Recommendation

Board Staff recommends approval of Agenda Item 7.
Agenda Item 8

Report on the System-Wide Course Redesign Initiative for Educational Enhancement
Using Course Redesign to Foster Student Success
What is Course Redesign?

- The process of redesigning all sections of a course to achieve better learning outcomes through instructional technology and other innovations.

- Carol Twigg and *The National Center for Academic Transformation (NCAT)* are Mississippi’s partners in this initiative.

- NCAT is the nationally recognized leader in transforming teaching and learning with the course redesign process.
Benefits of Course Redesign

Course Redesign allows institutions to:

• Improve student learning outcomes
• Demonstrate improvements through rigorous assessment
• Reduce costs of instruction
• Increase consistency across multiple sections
• Free up instructional resources for other purposes
• Develop capacity to continue the redesign process
Why Redesign?

• Accommodate more students without adding resources and without sacrificing standards

• Free up faculty members to offer other courses and programs of study that are in demand

• Improve consistency and quality across multiple sections
What Does Redesign Look Like?

**The Replacement Model** reduces in-class meetings and replaces some in-class time with out-of-class, online, and interactive learning activities.

**The Emporium Model** eliminates class meetings and uses a learning resource center featuring online materials and on-demand personalized assistance.

**The Buffet Model** customizes the learning environment for each student based on background, learning preference, and academic/professional goals within an assortment of individualized paths.

**The Supplemental Model** retains the basic structure of the traditional course but supplements it with technology-based, out-of-class activities and a more active learning environment within a large lecture hall setting.
Outcomes of NCAT Redesign

![Bar chart showing outcomes for Reading, Writing, Retention, and DFW in Traditional Course and Redesign Course.]

- Reading: Traditional Course 68%, Redesign Course 88%
- Writing: Traditional Course 61%, Redesign Course 77%
- Retention: Traditional Course 75%, Redesign Course 87%
- DFW: Traditional Course 26%, Redesign Course 22%
Outcomes of NCAT Redesign

Overall student satisfaction was better in the redesigned course than the traditional course.

- slightly better in six measured areas
- behind in one area (opportunities for questioning)
- far ahead in two other areas (grading fairness and timely return of graded work)
Results From:
NCAT 2003 Project
The University of Southern Mississippi
World Literature
Final Exams
Elementary Statistics

![Bar chart showing exam scores for different decades with labels for Hawkes LS and No Software.]
What Was Gained?

**Fall 2000**

College Algebra          966 students  
Elementary Statistics   307 students  
26 Instructors

**Fall 2007**

College Algebra          1070 students  
Elementary Statistics   864 students  
Not 39 Instructors - **25 instructors**
Course Offerings Doubled

Fall 2000
- Discrete Mathematics
- Introduction to Linear Algebra
- Elementary Differential Equations
- Modern Algebra I
- History of Mathematics
- Advanced Calculus

Fall 2007
- Discrete Mathematics
- Foundations of Mathematics
- Introduction to Linear Algebra
- Elementary Differential Equations
- Introduction to Statistical Methods
- Techniques in Teaching Secondary Level Mathematics
- Introduction to Complex Analysis
- Introduction to Actuarial Science
- Modern Algebra I
- Topics in Euclidean Geometry
- History of Mathematics
- Advanced Calculus I
Increase in Students

2000-2001
- 45 Math Majors
- 40 BA students
- 5 BS Students
- PhD program put on probation

2006-2007
- 81 Math Majors
- 50 BA students
- 31 BS students
- 20 PhDs over the last 4 years
Results From:

Dr. Tristan Denley, Chair of Mathematics
University of Mississippi
NCAT Redesign Scholar
Overview of Mississippi Process

- Orientation for Redesign Teams
- Technical Assistance by NCAT and Staff
- Assessment of Institutional Readiness
- Proposal Development
- Review and Selection of Projects
- Pilot Implementation
The Results

• **300+** Faculty at Orientation Workshop - 11/07
• **22** Readiness Instruments Submitted from All Institutions
• **19** Projects selected for Progression to Proposal Stage
• **18** Teams attended Proposal Development Workshop – 2/08
• **18** Proposals Reviewed by NCAT Team & Staff

continued......
The Results

- **16** Projects selected for pilot implementation in 2008-09

- Projects include **12** Areas:
  - College Algebra
  - Business Calculus
  - Biology
  - Nutrition
  - Spanish
  - Statics-Electrical Engineering
  - Intermediate Algebra
  - Statistics
  - Chemistry
  - Psychology
  - Technical Writing
  - Intro to Computing.
Projects by Institution

Alcorn State University
Delta State University
Jackson State University
Mississippi State University

Mississippi University for Women
Mississippi Valley State University
University of Mississippi
University of Southern Mississippi

College Algebra
College Algebra
Intermediate & College Algebra
Biology/Chemistry/Statistics/Statics-Electrical Engineering
Intermediate & College Algebra
Intermediate Algebra
Business Calculus
Intermediate Algebra/Intro to Computing/Nutrition/Psychology
Spanish/Technical Writing
Next Steps

- Project Planning during Fall 2008
- Pilot Implementation in Spring 2009
- Report of Results in Summer 2009
- Full Implementation in Fall 2009
- Assistance to Institutions from NCAT and Staff throughout the process
QUESTIONS ?
Recommendation

Board Staff recommends that the Board of Trustees receive Agenda Item 8 as information.