making after receiving the final report from Noel Levitz in December of 2011 that has already been presented to the Retention Committee.

   • Campus Strategic plan should incorporate goals for sufficient merit-based funds to address drop in yield (decline in recruitment) for high ability students
   • Campus Strategic plan should incorporate goals for sufficient need-based institutional grant and work funds to improve retention (estimate $2,200,000 in available funds, not $2,200,000 raised in endowments).
   • Student Financial Assistance, Undergraduate Studies and Academic units (Advisors) develop collaborative strategies to identify high risk students for direct, personal intervention
There are more detailed recommendations in the subcommittee meeting minutes Lynn distributed.

The reasons the subcommittee are making these recommendations is due to:

- S&T yield dropped for the high ability students who can achieve retention goals. S&T retention is highest for high ability
- Noel Levitz has statistically significant data that merit-based aid could help reverse the downward trend in yield of high ability students; more high ability students increase retention
- Noel Levitz has statistically significant data that institutional need-based aid could help improve retention of high/moderate need students, whose retention rates are below 80%
- The S&T discount rate, which is total gift aid from the university divided by total tuition, cannot go up. The campus does not have willingness or ability to increase GO aid
- Private sources are the only practical solution to increase aid

After the presentation, Larry Gragg mentioned that the 90% first year retention rate is a distraction. We should have implemented incremental increases. Harvest Collier stated it would be worth reconsidering the goal set by former chancellor Carney. He also stated that the economic downturn was not an issue when the goal was set to 90%.

III. Next Meeting: April 5th, 2012. 101 Courses will be discussed.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting  
April 5th, 2012  
8:15-9:15 AM


Members Absent: Brooke Durbin, Thulasi Kumar, Rance Larsen, Summer Young.

Review and Approval of Minutes
The committee members reviewed the minutes from the March 22nd, 2012 meeting. A motion was made (Larry Gragg) and seconded (Edna Grover-Bisker) to approve the minutes with no corrections.

I. Old Business
   i. Update on Annual Retention Report to Chancellor Schrader.
      We will present to Chancellor Schrader on June 28th, 2012 from 8:15-9:45 am. Subcommitte chairs, please finalize your reports and send them to Rachel by Friday, May 18th 2012. Each subcommittee chair will make a 5 minute presentation of their subcommittee findings on June 28th.

II. New Business
   h. 101 Courses update

   Dr. Collier presented on the 1st year student success course. The Office of Undergraduate Studies has met with 1st year course instructors, Student Affairs, New Student Programs and Residential Life to discuss the barriers to student success and changes that can be made in the first year courses for new students. Laura Stoll asked that Enrollment Management be placed on the list of participants.

   The potential considerations based on barriers to success are:
   - Academic Resources
   - Financial Aid
   - Climate/Adjustment/Fit
   - Mentoring
   - Maturity Development
   - Instruction and Success in Courses
   - Academic Alert/Advising

Dr. Raper says a traditional one credit hour, first year course would not have to be approved by faculty senate due to the course catalog stating 128-132 (for engineering bachelor's) hours required for degree. Stephanie Fitch stated that faculty teaching any
first year course should attend the “On-Course” training. Deanne Jackson indicated that classroom availability would be an issue for the additional course.

We will continue to look for ways to incorporate resources and information into the first year course syllabi to ensure students are aware of the different programs and the different offices that can help with their success.


IV. The meeting was adjourned.
Review and Approval of Minutes
The committee members reviewed the minutes from the April 5th, 2012 meeting. A motion was made (Cecilia Elmore) and seconded (Nangai Yang) to approve the minutes with a paragraph added to the first year course summary.

I. Old Business
   j. Update on Annual Retention Report to Chancellor Schrader.
      This year’s annual presentation will focus on the subcommittees.

II. New Business
   a. Finalizing end of term items:

      Subcommittees will be the big factor for recommendations to the chancellor. Carol Smith asked if the annual report recommendation will include changing the target retention percent of 90. Harvest Collier stated that it should be a data driven choice. Undergraduate Studies will try to get data to discuss this further.

      We will be able to show trend data from the last six years from the non-returning call lists. Patty Frisbee indicated that comparing the graduating senior survey with the entering freshmen survey would be good data to share. Undergraduate Studies will look at Hogan Personality Inventory (HPI) data to see what can be used for predicting student success other than the data we have used in the past. Possibly looking at Math 2 & 3 students’ Hogan data and use those students as a pilot group. Another possibility is looking at the connection between LASSI and HPI. Larry Gragg indicated that Chancellor Schrader has started meeting with the academic departments. When she met with Larry’s department, he said the conversation had a strong focus on retention. The chancellor is interested in data and her expectations are high.
      Harvest Collier stated that there are two keys for success in a student’s first year that positively correlate with a student graduating in 4-6 years:
      1. 1st semester success
      2. 2nd semester success
The struggles students face is not meeting their academic expectations. There have been a few focus groups on campus to try and address these issues. Larry Gragg will meet with his focus group today and report at a later time. Kristi Schulte has 2 focus groups that she’s been meeting with and the themes that came across are academic expectations and connecting with groups and people on campus (realizing that they are normal even with a 2.5 gpa). Katie Jackson asked if we have mean/median gpa’s that we can send in the parent newsletter to inform parents. Harvest Collier responded that the information is clearly stated in all recruitment processes. Patty Frisbee said there is no “one solution” to these struggles students face. We have to individualize responses for each situation. Rance Larsen asked how students take the message of having to work hard here at S&T. Unfortunately, we’ve all found that the students have to experience failure themselves. Scott Miller said the best way to get to students early is through their peers. Tyrone Davidson stated that On-Track seminars are strategically placed opportunities that are presented to students. They just don’t voluntarily take those opportunities.

b. Non returning student phone calling.

This item will be discussed at the next meeting on May 3rd.

III. **Next Meeting**: May 3rd, 2012.

IV. The meeting was adjourned.
Missouri S&T Retention Committee Meeting  
May 3rd, 2012  
8:15-9:15 AM

Members Present: Harvest Collier, Scott Miller, Tyrone Davidson, Stephanie Fitch, Deanne Jackson, Katie Jackson, Rachel Morris, Stephen Raper, Kristi Schulte, Carol Smith, Laura Stoll, Nangai Yang.

Members Absent: Edna Grover-Bisker, Brooke Durbin, Cecilia Elmore, Patty Frisbee, Larry Gragg, Thulasi Kumar, Rance Larsen, Brad Starbuck, Lynn Stichnote, Ramya Thiagarajan, Summer Young.

I. Review and Approval of Minutes
The committee members reviewed the minutes from the April 19th, 2012 meeting. A motion was made (Stephen Raper) and seconded (Tyrone Davidson) to approve the minutes with a correction in wording on page 2, paragraph 2.

II. Old Business

a. Non returning student phone calling (As of 4/27/12)
   FS11 and SP12 FTC enrollees: 109 not yet enrolled for FS12
   40/109 not met with advisor
   22/109 have financial holds
   28/109 advising and financial holds
   19/109 no holds
   3/109 advising and a C30 hold
   40/109 below 2.0
   68/109 have not yet been in Calculus (engineering and hard science majors)
   Responses:
   5 Transferring to UMKC, Cornell, Mizzou, Moberly Community College
   85/109 were engineering
   1 computer science, 5 biological science, 3 physics, 2 math, 1 chemistry, 1 business, 1 English, 1 IST, 1 GL&GPH
   Of those, 15 are from out of state

This is the earliest we tried contacting the non-returning students. Good step forward. Lynn forcing the SAP has helped the students that perpetually return and live on their financial aid.

Carol does not call the students with less than a 2.0. She sends those students to Tyrone.

53 of the FTC from fall semester FS11 did not re-enroll for SP12: what should we do with those students? They were contacted last December
22 financial holds: Carol shared those students with Lynn’s office on May 2nd.

2nd year:
82 non registered
13/82 deficient
15/82 probationary
54/82 good standing
6 replied to the phone calls
5 transferring
4 still listed in freshmen engineering
5 plan to register for study abroad or co-op
32 advising holds only
6 financial and advising holds
17 financial only holds
24 no holds

III. New Business
a. Discussion led by Math subcommittee
Subcommittee is looking for recommendations from the Retention Committee. Grades in math are a huge factor of whether or not students do well. ACT scores somewhat predict how well they will do in math and what math they will test into once on campus. The biggest issues are in math 2 and math 3. (i.e., Math 2 students have a chip on shoulder-feels they should be in higher in math. Math 3 students come in knowing they are in trouble and are more accepting to do the work it takes to pass the course).

Efforts toward more success in the lower course math classes include:
This semester (Spring 2012): Math 2 instructors have offered extra review sessions before math tests, but are not tracking which students are attending those review sessions. Instructors for math 2/3 are adjuncts. Stephanie Fitch expressed that extra activities around math 2/3 are looked at as burdens. There is no compensation provided for these extra activities. Kim Kinder held lead sessions once a week and reported that no one has been attending. Stephanie Fitch spoke to Ron Bieniek to look for ways to improve lead attendance. Dr. Bieniek stated that students get points to attend physics LEAD sessions. The math department feels that giving points to students is a form of bribery.
It was suggested that the math department could look at the possibility of a required recitation for those math courses. Stephanie stated that there are some new faculty in the math department that have some new ideas to try. The biggest concern right now is for the math 2 course.
Another recommendation for getting students in math 2/3 to attend LEAD sessions is how the information about LEAD as a resource is communicated to the students. -- Not “help” but mastery of the course (Dr. Bieniek uses this tactic for physics). Stephanie Fitch is not sure how much interest there is for another LEAD session for next semester.

For the freshmen chemistry class, LEAD is promoted as an opportunity to learn collaboratively. The more lead sessions students go to, the better they do in the course. Small incentives seem to make big differences. If instructors aren’t willing to monitor math LEAD sessions, Dr. Collier noted that grad students can be hired to conduct the lead sessions. Swipe cards are used to check attendance at some LEAD sessions and we can use that method for the math LEAD sessions. The more times a student goes to LEAD correlates to how well they do. Students go to work on homework. This approach works well for chemistry per Dr. Collier. Stephanie Fitch says there is a difference between the students in math 2, chemistry and physics. Scott Miller says there is evidence of students doing better with peer help. It is important for all students to go to LEAD so that there can be peer mentoring. Miller says it’s great to give points to get students who get the material in the same room as those that don’t. That is what promotes peer mentoring. Getting math 2 students to see the value of peer mentoring is key.

We can gain insight before students come to campus by looking at act scores. There seems to be a line at 27. Stephanie is asking if there is something we can do ahead of time. One of the suggestions is, if a student is registered for problem solving workshops (PSW), then S&T can send a letter to them at home asking them to take a math course at a community college or another university before fall.

Carol Smith sees an issue with that:
Only getting ½ of the students here in time for summer sessions.

Laura Stoll suggested promoting bridge programs like hit the ground running (HGR).

Calling students before the semester started was another suggestion that was brought to the committee. There are approximately 200 in PSW. Issue: students who end up in PSW are the late PRO registrants. Maybe we can look, prior to pro, at the act math scores and select students to contact. Another option that was brought up was being more selective. We are bound by admissions guidelines. If we are going to be selective, we will have to do that after the admissions process.
Revisiting “University College” programs at other universities was suggested by Stephanie. Students having a time limit to get into a discipline/department.
Dr. Collier shared that this proposal was offered back in 2002, but there was no support for the idea. He shared the idea with current provost and it was still not looked at favorably.

Stephanie suggested looking at comparator institutions and see what they are doing.

Dr. Collier wanted ideas from the subcommittee to give to the chancellor. Stephanie doesn’t feel there is a serious problem with math 2. Math 2 should be the biggest d/f/wd number in the math department. Dr. Collier asked her how we, as a committee, are going to explain that to the chancellor and/or provost. A high failure rate not being a problem is not the perspective they will latch on to. This is a group of students that are at high risk once they step on campus. They didn’t have to work hard in high school. Math 3 is a little different. Math 2 students don’t come to campus with a good work ethic but also did not hit the mark on the class they want to be in. Hence those students are the biggest probability of being the ones with the worst grade. Stephanie asked the question if it’s a problem worth worrying about.

Dr. Collier stated other ideas that relate. How do we improve classes and student success even though the students may be destined to fail? Data shows there is a general correlation that a student is more likely to graduate in 4-6 years based on their success in the first 2 semesters. If they are not successful in math 2 the first semester, the most likely will not enroll for spring semester. It’s a very serious situation that needs to be addressed. These things determine retention rates, revenue and graduation rates.

Another question was brought to the committee: How much time, money and resources are we using to try and save these students. It’s been proven that if we throw money at it, it will improve somewhat.

IV. Announcements

V. Next Meeting:  Thursday, May 17th, 2012 at 8:15 am. The meeting was adjourned.
Missouri S&T Retention Committee Meeting
May 17th, 2012
8:15-9:15 AM


Members Absent: Scott Miller, Brooke Durbin, Stephanie Fitch, Larry Gragg, Thulasi Kumar, Rance Larsen, Stephen Raper, Kristi Schulte, Ramya Thiagarajan, Summer Young.

I. Review and Approval of Minutes
The committee members reviewed the minutes from the May 3rd, 2012 meeting. A motion was made (Carol Smith) and seconded (Tyrone Davidson) to approve the minutes with 4 corrections.

II. Old Business
a. Math subcommittee report discussion
   Dr. Collier gave a few suggestions to subcommittee:
   1. LEAD with incentives for student participation (Dr. Bieniek has data to prove that LEAD works). It takes just one person to champion the idea (per Carol Smith).
   2. Put the best instructors in front of those entry level classes.
   3. Emphasize instruction based on math placement exam.
   4. Show financial impact of failed students (How much revenue do we lose when students do not return, student fail and students fail math).
      Positive note: can show how much revenue comes in when we save one student (enough to hire GTA)-per Lynn Stichnote.
   5. Offer remedial math-the question was raised if the Math 3 syllabus has remedial material in it. Psychological factors have to be looked at. Use On Course material to address these courses (HC). We know our students, we know their needs….we need to get the chancellor/provost to work with Dr. Hall to start the change (Patty Frisbee explained that this will be a culture change).
      Laura Stoll said we need to be asking: “What is our “blue sky”? We need to bring someone to campus, from the outside, that has had success in math courses for at least a semester. We need to change the campus culture.
      Nangai Yang mentioned that MIT has an online course for instructors teaching math 2 that gives instruction for instructors.
      Harvest Collier remembered from the last Retention Committee meeting that Stephanie Fitch noted there are new/young instructors in Math that have ideas that she feels will help. Paul Runnion is one of the new instructors.
Tyrone Davidson has noticed that students bringing in math courses with a B from a community college is comparable to a C on S&T campus. They are passing. We need to look at what the community colleges are teaching and maybe adapt some of their principles.

The committee thought that (after looking at ACT/math grade data that Rachel Morris presented) maybe adding the high schools where the students came from and high school GPA would show some correlation. Also, looking at ACT math sub scores to see if there’s any difference from the composite score and how it relates to math grades. Rachel has done this and there is not a noticeable difference when looking at HS GPA and ACT’s math. There are no “pockets” of schools that stand out as producing low performing students.

Laura Stoll stated that ACT scores are not nationally used to determine college readiness.

III. New Business
   i. Final presentations from subcommittees need to be turned in to Rachel as soon as possible.
      Laura Stoll will do Rance’s subcommittee “alternate majors”

IV. Announcements
    None

V. Next Meeting: Thursday, May 31st, 2012 at 8:15 am.
    Laura Stoll will present on the Alternate Majors subcommittee.
    The meeting was adjourned.
Missouri S&T Retention Committee Meeting
May 31st, 2012
8:15-9:15 AM

Members Present: F. Scott Miller, Tyrone Davidson, Patty Frisbee, Larry Gragg, Katie Jackson, Stephen Raper, Kristi Schulte, Brad Starbuck, Lynn Stichnote, Laura Stoll, Summer Young.


I. Review and Approval of Minutes
The committee members reviewed the minutes from the May 17th 2012 meeting. A motion was made (Lynn Stichnote) and seconded (Patty Frisbee) to approve the minutes as written.

II. Old Business
b. Additional math data handout (requested in May 17th meeting)
   There was some discussion about the climate in the Math 2 classrooms at Missouri S&T, with students feeling despondent and not supported because they view the course as remedial. Lynn Stichnote related that this brings up two issues: (1) revenue we are losing, and (2) difficulties in the Financial Aid and Registrars offices with registering these students in two different colleges.
   Larry Gragg recommended that the committee invite Leon Hall to one of our first Fall meetings, to discuss the issues within the Math department and how the Retention committee members and their offices may be able to assist.

III. New Business
   j. Alternate Major subcommittee presentation by Laura Stoll
      Laura presented information from the subcommittee’s meeting concerning the Challenges, Recommendations and Other Considerations. One of the topics discussed was the creation of the One Stop Shop for academic enhancement, which the committee has discussed in the past. Larry Gragg pointed out that both of the external candidates for the Registrars position talked about such a center in their presentations. Laura Stoll reported that she has discussed this subject with both the Chancellor and Provost, and some progress is underway. There was then some discussion on the subject of career counseling, and if the Counseling Center or COER currently handle this. The current state of resources being widely distributed across the campus, and the difficulties students have in locating the appropriate resource were discussed, as well as the issue of follow-up. Many times when a student is referred to one of these resources, there is not subsequent contact to be sure the problem was addressed adequately. Brad Starbuck noted that this has become a recruiting issue as well, because students and their families on a Mizzou tour are spending the majority of their time in the “Student Success Center”, and we have nothing equivalent to show them here, though we have the resources.

A recommendation was made to hold an open house for all majors before preregistration each semester, so students will be aware of the majors and minors available to them, as well as making the process by which a student changes their major more apparent to the students.
IV. Announcements

Lynn reminded the committee that Bridgette Betz should be added to the committee list as interim director of Student Financial Aid.

Final presentations from subcommittees need to be turned in to Rachel as soon as possible.

V. Next Meeting: Thursday, June 14th, 2012 at 8:15 am

The meeting was adjourned.
Missouri S&T Retention Committee Meeting  
June 14th, 2012  
8:15-9:15 AM

Members Present: Harvest Collier, Scott Miller, Tyrone Davidson, Cecilia Elmore, Stephanie Fitch, Patty Frisbee, Larry Gragg, Katie Jackson, Kristi Schulte, Carol Smith, Brad Starbuck, Laura Stoll, Nangai Yang, Summer Young.


I. Review and Approval of Minutes  
The committee members reviewed the minutes from the May 31st, 2012 meeting. A motion was made (Larry Gragg) and seconded (Tyrone Davidson) to approve the minutes with 3 corrections.  
1. Name removal in members absent (Rance Larsen)  
2. Name spelling correction (Bridgette)  
3. Sentence deletion (in old business, line 3)

II. Old Business  
a. No old business

III. New Business  
a. Review of power point presentation to the chancellor  
b. Review of annual retention report draft

IV. Announcements  
a. Any corrections for the annual presentation to the chancellor need to be sent to Rachel by June 20th.

V. Next Meeting: Thursday, 28th, 2012 at 8:15 am (Presentation to Chancellor Schrader).  
The meeting was adjourned.