MEMORANDUM

TO: Institutional Effectiveness Council

FROM: Sammy Culpepper

DATE: January 25, 2013

RE: Executive Summary of Planning and Assessment Documents and Priorities for College of Natural Sciences and Mathematics

Accomplishments 2011-2012:

Department of Mathematics

• Supervised events at the Science Olympiad
• Judged numerous science fairs at area high schools and middle schools
• Judged the West Alabama Regional Science Fair
• Initiated nine new members to the Kappa Mu Epsilon Honor Society
• Implemented the Actuarial Sciences Track in Mathematics in Fall 2012
• Mrs. Kim Giles hosted the AISA District Mathematics Tournament
• Mrs. Hazel Truelove currently has ABD status on her Ph.D. at the University of Alabama. She will be defending her dissertation entitled “Examining Evidence of Metacognition by Preservice Secondary Mathematics Teachers while Solving Tasks Situated in the High School Curriculum” in 2013.
• WISE GEMS, a collegial community of women mathematics and science professors in the College of Natural Sciences and Mathematics
• Mrs. Rita Bonner attended the 8th Biennial International 22q11.2 Deletion Syndrome Meeting Customize the Learning Environment: effective learning strategies
• Dr. Thomas Ratkovich submitted a joint research paper entitled “Twisted Tensor Products of Quiver Algebras” to the journal Communications in Algebra
• Dr. Maydison Ginting gave a presentation at the Southeastern American Mathematical Society entitled: Capping the Variance of Cash Flow of Hedging Strategy, Spring 2012
• Mr. Micky Smith secured a $4000 grant for the Sumter/Marengo Water Festival

Department of Biology and Mathematics

• Janis Beaird
  - Help write grant for WISE GEMS NSF. Researched water fleas.
• Burnes, Brian
  - Presentations:
    - Burnes, Brian and Michael L Shelton. “Identifying sources of pathogen contamination in the Fish river.” Presented at the 73rd Annual Association of Southeast Biologists Meeting, University of Georgia, Athens, Georgia, April 6, 2012.
    - Grayson, Tara and Brian Burnes. “Commensal bacteria on the eyes of college student contact wearers.” Presented at the 73rd Annual Association of Southeast Biologists Meeting, University of Georgia, Athens, Georgia, April 6, 2012.


**Student Presentations:**


**Keener, Brian**

**Publications:**


• **Merida, Jeffery**

  *Grant Proposal:*
  - $40,000 grant renewed for PBI Bloom Project. The object of the proposal is to expose high school students in the surrounding area to advanced laboratory techniques that would be beneficial to them in a teaching field. This project is a collaboration with the College of Education. Dr. Jodie Winship was the co-author of this grant.

**Department of Physical Sciences**

• **Yun Ho Kim**

  *Research Projects:*
  - Research Project 1 – “Isolation and application of potential neuromuscular toxin from the Zanthoxylum Clava-herculis L.”
  - Research Project 2 – “Inhibition studies of anti-oxidants on protein oxidation”
  - Research Project 3 – “Effect on student learning at relaxed atmosphere” – Chemical Education
  - Joint Research Project 1 – Dr. Wes Stites, Department of Chemistry and Biochemistry, University of Arkansas, AR. “A study of methionine oxidation and methionine sulfoxide reduction: potential regulatory mechanism for protein activity.”
  - Joint Research Project 2 – Dr. Bryce Plapp, Department of Biochemistry, University of Iowa, IA. “Enzyme kinetic study of horse liver alcohol dehydrogenase on alcohol oxidation”

  *Presentations at Professional Meetings:*
  - “Effects of chemical modification of Staphylococcal Nuclease” - Presentation at the Chemistry Department at Konyang University, Nonsan, Korea. May. 25, 2011.
  - “Effects of chemical modification of Staphylococcal Nuclease” - Presentation at the Biolife Science Department at Chunnam University, Kwangju, Korea. June. 02, 2011.
  - “Effects of chemical modification of Staphylococcal Nuclease” - Presentation at the Chemistry Department at Sunchun University, Sunchun, Korea. June. 03, 2011.
  - “Effects of chemical modification of Staphylococcal Nuclease” - Presentation at the Agriculture Department at Dongkuk University, Seoul, Korea. June. 09, 2011.

• **Roger Campbell**
  - 2012 Gilbert Award
  - UWA Teaching Grant – “Enhancing Chemistry Comprehension with Peer-Led Podcasts”

• **Heather McDonald**
  - UWA Service Learning Grant – WISEGEMS

**Items Needing Action (Listed in Order of Priority)**

**Department of Mathematics**

HIGH
1. Continue faculty travel and development Cost: $2,750
2. Upgrade of software Cost: $3,000
3. New Calculators Cost: $3,500
4. Actuarial Math Software Cost: $2,000

Total: $11,250

**Department of Biology and Environmental Sciences**

HIGH
1. Purchase New Microscopes for Botany Lab Cost: $22,000
2. Upgrade the BG110 Computer Lab Cost: $50,000
3. Purchase a multiporator Cost: $6,000
4. Upgrade of Greenhouse Cost: $12,000
5. Crushed Ice Machine Cost: $2,000
6. Desktop Centrifuge Cost: $7,000
7. Additional Microscopes for Microbiology/Cell Biology and A & P Labs Cost: $36,000
8. New Models for A & P Lab Cost: $40,000

MEDIUM
1. Purchase iPads for Biology Faculty Cost: $10,000
2. Thermocyclers Cost: $12,000
3. Field Vehicle for Field Courses Cost: $35,000
4. Increase the opportunities for undergraduate research Cost: $50,000

Total: $310,000

**Department of Physical Sciences**

HIGH
1. Purchase New Desks for WH403 Cost: $7,000
2. Lab Stools in Analytical & Physical Chemistry Labs Cost: $5,600

MEDIUM
1. Upgrade existing HPLC System Cost: $25,000
2. Gel Electrophoresis/Pipetters Cost: $17,000

Total: $47,000

Grand Total: $31125068, 250
MEMORANDUM - Addendum

TO:       Institutional Effectiveness Council

DATE:  2/6/2013

RE:  Addendum to the Executive Summary of Planning and Assessment Documents and Priorities for College of Natural Sciences and Mathematics

Items Needing Action (Listed in Order of Priority)

Listed below are the 12 items from the large list that was submitted that I would like to see considered as part of NSM budget for 2013-2014:

(The list is separated by department with the college request listed first.)

1. Upgrade opportunities for student research including presentations at regional and national conferences
   $30,000
2. New calculators for Math Department – TI and Casio brands
   $3,500
3. New software for Math Department – including actuarial materials
   $5,000
4. Upgrade furniture in analytical and P chem labs
   $7,000
5. Upgrade existing HPLC system in chemistry
   $25,000
6. Upgrade greenhouse
   $12,000
7. Purchase of microscopes to complete inventory of remaining two labs – 12 scopes
   $18,000
8. Purchase desktop centrifuge
   $7,000
9. New models for A&P lab
   a. Torsos – 6 @ $1600
   b. Arms and legs – 8 @ $750
   c. Neuromuscular junction – 3 @ $750
   d. Hearts – 12 @ $400
   e. Kidney – 4 @ $600
   f. Bronchial tree – 3 @ $250
      Total: $25,800
10. Purchase multiporator
    $6,000
11. Purchase Thermocycler
    $12,000
12. Crushed ice machine – fine crush, not cubes
    $2,000

Total request $153,300

Additional consideration if we have a windfall: 4 Phase-contrast Microscopes -- $40,000